Western Cape Government

Education

Adapted Curriculum and Assessment Policy Statement
for
Schools of Skills
and Schools with Skills Units

Mathematics

Year 1, 2, 3 and 4

2013

PREFACE TO THE ACADEMIC CURRICULUM

This Curriculum and Assessment Policy Statement has been adapted to meet the needs of learners who experience barriers to learning and who have been placed in a School of Skills. It has been designed to enable learners who continue their schooling at a School of Skills to develop to their potential based on a curriculum that supports their cognitive ability.

The curriculum content and skills are set out as an Annual Teaching Plan (ATP). It is an exemplar for the sequencing and pacing of teaching, learning and assessment per term across the four years and is based on the curriculum as developed with teachers. It is aligned to the content and skills within the National Curriculum Statement (NCS), Curriculum and Assessment Policy Statements (CAPS) for the Foundation and Intermediate Phase.

Year One is an orientation year where learners do a baseline assessment at the start of the year to identify the content gap they experience in both Home Language and Mathematics. These results will inform the level of intervention for these two subjects. Learners in Year One will complete a post assessment at the end of the year to determine if any progress has been made during the year.

Teachers identify the appropriate curriculum level as indicated in the Home Language and Mathematics curriculum document when starting to teach. Learners may progress across the levels within a year or across years as they demonstrate their competence in Home Language and Mathematics.

Life Skills, Physical Education and Creative Arts follow a four year programme and all learners engage with these subjects from Year One. Natural Sciences and Technology will start from Year Two.

It is envisaged that all learners in a School of Skills will exit the school with an appropriate Certificate of Attainment endorsed by the WCED. It is hoped that this certificate will enable them to access further or higher education or to be part of the world of work.

ACKNOWLEDGEMENT

A special word of appreciation and thanks go to all in the Western Cape Education Department and to the teaching staff in the Schools of Skills whose efforts made this document possible.

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Resources available on Thutong website:

- CAPS documents FP and IP and National Workbooks with search facility: http://www.thutong.doe.gov.za

SECTION 1

INTRODUCTION TO THE ADAPTED CURRICULUM AND ASSESSMENT POLICY STATEMENT

1.1 Overview

General aims of the South African Curriculum

(a) The *National Curriculum Statement Grades R - 12* gives expression to the knowledge, skills and values worth learning in South African schools. This curriculum aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives.

(b) The National Curriculum Statement Grades R - 12 serves the purposes of: equipping learners, irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with the knowledge, skills and values necessary for self-fulfilment, and meaningful participation in society as citizens of a free country;
- providing access to higher education;
- facilitating the transition of learners from education institutions to the workplace; and
- providing employers with a sufficient profile of a learner's competences.

(c) The National Curriculum Statement Grades R - 12 is based on the following principles:
- Social transformation: ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population;
- Active and critical learning: encouraging an active and critical approach to learning, rather than rote and uncritical learning of given truths;
- High knowledge and high skills: the minimum standards of knowledge and skills to be achieved at each grade are specified and set high, achievable standards in all subjects;
- Progression: content and context of each grade shows progression from simple to complex;
- Human rights, inclusivity, environmental and social justice: infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades R – 12 is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors;
- Valuing indigenous knowledge systems: acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and
- Credibility, quality and efficiency: providing an education that is comparable in quality, breadth and depth to those of other countries.

(d) The National Curriculum Statement Grades R - 12 aims to produce learners that are able to:

- identify and solve problems and make decisions using critical and creative thinking;
- work effectively as individuals and with others as members of a team;
- organise and manage themselves and their activities responsibly and effectively;
- collect, analyse, organise and critically evaluate information;
- communicate effectively using visual, symbolic and/or language skills in various modes;
- use science and technology effectively and critically showing responsibility towards the environment and the health of others; and
- demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation.

(e) Inclusion and the National Curriculum Statement

Education White Paper 6 - Special Needs Education: Building an Inclusive Education and Training System commits the state to the achievement of equality, non-discrimination and the maximum participation of all learners in the education system as a whole. Education White Paper 6 makes it an imperative that the education and training system must change to accommodate the full range of learning needs, with particular attention to strategies for instructional and curriculum transformation (Department of Education, 2001 p. 11). These principles also underlie the new Curriculum and Assessment Policy Statement (CAPS). One of the most significant barriers to learning is the school curriculum. Barriers to learning arise from the different aspects of the curriculum such as the content, the language, classroom organisation, teaching methodologies, pace of teaching and time available to complete the curriculum, teaching and learning support materials and assessment (Department of Education, 2001, p.19). In responding to the diversity of learner needs in the classroom, it is imperative to ensure differentiation in curriculum delivery to enable access to learning for all learners. All schools are required to offer variations in mode of delivery and assessment processes to accommodate all learners. Respecting diversity implies a belief that all learners have the potential to learn.

Inclusivity should become a central part of the organisation, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity. The key to managing inclusivity is ensuring that barriers are identified and addressed by all the relevant support structures within the school community, including teachers, District-Based Support Teams, Institutional-Level Support Teams, parents and Special Schools as Resource Centres. To address barriers in the classroom, teachers should use various curriculum differentiation strategies such as those included in the Department of Basic Education's *Guidelines for Inclusive Teaching and Learning* (2010).

1.2 Background to curriculum adaptation and differentiation

The right of every child to access quality education is enshrined in South Africa's Constitution. In 2001, the Minister of Education launched Education White Paper 6, the Policy on Inclusion, which spells out how barriers to learning should be removed from, and how inclusive education should be gradually introduced into the entire education system.

Learners who experience barriers to learning need to be able to exit school with an appropriate Certificate of Attainment, which would enable them to access further or higher education or to be part of the world of work.

The profile of a learner placed in a Special School: School of Skills, which offers an adapted curriculum programme may be identified by the following characteristics:

The learner

- is 14 or 15 years old
- has received extensive, documented support in the mainstream school
- experiences moderate cognitive barriers to learning which cause very poor scholastic progress. The learner's lack of progress may be so severe that he/she will only be able cope on a Foundation Phase level
- is not severely or profoundly intellectually disabled
- does not experience serious behavioural learning barriers
- may experience a short attention span
- may have a very poor reading ability
- attends school regularly, but does not reap the benefits of the curriculum in spite of support efforts
- may have spent more time in both Foundation and Intermediate Phase, without showing significant improvement
- is usually functioning 2 years and more below his/her age cohort and is seriously at risk of leaving school early, without attaining skills to enter the world of work successfully
- will benefit by a vocational / practical approach to the curriculum
- will develop skills in order to be able to enter the job market.

These learners have the right to follow an adapted and differentiated curriculum to achieve their academic goals. The academic curriculum content must not be seen as a "watered down" version of the mainstream curriculum, but an accurate as possible reflection of the learner's functioning level. Therefore each learner should have access to the standard of assessment best suited to his/her needs. The curriculum should be offered in flexible groups to allow straddling to take place. Each leaner should be respected as an individual with unique strengths and barriers to learning. These learners must further be afforded the opportunity to achieve in areas where they can be successful, such as learning a skill. In the majority of cases it has been found that learners, who do not achieve academically, often benefit and excel through learning a skill. Thus teachers have an important responsibility to make sure that all learners from whatever background are appropriately catered for in the learning environment.

In this instance teachers are therefore required to monitor their own beliefs, attitudes and behaviours when responding to learners. They should consider the unique needs of learners when designing and placing learners in appropriate learning programmes. It is expected that teachers together with the parents must ensure that learners participate in academic and skills programmes that helps them achieve to the best of their abilities.

1.3 The introduction of the Skills Qualification

This is a new way of thinking to provide for learners who are not able to reach their full potential in mainstream schooling. The proposed Skills Qualification aims to offer learners with special needs an alternative learning pathway that:

- Is standardised across the schools offering skills curricula
- Is aligned with curriculum policies and relevant skills
- addresses the learner's need to experience success by building on the strengths of the learner rather than focusing on deficits
- determines the appropriate placement of the learner in a specific pathway of learning
- provide the learner with a qualification in a chosen field of work and
- provide the employer with appropriate information.

The purpose of this skills qualification is to provide an adapted curriculum which may lead to a further qualification at a later stage. Alternate methods of teaching and assessments based on alternate attainment of knowledge (content, concepts and skills), for learners who experience moderate cognitive learning barriers forms part of the skills qualification. It must allow learners to acquire knowledge and skills that are aligned to the world of work. Each skills course is based on defined concepts and skills to provide learners with a passport to life-long work and citizenship. The adapted skills curriculum is aligned to existing SAQA qualifications so that it can be recognised in the workplace, for Recognition of Prior Learning (RPL).

1.4 Time Allocation

Teaching and learning within a five day cycle is 27½ hours. It is envisaged that 50% of the notational time be allocated to skills training with sufficient learning and practice time to develop skilled routine work competence.

The table below proposes the possible instruction time and credits allocated per subject in an academic year for a learner to be considered for a skills qualification.

Subject	Time allocation per week Example: (periods in minutes per week)	Credits[1]
Fundamentals:[2]		
1. Home Language (Level 1, 2,or 3)	5x45min (Could be 4 periods in Y 2.3.4)	14 Credits
2. First Additional Language	2x45min (Could be 3 periods in Y 2.3.4)	12 Credits
3. Mathematics (Level 1, 2 or 3)	4x45min	14 Credits
Core:[3]		
1. Life Skills (EMS and SS)	4x45min	14 Credits
2. Natural Sciences and Technology *(Not in year 1)*	1x45min	2 Credits
3. Creative Arts	1x45min	2 Credits
4. Physical Education / Sport	1x45min	2 Credits
Electives:		
1. Skills:	18x45min	60 Credits

List of 19 electives	
Developed in 2011	**Developed in 2012**
Ancillary Health Care	Automotive Repair and Maintenance
Art and Crafts	Automotive Spray Painting
Hairdressing	Beauty and Nail Technology
Automotive Body Repair	Maintenance
Bricklaying and Plastering	Housekeeping
Basic Welding and Metal Work	Needlework and Clothing
Mixed Farming	Basic Sheet Metal Work
Hospitality Studies	Upholstery
Early Childhood Development	Woodworking
Office Administration	

1.5 A Learning Programme

The *National Strategy on Screening, Identification, Assessment and Support (SAIS) will be used to* determine whether a learner is eligible to follow an **adapted curriculum and assessment programme** in a special school. Learners will complete a four year learning programme

- YEAR 1: A bridging year to support learners in the academic programme based on pre-testing and post- testing. Learners will be exposed to a minimum of two different skills to determine their strengths as well as their interests. Natural Sciences and Technology will not be offered in year 1. Formal recorded assessment only for Languages and Mathematics in year 1.
- YEAR 2: Teaching and learning is based on needs identified in post testing, and learner's selected skill from orientation year.

[1] A credits is based on 10 hours of notional time calculated on 32 weeks per academic year
[2] The curriculum will focus on the full band within the GET curriculum CAPS
[3] The curriculum will focus on the full band within the GET curriculum CAPS

- YEAR 3: Teaching and learning is based on learners' needs, and learners continue with selected skill.
- YEAR 4: Teaching and learning is based on learners' needs, and learners continue with selected skill.

<table>
<tr><td colspan="8">A LEVEL 1 QUALIFICATION (120 credits[4] per year)
(A four year learning programme)</td></tr>
<tr><td colspan="7">ACADEMIC
CAPS (adapted Grade R-9)
50% of contact time</td><td>SKILLS
SAQA ALIGNED
50% of contact time</td></tr>
<tr><td colspan="8">APPLIED KNOWLEDGE</td></tr>
<tr><td colspan="3">FUNDAMENTAL
40 Credits</td><td colspan="4">CORE
20 Credits</td><td>ELECTIVE
60 Credits</td></tr>
<tr><td>Language: Home level 1
Or level 2
Or level 3</td><td rowspan="2">Language: First Add</td><td>MATHS level 1
Or level 2
Or level 3</td><td rowspan="2">Life Skills / LO With (SS & EMS)</td><td rowspan="2">Natural Sciences & Technology</td><td rowspan="2">Creative Arts</td><td rowspan="2">Physical Education / Sport</td><td rowspan="2">Year 1: 2+ skills
Year 2: 1 skill
Year 3: 1 skill
Year 4: 1 skill</td></tr>
<tr><td>14 credits</td><td>12 credits</td><td>14 credits</td><td>14 credits</td><td>2 credits</td><td>2 credits</td><td>2 credits</td><td>60 credits</td></tr>
</table>

[4] One (1) credit equals 10 hours of notional time

SECTION 2

INTRODUCTION TO MATHEMATICS

2.1 What is Mathematics?

Mathematics is a language that makes use of symbols and notations to describe numerical, geometric and graphical relationships. It is a human activity that involves observing, representing and investigating patterns and quantitative relationships in physical and social phenomena and between mathematical objects themselves. It helps to develop mental processes that enhance logical and critical thinking, accuracy and problem-solving that will contribute in decision-making.

2.2 Specific Aims

The teaching and learning of Mathematics aims to develop:

- a critical awareness of how mathematical relationships are used in social, environmental, cultural and economic relations;
- confidence and competence to deal with any mathematical situation without being hindered by a fear of Mathematics
- a spirit of curiosity and a love for Mathematics
- an appreciation for the beauty and elegance of Mathematics
- recognition that Mathematics is a creative part of human activity
- deep conceptual understanding in order to make sense of Mathematics
- Acquisition of specific knowledge and skills necessary for:
  - the application of Mathematics to physical, social and mathematic problems
  - the study of related subject matter (e.g. other subjects)
  - further study in Mathematics.

2.3 Specific Skills

To develop essential mathematical skills the learner should

- develop the correct use of the language of Mathematics
- develop number vocabulary, number concept and calculation and application skills
- learn to listen, communicate, think, reason logically and apply the mathematical knowledge gained
- learn to investigate, analyse, represent and interpret information
- learn to pose and solve problems
- build an awareness of the important role that Mathematics plays in real life situations including the personal development of the learner.

2.4 Focus of Content Areas

Mathematics covers five Content Areas.

- Numbers, Operations and Relationships;
- Patterns, Functions and Algebra;
- Space and Shape (Geometry);
- Measurement; and
- Data Handling.

2.5 Time Allocation

Lesson plans are presented in two week cycles. According to the draft generic document Mathematics will have 3 hours notional time per week. This constitutes 6 hours per lesson plan. Every lesson includes Mental Maths of 10 minutes per day.

2.6 The Mathematics Period

Time management in the Mathematics period is important. It is therefore suggested that the 1st 10 minutes of every period is used for Mental Maths. The next 10 minutes should be used for the marking and reflection of homework. The following 20 minutes should be used for explaining and drilling the concept of the day. The last 5 minutes should be used for consolidating the concept of the day and indicating what homework should be done.

2.7 How to use this Planning

After the baseline assessment has been done and the levels determined on which learners function, the teacher uses the relevant lesson plan material with the suggested methodology to teach the concept. In term 1 and 2 Grade 3 and 4 lesson plans are also included to support teachers in the bridging period. From term 3 teachers should focus on a specific level of content i.e. either Grade 3 or Grade 4. The teacher is to ensure that learners master the work presented to them. If the teacher realises that there are still gaps, he/she should consider an intervention and find extra contact time to bring all learners to their expected level.

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MATHEMATICS

GRADE 1

OVERVIEW

GRADE 1 OVERVIEW: TERM 1-4

NUMBERS, OPERATIONS AND RELATIONSHIPS				
Topic	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Number Concept Development: Count with whole numbers				
Count objects	Count out concrete objects reliably to 10 Estimate and check by counting. Encourage group counting.	**REPEAT TERM 1** extend to 20.	**REPEAT TERM 1** extend to 40.	**REPEAT TERM 1** extend to 50
Count forwards and backwards	Count forwards and backwards in: • 1s, from any number between 0 and 20	Count forwards and backwards in: • 1s, from any number between 0 and 50 Count forwards in: • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20	Count forwards and backwards in: • 1s, from any number between 0 and 80 Count forwards in: • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 80 • 2s from any multiple of 2 between 0 and 80	Count forwards and backwards in: • 1s, from any number between 0 and 100 Count forwards in: • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 100 • 2s from any multiple of 2 between 0 and 100
Number Concept Development: Represent whole numbers				
Number symbols and number names	**Recognise, identify and read number:** • symbols 1 to 20 • write number symbols: 1-5 • number names 1-5 • write number names 1-5	**Recognise, identify and read number:** • symbols 1 to 50 • write number symbols:1-10 • number names 1-10 • write number names 1-10	**Recognise, identify and read number:** • symbols 1 to 80 • write number symbols: 1-20 • number names 1-10 • write number names 1-10	**Recognise, identify and read number:** • symbols 1 to 100 • write number symbols: 1-20 • number names 1-10 • write number names 1-10

Number Concept Development: Describe, compare and order whole numbers				
Describe, compare and order whole numbers	**Describe, compare and order up to 5 objects / numbers** • Compare collections of objects according to most, least, less than, more than, different, the same as; just as many. • Order collection of objects from least to most and most to least • Describe and compare whole numbers to 5 according to greatest, smallest; before after, in the middle • Use number line:1-5.	**Describe, compare and order up to 10 objects / numbers** • Compare collections of objects according to most, least, less than, more than, different, the same as; just as many. • Order collection of objects from least to most and most to least ; • Describe and compare whole numbers to 5 according to greatest, smallest; before after, in the middle • Use number line:1-10.	**Describe, compare and order up to 15 objects / numbers** • Compare collections of objects according to most, least, less than, more than, different, the same as; just as many. • Order collection of objects from least to most and most to least ; • Describe and compare whole numbers to 5 according to greatest , greatest; before after, in the middle. • Use number line:1-15.	**Describe, compare and order up to 20 objects / numbers** • Compare collections of objects according to most, least, less than, more than, different, the same as; just as many. • Order collection of objects from least to most and most to least ; • Describe and compare whole numbers to 5 according to greatest , smallest; before after, in the middle • Use number line:1-20 **Use ordinal numbers to show position : 1st to 10th**
Place value			**Recognise place value of numbers 11-15.** • Decompose/breakdown 2 digit nos. in tens and ones e.g. 13 =10 and 3	**Recognise place value of numbers 11-19.** • Decompose/decompose 2 digit nos. in tens and ones e.g. 17 =10 and 8

Solve problems in context				
Problem solving techniques	**Use the following methods** when solving problems and explain solutions to problems • concrete apparatus e.g. counters • pictures to draw the sum • number lines supported by concrete apparatus e.g. counting beads.	**Use the following methods** when solving problems and explain solutions to problems • concrete apparatus e.g. counters • pictures to draw the sum • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	**REPEAT TERM 2**	**REPEAT TERM 2**
Addition and Subtraction	Practically solve word problems in context, explain solutions involving +, - to 5.	**REPEAT TERM 1 extend** to 10.	**REPEAT TERM 1** extend to 15.	**REPEAT TERM 1** extend to 20.
Repeated Addition leading to multipli-cation		Solve problems in context explain own solution to problems involving repeated addition with answers to **10**.	**REPEAT TERM 2** extend to **15.**	**REPEAT TERM 2** extend to **20.**
Grouping and sharing leading to division	Solve problems in context and explain solutions to problems involving equal sharing and groupings with whole numbers up to 5 and with answers that may include remainders.	**REPEAT TERM 1** extend to 10.	**REPEAT TERM 1** extend to 15.	**REPEAT TERM 1** extend to 20.
Money		Recognise and identify SA currency coins and rands – R20 Solve money problems involving totals and change.	**REPEAT TERM 2** – R50	**REPEAT TERM 2** – R100

Context -Free calculations				
Techniques, (methods or strategies)	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • draw pictures • number lines supported by concrete apparatus e.g. counting beads.	Use the following techniques for calculations: • concrete apparatus e.g. counters • draw pictures • building up, breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	**REPEAT TERM 2**	**REPEAT TERM 2**
Addition and Subtraction	**Number range: 1-5** • Add up to 5 • Subtract from 5 (+, -, □) • Practise number bonds to 5.	**Number range: 1-10** • Add up to 10 • Subtract from 10 (+, -, □) • Practise number bonds to 10 • Use symbols (+, -, □)	**Number range: 1-15** • Add up to 15 • Subtract from 15 (+, -, □) • Practise number bonds to 10 • Use symbols (+, -, □)	**Number range: 1-20** • Add up to 20 • Subtract from 20 (+, -, □) • Practise number bonds to 10 • Use symbols (+, -, □)
Repeated Addition leading to multi-plication		**Number range:1-10** Repeated addition (i.e. the same number) to 10. Use symbols (+, -, □).	**REPEAT TERM 2** • extend to 15.	**REPEAT TERM 2** • extend to 20.
Mental Maths	**Number concept: range 5** Order set of selected numbers. Compare numbers up to 5and say which is more or less.	**Number concept: range 10** Order set of selected numbers. Compare numbers up to 10 and say which is more or less.	**Number concept: range 15** Order set of selected numbers. Compare numbers up to 20 **Rapid recall:** Number bonds to 10 Recall +, - sums to 10 **Mental calculation strategies** • Larger numbers first in order to count on or back; • Number line • Doubling and halving • Building up, breaking down.	**Number concept: range 20** **REPEAT TERM 3**

Addition and Subtrac-tion	**Number range: 1-5** (+, -, □) • Add up to 5 • Subtract from 5 • Practise number bonds to 5.	**Number range: 1-10** (+, -, □) • Add up to 10 • Subtract from 10 • Practise number bonds to 10.	**Number range: 1-15** (+, -, □) • Add up to 15 • Subtract from 5 • Practise number bonds to 10.	**Number range: 1-20**(+, -, □) • Add up to 20 • Subtract from20 • Practise number bonds to 10.
Repeated Addition leading to multipli-cation		**Number range:1-10** Repeated addition (i.e. the same number) to 10. Use symbols (+, -, □).	**REPEAT TERM 2** • extend to 15.	**REPEAT TERM 2** • extend +, - to 20.
Mental Maths	**Number concept: range 5** Order a set of numbers. Compare numbers up to 5 and say which is more or less.	**Number concept: range 10** **REPEAT TERM 1 extend to 10**	**Number concept: range 15** Order a set of selected numbers. Compare numbers up to 20 and say which is more or less. **Rapid recall:** Number bonds to 10 Recall +, - sums to 10 **Mental calculation strategies** • Larger numbers first in order to count on or back; • Number line • Doubling and halving • Building up, breaking down.	**Number concept: range 20** **REPEAT TERM 3**

PATTERNS, FUNCTIONS AND ALGEBRA				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
GEOMETRIC PATTERNS	**Copy, extend and describe** • simple patterns made with physical objects • drawings (using colours and shapes).	**Copy, extend and describe** • simple patterns made with physical objects • simple patterns made by drawings, lines, shapes or objects. **Create, describe own patterns** • with physical objects • by drawing lines, shapes, objects.	**REPEAT TERM 2**	**Identify, describe in words and copy geometric patterns** • in nature • in modern everyday life • from cultural heritage. **Create, describe own patterns** • with physical objects • by drawing lines, shapes, objects.
NUMBER PATTERNS	**Copy, extend and describe** • simple number patterns to 20 • count forwards and backwards in: 1s from any number between 1-20 • counting forwards in: 10s, 5s, 2s, from any multiple of 10, 5, 2, between 0- 20 • create and describe own patterns.	**Copy, extend and describe** • simple number patterns to 50 • sequence should show counting forwards and backwards in 1s from any number between 1-50 • count forwards in:10s, 5s, 2s, from any multiple of 10, 5, 2, between 0 - 50 • create and describe own patterns.	**Copy, extend and describe** • simple number patterns to 80 • sequence should show counting forwards and backwards in 1s from any number between 1- 80 • count forwards in:10s, 5s, 2s, from any multiple of 10, 5, 2, between 0 – 80 • create and describe own patterns.	**Copy, extend and describe** • simple number patterns to 100 • sequence should show counting forwards and backwards in 1s from any number between 1-100 • count forwards in:10s, 5s, 2s, from any multiple of 10, 5, 2, between 0-100 • create and describe own patterns.

SPACE AND SHAPE (GEOMETRY)				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Position, orientation and views	**Language of position** Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. **Position and directions** • Follow directions to move around classroom, school. • Follow instructions to place one object in relation to another e.g. put the pencil inside the box. • Apply language of position when following directions. • Practise direction through practical activities according to instructions.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1** • Work can also be consolidated via written activities.

3D objects	**Range of objects** Recognise and name 3D objects in the classroom. ball shapes (spheres) box shapes (prisms) **Features of objects** Describe, sort and compare 3D objects in term of: colour, size, objects that can roll, slide **Focus activities** Observe and build 3D objects. Identify and describe geometric everyday objects by saying whether they are shaped like a ball or they are like a box.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
2D shapes	**Range of shapes** Recognise and name 2D shapes (circles, triangles, squares) **Features of shapes** Describe, sort and compare 2D shapes in terms of: size, colour, straight and round sides.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1** Consolidate all work via written exercises.
3.4 Symmetry			Recognise symmetry in own body. Recognise and draw line of symmetry in 2D geometrical and non -geometrical shapes Focus on exercise where the line of symmetry is not only a vertical line.	**REPEAT TERM 3**

MEASUREMENT				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Time	**Passing of time** • order regular events **c**ompare lengths of time e.g. longer, shorter, faster, slower. • **s**equence events using yesterday, today, tomorrow **Telling of time: know** • late, early; morning, afternoon, evening • days of week • months of year • place birthdays on a calendar.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
Length	**Informal measuring** • Compare, order length, height, width of two or more objects • Use language: longer, shorter, taller, wider etc. • Estimate, measure, compare, using non-standard units of measurement. (E.g. hand spans, pencil lengths, etc.)	**REPEAT TERM 1** Take cognisance of the practical subjects offered and prepare learners adequately for the formal measurements in cm and m and if so required teach measurement using the tape measure, ruler, meter stick, etc. Conversions between cm and m may be necessary to prepare learners for the practical subjects.	**REPEAT TERM 2**	**REPEAT TERM 2**

Mass	**Informal measuring** Estimate, measure, compare, order and record mass using non-standard and standard measures. Use language to talk about comparison e.g. light, heavy, lighter, heavier.	**REPEAT TERM 1** Take cognisance of the **practical subjects offered** and prepare learners adequately for the formal measurements in g and kg – use kitchen scale, bathroom scale, etc. to teach the formal measurement.	**REPEAT TERM 2**	**REPEAT TERM 2**
Capa-city/ Volume	**Informal measuring** Compare and order the amount of liquid (volume) in 2 containers placed next to each other. Use vocabulary more, less, full empty. Estimate by using spoons, cups, etc.	**REPEAT TERM 1** Take cognisance of the **practical subjects offered** and prepare learners adequately for the formal measurements in ml and l – use measuring jugs with litres and ml calibrations.	**REPEAT TERM 1**	**REPEAT TERM 1**

DATA HANDLING				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Collect and sort objects **Represent sorted collections of objects** **Discuss and report on sorted collection of objects**	Collect and sort everyday physical objects. Draw pictures of the sorted objects. Give reasons for how the collection was sorted Answer questions about: • how the sorting was done (process) • what the sorting collection looks like(product) • describe the sorted collection.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
Collect and organise data **Represent data** **Analyse data**		Whole data cycle – make pictograph • Collect and organise data • Answer questions about data • Represent data in pictograph • Analyse data from representations.	**REPEAT TERM 2**	**REPEAT TERM 2**

MATHEMATICS

GRADE 2

OVERVIEW

MATHEMATICS GRADE 2 (overview)				
NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Counting objects	Count to at least 100 everyday objects reliably.	**REPEAT TERM 1** extend to150	**REPEAT TERM 1** extend to180	**REPEAT TERM 1** extend to 200
Count forwards and back-wards	**Count forwards and backwards in:** • 1s, from any number between 0-100 • 10s from any multiple of 10 between 0 and 100 • 5s from any multiple of 5 between 0 and 100 • 2s from any multiple of 2 between 0 and 100	**Count forwards and backwards in:** • 1s, from any number between 0-150 • 10s from any multiple of 10 between 0 and 150 • 5s from any multiple of 5 between 0 and 150 • 2s from any multiple of 2 between 0 and 150 • 3s from any multiple of 3 between 0 and 99 • 4s from any multiple of 3 between 0 and 100	**Count forwards and backwards in:** • 1s, from any number between 0-180 • 10s from any multiple of 10 between 0 and 180 • 5s from any multiple of 5 between 0 and 180 • 2s from any multiple of 2 between 0 and 180 • 3s from any multiple of 3 between 0 and180 • 4s from any multiple of between 0 and 180	**Count forwards and backwards in:** • 1s, from any number between 0-200 • 10s from any multiple of 10 between 0 &200 • 5s from any multiple of 5 between 0 and 200 • 2s from any multiple of 2 between 0 and 200 • 3s from any multiple of 3 between 0 and 200 • 4s from any multiple of4 between 0 and 200
Number Concept Development: Represent whole numbers				
Number symbols and number names	**Identify recognise and read numbers:** • symbols 0 to 100 • write number names 0 to 25	**Identify recognise and read numbers:** • symbols 0 to 150 • write number names 0 to 50	**Identify recognise and read numbers:** • symbols 0 to 180 • write number names 0 to 75	**Identify recognise and read numbers:** • symbols 0 -200 • write number names 0 - 100

Number Concept Development: Describe, compare and order whole numbers				
Describe, compare and order numbers	**Describe, compare and order numbers to 25** • Compare whole numbers using smaller than, greater than, more than, less than and is equal to • Order numbers from smallest to greatest and greatest to smallest.	**REPEAT TERM 1 extend to 50**	**REPEAT TERM 1 extend to 75** Use ordinal numbers to show order, place or position. Position first to tenth.	**REPEAT TERM 1 extend to 99** Use ordinal numbers to show order, place or position. Position first, second, third to 20th
Place Value	**Recognise the place value of numbers** 11-25 • Decompose two-digit numbers into multiples of 10 and ones/units • Identify and state the value of each digit	**REPEAT TERM 1 extend to 50**	**REPEAT TERM 1 extend to 75**	**REPEAT TERM 1 extend to 99**
SOLVE PROBLEMS IN CONTEXT				
Problem solving in context	**Use the following techniques when solving problems and explain solutions to problems** • drawings or concrete apparatus e.g. counters • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**

Addition and Subtrac-tion	Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 20.	**REPEAT TERM 1** extend to 50	**REPEAT TERM 1**extend to 75	**REPEAT TERM 1**extend to 99
Repeated addition leading to multiplica tion	Solve word problems in context and explain own solution to problems involving repeated addition with answers up to 20	**REPEAT TERM 1** extend to 30	**REPEAT TERM 1** extend to 40	**REPEAT TERM 1** extend to 50
Grouping and sharing leading to division	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.	**REPEAT TERM 1** extend to 30	**REPEAT TERM 1** extend to 40	**REPEAT TERM 1** extend to 50
Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to solutions that include unitary fractions. ½, ¼, etc.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
Money	• Recognise and identify the South African coins (5c, 10c, 20c, 50c, R1, R2, R5) and bank notes R10, R20, R50 • Solve money problems involving totals and change to 50c and rands to R20.	**REPEAT TERM 1**extend to R50.	**REPEAT TERM 11**extend to R75.	**REPEAT TERM 11**extend to R99.

CONTEXT-FREE CALCULATIONS				
Techniques (methods or strategies)	Use the following techniques when performing calculations: • drawings or concrete apparatus e.g. counters • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus	**REPEAT TERM 1**	Use the following techniques when performing calculations: • drawings or concrete apparatus e.g. counters • building up and breaking down numbers • doubling and halving • number lines	**REPEAT TERM 3**
Addition and subtraction	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	• **REPEAT TERM 1** extend to 50 • Practise number bonds to 15	• **REPEAT TERM 1** extend to 75 • Practise number bonds to 20	• **REPEAT TERM 1** extend to 99 • Practise number bonds to 20
Repeated addition leading to multipli-cation	**Add the same number repeatedly to 20** • Multiply numbers 1 to 10 by 2 • Use appropriate symbols (+,×, =, □)	• Multiply numbers 1 to 10 by 2 and 5 • Use appropriate symbols (+,×, =, □)	• Multiply numbers 1 to 10 by 2, 5 and 4 • Use appropriate symbols (+,×, =, □)	• Multiply numbers 1 to 10 by 2, 5, 3, and 4 • Use appropriate symbols (+,×, =, □)

Mental Maths	**Number range 25**
	• Oder a given set of numbers
	• Compare numbers to 25
	  • 1 more or 1 less
	  • 2 more , 2 less
	  • 10 more or less
	Rapid recall addition and subtraction facts to 10
	
	Calculation Strategies
	Use calculation strategies to add and subtract efficiently:
	• Put larger number first in order to count on or count back
	• Mental number line
	• Doubling and halving
	• Building up and breaking down
	• Use the relationship between addition and subtraction.
		Number range 50
		Order a given set of numbers
		Compare numbers to 50 and say which is:
		• 1 more or 1 less
		• 2 more , 2 less
		• 10 more or less
		Rapid recall addition and subtraction facts to 10
		
		Calculation Strategies
		
		REPEAT TERM 1
			Number range 75
			Order a given set of numbers
			Compare numbers to 75 and say which is:
			• 1 more or 1 less
			• 2 more , 2 less
			• 3 more, 3 l3ss
			• 4 more, 4 less
			• 5 more, 5 less
			• 10 more or less
			Rapid recall addition and subtraction facts to 15
			Add and subtract multiples of 10 from 0 to 50.
			
			Calculation Strategies
			
			REPEAT TERM 1
				Number range 99
				Order a given set of numbers
				Compare numbers to 99 and say which is:
				• 1 more or 1 less
				• 2 more , 2 less
				• 3 more, 3 l3ss
				• 4 more, 4 less
				• 5 more, 5 less
				• 10 more or less
				Rapid recall addition and subtraction facts to 20
				Add and subtract multiples of 10 from 0 to 100.
				Calculation Strategies
				
				REPEAT TERM 1

Fractions		• Use the fraction name halves, quarters, thirds and fifths. • Recognise fractions in diagrammatic form. • Write as 1 half, 2 thirds	**REPEAT TERM 2**	**REPEAT TERM 2**

PATTERNS, FUNCTIONS AND ALGEBRA				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Geometric Patterns	**Copy, extend, describe** Simple patterns made with physical objects Simple patterns made with drawing of lines, shapes or objects. **Range of patterns** Simple patterns e.g. groups of shapes is repeated in the same way. **Create, describe own patterns** Create own geometric patterns with physical objects ; by drawing lines, shapes or objects **Describe own patterns**.	**Copy, extend and describe** Simple patterns made with physical objects Simple patterns made with drawing of lines, shapes or objects. **Range of patterns** Simple patterns e.g. groups of shapes is repeated in the same way. Patterns in which the number or size of shapes in each stage changes in a predictable way i.e. regular increasing patterns. **Create and describe own patterns** **REPEAT TERM 1**	**Copy, extend and describe** Simple patterns made with physical objects Simple patterns made with drawing of lines, shapes or objects. **Range of patterns** Patterns in which the number or size of shapes in each stage changes in a predictable way i.e. regular increasing patterns. **Create and describe own patterns** **REPEAT TERM 1**	**Patterns around us** Identify, describe and in words and copy geometric patterns: • in Nature • Cultural heritage • Modern everyday life.
Number Patterns	Copy, extend and describe simple number sequences to 100. Show counting forwards and backwards in: • 1s from any number between 0 and 100 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0 and 100	Copy, extend, describe simple number sequences to 150. Show counting forwards and backwards in: • 1s from any number between 0 and 150 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0 and 100 • 3s from any multiple of 3 between 0 and 150. • 4s from any multiple of 4 between 0 and 150 Create and describe own number pattern.	Copy, extend, describe simple number sequences to 180. Show counting forwards and backwards in: • 1s from any number between 0 and 180 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0 and 100 • 3s from any multiple of 3 between 0 and 150. • 4s from any multiple of 4 between 0 and 180 Create and describe own number pattern.	Copy, extend, describe simple number sequences to 200. Show counting forwards and backwards in: • 1s from any number between 0 and 200 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0 and 100 • 3s from any multiple of 3 between 0 and 150. • 4s from any multiple of 4 between 0 and 200 Create and describe own number pattern.

SPACE AND SHAPE (GEOMETRY)				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Position, orientation and views	**Language of position** Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. **Position and direction** Follow directions to move around the classroom.	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
3D objects	Recognise, name of 3D objects and pictures - Ball shapes (spheres) - Box shapes (prisms) **Features of objects** Describe, sort and compare 3D objects in terms of: • size • objects that can roll, slide	**REPEAT TERM 2**	**REPEAT TERM 2**	**REPEAT TERM 2**
2D shapes	**Recognise and name 2D shapes** • circles • triangles • squares	**Features of shapes** Describe, sort & compare 2D shapes in terms of: • size • colour • straight sides • round sides	**REPEAT TERM 2**	**REPEAT TERM 2**
Symmetry		Recognise and draw a line of symmetry in 2D geometrical and non-geometrical shapes.	**REPEAT TERM 2**	**REPEAT TERM 2**

MEASUREMENT				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Time	Telling the time • Name and sequence days of week, months of year • Place birthdays , religious holidays, historical events, school events on calendar • Tell 12-hour time in hours half hours on analogue clock **Calculate length of time, passing of time in hrs, ½ hrs.**	**REPEAT TERM 1**	**REPEAT TERM 1** **Also include telling time in quarter hours on analogue clock.** **Use calendars to calculate time in days and weeks and months**	**REPEAT TERM 1** **Also include telling time in quarter hours on analogue clock.** **Use calendars to calculate time in days and weeks and months**
Length	**Informal measuring** **Non-standard measures** e.g. hand spans, paces, pencil lengths, counters, lengths of string, etc. to estimate, measure, compare, order and record length. **Formal measuring** **Using standard measures:** rulers, meter sticks, tape measures to check on above informal measures in metre (m), centimetre (cm).	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**
Capacity / Volume	**Informal measuring** Estimate, measure, compare and record capacity of containers (i.e. the amount the container can hold if filled) by using non-standard e.g. cups, containers, bottles, spoons, etc. Describe the capacity by counting and stating how many of the informal units it takes to fill the container. **standard measures**: litre (l), millilitre (ml). **Formal measuring:** Use measuring jugs on which numbered calibration lines show litres, half litres and quarter litres.			

Mass	**Informal measuring** **Non-standard** e.g. blocks, bricks, etc. Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. Compare and order Estimate, measure, compare, order and record mass using non-standard measures. **Formal measuring** Compare, order and record the mass of commercially packaged objects with their mass in kg and g.	**REPEAT TERM 1**	**REPEAT TERM 1** **Formal measuring** Complete written tasks to consolidate the following, products with mass written on them. Bathroom scales where the needle points to numbered gradation lines.	**REPEAT TERM 3** **Formal measuring** Complete written tasks to consolidate the following, products with mass written on them. Bathroom scales where the needle points to numbered gradation lines.

DATA HANDLING				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Collect and organise data **Represent data** **5.3 Analyse and interpret data**	Make pictograph with one- to –one correspondence. • Collect data about the class, school. • Represent data in pictograph Analyse data from representations provided.			

MATHEMATICS

GRADE 3

OVERVIEW

GRADE 3 MATHEMATICS OVERVIEW				
NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Counts objects	Group to at least 200 objects and count reliably. Estimate and check by counting, encourage grouping. **Resources:** Count bottle tops, beans, discs, unifix blocks, sticks, rubber bands, seeds, small packets ,paper clips, clay balls, pictures groups of objects number line number grids.	**REPEAT TERM 1** extend to 500	**REPEAT TERM 1** extend to 700	**REPEAT TERM 1** extend to 1000
Count forwards and backwards	Count forwards and backwards in multiples of 1s, 2s, 5s & 10s in intervals as specified in grade 2 with increased number range. Count in multiples of 10s,5s, 2s, 3s, 4s up to 200 100s to at least 500 Resources: Number grid, abacus, number line, counters, money etc.	**REPEAT TERM 1- 500** Extend counting in 100s, 50s to 1000	**REPEAT TERM 1- 700** Extend counting in 100s, 50s to 1000100s, 50s, 20s, 25s to 1000 Resources: See term 1	**REPEAT TERM 1- 1000** Extend counting in 100s, 50s to 1000in 100s, 50s, 20s, 25s to 1000 Resources: See term 1

Number concept development				
Number symbols and number names	**Recognise, identify and read number symbols** • 0 to 500 • write symbols 0 to 500 • number names 0 to 250 • write number names 0 to 100	**Recognise, identify and read number symbols** • 0 to 1000 • write symbols 0 to 1000 • number names 0 to 250 • write number names 0 to 250	**Recognise, identify and read number symbols** • 0 to 1000 • write symbols 0 to 1000 • number names 0 to 500 • write number names 0 to 500	**Recognise, identify and read number symbols** • 0 to 1000 • write symbols 0 to 1000 • number names 0 to 1000 • write number names 0 to 1000
Describe, compare and order numbers.	**Describe, compare and order objects up to 99.** • Compare whole numbers up to 99 using smaller than, greater than and more than, less than, is equal to • order whole numbers up to 99 from smallest to greatest and greatest to smallest	**REPEAT TERM 1** extend to 500	**REPEAT TERM 1** extend to 700 **Use ordinal numbers to show order, place or position** Use, read and write ordinal numbers including abbreviated form 1st, 2nd, 3rd … 31st)	**REPEAT TERM 1** extend - 1000
Place value	**Recognise the place value of three digit numbers to 99** • Know what each digit represent • Decompose two digit numbers up to 99 into multiples of 10 and ones/ units • Identify and state the value of each digit	**Recognise the place value of three digit numbers to 500** • Know what each digit represent • Decompose three-digit numbers up to 500 into multiples of 100, multiples of 10 and ones/ units • Identify and state the value of each digit	**REPEAT TERM 2** extend to 700	**REPEAT TERM 2** extend -1000

Solve problems in context (word problems using the following techniques up to 999)				
Problem solving techniques	Use the following techniques when solving problems: • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when solving problem: • building up and breaking down numbers • doubling and halving • number lines • rounding off in tens	**REPEAT TERM 2**	**REPEAT TERM 2**
Addition and subtraction	Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 99.	**REPEAT TERM 1 extend to 400**	**REPEAT TERM extend to 800**	**REPEAT TERM 1 extend to 1000**
Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 50	**REPEAT TERM 1 extend to 75**	**REPEAT TERM 1 extend to 75**	**REPEAT TERM 1 extend to 100**
Grouping and sharing leading to division	Solve number problems in context and explain solutions to l problems involving equal sharing up to 50 with answers that may include remainders.	**REPEAT TERM 1 extend to 75**	**REPEAT TERM 1 extend to 75**	**REPEAT TERM 1 extend to 100**
Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to solutions that include unitary and non-unitary fractions e.g. ½,¼,¾	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**

Money	• Recognise and identify the South African coins and bank notes • Solve money problems involving totals and change in rands or cents	• Recognise and identify the South African coins and bank notes • Solve money problems involving totals and change in rands or cents • Convert between rands and cents	• Recognise and identify the South African coins and bank notes • Solve money problems involving totals and change in rands or cents • Convert between rands and cents	• Recognise and identify the South African coins and bank notes • Solve money problems involving totals and change in rands or cents • Convert between rands and cents
CONTEXT-FREE CALCULATIONS				
Techniques (methods or strategies)	Use the following techniques when performing calculations: • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when performing calculations: • building up and breaking down numbers • doubling and halving • number lines • rounding off in tens	• **REPEAT TERM 2**	• **REPEAT TERM 2**
Addition and subtraction	• Add to 99 • Subtract from 99 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 20	• Add to 400 • Subtract from 400 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 30	• Add to 800 • Subtract from 800 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 30	• Add to 999 • Subtract from 999 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 30
Repeated addition leading to multipli cation	• Multiply numbers 1 to 10 by 2, 5, 3, 4 • Use appropriate symbols (×, □)	• Multiply 2, 3, 4, 5, 10 to a total of 50 • Use appropriate symbols (×, □)	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use appropriate symbols (×, □)	**REPEAT TERM 3**
Division	• Divide numbers to 50 by 2, 5, 10 • Use appropriate symbols (÷, =, □)	**REPEAT TERM 1**	**REPEAT TERM 1**	**REPEAT TERM 1**

Mental Maths	**Number concept: Range 200** • Order a given set of selected numbers • Compare numbers up to 200 and say which is 1, 2, 3, 4, 5 and 10 more or less **Rapidly recall:** • Addition and subtraction facts to 20 • Add or subtract multiples of 10 from 0 to 100 **Calculation strategies** Use the following calculation strategies: • Put the larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between addition and subtraction • Use the relationship between multiplication and division.	**Number concept: Range 500** • Order a given set of selected numbers • Compare numbers up to 500 and say which is 1, 2, 3, 4, 5 and 10 more or less **Rapidly recall:** **REPEAT TERM 1** **Calculation strategies** **REPEAT TERM 1**	**Number concept: Range 750** • Order a given set of selected numbers • Compare numbers up to 750 and say which is 1, 2, 3, 4, 5 and 10 more or less **Rapidly recall:** **REPEAT TERM 1** **Calculation strategies** **REPEAT TERM 1**	**Number concept: Range 999** • Order a given set of selected numbers • Compare numbers up to 99 9and say which is 1, 2, 3, 4, 5 and 10 more or less **Rapidly recall: REPEAT TERM 1** • Multiplication facts for the: - times table with answers up to 20 - 10 times table with answers up to 100 • Division facts for numbers: - up to 20 divisible by 2 - up to 100 divisible by 10 **Calculation strategies** **REPEAT TERM 1**

Fractions	• Use and name unitary and non- unitary fractions including halves, quarters, eighths, thirds, sixths, fifths. • Recognise fractions in diagrammatic form • Write fractions as 1 half and 2 thirds.	• Use and name unitary and non-unitary fractions including halves, quarters, eighths, thirds, sixths, fifths. • Recognise fractions in diagrammatic form • Write fractions as 1 half and 2 thirds.	• Use and name unitary and non-unitary fractions including halves, quarters, eighths, thirds, sixths, fifths. • Recognise fractions in diagrammatic form • Begin to recognise that two halves or three thirds make one whole and that one half and two quarters are equivalent • Write fractions as 1 half and 2 thirds.	• Use and name unitary and non-unitary fractions including halves, quarters, eighths, thirds, sixths, fifths. • Recognise fractions in diagrammatic form • Begin to recognise that two halves or three thirds make one whole and that one half and two quarters are equivalent • Write fractions as 1 half and 2 thirds.

PATTERNS FUNCTIONS AND ALGEBRA				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Geometric patterns	Copy, extend and describe in words • simple patterns made with physical objects • simple patterns made with drawings of lines, shapes or objects **Range of patterns** • Simple patterns in which shapes or groups of shapes are repeated in exactly the same way. **Create and describe own patterns** • Create own geometric patterns - with physical objects - by drawing lines, shapes or objects • Describe own patterns.			
Number patterns	Copy, extend and describe simple number sequences to at least 200 Sequences should show counting forwards and backwards in • Intervals specified in Grade 2 with increased number ranges • 100s to at least 500 **Create and describe own patterns**	**REPEAT TERM 1 extend to 500** Sequences should show counting forwards and backwards in • Intervals specified in Grade 2 with increased number ranges • 50s, 100s to at least 1000 • **Create and describe own patterns**	**REPEAT TERM 1 extend to 750** Sequences should show counting forwards and backwards in • Intervals specified in Grade 2 with increased number ranges • 50s, 25s, 20s, 100s to at least 1000 **Create and describe own patterns**	**REPEAT TERM 1 extend to** 1000 Sequences should show counting forwards and backwards in • Intervals specified in Grade 2 with increased number ranges • 20s, 25s, 50s, 100s to at least 1000 **Create and describe own patterns**

SPACE AND SHAPE(GEOMETRY)				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Position, orientation and views		**Position and views** • Match different views of the same everyday object • Name an everyday object when shown an unusual view of it. **Position and directions** • Follow directions to move around the classroom and school • Give directions to move around the classroom and school.	**Position and views** • Read, interpret and draw informal maps, or top views of a collection of objects • Find objects on maps. **Position and directions** • Follow directions from one place to another on an informal map.	
3D Objects	**Range of objects** Recognise and name 3-D objects in the classroom • ball shapes, • box shapes • cylinders • pyramids • cones **Features of objects** Describe, sort and compare 3D objects in terms of: - 2D shapes that make up the faces of 3D objects - flat or curved surfaces. **Focussed activities** Observe and build given 3D objects using concrete materials such as cut-out 2D shapes, straws, building blocks, recycling material, construction kits, and other 3D geometric objects Consolidate work through written exercises.			

2D Shapes	**Range of shapes** • circles • triangles • squares • rectangles **Features of shapes** Describe, sort and compare 2-D shapes in terms of: • shape • straight sides • round sides			
Symmetry		**Symmetry** Determine line of symmetry through paper folding and reflection. Paper folding activities that develop an understanding of symmetry include: • activities in which wet paint is placed on the page before folding • activities in which paper is cut or torn from the fold line.		**Symmetry** Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes. **Written activities should include where:** • the line of symmetry is not always a vertical line • there is more than one line of symmetry in the shape or object.

MEASUREMENT				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Time	**Telling the time** • Read dates on calendars • Place birthdays, religious festivals, public holidays, historical events, school events on a calendar • Tell 12-hour time in - hours - half hours - quarter hours - minutes on analogue clocks and digital clocks and other digital instruments that show time e.g. cell phones.	**Telling the time** **REFER TO TERM 0NE** **Calculate length of time and passing of time** Use calendars to calculate and describe lengths of time in days, weeks, months • Use clocks to calculate length of time in hours half hours, quarter hours.	**Telling the time** **REFER TO TERM 0NE** **Calculate length of time and passing of time** Use calendars to calculate and describe lengths of time in days, weeks, months • Converting between weeks and months • Use clocks to calculate length of time in hours half hours, quarter hours.	**Telling the time** **REFER TO TERM 0NE** **Calculate length of time and passing of time** • Use calendars to calculate and describe lengths of time in days, weeks, months • Converting between days and weeks • Use clocks to calculate length of time in hours half hours, quarter hours.

Length	(conversions between metres and centimetres is a prerequisite for particular practical subjects).	**Informal measuring** • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters. • Describe the length of objects by counting and stating the length in informal units. **Introducing formal measuring** • Estimate, measure, order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length. • Estimate and measure lengths in centimetres using a ruler.	**Informal measuring** • Estimate, measure, compare, order and record length using metres (either metre sticks, string) as a standard unit of length. • Estimate, measure lengths in centimetres using a ruler.	**REFER TO TERM THREE**

Mass	**Informal measuring** • Estimate, measure, compare, order and record mass using a balancing scale and non-standard measures e.g. blocks, bricks • Use language to talk about comparison e.g. light, heavy, lighter, heavier. **Introducing formal measuring** • Compare, order and record the mass of commercially packaged objects which have their mass stated in: - kilograms e.g. 2 kilograms of rice and 1 kilogram of flour - grams e.g. 500 grams of salt • Measure own mass in kilograms using a bathroom scale (Give attention to conversions between grams and kilograms as this is vital for the practical subjects offered).	**REPEAT TERM 1 WHERE NECESSARY**	**REPEAT TERM 1 WHERE NECESSARY**	**Introducing formal measuring** Learners do written tasks to consolidate the following: including reading pictures of • Products with mass written on them • Bathroom scales where the needle points to numbered gradation lines.

Capacity/ Volume	**Informal measuring** • Estimate, measure, compare, order and record the capacity of containers (i.e. the amount the container can hold if filled) by using non-standard measures e.g. spoons and cups • Describe the capacity of the container by counting and stating how many of the informal units it takes to fill the container e.g. the bottle has the capacity of four cups **Introducing formal measuring** • Estimate, measure, compare, order and record the capacity of objects by measuring in litres, half litres and quarter litres • Compare, order and record the capacity of commercially packaged objects whose capacity is stated in litres e.g. 2 litres of milk, 1 litre of cool drink, 5 litres of paint or stated in millilitres e.g. 500 millilitres of milk, 340 millilitres of cool drink, 750 millilitres of oil. • Know that a standard cup is 250 millilitres • Know that a standard teaspoon is 5 millilitres. Conversions between millilitres and litres are a prerequisite for most **practical subjects.**			**Introducing formal measuring** Written tasks to consolidate the following, including reading pictures of • Products with their capacity written on them in order to sequence in order • Jugs where the volume is near to a numbered 1 litre gradation line or half litre or quarter litre • Jugs where the volume is near to numbered millilitres e.g. 500 millilitres of milk, 340 millilitres of cool drink, 750 millilitres of oil. • Know that a standard cup is 250 millilitres • Know that a standard teaspoon is 5 millilitres. Conversions are required between millilitres and litres as this skill is essential for most practical subjects.
Perimeter			**Perimeter** Investigate the distance around 2D shapes and 3D objects using direct comparison or informal units.	**REPEAT TERM 3**
Area				**Area** Investigate the area using tiling.

DATA HANDLING				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
Collect and organise data **Represent data** **Analyse and interpret data**	Whole data cycle to make bar graph. Collect data about the class or school to answer questions posed by the teacher Represent data in - bar graphs - tally marks - tables Talk about and answer questions about the data in tables and bar graphs.	Analyse data from representations provided Recommended • At least one pictograph with one-to-one correspondence • At least one bar graph.	**Recommended** Re organise data provided in a list or tally or table in a bar graph. Represent data on a bar graph. Answer questions about data on bar graph.	**REPEAT TERM 2**

MATHEMATICS

GRADE 1

TERM 1

MATHEMATICS TERM 1GRADE 1			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	***Baseline Assessment is completed in the first week of school.*** Estimate and check by counting out objects reliably to10.	Use abacus, number line, number grid for counting. Use objects e.g. beads, bottle tops and encourage groupings as this will help with the number bonds later when adding and subtracting. Learners will remember the combinations of the groupings.
	Mental Maths	**Number Concept Range is 5** Order a given set of numbers: more, less	Ask learners to put the numbers in the correct order; to order the numbers correctly by using ordinal numbers.
	Number symbols and number names	Recognise, identify, read, number symbols 1to 20 Write number symbols and names 1-5	Show groups of objects for learners to identify and match number to reinforce this number work.
	Describe, order and compare number	**Describe, order and compare objects to 5** • Compare according to most, least; more than, less than; the same as; different; the same as. • Order according greatest and smallest; smallest to greatest • Use language before, after, in the middle / between.	Compare number of objects by one- to- one correspondence. Learners count a collection of objects and match number names one-to –one correspondence with objects. When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. talk about who will be first, etc. Cardinal numbers refer to the total number in a group/ set/ collection.

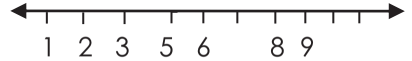
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem solving in context	**Number range 5** **Solve problems practically in context** with answers to 5 • Use counters (concrete) to solve number problems. • Use pictures to draw the story sum. • Use number line to support this process.	Allow learners to manipulate concrete objects to move on by drawing pictures and talk about what **how** they arrived at the answer. Others may work out the problem in a different way. Use the number line.. Record all strategies.
	Context-free calculations	The same techniques for problem solving is used for +, - , □, = • Concrete apparatus e.g. counters • draw pictures • number lines **Number Range 1-5** • Add to 5 • Subtract from 5 **Practise number bonds to 5**	Number bonds of 3 : 3+0= 3 3 - 0= 3; 2+1 = 3 3– 1= 2 1+ 2 = 3 3– 2 =1 Number bonds help l to cultivate strategies, to recognise number patterns that support calculations.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend simple patterns by using** • concrete objects and drawings • colour and shapes	**Copying** patterns help learners to see the logic of how the patterns are made. **Extending** patterns show understanding of the logic.
	Number patterns	**Copy, extend and describe simple number sequences** to at least **10.**	**Number patterns support the number work completed above.**
SPACE AND SHAPE	**Position, orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down,. Recognise 3D objects • Balls (spheres) • Boxes(prisms)	Keep it practical, allow learners to do the movements in this regard. Use 3D objects use the objects to exploit the vocabulary mentioned for position, orientation and views.
	Position and direction	Apply the language of position learnt when giving directions. Follow directions to move around the classroom.	Practise this language of position during Language period to consolidate the Maths. Learners record how they navigate towards the tuck shop / to the principal's office, etc. List instructions. Practise the list of words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.

MEASUREMENT	**Time**	Use language to describe when something happens; • Identify and sequence days of the week; months of the year. • Collect learners' birthdays on the calendar.	Teach days of week, months of year through songs, rhymes. Do a birthday chart for the classroom. Note the collection of data – plot birthdays on calendar – note the development of a graph.
	Length	Informal measuring (use non-standard measures e.g. hands pans, foot spans, string) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider; Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	• Develop an understanding of length and the talk that goes with it. • Prepare and practise for practical subjects measurement where length is a concept that has to be mastered. • Move on to formal needed in the practical skills subjects. e.g. measure the length of fabric for Needlework and clothing etc.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Allow them to answer questions about how and what was done. Let them draw the sorted arrangements. Sorting, representing and describing are good skills that support the pre number work.

MATHEMATICS TERM 1 GRADE 1			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	Count concrete objects reliably to **10.** Give a reasonable estimate of a number of objects that can be checked via counting out. Count forwards and backwards to **15.**	Encourage groupings as this will help with the number bonds later when adding and subtracting.
	Mental Maths	**Number Concept Range is 5** • Order a given set of numbers to **5**. • Say which number is **less, more**.	Hold up a number; ask the following questions; what comes after 3; before 4, between? More than, less than; one more, one less,
	Number symbols and number names	Recognise, identify, read, number symbols 1to 20 Write number symbols and names 1-5	Match number symbols with number names. Trace over numerals.
	Describe, order and compare number	**Describe, order and compare objects to 5** • Compare according to most, least; more than, less than; the same as; different; the same as. • Order according greatest and smallest; smallest to greatest • Use language before, after, in the middle / between.	Teach the prescribed vocabulary, learners use the vocabulary when comparing the concrete apparatus. Transfer this knowledge to the **teaching of number on the number line.** This is the basis for addition and subtraction that will be taught later. Note the cardinal value of number.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem solving in context	**Use the following techniques.** • counters (concrete) to solve number problems • pictures to draw the story sums • number line to support this process. Practically solve problems up to 5 and talk about solutions to answers.	Word problems: If 1 packet of chips costs R3 how much will 2 packets cost? Share 4 apples between 2 friends. There are 5 sweets in the jar if 3 are red how many are green

	Context-free calculations Techniques /methods /strategies	**Use the following techniques for +, - , □, =** • concrete apparatus e.g. counters • draw pictures • number lines **Number Range 1-5** • Add to 5 • Subtract from 5 **Practise number bonds to 5**	The manipulation of counters correctly and doing sums on the number line help learners to see different ways to get to the answer. Repeated addition leads to multiplication. Number bonds of 4; 4+0= 4 4+□=4 4-0=4 3+1=4 3+□ =4 4–1=3 2+2 =4 2+□=4 4–2 =2
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend simple patterns use concrete objects. Draw simple patterns using colours and shapes.	Copying the pattern helps learners to see the logic of how the pattern is made. Extending the pattern helps learners to check that they have properly understood the logic of the pattern.
SPACE AND SHAPE	**Position and direction**	Apply the language of position learnt when giving directions. Follow directions to move around the classroom.	Practise this language during language period as this will help to consolidate the Maths taught. Put list of words on word wall. Left/right; up/down; in/out; near/far; under/ over; front/back, etc.
	Number patterns	**Copy, extend and describe** simple number sequences to at least **10.**	
MEASUREMENT	**Time**	• Passing of time (order events, compare lengths of time, etc.). • Telling the time (morning afternoon, night, etc.). • Sequence days of the week, months of the year. • Place birthdays on calendar	Use the calendar to teach days, weeks, months. Discuss birthdays and events *Note: the Calendar can be used for number work and also serves as a good resource for consolidation work and is excellent for Mental Maths.*
	Mass	Estimate, measure, compare, order and record mass using a balance and non-standard measure e.g. weights. Use language to talk about the comparison e.g. heavier, lighter.	Develop an understanding of the mass by comparing heavy, light objects. Use a balance scale. All objects/etc. measured can be collected as data and displayed on a pictograph.

MATHEMATICS TERM 1 GRADE 1			
LESSON 3 WEEK 5 & 6	**CONCEPT**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Estimate and count concrete objects reliably to **10.** Count forwards and backwards to **20.**	Use the concrete objects, the abacus, string of beads, etc. to count all and count on.
	Mental Maths	**Number Concept Range is 5** Order a set of numbers. more/ less	What comes after 3? Before 2 we get? What number is in the middle of/between 3 & 5?
	Number symbols and number names	Recognise, identify, read, number symbols 1to 20 Write number symbols and names 1-5	Use counters, beads, objects to pack out and match with number symbols, number names on cards. Pack out number patterns 1-5. (number conservation)
	Describe, order and compare number	**Describe, order and compare objects to 5** • most, least; more than, less than; the same as; different; the same as. • order according greatest and smallest; smallest to greatest • use language before, after, in the middle / between.	Teach the prescribed vocabulary. Allow learners to use the vocabulary when comparing the concrete apparatus. Transfer this knowledge to the **teaching of number on the number line.** This is the basis for addition and subtraction that will be taught later.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS *(apply techniques used in weeks 1-4)*			
	Problem solving in context	Solve problems in context and context-free calculations (, -, ×, ÷ , □, +. =) with answers up to 10 Use pictures to draw the story sum. Use number line to support this process.	Use counters (concrete) to solve number problems. Talk about solutions.
	Context-free calculations	**Number Range 1-5** *(extend to 10 if there is potential)* • Add to 5 • Subtract from 5 • Practise number bonds to 5 (+, - , □, =)	Use concrete apparatus and the number line, draw pictures: Number bonds of 5 5+0= 5 5 - 0= 5 4+1 = 5 5– 1= 4 2+3 = 5 5– 2 =3

PATTERNS, FUNCTIONS AND ALGEBRA	**Number Patterns**	Copy, extend and describe simple number sequences to at least 20.	Link with Number Operations and Relationships when counting; doing number bonds we deal with number patterns. It is important for learners to see this. It helps to build confidence in number work and support s a good sense of number. The number line below is an e.g. of a number sequence where learners can fill in the missing numbers. 
MEASUREMENT	**Telling time**	Revise previous lessons work	Days of week, months of year.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend simple patterns by using concrete objects. Draw simple patterns using colours and shapes.	**Copying** the pattern helps learners to see the logic of how the pattern is made. **Extending** the pattern helps learners to check that they have properly understood the logic.
SPACE AND SHAPE	**Position, orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Use the 3D objects as for previous lesson.
	Position and direction	Apply the **language of position for directions**. Follow directions to move around the classroom.	Record the instructions to the tuck shop. Put a list of words on the word wall: left/right; up/down; in/out; near/far; under/over; front/back, etc.
	Range of objects	Recognise 3D objects in classroom and pictures; • ball shapes (spheres) • boxes shapes (prisms)	Do this with concrete objects as this will help learners to manipulate the objects and recognise.
	Features of objects	Describe, sort and compare 3D objects in terms of • Size; colour, objects that can roll or slide.	Allow learners to talk about sorting the colour, size of objects.

MEASUREMENT	**Length**	Informal measuring (use non-standard measures e.g. hands pans, foot spans, string) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider; Formal measurement: centimetres, metres – use tape measure, ruler, etc.	• Develop an understanding of length Prepare well for practical subjects where length has to be mastered. • Move on to formal measures and conversions between metres and millimetres as learners require e.g. measure the length of fabric for Needlework and clothing, metalwork, etc.
	Capacity/ Volume	Compare the amount of liquid (volume) in 2 containers placed next to each other. Learners check by pouring into a third container if necessary. Use the language to talk about the comparison e.g. more than, less than, full, empty. Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. Use a measuring jug, measuring cups, ml. litres, etc.	Explore the capacity of a litre bottle/ jug. A bottle / jug = capacity of 4 full cups. Direct comparisons of volume in containers remain the focus here the language to talk about this is developed e.g. full and empty; more than / less than; the same as. Prepare and practise for measurement in practical subjects.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Allow them to answer questions about how and what was done. Let them draw the sorted arrangements. Sorting, representing and describing are good skills that support the pre -number work. This can be the different containers with measures for volume or the different lengths of fabric needed for the practical subjects offered. ***Allow learners to appreciate the value and the beauty of Maths.***

MATHEMATICS TERM1 GRADE 1			
LESSON 4 WEEK 7 & 8	**CONCEPT**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Count concrete objects to 10. • make 1 more, 1 less • make 2 more, 2 less Count forwards and backwards to **20.**	Use the abacus, number line, number grid. Encourage groupings of objects e.g. beads, bottle tops. This helps with the number bonds when adding and subtracting.
	Mental Maths	**Number Concept Range is 5** Order a given set of numbers.	Hold up a flash card that displays a number. Ask: What comes after, before? Is this number greater than or less than (mention a number) This number is 2 more than...
	Number symbols and number names	Recognise, identify, read, number symbols 1 to 20 Write number symbols and names 1-5	Pack out and match with number symbols, number names on cards. Pack out number patterns 1-5. (number conservation)
	Describe, order and compare number / objects	**Describe, order and compare objects to 5** • Most, least; more than, less than; the same as; different; the same as. • Order according greatest and smallest; smallest to greatest • Use language before, after, in the middle / between. **Describe, order and compare numbers to 5**	Allow learners to use the vocabulary when comparing the concrete apparatus. Transfer this knowledge to the **teaching of number on the number line.** This is the basis for addition and subtraction that will be taught later. Note the cardinal value of number.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS (+, - , ×, ÷, □ ,=,) *(see methods/ techniques used in weeks 1-4)*			
	Problem solving in context	Solve word problems in context and explain solutions to problems with answers up to 5 **Use the following techniques.** • counters (concrete) to solve number problems • pictures to draw the story sums • number line to support this process.	Noluthando had two apples. Silo gave her three apples. How many apples does she have now? Nosisi has two green and two blue marbles. How many marbles does she have?
	Context-free calculations	**Number Range 1-5 Number Range 1-5** • Add to 5 • Subtract from 5 Practise number bonds to 5	Techniques used: • concrete apparatus e.g. counters • draw pictures • number lines
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend, simple patterns by using concrete objects. Draw patterns using colour and shapes.	**Copying** and **extending** the patterns help to establish if learners understand the logic of the pattern.
SPACE AND SHAPE	**Position, orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Make this as practical as possible, allow the learners to do the movements in this regard.
	Range of objects	Recognise 3D objects in classroom and in pictures. • ball shapes (spheres) and boxes shapes (prisms)	Do this with concrete objects. It helps learners to recognise and manipulate the objects.
	Features of objects	Describe, sort and compare 3D objects in terms of • size and colour	Learners talk about the colours and sort objects according to colour and size.

MEASUREMENT	**Length**	Informal measuring (use non-standard measures e.g. hands pans, foot spans, string) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider. Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	• Develop an understanding of length and the talk that goes with it. • Move on to formal measures as learners require to do so in practical subjects e.g. measure the length of fabric for Needlework and clothing etc.
	Mass	• Estimate, measure, compare, order, record using non -standard measurements • Use appropriate language. • Prepare for mass as per various practical subjects that demands using formal measurements i.e. a mass metre scale, measuring cups, etc. in grams and kg.	• Prepare and practise for workshop measurement where mass has to be mastered.
	Capacity/ Volume	Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. Use a measuring jug, measuring cups, ml. litres, etc.	Explore the capacity of a litre bottle/ jug. A bottle / jug = capacity of 4 full. Extend this practical exercise to support the practical skills required for the skills subjects.
TERM 1 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2

TERM 1

TERM 1 MATHEMATICS GRADE 2			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Estimate and count everyday objects reliably to 60	Encouraging them to group objects in 2s, 5s,10s
	Count forwards and backwards	**Count forwards and backwards in:** 1s, from any number between 0 – 60 In 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 and 60	Encourage counting on. Show that a group of 100 can be ordered in different ways, e.g. 10 groups of ten; 100 loose ones; or 2 groups of 50.
	Number symbols and number names	**Identify recognise and read numbers:** • Identify, recognise, read and write number symbols 0 to 60 • Identify, recognise, read and write number names 0 to 15	Write the number symbols, e.g. thirteen (13); through ordering and comparing objects and numbers learners have learnt that: the **cardinal** aspect of a number is used to describe the number in a set.
	Describe, compare and order numbers	**Describe, compare and order numbers to 15** • Compare whole numbers using smaller than, greater than, more than, less than and is equal to • Order numbers from smallest to greatest and greatest to smallest.	**Ordinal** aspect of a number refers to a number in relation to its position in the set. E.g. colour the **third/ 3rd** (ordinal number) yellow. The use of the calendar can enhance teaching position.
	Place Value	Recognise the place value of numbers 10-15 • Decompose two-digit numbers into multiples of 10 and ones/units • Identify and state the value of each digit.	group of tens and loose ones; **Dienes blocks / flard / place value cards,** move to written work. Fill in the missing number (this can be done or explained using concrete apparatus) 13 = 1 ten and ____ ones 20 = __ tens and ___ ones

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem solving techniques **Addition** **Subtraction**	**Use the following techniques when solving problems up to 15** - drawings or concrete apparatus - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus Solve word problems in context ***(word problems)*** and explain solutions to answers (+ ,- ,=, □) **Calculations**: use the same techniques as for problem solving • Add to 15 • Subtract from 15 • Number bonds to 8	**Drawings or concrete apparatus** It is important that the pictures or drawings contain numbers and number sentences. **Building up and breaking down** Learners split (decompose) and recombine numbers to help make calculations easier. **Doubling and halving** requires a strong number sense **Number lines** allows for a recorded image that helps to explain how the problem was solved.
	Repeated addition leading to multiplication **Grouping and sharing**	**Solve word problems in context** and explain own solution to problems involving repeated addition leading to multiplication. **Calculations:** • Add the same number repeatedly to 15 • Multiply numbers 1 to 10 by 2 Use appropriate symbols (+ ,- ,=, □) Solve problems involving equal sharing and grouping up to 10 with answers that may have remainders.	Good number work requires regular practise. **Show the** strategies of counting on; number line work. Allow learners to verbalise their thoughts – in this the teacher can understand if there is progress or if remediation is required.
	Money	• Recognise and identify the South African coins (5c, 10c, 20c, 50c, R1, R2, R5),bank notes R10, R20, R50 • Solve money problems involving totals and change to 50c and R20.	**Examples of problems that can be done** Could you share 50c equally amongst four children? Explain how. Bubble gum sweets cost 10c each. Busi spent 50c. How many bubble gum sweets did she buy?

	Mental Maths	**Work within number range 0-15** • Order a given set of numbers • Compare numbers to 15 **Rapid recall addition and subtraction facts to 10**	**Encourage the use of mental strategies** Put larger number first in order to count on or count back. Mental number line. Doubling and halving. The relationship between addition and subtraction. Quick recall of addition doubles to 10.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Create and describe own patterns	Provide objects for patterns. Allow for colour, line, shapes in patterns. Think about patterns used in their skills subjects.
	Number Patterns	Copy, extend and describe sequences backwards and forwards in 1s from between 0 and 60 10s, 5s, 2s from any multiple of 10, 5, 2, between 0 and 60.	As learners counting skills change and develop, the kinds of number sequences they work with can develop. Allow them to talk about number sequences.
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views: Language of position**	Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to.	Prepare learners for all relevant language of position for the relevant practical subjects. *Note the Maths language in all that we do.*
	3D objects	Recognise and name **3D objects** in the classroom. • ball shapes (spheres) • box shapes (prisms) **2 D shapes**: Discuss features of relevant shapes e.g. rectangle, square, triangle, circle.	**Most of the work on 3D objects should be done with concrete/physical objects.**
MEASUREMENT	**Time**	Telling the time • Know days of week • Know months of year Tell 12-hour time in hours on analogue clocks.	The focus is on telling the time, especially reading clocks. In Term 1 learners focus their attention on telling the time in hours, using an analogue clock. Have a working clock in the class room. Refer learners to the working clock.

	Length	**Informal measuring** Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. **Estimate, measure, compare, order, record, and describe**. **Formal measuring** **Using standard measures:** rulers, meter sticks, tape measures to check on above informal measures in metres (m), centimetres (cm).	Informal measurement of length using non-standard units of length (hand spans). Measure a variety of objects using a range of objects as informal units. Pack out in a row across the object being measured, a number of objects of the same length such as matchboxes, identically shaped bottle tops, pencils etc. To measure the width of a desk, new pencils can be packed out end to end across the desk.
	Capacity/ Volume	**Informal measuring** Non-standard e.g. cups, containers, bottles, spoons etc. Use language to talk about the comparison e.g. more than/ less than, full/empty **Estimate, measure, compare, order and record. Formal measuring** Use measuring jugs on which numbered calibration lines show litres, half litres and quarter litres.	**What is capacity? What is volume?** A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. **Capacity** is the total amount that an object can hold (or the amount of space inside the object). **Volume** is the amount of space that something takes up. Sometimes learners will be measuring how much liquid (or sand or other substances) are in a container.
DATA HANDLING	**Collect and organise data** **Represent data** **Analyse and interpret data**	**Collect data** about the class or school to answer questions posed by the teacher. **Represent data** in pictograph **Analyse and interpret data** Answer questions about data represented in pictograph	Learners sort and represent the information in ways which make it easier to analyse. The form of representation that learners practise is a pictograph; and learners analyse the information in the pictograph by answering questions posed by the teacher. Know about a pictograph.

TERM 1 MATHEMATICS GRADE 2			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Estimate and count everyday objects reliably to 80	Grouping of objects in 2s, 5s and 10s prepares to understand multiples. 80 can be composed in different ways, e.g. 8 groups of ten; 80 loose ones; or 2 groups of 40. **Count on:** Give learners a collection of objects to count on from.
	Count forwards and backwards	**Count forwards and backwards in:** • 1s, from any number between 0 – 80 • 10s, 5s, 2s from any multiple of 10, 5, 2, from any number between 0 and 80	Display number cards at each collection to show the number of objects counted. The counting in groups prepare learners to understand multiples.
	Number symbols and number names	**Identify recognise and read numbers:** • Identify, recognise, read and write number symbols 0 to 80 • Identify, recognise, read and write number names 0 to 20	Read and write number symbols to 80 Write the number symbols for the number names presented, e.g. thirteen (13); through ordering, comparing objects, numbers learners have learnt that: the **cardinal** aspect of a number is used to describe the number in a set.
	Describe, compare and order numbers	**Describe, compare, order numbers to 20** • Compare whole numbers using smaller than, greater than, more than, less than and is equal to.	**Ordinal** aspect of a number refers to a number in relation to its position in the set. E.g. Colour the **third/ 3rd** (ordinal number) yellow. The use of the calendar can enhance teaching position.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem solving techniques **Addition** **Subtraction**	**Use the following techniques when solving problems up to 20** - drawings or concrete apparatus - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus Solve word problems in context and explain solutions to answers (+ ,- ,□, ×, =) **Calculations** use the same techniques as for problem solving • Add to 20 • Subtract from 20 • Number bonds to 10	Draw pictures and use concrete apparatus to solve problems. **Building up and breaking down** This is one of the most important techniques. Using this technique allows learners to split (decompose) and recombine numbers to help make calculations easier. **Doubling and halving;** This technique requires a strong number sense. E.g. Word problem: At the clinic 17 children were given flu vaccinations. The next day 16 children were vaccinated. How many children were vaccinated altogether? The problem could be solved by using doubling. A learner might say double 16 plus 1 or double 17 minus 1. **Number lines** Using number lines in order to help calculate will allow learners a way to record their thinking and to keep track of it. It also allows learners to have a recording image that they can use to explain how they solved the problem.
	Repeated addition leading to multiplication **Grouping and sharing**	Solve word problems in context and explain own solution to problems involving repeated addition leading to multiplication. **Calculations** • Add the same number repeatedly to 20 • Multiply numbers 1 to 10 by 2 Use appropriate symbols (+,×,=, □) Solve problems involving equal sharing and grouping up to 10 with answers that may have remainders.	
	Money	• Recognise and identify the South African currency(5c, 10c, 20c, 50c, R1, R2, R5 R10, R20, R50)	Practise recognising money and converting money into smaller denominations. Solve problems involving totals and change.

	Mental Maths	**Work within number range 0-20** **Ordering and comparing** Which is more: 12 or 21? Give a number between 13 and 15 **Addition and subtraction facts:** Know all addition and subtraction number bonds to 10 **More or less** What is 1 less than 15; 1 more than 9? the 5th letter of the alphabet… 9th month of the year.	Rapid recall addition & subtraction -10 **Encourage the use of mental strategies** Use calculation strategies to add and subtract efficiently: • Put larger number first in order to count on or count back • Mental number line • Doubling and halving • Building up and breaking down • Use the relationship between + &- .
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Create and describe own patterns	Provide objects, **a**llow for colour, line, shapes in patterns. Explore patterns used in their skills subjects.
	Number Patterns	Copy, extend and describe sequences backwards and forwards • in 1s from any number between 0 and 80 • in 10s, 5s, 2s from any multiple of 10, 5, 2, between 0 and 80.	Allow for talking about the number pattern sequences.
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views: Language of position.**	Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to.	Keep this practical and bear in mind the language that is required for the skills subjects.
MEASUREMENT	**Length**	**Revise previous lesson if time permits**	
	Capacity/ Volume:	**Informal measuring** Non-standard e.g. cups, containers, bottles, spoons etc. And standard measures. See previous lesson for consolidation work.	**See previous lessons notes. Concentrate on the requirements for the practical skills subjects offered.**
DATA HANDLING	**Collect and organise data** **Represent data** **Analyse and interpret data**	**Collect data** about the class or school to answer questions posed by the teacher. **Represent data** in pictograph **Analyse and interpret data** Answer questions about data represented in pictograph.	Consolidate and revise the previous lesson.

TERM 1 MATHEMATICS GRADE 2			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Estimate and count everyday objects reliably to 100	Count on and count in groups. Help learners to count large numbers of objects, by encouraging them to group objects in 2s, 5s,10s
	Count forwards and backwards	**Count forwards and backwards in:** • 1s, from any number between 0 – 100 • 10s, 5s, 2s from any multiple of 10, 5, 2, between 0 and 100	Display number cards at each collection to show the number of objects counted. The counting in groups will prepare learners for understanding multiples. Allow the opportunity to show that a group of 100 can be ordered in different ways, for example: 10 groups of ten; 100 loose ones; or 2 groups of 50. **Encourage counting on.**
	Number symbols and number names	**Identify recognise and read numbers:** • Identify, recognise, read, write number symbols 0 - 100 • Identify, recognise, read, write number names 0 - 15	Organise a game to facilitate teaching number symbols and number names
	Describe, compare and order numbers	**Describe, compare and order numbers to 25** • Compare whole numbers using smaller than, greater than, more than, less than and is equal to • Order numbers from smallest to greatest and greatest to smallest.	**Ordinal** aspect of a number refers to a number in relation to its position in the set. Example: circle the **eighth day**(ordinal number) on the calendar.
	Place Value	Recognise the place value of numbers 10-25 • Decompose two-digit numbers into multiples of 10 and ones/units • Identify and state the value of each digit.	**Moving to written texts** Fill in the missing number (this can be done or explained using concrete apparatus) 18 = 1 ten and ____ ones 20 = __ tens and ___ ones

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem solving techniques **Addition** **Subtraction**	**Use the following techniques when solving problems up to 20** - drawings or concrete apparatus - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus Solve word problems in context and explain solutions to answers (+ ,- ,=) **Calculations**: use the same techniques as above. • Add to 20 • Subtract from 20 • Number bonds to 10	**Drawings or concrete apparatus** Draw pictures and use concrete apparatus to solve problems. It is important that the pictures or drawings contain numbers as well as number sentences. **Building up and breaking down** This is one of the most important techniques. Split (decompose) and recombine numbers to help make calculations easier. **Doubling and halving** This technique requires a strong number sense. On Monday 13 balls were sold. Tuesday 12 balls were sold. How many balls were sold altogether? The problem could be solved by using doubling. A learner might say double 12 plus 1 or double 13 minus 1. **Number lines** Using number lines in order to help calculate will allow learners a way to record their thinking and to keep track of it. It also allows learners to have a recording image that they can use to explain how they solved the problem.
	Repeated addition leading to multiplication **Grouping and sharing**	Solve word problems in context and explain own solution to problems involving repeated addition leading to multiplication. **Calculations**: • Add the same number repeatedly to 20 • Multiply numbers 1 to 10 by 2 Use appropriate symbols (+ ,× ,=, □) Solve problems involving equal sharing and grouping up to 10 with answers that may have remainders.	
	Money	• Recognise and identify the South African currency (5c, 10c, 20c, 50c, R1, R2, R5, R10, R20, R50)	Do shopping activities with play money. Solve money problems involving totals and change to 50c and rands to R20.

	Mental Maths	**Work within number range 0-25**
		• Order a given set of numbers
		• Compare numbers to 25
		  • 2 more , 2 less
		  • 10 more or less
		Rapid recall + and - facts to 10
		Encourage mental strategies
		• Put larger number first in order to count on or count back
		• Mental number line
		• Doubling and halving
		• Building up and breaking down
		Use the relationship between + and =.
			Examples of questions that can be asked:
			More or less What is**:** 1 less than 15; 1 more than 9
			• What is the 5th letter of the alphabet?
			• What is the 9th month of the year?
			Ordering and comparing: Which is more: 12 or 21?
			• Give a number between 11 and 13.
			Addition and subtraction facts:
			• Know by heart all addition and subtraction number bonds to 10

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Create and describe own patterns	Provide objects for patterns**.** Allow for colour, line, shapes in patterns.
	Number Patterns	Copy, extend and describe sequences backwards and forwards • in 1s from any number between 0 and 100 • in 10s, 5s, 2s from any multiple of 10, 5, 2, between 0 and 100.	As learners counting develop, the kinds of number sequences they work with can develop. Allow them to talk about the number patterns sequences.
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views: Language of position** **3D objects**	Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. Recognise and name 3D objects in the classroom. Ball shapes (spheres) Box shapes (prisms) cylinders	**Most of the work on 3D objects should be done with concrete/physical objects.** When you hold a physical object you can turn it around and look at it from all sides. You can see what it looks like from behind and underneath. When you only have a picture, you have to imagine the parts that are not visible in the drawing. This is not always easy for young learners. If learners are only given a definition of an object without seeing it or holding it, it is very difficult to understand the features of an object completely.

DATA HANDLING	**Collect and organise data** **Represent data** **Analyse and Interpret data**	Collect data about the class or school to answer questions posed by the teacher. Represent data in pictograph. Analyse and Interpret data from representations provided. Answer questions about data in pictograph.	**The complete data handling cycle** Learners practise pictographs; they analyse the information in the pictograph by answering questions. It is recommended that learners work through the complete data cycle. **Choosing a topic and asking questions to collect data** • Setting categories to collect information **Representing data** Learners can each get a piece of paper the same size to draw their answer. The drawings are then arranged in rows to make a pictograph. Titles are added to the axes and the graph.
LESSON 4 WEEK 7 & 8	**REVISION OF THE ABOVE CONCEPTS THAT REQUIRE ATTENTION AND FURTHER CLARITY.**		
TERM 1 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 1 and 2

(COMBINED)

TERM 1

TERM 1 MATHS GRADE 1 AND 2 COMBINED LESSON				
LESSON 1 WEEK 1 & 2	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Count forwards and backwards in: • 1s, from any number between 0-20 • in 10s, 2s, 5s, from any multiple of 10, 5, 2 between 0-20	Count forwards and backwards in: • 1s from any number between 0-60 • in 10s, 2s, 5s, from any multiple of 10,5,2 between 0-60	**Counting on** Give learners a collection of objects to count on from Use a string of counting beads; abacus to practice counting in groups of ten; Make bundles of 2, 5, and 10 to count.
	Number concept development	Number symbols: 1-5 Number names: 1-5 Describe, compare, order (more, less, etc.) 5	Number symbols: 0-60 Number names: 0-15 Describe, compare, order (more, less, etc.) 0-15	Read and write number symbols. Write the number symbols for the number names presented, e.g. seventeen (17); twenty-three (23), etc.
	Place Value		Recognise the place value of numbers 11-20 Teach the value of digits	• Group tens and loose ones: 18 = 1 ten and 8 loose ones • Use the Dienes blocks / place value/ flard cards. • Say and record what each digit represents.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Solve Problems **Addition and Subtraction**	**Solve word problems in context** and explain own solution to problems involving addition, subtraction with answers up to 5 and with remainders. **Calculation:** *(context-free)* Add to 5 Subtract from 5 Practise number bonds to 5	**Solve word problems in context** and explain own solution to problems involving addition, subtraction with answers up to 15 **Calculations**:*(context-free)* Add to 15 Subtract from 15 Practise number bonds to 8 Multiply numbers 1 to 10 by 2,	**Solve the word problems using the following techniques**: • Building up or breaking down numbers • Doubling and halving • Use the Number lines

	Money		SA currency Solve money problems involving totals and change to R10 and cents up to 50c	Practise recognising money and converting money into smaller denominations. E.g. Share 50c equally amongst four children? Explain how.
	Mental Maths	**Number range 0- 5** **Ordering and comparing** • Which is more: 2 or 3 • What is between 1 & 3, etc. **Addition and subtraction:** • Number bonds to 5 • Quick recall of addition doubles to 10. • Include corresponding subtraction facts. 1 + 1 = 2, 2 + 2 = 4, 3 + 3 = 6	**Number range 0- 15** **Ordering and comparing** • Which is more: 12 or 21? • Between 11 and 13. **Addition and subtraction:** • Know by heart all addition and subtraction number bonds to 10	**Number names and symbols** • Hold up a card or write down a number name. Choose a learner to write the matching numeral. **More or less** • What is • 1 less than 15 • 1 more than 9 **Quick recall of addition doubles to 10. This should include corresponding subtraction facts.**
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend simple • patterns by using concrete objects.	• Copy, extend and describe in words.	Provide objects for patterns. Allow for the creation of number patterns.
	Number Patterns	• Copy, extend and describe number sequences in • 1s from any number between 0-10	Copy, extend and describe number sequences forwards and backwards in: • 1s from any number between 1 and 60 • 10s from any multiple of 10 between 1 and 60 • 5s from any multiple of 5 between 1 and 60 • 2s from any multiple of 2 between 1 and 60	Number sequences can be linked with and support counting. As learners counting skills change and develop, the kinds of number sequences learners work with can develop.

SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views: Language of position** **3D objects**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. **Recognise, name 3D obj.** in • Ball shapes (spheres) • Box shapes (prisms) • Cylinders **2D shapes- know features** (size, colour, shape, straight round sides) and names.	**Most of the work on 3D objects should be done with concrete/physical objects.**
MEASUREMENT	**Mass: Informal measuring**	Non-standard e.g. blocks, bricks, etc. Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc.	Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc.	**Measuring mass as a context for solving problems and calculations** Problem-solving and calculations can continue to use the context of mass given in informal measurements. Allow learners to estimate, compare, order, measure and describe details of measurement.
	Capacity/ Volume **Informal measuring**		Non-standard e.g. cups, containers, bottles, spoons etc. Use language to talk about the comparison e.g. more than/ less than, full/empty Compare and order Estimate, measure, compare, order and record	**What is capacity? What is volume?** A bottle can have a capacity of four full cups, but it may not be filled to its full capacity. Capacity is the total amount that the bottle can hold. **Volume** is the amount of space something takes up. Allow to **estimate, measure, compare, order and record** volumes and capacities with non-standard instruments & informal units of capacity. Choose recipes in which measurements are given in cups, teaspoons and other informal units.

DATA HANDLING	**Collect and organise data**	• Collect and sort everyday objects. • Draw a picture of the collected objects	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph. • Analyse and Interpret data • Answer questions about data in pictograph.	Learners sort and represent the information then analyse it. The form of representation that learners practise is a pictograph; Answer questions posed by the teacher. **A class pictograph** It is recommended that learners work through the complete data cycle to make a class pictograph. Working together as a class helps learners to be involved in all the stages of the process without getting lost in the detail of any stage

TERM 1 MATHS GRADE 1 AND 2 COMBINED LESSON				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Counting objects**	Give a reasonable estimate of a number of objects that can be checked via counting out.	Count forwards : in 1s, 10s, 2s, 5s, from any number from 0 to 80 Count backwards: in 1s, 10s, 2s, 5s, from any number from 0 to 80	Encourage grouping of objects 2s,5s,10s. • Learners should be given the opportunity to see that a group of 100 can be composed in different ways, for example: • 10 groups of ten; 100 loose ones; or 2 groups of 50. **'Counting on' is key…** Give learners a collection of objects or a number to count on from.
	Number concept development	Write number symbols and number names from1-5	Number symbols: 0-80 Number names: 0-20 Describe, compare, order (more, less, etc.) to 20	Read and write number symbols to 80; and write number names to 20. e.g. seventeen (17); twenty-three (23), etc. Order and compare objects and numbers. Teach the **cardinal** aspect of a number is used to describe the number in a set; **ordinal** aspect of a number refers to a number in relation to its position in the set.
	Place Value		Recognise the place value of numbers 11-20	Continue to engage learners in many experiences to establish ten as a benchmark and a unit. Ten contains 10 ones. E.g. (24 is 2 groups of 10 and 4 ones or 2 tens and 4 ones) use regularly to establish a language that symbolises decomposing and composing. **Use Dienes blocks, place value/ flard cards**) to consolidate place value.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Solve Problems in context **Addition and Subtraction**	**Word problems 0-10** Solve word problems in context and explain own solution to problems involving addition, subtraction. **Calculations:***(context-free)* Add to 5 Subtract from 5 Practise number bonds to 5	**Word problems 0-20** Solve word problems in context and explain own solution to problems: addition and subtraction with answers up to 15 **Calculations:***(context-free)* Add to 20 Subtract from 20 Practise number bonds to15	Solve the word problems and do calculations using the following techniques: • Building up or breaking down numbers • Doubling and halving • Use the number lines
	Repeated addition leading to multiplication **Grouping and sharing leading to division**		Solve problems involving repeated addition. **Calculations** Multiply numbers 1-10 by 2 use the appropriate symbols (+, ×, =, -, □) Solve problems involving equal sharing. Grouping and sharing with answers that may include remainders.	
	Money	Solving money problems involving totals and change to R20 and cents up to 50c	Solving money problems involving totals and change to R50 and cents up to 50c	Recognise money and converting money into smaller denominations. Use play money in shopping
	Mental Maths	Number range 0- 10 Compare numbers to 10 and say which is more and less	Number range 0- 25 • More or less • Ordering and comparing • Addition and subtraction facts:	**Recommended apparatus:** a number line (structured and empty), number grid, place value cards (Flard cards), counting beads. Quick recall addition doubles to 15. This should include corresponding subtraction facts.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words Build on vocabulary in order to describe patterns	Copy, extend and describe in words Use groups of shapes repeated in exactly the same way. Create and describes own patterns	Make patterns from identical repeating groups, where each group has only one kind of object but the position of the objects in a group change. Identical groups are repeated. Allow learners to talk about the pattern after they have made it. • What shapes do you see in this pattern? Are they all the same colour? • Do the objects all face the same way? • Is there the same number of objects in each group? How many objects are in each group?" • Are all the shapes the same size? etc.
	Number Patterns	Copy, extend and describe number sequences to at least 20. Sequences show forwards and backwards from any number between 1 and 20	Copy, extend and describe number sequences to at least 80 Create and describe own number patterns	Link number sequences with and support counting. As learners counting skills change and develop, the kinds of number sequences learners work with can develop. Sequences should show counting forwards and backwards in: • 1s from any number between 1 and 80 • 10s from any multiple of 10 between 1 and 80 • 5s from any multiple of 5 between 1 and 80 • 2s from any multiple of 2 between 1 and 80

SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views: Language of position** **3-D objects**	• Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. • Recognise and name 3D objects - Ball shapes (spheres) - Box shapes (prisms) - cylinders	• Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. • Recognise and name 3D objects in the - Ball shapes (spheres) - Box shapes (prisms) - cylinders	**Most of the work on 3D objects should be done with concrete/physical objects.** See the relationship to the 2D shape. Each 3D object has a 2D face/ side.
MEASUREMENT	**Time**	Passing of time • order of events • compare lengths of time • sequence events.	Passing of time (yesterday, today, tomorrow); (longer, shorter, faster and slower- compare) • know days of week • know months of year • tell 12-hour time in hours on analogue clocks.	Tell the time, especially reading clocks. In Term 1 learners focus their attention on telling the time in hours, using an analogue clock. Ask to tell the time when school starts, at break time and at home time, or when they change from one lesson to another. Have a working clock in the classroom so learners can refer to it.
	Length: Informal measuring	Compare, order the length, height or width of 2 or more objects placed next to each other. • Use language to talk about comparison e.g. longer, shorter, taller and wider.	Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order, estimate, measure, p-and record.	Use Informal measurement and non-standard units of length (hand spans) • Measure a variety of objects using a range of objects as informal units. • Use informal units: length, distance and height. • Give learners the opportunity to begin to develop a sense of how long a metre is. • Find things that are exactly 1 metre long. It is useful to have everyday referents as comparisons e.g. the width of a door and height of a window is often 1m

TERM 1 MATHEMATICS GRADE 1 AND 2 COMBINED				
LESSON 3 WEEK 5 & 6	**TOPIC**	**Gr1 CONTENT**	**Gr 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATION-SHIPS	**Counting objects**	Count forwards and forwards in: • 1s, from any number between 0-20	Count forwards and forwards in: 1s, 10s, 2s, 5s, from any number from 0-120 • 1s from any number between 0 and 100 • i10s, 2s, 5s, from any number multiple of 10, 5, 2, between 0-100	**Resources:** • a string of counting beads • abacus to practice counting in groups of ten • groups of 2, bundles of 5 and ten and then counting all with counting sticks or counters.
	Mental Maths	Number range 0- 10 Compare numbers to 10 and say which is more and less	Number range 0- 25 • More or less • Ordering and comparing • Addition and subtraction facts: • Quick recall addition doubles to 10 • include corresponding subtraction facts.	Hold up a card or write down a number name. Choose a learner to write the matching numeral. **Recommended apparatus:** a number line (structured and empty), number grid, place value cards (Flard cards), counting beads.
	Number concept development	**Recognise, identify and read number** • symbols 1-20 • write number symbols , names 1-5 • recognise, identify an read number names 1-5	Identify, recognise, read numbers: • symbols 0-100 • write number symbols 0-100 • recognise, identify an read number names 0-25 Describe, compare, order (more, less, etc.)	Read and write number symbols to 100; and read and write number names to 25. The number range for ordering and comparing matches the calculation number range. This means that in order to calculate to 99, learners' number sense should be well developed to arrive at solutions. If learners can order and compare confidently beyond the requirement then it will only increase their number and operational sense.

	Place Value		Recognise the place value of numbers 11-30 Identify and state the value of each digit.	Place value/ flard cards can be introduced to show how the numbers are constructed. The place value cards can be shown alongside the bundles or groups of objects. - What number does the 2 represent in 12? - What number does the 2 represent in 20? Fill in the missing number (this can be done or explained using concrete apparatus) 13 = 1 ten and
	Problem Solving **Addition and subtraction**	**Word problems to 10** Use concrete apparatus, draw pictures when solving problems to explain solutions. **Calculations** • Add to 10 • Subtract from 10 • Practise bonds to 5	**Word problems 0-30** Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 25 **Calculations** • Add to 20 • Subtract from 20 • Practise bonds to 10	**Use techniques below for problems and calculations:** • Use drawings or concrete apparatus • Building up or breaking down numbers • Doubling and halving • Number lines **Example:** 8 + 12 The number line should start at 8 and learners can create: - 2 jumps of 6 - 4 jumps of 3 - 3 jumps of 4 One jump of 10 and then a jump of 2
	Repeated addition 0-20 leading to multiplication		Add the same number repeatedly to 20 Multiply numbers 1 to 10 by 2	Making groups can help to represent × and ÷ Problem situations for multiplication involve the following three numbers in a mathematical relationship: • The number of objects in each set • The number of sets • The total number

	Grouping and sharing 0-30	Solve problems up to 10 with and without remainders.	Solve problems up to 20 with and without remainders.	As for multiplication, the basic understanding of division is equal sharing and grouping • **grouping** (e.g. 12 children at tables of 4, how many tables) • **sharing** (e.g. twelve children at four tables, how many at each) Multiplication and division problem solving involve the following 3 components in a maths relationship: • The number of objects in each set • The number of sets • The total number
	Mental Maths	**Number Range 5** compare and order a given set of numbers more/ less etc.	**Number Range 25** compare numbers to 25 3 more or 3 less 4 more or 4 less, etc.	Addition and subtraction facts for all numbers up to 10 Quickly recall addition doubles to 10. Do corresponding **subtraction** facts.
Patterns, Functions and Algebra	**Geometric Patterns**	Copy, extend and describe in words Simple patterns made with physical objects	Copy, extend and describe in words Simple patterns made with drawings of lines, shapes or objects	**Copying** patterns help learners to see the logic of how the pattern is made. **Extending** the pattern help learners to check that they have properly understood the logic of the pattern. **Describing** the pattern helps learners to develop their language and speaking skills. It also indicates how the learners have interpreted the pattern.
MEASUREMENT	**Mass**	**Informal measuring** Estimate, measure, compare, order and record mass using a balance and non-standard measure e.g. weights Use language to talk about the comparison e.g. heavier, lighter.	**Non-standard** e.g. blocks, bricks, etc. Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. Compare and order Estimate, measure, compare, order and record describe.	In Numbers, Operations and Relationships learners can solve problems that use the context of informal measurement of mass, e.g. the duster has a mass of 11 marbles. The box of crayons has a mass of 8 marbles. Together they will have a mass of how many marbles?

	Capacity /Volume	**Informal measuring** Compare the amount of liquid (volume) in 2 containers placed next to each other. Learners check by pouring into a third container if necessary.	**Non-standard** e.g. cups, containers, bottles, spoons etc. Use language to talk about the comparison e.g. more than/ less than, full/empty. Compare and order estimate, measure, record and describe the practical activities.	**What is capacity? What is volume?** A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. Capacity is the total amount that an object can hold (or the amount of space inside the object).
DATA HANDLING	**Collect and organise data**	Collect and sort everyday objects. Describe the sorted objects.	Collect data about the class or school to answer questions posed by the teacher Represent data in pictograph Analyse and Interpret data Answer questions about data in pictograph	**The complete data handling cycle** Learners sort and represent the information in ways which make it easier to analyse. The form of representation that learners practise is a pictograph; and learners analyse the information in the pictograph by answering questions posed by the teacher. **A class pictograph** **Features of a pictograph that learners need to be taught**: where and how to label the graph (graph title) where and how to label the categories.
WEEK 7 & 8	**REVISION OF THE ABOVE LESSONS, CONCENTRATE ON CONCEPTS THAT NEED ATTENTION.**			
TERM 1 WEEK 9 & 10.	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

MATHEMATICS

GRADE 3

TERM 1

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TERM1 GRADE 3			
TERM 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate, count reliably to at least 160 objects. • Encourage grouping of objects to facilitate counting.	• Counting in groups **& counting on** • Learners must see 100 objects and suggest efficient ways to count it. • Counting supports skills for understanding place value and calculations. e.g. Start at: - 98 and count in ones to 120. - 120 and count back in 1s to 98. - 60 and count in tens to 150.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 160 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 160 • Count in 100s to at least 500	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 500 • Identify, recognise and read number names – 250	Organise a game for this purpose.
	Describe, order and compare numbers	**Describe compare and order number 0-160** • Compare whole numbers up to 160 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 160, smallest to greatest; greatest to smallest. **Ordinals to 31st**	Use flard cards/ place value cards to pack out number. Use calendar to influence ordinal numbers.
	Place Value	**Know place value to 160** • Decompose 3 digit numbers into hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number 143 =1 hundreds, 4 tens, 3 ones Know what the 4 digit represents in 143 i.e. 4 tens/ 40/ forty.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve the problems to 60** - build up & break down numbers - doubles and halves - number lines - rounding off in tens Practise number bonds to 16	Allow learners to show tell and record all their workings. Use bright learners to tell and show their techniques used as the weaker ones often learn better in this way.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 60.	Encouraged learners to write number sentences for all the word problems.
	Grouping and sharing leading to division **Sharing leading to fractions**	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to 60 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼.	The basic understanding of division is equal sharing and grouping **grouping** (e.g. twelve children at tables of four, how many tables) **sharing** (e.g. twelve children at 2 tables, how many at each) etc.
	Money	Solve money problems involving totals in rands and cents Change between rands and cents.	Practical activities works well here.
	Mental Maths	**Number range 0-160** • Order, compare, numbers to 150 and say which is - 2 more or 2 less - 3 more or 3 less, - 4 more or 4 less, etc. • Rapid recall of addition and subtraction facts to 20	**Mental strategies:** - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
	Fractions	• Recognise fractions in diagrammatic form. • Concentrate on teaching unitary fractions ¼, ½, etc.	Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Copying, extending, describing patterns helps to establish if the learner knows the logic thereof.
	Number Patterns	• Copy and extend number sequences to 160	Show counting forwards and backwards. Show on number line.
SPACE & SHAPE (GEOMETRY)	**Position, orientation and views**	Read, interpret and draw informal maps, or top views of a collection of objects, find objects on maps.	**Position and direction** Follow directions from one place on an informal map.
	3D objects	Range of objects Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders • cones	Focus on building 3D objects using concrete materials such as cut- out 2D shapes, toothpicks, straws, other 3D geometric objects. Works with all objects mentioned distinguish whether they are curved or flat. Talk about the flat surfaces on prisms and cylinders and describe them according to whether they are circular, square, rectangular or triangular.
MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Use calendar to place birthdays; religious festivals; historical events; school events; and public holidays on the calendar. Tell time in hours & half hours.

TERM 1 GRADE 3			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	Encourage grouping of objects to facilitate counting.	Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	**Count forwards and backwards in** • 1s to 180 • multiples of 10s, 5s, 2s, 3s,4s, to at least 180. • 100s to at least 500	**Resources** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare number s	• Compare whole numbers **up to 180** using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 180. • Use ordinal numbers to show order- 31st.	Use flard cards/ place value cards to pack out number. Use calendar to influence teaching of ordinal numbers.
	Place Value	• Identify and state the value of each digit. Know that the 2 digit in 127 represents 2 tens.	Use place value/ flard cards to show: 148 =1 hundred, 4 tens, 8 loose ones
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS +, - , × ,÷			
	Problem Solving techniques **Calculations**	**Use the following techniques to solve the problems 80** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens **Practise number bonds to 18**	Allow learners to show tell and record all their workings on the chalkboard, the weaker ones often learn better in this way. Show all the number patterns and how learners can extend on this.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 40 **Calculations:** • Multiply numbers 1 to 10 by 2, 3, 4, 5 • Use appropriate symbols (×, □, =)	Multiplication is repetitive addition of the same number. It is the inverse of division. It is commutative. E.g. 8 × 4 = 4 × 8 = 32 Doubling (×2). Note the patterns!

	Grouping and sharing leading to division **Sharing leading to fractions**	Solve number problems in and out of context; explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼ **Calculations** • divide number to 40 by 2, 5, 10. • Use appropriate signs: (÷, =-, □)	Encourage learners to learn tables – see the relationship between × and ÷ The inverse property can be highlighted here. Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***
	Fractions	• Recognise fractions in diagrammatic form. • Unitary fractions: third, quarter	Once a good number sense has been developed learners will be able to note that fractions are pieces of one whole.
	Mental Maths	**Number Concept: Range 0- 180** • Order & compare to 180 and say which is more: 142 or 241? • Rapid recall of +, -, ×, ÷ to 20	See previous lesson for mental strategies
	Money	• 5c, 10c, 20c, 50c, R1, R2, R5, banknotes R10 and R20 R50, R100, R 200. • Solve money problems involving totals and change.	Learners practise recognising money and change rands and cents into smaller denominations.
MEASUREMENT	**Length**	**Formal measuring** • Estimate, measure and compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres using a ruler. • Investigate the distance around 2D shapes- Perimeter.	• Practical work is emphasized. • Note the measurement skills in Length required in the skills subjects. • Measure perimeter around shapes and objects.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	• Compare and record all measurements and talk about, ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or lengths measured and to plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organize data provided in a list or tally or table in a bar graph. • Represent data on bar graph.

TERM 1 GRADE 3			
TERM 1 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and count, group to at least 200 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Learners must see 180 objects and suggest ways of counting it. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 200 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 200. • 100s to at least 500	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 130 = 3 tens and 0 loose ones. Know the 1 digit in 158 is 1 hundred/ 100.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT- FREE CALCULATIONS			
	Problem Solving techniques **Calculations**	**Use the following techniques to solve the problems up to 99** - build up & break down numbers - doubles and halves - number lines - rounding off in tens **Use the above strategies to do calculations:** Add to 99 Subtract from 99 Use the appropriate symbols (=, +, -, □) Practise number **bonds to 20**	Allow learners to show tell and record all their workings. Use bright learners to tell and show their techniques for working out of sums as the weaker ones often learn better in this way.

	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 50.	Note multiplication as repeated addition. (addition of the same number) grouping, hence the emphasis on addition initially. It is the inverse of division and it is commutative. E.g. 8× 4= 4 × 8 = 32 Doubling = (×2). Allow learners to see the patterns.
	Grouping and sharing leading to division **Sharing leading to fractions**	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 50 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse property can be highlighted here. ***A solid sense of number is vital!***
	Fractions	• Recognise fractions in diagrammatic form • Recognise unitary fractions.	A good number sense is needed to acknowledge the pieces of 1 whole.
	Mental Maths	**Number Concept: Range 0- 200** • Order & compare to 200 e.g. which is more/less: 134 or 341? • Rapid recall of +, -, ×, ÷ to 20 • Subtract multiples of 10 from 100	See Mental Strategies in previous lesson.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. **Range of patterns** - Regularly increasing patterns - Decreasing patterns	Check if learners understand the logic and have interpreted the pattern correctly. Learners can make patterns by threading beads. See the practical skills subjects and direct activities appropriately.
SPACE AND SHAPE (GEOMETRY)	**2D shapes: Range of shapes**	**Range of shapes** - circles, triangles, squares, rectangles **Features of shapes** Sort and compare 2D shapes in terms of: • shape • straight sides • round sides	Focus on the kinds of sides shapes have. (round or straight sides) Draw circles, squares, rectangles and triangles. Consolidate through written work.

MEASUREMENT	**Time**	**Telling the time** • Know analogue and digital time • Calculate length of time and passing time.	Practise analogue and digital time. Equip class with a working clock.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non- standard measures. E.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2 kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Informal measurement of mass using a balance and non-standard units Learners can learn all the principles and practise of measurement using non-standard units. Consider practical subjects like Hospitality that demands the mastery of this concept and direct activities accordingly so that learners can appreciate the beauty of Maths.

TERM 1 GRADE 3			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects forwards and backwards**	• Count forwards and backwards in 1s to 200 • Count forwards and backwards in multiples of 10s, 5s, 2s, 3s, 4s, to at least 200. • 100s to at least 500.	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	**Describe compare and order number 0- 200** • Compare whole numbers up to 200 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 200. • Use ordinal numbers to show position.	See previous notes.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of 100s, 10s and ones/ units.	Use place value/ flard cards to show 198 =1 hundred, 9tens & 8 loose ones
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS +, - , × ,÷			
	Problem Solving techniques	Use the following techniques to **solve the problems to 99** • build up & break down numbers • doubles and halves • number lines s • rounding off in tens **Calculations:** Add to 99 Subtract from 99 Use appropriate symbols (+, - , =, □) **Practise number bonds to 20**	Allow learners to show tell and record all their workings. Use bright learners to verbalise their techniques, the weaker ones often learn better via their peers.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 50. **Calculations:** Multiply numbers 1to 10 by 2, 5, 3, 4. Use the appropriate symbols(+, ×, =, □)	Note that multiplication is the same as repetitive addition of the same number, grouping, hence the emphasis is initially on addition. It is the inverse of division and it is commutative. E.g. 6 × 5= 5 × 6 = 30

	Grouping and sharing leading to division	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 50 with answers that may include remainders.	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse of × is ÷ highlight this and note the number patterns it presents.
	Mental Maths	**Number Concept: Range 0- 200** • Ordering and comparing to 200 • Rapid recall of +, -, ×, ÷ facts to 20	**Mental Strategies:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between + & - • Use the relationship between × & ÷.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number Patterns**	**Copy, extend and describe** • Copy, extend, describe number sequences to at least 750 • 20s, 25s, 50s, 100s, to at least 1000. • Create and describe own patterns.	As learners counting skills develop, their number sequences learners work with will develop. Thorough practise will enhance calculation strategies.
SPACE AND SHAPE (GEOMETRY)	**3D objects**	**Range of objects** Recognise & name 3D objects in the classroom and in pictures. - ball shapes (spheres) - box shapes (prisms) - cylinders - pyramids - cones	Work on 3D can be consolidated through written exercises. Learners can continue to build 3D objects from recycling material or construction kits.
	2D shapes: Range of shapes	**Features of objects** Describe, sort, compare 3D objects in term of - 2D shapes that make up the faces of 3D objects. - flat or curved surfaces **Range of shapes** - circles - triangles - squares - rectangles	Focus on the kind of side each shape has Talk about shapes whether they have round or straight sides. Draw circles, squares, rectangles and triangles. Consolidate through written work.

MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Learners also have to tell the time in hours and half hours.
	Length	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe and record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Note the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally measure a variety of lengths or distances in metres.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non- standard measures. E.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Learners learn all the principles and practises of measurement using non-standard units first.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. grocery items measured and recorded. Learners body mass – weighed and recorded.
TERM 1 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2 and 3

(combined)

TERM 1

TERM 1 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON1 WEEKS 1 & 2	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 60 everyday objects • Encourage grouping of objects to facilitate counting.	• Estimate and count to at least 160 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is the focus. Suggest ways to count 140 objects • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-60 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0-60.	Count forwards and backwards in: • 1s from 0-160 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 160. • 100s to 500	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise, read, write number symbols and number names: 0-50.	• Identify, recognise, read, write number symbols: 200 and number names to 100	• Show groups of objects for learners to identify, match number symbols and write this in exercise books.
	Describe, order and compare number	**Describe, order and compare numbers to 60** • Compare, order whole numbers from smallest to greatest, vice versa and equal to. - Use ordinal numbers to show order, place, position.	**Describe compare and order number 0-60** • Compare whole numbers up to 60 using smaller than, greater than more than, less than, is equal to. • Order numbers up to 60 • **Ordinals to 31st**	• Use number line to show order and to compare numbers *Develop a strong number sense so that calculations to 99 are arrived at in quick solutions. If learners can order and compare confidently beyond the requirement then it will only increase their number and operational sense.*
	Place Value	• Recognise the place value of numbers 11-25 • Decompose 2 digit numbers into 10s and 1s.	**Know place value to 60** • Know what each digit represents, decompose 2 digit nos. into 10s, 1s,	• Use place value/ flard cards to show the number grouped and counted. • Know that the 2 digit in 28 =2 tens

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving techniques	• **Use the following techniques to solve the problems up to 15** - draw or pack out concrete apparatus - build up & break down numbers - doubles and halves - number lines supported by concrete apparatus.	**Use the following techniques to solve the problems 60** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens	• Allow learners to show tell and record all their workings. Use bright learners to tell and show their techniques for working out of sums as the weaker ones often learn better in this way.
	Calculations: Addition and Subtraction	Add to 15 Subtraction from 15 **Practise number bonds to 10**	Add to 60 Subtraction from 60 **Practise number bonds to 20**	Learners are expected to do calculations using the following techniques mentioned
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 15.	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 30.	Learners should be encouraged to write number sentences for all the word problems. Expect learners to use repeated addition number sentences to show the solution.
	Calculations	• Add the same number repeatedly to 10 • Multiply numbers 1 to 10 by 2	• Add the same number repeatedly to 60 • Multiply numbers 2, 4, 5, to a total of 30	
	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 15 with answers that may include remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	• **Sharing:** I have 18 pencils to share equally among the three of you; how many will you each get? • **Grouping:** How many cars can you make if you have 20 wheels? How many motorbikes? • **Array:** Mongezi packs out 20 counters into 10 rows. How many counters in a row?

	Money	• Solve money problems involving totals and change to R20 and cents	• Solve money problems involving totals in R and c • Convert between R and c	E.g. Share 50c equally amongst four children.
	Mental Maths	**Number range 0- 25** • Order, compare numbers to 25 • rapid recall of +, -, facts to 10.	**Number Range 0- 160** • Order, compare numbers • rapid recall of addition and subtraction facts to 20.	- Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between +& -.
PATTERNS FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Use physical objects. • Use drawings of lines, shapes or objects.	• Copy, extend and describe in words. • Use physical obj. • Use drawings of lines, shapes or objects.	If learners can copy, extend and describe the patterns it will indicate if learners understand the logic and have interpreted the patterns correctly.
	Number patterns	• Copy, extend and describe number sequences to at least 60. • Sequences should show counting forwards and backwards in: - 1s, from any number between 0 and 100 - 2s, 5s, 10s from any multiple of 2, 5, 10, between 0-100. • Create and describe own number patterns.	• Copy, extend and describe number sequences to at least in 160. • Sequences show counting forwards and backwards. • 100s, to at least 1000. • Create and describe own number pattern.	Sequences should show counting forwards and backwards in: - Number lines - Number grids - Number chains

SPACE AND SHAPE	**Position , orientation and views**		**Position and Direction** • Follow directions to move around the school.	• Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	• Recognise and name 3D objects: balls (spheres), box (prisms) • Build with concrete materials such as building blocks, recycling material and construction kits	Range of objects • Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders - cones	
	2D shapes **Features of shapes**	Recognise and name 2D shapes • circles • triangles • squares **Features** • Size, colour, straight sides, round sides.	Recognise and name 2D shapes - circles - triangles - squares - rectangles Describe, sort & compare 2D shapes in terms of**:** • size, colour, straight sides, round sides, shape	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relates to the practical subjects offered.
	Symmetry	Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.		The line of symmetry should not always be a vertical line.
MEASUREMENT	**Time**	• Sequence days of week • Sequence months of year • Place events on calendar **Calculate length of time** • use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hrs ,½ hrs.	• Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks **Calculate length of time**	Talk about the duration of time and the sequencing of time. Place - Birthdays; - religious festivals; - historical events; - school events; and - public holidays on the calendar.

TERM 1 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate, check by counting objects to at least 80 everyday objects in 1s, 10s, 5s, 2s. • Encourage grouping of objects to aid counting.	• Estimate and count to at least 180 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-80 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-80.	Count forwards and backwards in: • 1s to 180 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 180. • 100s to1000	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read, write number names: 0-20.	• Identify, recognise, read, write number symbols -300 • Identify, recognise and read number names – 150.	Show groups of objects for learners to identify and match number symbols and write this in exercise books.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS(+, -, ×, ÷, □)				
	Problem solving techniques	**Solve the problems to 18** • drawings or pack out concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus	**Solve the problems to 80** • build up and break down numbers • doubles and halves • number lines • rounding off in tens	Allow learners to show, tell and record all their workings. Use bright learners to talk about their techniques used for sums as the weaker ones often learn better in this way.

	Addition and Subtraction	Solve word problems and explain own solutions to problems involving +, - with answers up to 0-20. **Calculations:** Add to 20 Subtract from 20 Use the appropriate symbols (=,+, -, □) **Practise bonds to 10.**	Solve word problems and explain own solutions to problems involving +, - with answers up to 80. **Calculations**: Add to 40 Subtract from 40 Use the appropriate symbols (=,+, -, □) **Practise bonds to 20.**	Use concrete apparatus and the number line do work out all sums with the answers up to 700 Solve the word problems using the techniques mentioned above.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 18. **Calculations:** Multiply 1-10 by 2 Use the appropriate symbols(×, □, =)	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 40. **Calculations:** Multiply 1-10 by 2, 3, 4, 5, Use the appropriate symbols(×, □, =)	**Allow for the different ways of solving problems.** • Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? • Multiplicative comparison (e.g. three times as many boys as girls): • Rectangular arrays (e.g. two rows of four children) which are represented as rows and columns.
	Grouping and sharing leading to division	Solve word problems and explain solution to problems that involve equal sharing and grouping up to 20. **Grouping** (e.g. twelve children at tables of four, how many tables?) **Sharing** (e.g. twelve children at four tables, how many at each?)	Solve number problems in context. Explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders.	Allow learners to use concrete, semi concrete apparatus and explain and record their findings always. When learners talk about their strategies they internalise the methods used and others also through listening may learn how to apply their minds. • Demonstrations on the chalkboard/ white board also support the above.

	Money	Recognise: 5c, 10c, 20c, 50c, R1, R2, R5, banknotes R10 and R20 R50 Solve money problems involving totals: change to R20 and up to 50c.	• Recognise 5c, 10c, 20c, 50c, R1, R2, R5, banknotes R10 and R20 R50, R100, R 200. • Solve money problems involving totals and change.	Learners practise recognising money. Change in rands and cents and smaller denominations. E.g. Share 50c equally amongst four children. Explain how you can do this.
	Mental Maths	**Number range 0- 20** • Order, compare, numbers to 20 • rapid recall of addition and subtraction facts to 10.	**Number Range 0- 180** • Order, compare, rapid numbers to 180 • rapid recall of addition and subtraction facts to 20	The following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe** in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	Copy, extend and describe in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly.
SPACE AND SHAPE	**Position, orientation and views**	Recognise and match different views of the same object.	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps.	Make this as practical as possible, allow the learners to do the movements in this regard.
	Position and direction	Follow directions to move around the classroom.	Follow directions from one place on an informal map.	Practise proper maths vocabulary.
	Symmetry		Determine the line of symmetry through paper folding and reflection.	Note that a line of symmetry is not always a vertical line.

MEASUREMENT	**Length**	**informal measuring** • Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record. • Describe standard measures: m, cm. • **Formal measuring** Estimate, measure, compare order and record length using metres (metre sticks or metre lengths of string) as the standard unit of length.	**Formal measuring** • Estimate, measure and compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres using a ruler. Investigate the distance around 2 D shapes- Perimeter.	• Practical work is emphasised and works on the necessary measurement skills in Length that is required in the particular practical subjects offered. • Teach conversions between centimetres and metres where required. • Measuring perimeter around shapes and objects.

TERM1 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 170 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to facilitate counting.	• Estimate and count to at least 200 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Learners must see 560 objects and suggest efficient ways of counting it. • Counting supports skills for understanding place value and calculations. And is a vital skill for all practical subjects.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-170 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-170.	Count forwards and backwards in: • 1s to 650 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 650. • 20s, 25s, 50s, 100s to1000	Use abacus, objects, beads on a string, etc. Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise, write and read number symbols: 0-180. • Identify, recognise and read number names 0 – 75. • Write number names 0-75.	• Compare whole numbers up to 400 using smaller than, greater than more than, less than, is equal to. • Order whole numbers to 200.	Use flard cards/ place value cards to pack out number. Use calendar to influence ordinal numbers.
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	• Know what each digit represents. • Decompose 2 digit numbers into multiples of hundreds, tens, ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 73 = 7 tens and 3loose ones;

	Place Value	Place value of numbers 11-25 • Decompose 2 digit numbers into, tens, ones/ units. • Identify and state the value of each digit.	Recognise place value of numbers 99 • Decompose 2 digit numbers into tens, ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the numbers grouped and counted. • 69 = 6 tens and 9 loose ones; • Know the 4 digit in 49 is 4 tens.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving	Use the techniques to solve the problems to 20 • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Use the following techniques to solve the problems to **99** • build up & break down numbers • doubles and halves • number lines • rounding off in tens	Allow learners to use objects in order to strategise; also to talk about their methods employed and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 20. **Calculations:** Add to 20 Subtraction from 20 Use appropriate symbols (=, +, -, □) **Practise number bonds to 10**	Solve word problems in context and explain own solutions to problems involving multiplication with answers up to 99. **Calculations:** Add to 99 Subtraction from 99 Use appropriate symbols (=, +, -, □) **Practise number bonds to 20**	• Use concrete apparatus and the number line do work out all sums • Learners are expected to solve the word problems using the techniques previously mentioned.
	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with ans -20. **Calculations:** Multiply 1-10 by 2 Use the appropriate signs (×, =, □)	Solve number problems in context and explain own solution to problems involving multiplication with answers up to **50**. **Calculations:** Multiply 1-10 by 2, 3, 4, 5 Use the appropriate signs (×, =, □)	Equivalent groups (e.g. three tables, each with four children)are represented as repeated sets. Multiplicative comparison e.g. three times as many boys as girls: is represented as one to one correspondence. Rectangular arrays e.g. three rows of four children: are represented as rows and columns.

	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 20 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to **50** with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping • **grouping** (e.g. twelve children at tables of four, how many tables) • **sharing** (e.g. twelve children at four tables, how many at each)
	Sharing leading to fractions		**Calculations:** • Divide numbers 50 by 2, 4, 5, 10, 4 • Use appropriate symbols (÷, =, □)	e.g. 30 divided by 10 rows = 3 check by multiplying. Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
	Money	Solving money problems involving totals and change to R70 and cents	Solving money problems involving totals and change to R70 and cents up to 50c.	Recognise money and changing money into smaller denominations.
	Mental Maths	**Number range 0- 25** • Order, compare, rapid recall of +, -, ×,÷ to 25	**Number Range 0- 200** • Order, compare, rapid recall of +, -, ×,÷ to 200	The following **mental strategies**: - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. **Range of patterns** • Regularly increasing patterns • Decreasing patterns	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly. Patterning is done in most skills subjects.

SPACE AND SHAPE	**Position , orientation and views**	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.		Follow directions to complete tasks related to other skills. Concentrate on the correct language usage. Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. List instructions to get to the tuck shop. Practise the position words by putting a list of these words on the word wall.Left/right; up/down; in/out; near/far; under/over; front/back, etc.
	3D objects	**Range of objects** Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders **Features of objects** Describe, sort, compare 3D objects in term of • size • objects that can roll • objects that can slide	**Range of objects** Recognise and name 3D objects in the classroom and in pictures. • ball shapes (spheres) • box shapes (prisms) • cylinders • pyramids • cones **Features of objects** Describe, sort, compare 3D objects in term of • 2D shapes that make up the faces of 3D objects. • flat or curved surfaces	• Construct models that have reference to the skills subjects.
	2 D shapes	• Recognise and name 2D shapes • circles • triangles • squares • rectangles	Range of shapes • circles • triangles • squares • rectangles	Focus on the kind of side each shape has Talk about shapes whether they have round or straight sides. Draw circles, squares, rectangles and triangles.

	Features of shapes	Describe, sort and compare 2D shapes in terms of: size, colour, straight /round sides	Sort and compare 2D shapes in terms of: shape, straight sides, round sides	
MEASUREMENT	**Time**	Use the calendar for calculations of weeks, days, and months of the year.	Know analogue and digital clocks Calculate length of time and passing time.	Learners also work with e.g. related to telling the time in hours & half hours.
	Mass	**Informal measuring** • Non-standard units e.g. blocks, bricks. • Compare light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. **Formal measuring:** Compare, order and record the mass of commercially packaged objects which have their mass stated in kilograms e.g. 2 kilograms of rice and 1 kilogram of flour. Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale.	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non -standard measures. e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Formal measuring** Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Prepare and practise measurement as required in the practical subjects Problem-solving and calculations can continue to use the context of mass given in informal measurements. Informal measurement of mass using a balance and non-standard units Measuring with non-standard units should not be considered to be inferior to measuring with standard units.
DATA HANDLING	**Collect and organise data**	• Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. Grocery items measured and recorded. Learners body mass – weighed and recorded.

TERM 1 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 4 WEEK 7 & 8	**TOPICS**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects forwards and backwards**	Count forwards and backwards in: • 1s -100 • 10s, 5s, 2s, from any multiple of 10, 5, 2, between 0-100.	Count forwards and backwards in: • 1s - 200 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 200. • 100s to500	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read number symbols: 0-180. • Write number symbols 0-180. • Identify, recognise and read number names 0 – 75. Write number names 0-75.	• Identify, recognise, read, write number symbols – 500 • Identify, recognise and read number names – 250	• Show groups of objects for learners to identify and match number symbols and write this in exercise books • Say number names to reinforce this number work.
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa to 25.	**Describe compare and order number 0- 99** • Compare whole numbers up to 99 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 99. • Use ordinal numbers to show order.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.

	Place Value	• Recognise the place value of numbers 11-25 • Break down 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	• Break down 2 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 39 =3 groups of tens and 9 loose ones; • Know the 9 digit in 79 is 9 ones.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving techniques	Use the techniques to solve the problems - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	Use the following techniques to solve the problems **99** - build up & break down numbers - doubles and halves - number lines - rounding off in tens	Allow learners to use objects in order to strategize; also to talk about their methods employed to do the problem and to write down what they have done. (The Doing, Talking and Recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 -75. • Practise bonds to 10	• Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 99 • Practise bonds to 20.	• Use concrete apparatus and the number line do work out all sums with the answers up to 10.
	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 20. **Calculations:** Multiply numbers 1 to 10 by 2 Use the appropriate symbols: (×, =, □)	• Solve number problems in context and explain own solution to problems involving multiplication with answers up to 50. **Calculations:** Multiply numbers 1 to 10 by 2, 5, 3, 4. Use the appropriate symbols: (×, =, □)	• Use number line to support teaching, allow for drawings, apparatus, ask how we can write this in a simpler way. • Probe for the number pattern. **Repeated addition** - How many eggs in 3 half doz? - How many eyes do 7 children have? Learners might solve the problem in the following way: - Pictures or drawings should show grouping.

	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 50 with answers that may include remainders. **Calculations:** • Divide numbers 50 by 2, 4, 5, 10, 4 • Use appropriate symbols (÷, =, □)	• Concrete apparatus are used initially. • Link this teaching to halves and doubles. • Note the number patterns and record this on chart for the classroom. • Note how grouping is linked to sharing.
	Sharing leading to fractions		Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Show relationship to multiplication, e.g. 20 divided by 10 rows = 2 check by multiplying; • Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
	Mental Maths	**Number range 0-25** • Order, compare, rapid recall of +, -, ×,÷	**Number Range 0-200** • Order, compare, rapid recall of +, -, ×,÷	The following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
	Fractions		• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	Refer to sharing above, draw the parallels and use familiar areas where fractions are relevant for learners. Start with concrete apparatus, graduate to money etc. Share between 2 = half of; share among 3, thirds; amongst 4, quarter of: work with money… half price, quarter of the price?

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe: • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Copy, extend and describe: • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range • Regular increasing patterns • Decreasing patterns	• **Copying** patterns helps learners to see the logic of how the pattern is made. • **Extending** the pattern helps learners to check that they have properly understood the logic of the pattern.
MEASUREMENT	**Capacity/ Volume**	Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order estimate, measure, and record and describe.	Non-standard and standard measures • Use bottles with capacity of 1 litre or containers with capacity stated in mm. • Compare, order 2 l, 1 l, 500ml, 250ml, etc. • Know that a standard cup = 250ml; 1l = 4 cups	Practise solving problems that relate to the skills subjects offered at the school.
DATA HANDLING	**Collect and sort data**	Collect data about the class or school to answer questions posed by the teacher. Represent data in pictograph. Analyse and Interpret data. Answer questions about data in pictograph.	The above data collected in ml and l can be represented on a bar and analysed for further discussion.	• Sort and represent the information in ways which make it easier to analyse. • Work through the complete data cycle to make a class pictograph at least twice in the year. Work together helps learners to be involved in all the stages of the process without getting lost in the detail of any stage, e.g. drawing all the pictures. • Make a class graph allow for the focus on the key aspects of data handling.
TERM 1 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

MATHEMATICS

GRADE 1

TERM 2

TERM 2 GRADE 1			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliability to 10 • Estimate and check by counting out. • Encourage group counting.	• Estimate, predict count out to check. • Encourage counting on.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare number/ objects	**Describe, order and compare objects / numbers to 10** • Compare, order and describe objects according to many, few, most, least, more than, less than, the same as, just as many, than, greater than, less than, is equal to. • Use the number line to 10.	• When we talk about position we use ordinal numbers 1st, 2nd, 3rd, 4th, etc. • Use the calendar as the dates show position. 1st / first day of the week is Sunday, 2nd / second day is ...
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Addition Subtraction Repeated addition leading to multiplication Grouping and sharing	**Use the following techniques to solve problems** with answers up to **10** • concrete apparatus • draw pictures • build up and break down of numbers • doubling and halving • number lines supported by concrete apparatus .e.g. counting beads. Solve word problems in context and explain solutions to problems involving equal sharing and grouping with whole numbers up to 10 with answers that may include remainders.	Allow learners to use objects in order to strategise; also to talk about their methods used and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learn from this shared verbal experience.
	Mental Maths	Work within number range 0 -10, order and compare nos.	Ask what number comes before 5, etc. less than, more than e.g. what is 3 more than 4; 3 less than 7; 2 more than 6...
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe simple patterns by using concrete objects.	Make sure learners understand the logic and can extend the pattern presented.
	Number patterns	Copy, extend and describe simple number sequences to at least 50.	Use abacus, beads on the string or any concrete apparatus for extensive practise.

SPACE AND SHAPE	**Position, orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, etc. Practise the vocabulary via practical and written activities.	• Make this as practical as possible. Use the vocabulary at all times when describing position.
	2D shapes	Range of shapes Recognise, name, describe and compare 2D shapes in terms of their features: circles, triangles, squares • Features: size, colour, straight sides, round sides.	• Use shapes to make patterns. • Patterns are practised and recorded in all its forms that relate to the skills subjects offered.
MEASUREMENT	**Time**	**Passing of time** (order events, compare lengths of time, etc.). **Telling the time (morning afternoon, night, etc.)** **Sequence** days of the week, months of the year. Place birthdays on calendar.	Discuss birthdays and events *Note: the calendar can be used for number work and also serves as a good resource for consolidation and is excellent for Mental Maths.*
	Length	**Informal measuring** (use non-standard measures e.g., hands pans, foot spans, string – practise by measuring sides of 3D objects built) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	Develop an understanding of length and the talk that goes with it. Most items can be measured and recorded using informal measurement first. Move on to formal measures as learners require to do this in all practical skills subjects e.g. measure the length of fabric for Needlework and clothing etc.
	Mass	• Estimate, measure, compare, order, record using non - standard measurement and appropriate language. • Prepare for mass as per various practical subjects that demands using formal measurements i.e. a mass metre scale, measuring cups, etc. in grams and kg.	Prepare and practise for practicals.
	Capacity/ Volume	• Compare and order the amount of liquid (volume) in containers. • Use non- standard measures e.g. spoons, cups, etc. and note that 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml. litres, etc.	Prepare and practise for measurement for practical skills measurement where capacity / volume must be mastered. Do research regarding the practical skills subjects and direct teaching to include the necessary here.
DATA HANDLING	**Collect and sort data**	Collect the measurement of 4 different 2D squares.	Allow them to answer questions about how and what was done. Record the measurement of the 2D squares

TERM 2 GRADE 1			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects forwards and backwards**	Count objects forwards and backwards in • 1s from any number between 0 and 50 Count forwards in • 10s from any multiple of10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20	Use abacus, objects, beads on a string, etc. Encourage games that promote counting. Show counting on the number line.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	**Recognise, identify and read numbers** • Number symbols 1- 40 • Recognise, identify, read **and write** number symbols and names 1-10	Show groups of objects: learners identify, match number symbols number names and write this in exercise books.
	Describe, order and compare objects /numbers	**Describe, order and compare objects and numbers to 10** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • Order objects from most to least and least to most. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT- FREE CALCULATIONS			
	Problem solving in context **Addition** **Subtraction**	**Solve problems in context** with answers up to 10 **Context-free calculations:** Add to 7 Subtract from 7 use appropriate symbols (+, - , □, =) **Practise number bonds to 7**	Techniques for problems and calculations. • concrete apparatus • draw pictures • build up and break down of numbers • doubling and halving • number lines supported by concrete apparatus .e.g. counting beads.
	Money	**Recognise SA currency** 5c, 10c, 20c, 50c, R1, R2, R 5 Solve problems with totals & change from R10.	Use play money for shopping experience.
	Mental Maths	• Work within number range 0-10 • Rapid recall of plus and minus sums to 7	• Ask what number comes 1st, second, after, before, last, etc. Use calendar.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend, describe simple patterns by using concrete objects • Create and describe own patterns with objects. • Draw own patterns	Afford opportunity for good practise – make a variety of objects available to practise pattern making. Also keep in mind the patterns used in the skills subjects.
	Number patterns	• Copy, extend, describe simple number patterns to -50 • Count in 10s, 5s, 2s from any of its multiples to 50 • Count in 1s from any number between 1 and 50. • Create and describe own patterns	• Use abacus, beads on the string , etc for extensive practise. • Allow for games where counting is further consolidated.
SPACE AND SHAPE	**Position , orientation and views**	• Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to. • Practise language of direction via practical activities and apply it in written work.	• Make this as practical as possible • Use the vocabulary wherever possible • Write and tell how you would walk from the tusk shop to the clothing bank.
	3D objects	Range of objects • Recognise, name, know features, sort and compare - balls (spheres) - box (prisms) • Build with concrete materials such as building blocks, recycling material	• Expose learners to the 3D objects that are also relevant to the various other skills subjects offered. • Consolidate through written work.
	2D shapes	Range of shapes - Recognise, name , describe and compare 2D shapes i.e. circles, triangles, squares • in terms of their features: - Size, colour, straight sides, round sides.	• Use shapes to make patterns. • Patterns are practised and recorded in all its forms as related to the skills subjects offered.
MEASUREMENT	**Time**	Passing of time (order events, compare lengths of time, etc.). - Telling the time (morning, afternoon, night, etc.). - Sequence days of the week, months of the year. - Place birthdays on calendar	This is done continuously during whole class activity. Use the calendar to teach: days, weeks, months of the year, etc.- a *good resource for consolidation work and is excellent for Mental Maths.*

	Length	Informal measuring (use non-standard measures e.g. hands pans, foot spans, string) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider; Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	• Develop an understanding of length and the talk that goes with it. • Prepare and practise for measurement in most skills where length is a vital concept. • Move on to formal measures as learners require to do so in practical skills lessons e.g. measure the length of fabric for Needlework and clothing etc.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects; give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	• Allow them to answer questions about how and what was done. • Let them draw the sorted arrangements. • Sorting, representing and describing are good skills that support the pre number work.

TERM2 GRADE 1			
LESSON 3 WEEK 5 &6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate, check by counting out objects reliably to 20. • Encourage grouping counting.	• Estimate, predict count out to check and encourage counting on. • Subitising also happens where objects are grouped / chunked with the eye and counted in bigger numbers.
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 50 Count forwards in • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20	• Use abacus, objects, beads on a string, number grid, etc. • Encourage games that promote counting. • Use the number line to show counting.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	**Recognise, identify and read numbers** • 1-50 • Recognise, identify, read, **write** number symbols and number names 1-10	Show groups of objects for learners to identify and match number symbols Record in exercise books.
	Describe, order and compare number	**Describe, order, compare objects and numbers to 10** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • Order objects from most to least and least to most. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Describe and order numbers - from smallest to greatest and greatest to smallest - use number line 0-10 .	Use counters, objects, etc. Use number line to show order and to compare numbers to ten Use the calendar as indicated in week 1, and 2.
	Mental Maths	• Work within number range 0-10	Ask what number comes 1st, 2nd ,3rd , after, before, last, etc.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT- FREE CALCULATIONS			
	Problem solving in context Addition Subtraction **Repeated addition leading to multiplication**	**Use the following techniques to solve problems in context and context- free calculations** with answers up to 10 • concrete apparatus • draw pictures • build up and break down of numbers • doubling and halving • number lines supported by concrete apparatus .e.g. counting beads. **Context-free calculations:** • Add to 7 • Subtract from 7 • Use appropriate symbols (+,-,□, =) Practise number bonds to 7 • Repeated addition (i.e. the same number) to 10 • Use appropriate symbols (+, □, =)	• Allow learners to use objects. • They share, half , double • Allow for talk about their methods (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners will also indirectly learn by the verbalisation of the method used. • Use the number line to work out all sums with the answers up to 10. Use concrete apparatus and the number line to work out all sums with the answers up to 10. Note that repeated addition is adding the same number e.g. 2+2+2+2= 8
	Money	**Recognise SA currency** 5c, 10c, 20c, 50c, R1, R2, R 5 • Solve problems with totals & change from R10.	Play money works well for practical activities.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	Copy number sequences to at least 50. Counting forwards from any multiple of 10, 5, 2 between 0 and 50. Create and describe own number patterns.	Complete number patterns… multiples, even, odd, etc.
SPACE AND SHAPE	**Position, orientation and views**	• Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to. • Apply the language of position learnt when giving directions to complete a task. • Follow directions around the classroom, school.	• Make this as practical as possible, allow the learners to do the movements. • Follow directions to complete tasks related to other skills. • Use the correct language usage. • Practise the vocabulary by on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.

	Symmetry	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non -geometrical shapes.	• Look for line of symmetry in concrete objects
MEASUREMENT	**Length**	Informal measuring (use non- standard measures e,g, hands pans, foot spans, string) • Estimate, compare and order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider; Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	• Develop an understanding of length and the talk that goes with it. • Prepare and practise for workshop measurement where length is a concept that has to be mastered. • Move on to formal measures as learners require to do so in practical skills lessons e.g. measure the length of fabric for Needlework and clothing etc.
	Mass	• Estimate, measure, compare, order, record using non - standard measurements and use appropriate language. • Prepare for mass as per various practical subjects that demands using formal measurements i.e. a mass metre scale, measuring cups, etc. in grams and kg.	• Prepare and practise for workshop measurement where mass has to be mastered.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	• Draw the sorted arrangements. • Sorting, representing and describing are good skills that support the pre number work.

TERM 2 GRADE 1			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliability to 20 • Estimate and check by counting out. • Encourage grouping counting.	• Thorough practise in counting will support calculation work that follows. • Counting skills also support all Maths in the practical subjects offered.
	Count objects forwards and backwards	Count forwards and backwards in • 1s from any number between 0 and 50. Count forwards in • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting to sharpen learners counting skills.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	**Recognise, identify and read numbers to 50** • Recognise, identify, read**, write** number symbols and names 1-10	• Show groups of objects - learners tidentify, match number symbols and write this in exercise books.
	Describe, order and compare number	**Describe, order and compare objects to 10** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • Order objects from most to least and least to most. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Describe and order numbers from smallest to greatest and greatest to smallest	• Use counters, objects, etc. • The use of the calendar can enhance the teaching of ordinal numbers. • Use number line to show order and to compare numbers to ten.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem-solving techniques **Addition** **Subtraction** **Repeated addition leading to multiplication** **Grouping and sharing**	**Use the following techniques to solve problems in context** with answers up to **10** • concrete apparatus • draw pictures • build up and break down of numbers • doubling and halving • number lines supported by concrete apparatus e.g. counting beads. Solve word problems in context and explain own solutions to problems involving **+ - =** up to **10** **Context-free calculations:** • Add to 7 • Subtract from 7 • Use appropriate symbols (+,-,□, =) Practise number bonds to 7 • Repeated addition (i.e. the same number) to 10 • Use appropriate symbols (+, □, =) Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with answers that may include remainders	• Allow learners use objects; draw pictures; to record and to talk about their methods used when solving problems. They must record what they have done. (The doing, talking and recording) This will reinforce what has been done. Other learners also indirectly learn from this shared verbal experience. • Use the number line to support this teaching • Be aware that learners may use different techniques to do calculations • Repeated addition is adding the same number e.g. 3+3+3=9 • Allow for the doing, talking and recording of the calculation. Peer teaching in this way has its merits.
	Money	**Recognise SA currency** 5c, 10c, 20c, 50c, R1, R2, R 5 • Solve problems with totals & change from R10.	Keep advertisements of shopping specials from the Argus/ community paper. Be innovative and develop own list to shop for the shopping activity.
	Mental Maths	Work within number range 0-10 • *Order a given set of selected numbers* • *Compare numbers up to 10 and say which is more , less*	• Ask what number comes 1st, second, after, before, last, etc. • Question about 'less than, more than e.g. what is 3 more than 4; 3 less than 7; 2 more than 6, etc.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend simple patterns by using concrete objects.	• Provide objects for patterning. Note patterns are relevant for all skills subjects. Prepare learners for this experience. It is vital that learners understand the logic of the pattern by copying, extending and describing the pattern.
	Number patterns	• Copy number sequences to at least 50. • Counting forwards of 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 and 50. • Create and describe own number patterns.	• All the number work dealt with have natural patterning that can be explored e.g. Bonds up to 10, add + 2, +3, to numbers from 1 to 10. Etc. • Allow learners to develop number patterns and to see the logic thereof.
SPACE AND SHAPE	**Position, orientation and views**	• Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to. • Apply the language of position learnt when giving directions to complete a task. • Follow directions around the classroom, school.	• Make this as practical as possible, allow the learners to do the movements in this regard. • Follow directions to complete tasks related to other skills. • Concentrate on the correct language usage. • Ask learners to record how they will navigate towards the principal's office, the soccer field, etc. Practise the list of position words on the word wall e.g. Left/right; up/down; in/out; near/far; under/over; front/back, etc.
MEASUREMENT	**Time**	**Passing of time** (order events, compare lengths of time, etc.). **Telling the time** (morning afternoon, night, etc.). Sequence days of the week, months of the year. • Place birthdays on calendar.	Use the calendar to consolidate days of the weeks, months of the year. Discuss birthdays and events *Note: the Calendar can be used for number work and also serves as a good resource for consolidation work.* *It can also be used effectively in Mental Maths programme.*

	Capacity/ Volume	• Compare and order the amount of liquid (volume) in containers. • Use non -standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml, litres, etc.	• Prepare and practise measurement skills required for the skills subjects offered where capacity / volume is required.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects • Give reason for sorted collections • Draw a picture of the collected objects • Describe the sorted objects.	• Answer questions about how and what was done. • Draw the sorted arrangements. • Sorting, representing and describing are good skills that support the pre number work.
TERM 2 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2

TERM 2

TERM 2 GRADE 2			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count objects to at least 120 everyday • Estimate and check by counting.	Display number cards. Show the number and ask learners to count on.
	Count objects forwards and backwards	Count forwards and backwards in • 1s from any number between 0-120 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0-120. • 3s from any multiple of between 0-60. • 4s from any multiple of 4 between 0-80.	**Resources** String of counting beads; the abacus to practise counting in groups of ten, five, 4, 3, 2.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise and read number symbols: 0-120. • Write number symbols 0-120. • Identify, recognise, read and write number names 0 – 20.	Use flash cards to consolidate number.
	Describe, order and compare number	**Describe, compare and order numbers to 20** • Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Use the language of ordering and comparing: first, second, third, fourth, fifth, sixth, etc.	Through ordering and comparing objects and numbers learners note the **cardina**l aspect of a number is used to describe the number in a set; the **ordinal** aspect of a number refers to a number in relation to its position in the set.
	Mental Maths	• Number range 0- 30 • Order, compare, rapid recall, calculation strategies • More or less • What is 1 less than 15? 1 more than …; what is the 5th letter of the alphabet? What is the 11th month of the year? • Addition and subtraction facts • Know by heart addition and subtraction number bonds to 10 • Quickly recall addition doubles to 20. This should include corresponding subtraction facts to 20,	The mental mathematics programme can be developed systematically over the year. Number concept: extend number range accordingly. Questions that can be asked: Number names and symbols, doubles, halves, etc.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem-solving techniques **Addition** **Subtraction** **Grouping and sharing** **Repeated addition leading to multiplication**	**Use the following techniques for problems and calculations** • draw or pack out concrete apparatus • build up & break down numbers • doubles and halves • number lines supported by concrete apparatus. **Solve word problems in context** and explain own solutions to problems involving +, - , ×, ÷, □, with answers up to 30. **Context-free calculations:** - Add to 30 - Subtract from 30 - Use appropriate symbols(+, -, =, □) Practise number bonds to 10 **Solve word problems in context** and explain own solution to problems that **involve equal sharing and grouping** up to 10 with answers that may include remainders. **Context- free calculations** 5 + 5 + 5 + 5 + 5 = 25; 5 hops of 5 make 25; 5 groups of 5 = 25 5 x 5 = 25 **Multiplication** • Number lines should continue to be used to support repeated addition.	Learners are at different levels in counting. Only practise will allow learners to move to more sophisticated counting. **Drawings or concrete apparatus** draw pictures and use concrete apparatus to solve problems. Numbers as well as number sentences must be included. **Building up and breaking down** split(decompose) & recombine numbers to make calculations easier. **Doubling and halving** Include number sentences **Number lines** Learners should be constructing their own number lines and breaking down the numbers in components As with multiplication, the basic understanding of division is equal sharing and grouping.
	Grouping and sharing **Sharing leading to fractions**	• Sharing leading to fractions. • Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	As with multiplication, the basic understanding of division is equal sharing and grouping

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words.** • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Make sure that learners understand the logic of the pattern. **Describing** the pattern helps learners to develop their language and speaking skills.
	Number Patterns	**Copy, extend and describe:** Sequences should show counting forwards and backwards in: - 1s from any number between 1 and 120 - 10s ,5s, 2s from any multiple of 10, 5, 2, between 1 and 120 - 3s from any multiple of 3 between 1 and 120 - 4s from any multiple of 4 between 1 and 120	Number sequences support counting. Learners can cover, colour, or circle numbers as they count on number lines and number grids.
MEASUREMENT	**Time**	• Tell 12-hour time in hours on analogue/ digital clocks. • Tell the time in hours, half hours using an analogue / digital clock. **Calculate length of time and passing of time**	Use the calendar to stimulate the teaching of days of the week, months of the year. Have a working clock in the classroom for referral.
	Length: Informal measuring	• Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record.	Once learners have some experience of measuring in metres, they should estimate before every measurement.
	Mass	• Non-standard e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. • Use a mass metre with kg and g calibrations for formal measurement.	Problem-solving and calculations can continue to use the context of mass given in informal measurements. Measuring units for formal measurement must be practised for other skills subjects.

TERM 2 GRADE 2			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Place value**	• Recognise the place value of numbers 11-30. • Decompose/ break down 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	• Engage in many experiences to establish tens as a benchmark and units/ ones. Work with concrete apparatus, bundles of tens and ones. Extend on previous lesson. • Use flard/place value cards to pack out the tens and ones
	Money	• 5c; 10c, 20c; 50c; R1.00; R2,00 R5.00; banknotes R10, R20, R50 • Solve money problems involving totals and change to R20 and cents up to 50c.	**Problem:** Dad buys the newspaper @ R6. How much change will he get if he pays with a R20. etc.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	**Describe, compare order and order numbers to 30** Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. Order whole numbers from smallest to greatest and vice versa. *Develop a strong number sense so that calculations to 99 are arrived at in quick solutions. regular practise.*	• Use the language of ordering and comparing: First, second, third, fourth, fifth, sixth. etc. • Through ordering and comparing objects and numbers learners note the cardinal aspect of a number is used to describe the number in a set; the ordinal refers to a number in relation to its position in the set. E.g. put the cube on the fifteenth/ 15th circle.
	Mental Maths	**Number range 0-40**	Consolidate all calculation work.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	Share between 2 = half of; share amongst 3, - thirds; amongst 4, quarter of.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem-solving techniques **Addition** **Subtraction** **Repeated addition leading to multiplication** **Grouping and sharing** **Grouping and sharing** **Sharing leading to fractions**	**Use the following techniques to solve problems:** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus. Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-40. **Context-free Calculations** • Add to40 • Subtract from 40 • Use appropriate symbols (+. -, □, =) Practise number bonds to 12 Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 20. **Context-free Calculations** • Multiply numbers 1-10 by 1, 2 and 5 • Use appropriate signs (+, ×, =, □) Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 20 with answers that may include remainders. **Context-free calculations** • Sharing leading to fractions • Solve word problems in context and explain own • solutions to problems that involve equal sharing • leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	**Number lines** Use number lines in order to help calculate. The number line allows learners to have a recorded mental image that they can use to explain how they solved the problem. Learners are expected to solve the word problems using the techniques mentioned. Use **concrete apparatus** or drawings to do groups to help represent the multiplication situation. Show on the number line. Learners' number sense. Using **doubling** to support repeated addition. Equal jumps are recorded on the number line and supporting sentences can be recorded as well. **Example:** 5 + 5 + 5 + 5 + 5 = 25 5 hops of 5 make 25 5 groups of 5 = 25 5 x 5 = 25 Learners should be able to explain how jumps can be made on the number line. As with multiplication, the basic understanding of division is equal sharing and grouping and will be reflected in the method used. 20 divided by 10 rows = 2. **Check by multiplying.** Do the + and - see the relationship. Work out which fraction is involved e.g. share between 2 (halve), amongst 3 ($\frac{1}{3}$) etc.

PATTERNS, FUNCTIONS AND ALGEBRA	**Number Patterns**	**Copy, extend and describe:** Count forwards and backwards in: - 1s from any number between 1 and 130 - 10s, 5s, 2s from any multiple of 10, 5, 2 between 1 and 130 - 3s from any multiple of 3 between 1 and 99 - 4s from any multiple of 4 between 1 and 100	Number sequences can be linked with and support counting. As learners counting skills change and develop, the kinds of number sequences learners work with can develop.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or school. Answer questions posed by the teacher. • Represent data in pictograph. • Analyse and interpret data. • Answer questions about data in pictograph. **Analyse and interpret data** Learners answer questions posed about the picture graph, e.g. What TV programme is the most popular in our class? What programme is the favourite of the fewest learners in the class?	**A class pictograph** **Setting categories to collect information** Give learners a range of categories to choose from. **Representing data** Learners can each get a piece of paper the same size to draw their answer. The drawings are then arranged in rows to make a pictograph. Titles are added to the axis and the graph.

TERM 2 GRADE 2			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count objects to at least 140 everyday objects • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	Count in groups is preparation for understanding multiples. Allow for the opportunity to see that a group of 140 can be composed in different ways e.g. 14 groups of ten; 140 loose ones; or 2 groups of 70 and 35 groups of 2, etc.
	Count objects forwards and backwards	Count forwards and backwards in • 1s from any number between 0-140 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0-140. • 3s from any multiple of 3 between 0-99. • 4s from any multiple of 4 between 0-100.	**Resources:** String of counting beads; the abacus, number grid, etc. to practise counting in groups of ten, 5, 2, 3, 4.
NUMBER CONCEPT DEVELOPMENT			
	Place Value	• Recognise the place value of numbers 11-40. • Decompose/ break down 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Ask what each digit represents (*The value of the digits)* what does the 4 digit represent in 34?
	Money	• 5c; 10c, 20c; 50c; R1; R2, R5 ; banknotes R10 and R20 R50 • Solving money problems involving totals and change to R20 and cents up to 50c.	Practical shopping activity is advised. Use play money.
	Mental Maths	• Number range 0- 50 • Compare numbers to 50 and say which is 3 more, 3 less; 4 more, 4 less; 2 more, 2 less; 10 more, 10 less • Rapid recall of addition and subtraction facts to 10	Mental strategies employed are: Halving and doubling; building up and breaking down; using the relationship between addition and subtraction; put the large number first in order to count on.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Addition and Subtraction	**Use the techniques to solve the problems** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus. Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 50. **Context-free calculations:** • Add to 50; Subtract from 50; Use appropriate symbols. **Practise number bonds to 13**	All methods/ techniques used must be shown. Encourage learners to write number sentences. Also give the opportunity for learners to do, talk and record their work. Only good practise will support the learners to build a sense of number.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 30. **Context-free calculations:** • Multiply numbers 1-10 by 1, 2, and 5. • Use appropriate symbols (+, ×, =)	Cultivate the habit of using the number line which helps learners to see the way the calculation develops. This also allows learners to formulate a mental picture of the method. 5 + 5 + 5 + 5 + 5 = 25 5 hops/ jumps of 5 make 25 – show on number line. 5 groups of 5 = 25 5 x 5 = 25 Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying.
	Grouping and sharing leading to division **Sharing leading to fractions**	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to **30** with answers that may include remainders. Sharing leading to fractions • Solve word problems in context and explain own solutions to problems involving equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$ etc.	Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words** • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	It is usually easier for learners to talk about the pattern after they have made it. Patterning is done in most skills subjects.

MEASUREMENT	**Capacity/ Volume**	• Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order estimate, measure, compare, order and record and describe.	**What is capacity? What is volume?** A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. **Capacity is the total amount that an object can hold** (or the amount of space inside the object). **Volume** is the amount of space that something takes up.
	Mass	• Non-standard units e.g. blocks, bricks, etc. and unit measurements that will be relevant e.g. grams, kilograms, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record.	Solve problems that use the context of informal measurement of mass, e.g. the duster has a mass of 11 marbles. The box of crayons has a mass of 8 marbles. Together they have a mass of how many marbles? Consider the number range appropriate for the term, as well as the range of problem types appropriate for the term.
DATA HANDLING	**Analyse data from representations provided**	**The complete data handling cycle** In the data handling cycle Sort and represent the information in ways which make it easier to analyse. Practise a pictograph and analyse the information in the pictograph by answering questions posed by the teacher.	Analyse data from representations shown. Use data from the recorded measurements from the practical lessons completed.

TERM 2 GRADE 2			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count objects to at least 150 everyday objects in 10s, 5s, 2s, 3s, 4s • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	Allow for the opportunity to see that a group of 150 can be composed in different ways See links between ordinal and cardinal counting. This is achieved when the counting is stopped on reaching the 30th object. Count the counters in groups of fives and re-arrange them and count again.
	Count objects forwards and backwards	• Count objects to at least 150 everyday objects in 10s, 5s, 2s, 3s, 4s • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	Allow for the opportunity to see that a group of 150 can be composed in different ways See links between ordinal and cardinal counting. This is achieved when the counting is stopped on reaching the 30th object. Count the counters in groups of fives and re-arrange them and count again.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise read and write number symbols: 0-150. • Identify, recognise, read and write number names 0 – 50.	*Develop a strong number sense so that calculations to 99 are arrived at in quick solutions. If learners can order and compare confidently beyond the requirement then it will only increase their number and operational sense. This can only be accomplished through regular practise.*
	Describe, order and compare number	**Describe, compare and order numbers to 50** • Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	
	Place Value	• Recognise the place value of numbers 11-50 • Decompose/ break down 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Ask what each digit represents (**The value of the digits)** what is the value of the 7 in 37? What is the value of the 3 in 39?

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem-solving techniques	• Use the techniques to solve the problems • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Allow learners to use the method they are comfortable with.
	Addition Subtraction	**Context-free calculations** • Add to 50 • Subtract from 50 • Use appropriate symbols 5c; 10c, 20c; 50c; R1.00; R2, 00 R5.00; banknotes R10, R20, R50. Solving money problems involving totals and change to R20 and cents up to 50c. **Practise number bonds to 15**	Learners are expected to solve the word problems using the following techniques mentioned above. Allow learners to verbalise their calculation strategies. **Examples of money problem that can be done:** A fizz pop costs R2, 50. Patsy wants to buy 4 fizz pops. She has R8. Does she have enough money? Detail your response.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 30. **Context-free calculations** Multiply numbers 1-10 by 1, 2, and 5. Use appropriate symbols (+, ×, □, =)	**Multiplication** Use concrete apparatus or drawings to do groups to help represent the multiplication situation. There are three main categories of problem situations that involve the multiplication of whole numbers.
	Grouping and sharing	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	**Examples of problems that can be done** **Sharing: I** have 12 pencils to share equally amongst the three, how many will each get? Mongezi packs out 20 counters into 10 rows. How many counters in a row?
	Sharing leading to fractions	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2. Check by multiplying. Do the addition and subtraction allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½), amongst 3 ($\frac{1}{3}$) etc.

MEASUREMENT	**Capacity/ Volume: Informal measuring**	• Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order estimate, measure, compare, order and record and describe.	Capacity is the total amount that an object can hold (or the amount of space inside the object) Volume is the amount of space that something takes up.
DATA HANDLING	**Collect and organise data** **Represent data** **Analyse and interpret data**	**Choose a topic and ask questions to collect data** e.g. What are our class's favourite TV programmes? Suitable TOPIC include favourite sports, favourite cool drinks, favourite colours, favourite favourite foods, favourite TV programmes etc. • **Setting categories to collect information** Give learners a range of categories to choose from. • **Representing data** Issue paper for learners to record their answers on. Arrange drawings in rows to make a pictograph. Add axis details to graph. • **Analyse and interpret data** Answer questions posed about the picture graph, e.g. What TV programme is the most popular in our class? What programme is the favourite of the fewest learners in the class?	**A class pictograph** • Work through the complete data cycle to make a class pictograph at least twice in the year. Work together helps learners to be involved in all the stages of the process without getting lost in the detail of any stage, e.g. drawing all the pictures. • Make a class graph allow for the focus on the key aspects of data handling and also on what they need to know about the important features of a pictograph. - Practise how to read graphs.
TERM 2 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 1 & 2

(COMBINED)

TERM 2

TERM 2 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliability to 10 • Estimate and check by counting out.	• Count in to 120 objects. • Estimate and check by counting. • Counting in groups will facilitate counting.	• Estimate, predict count out to check. • Encourage learners to count on. • Subitising also happens where they group objects with the eye and count in bigger numbers
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 30. Count forwards in • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 - 30	• Count forwards and backwards in 1s, 10s, 5s, 2s from any multiple of 10, 5, 2 between 0-120.	• Use abacus, objects, beads on a string, number grid, etc. • Encourage games that promote counting.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving	**Use the following techniques to solve the problems** • use counters (concrete) to solve number problems • use pictures to draw the story sum.	**Use the following techniques to solve the problems** • draw or pack out concrete apparatus • build up & break down numbers • doubles and halves • number lines supported by concrete apparatus.	Use different methods to solve the problems. Allow learners to verbalise and record their findings always.
	Addition and Subtraction	• Solve word problems in context and explain solutions to +, - to10. **Context-free calculations** Practise number bonds to 5.	Solve problems in context and explain solutions to 20. **Context-free calculations** • Add to 20 • Subtract from 20 • Use appropriate symbols Practise number bonds to 10	• Learners are expected to solve the word problems using the following techniques mentioned above.

	Repeated addition to multiplication	Solve word problems in context and explain solution to problems involving repeated addition and to multiplication with answers up to 10. **Context- free calculations** • Repeated addition (i.e. the same number) to 10. Use appropriate symbols.	Solve word problems in context and explain solution to problems involving repeated addition and multiplication with answers up to 20. **Context- free calculations** • Multiply numbers 1-10 by 1,2, & 5 • Use appropriate symbols (+, ×, =, □)	Examples of problems. (the same techniques as above may apply and again depends on the learners number sense) Allow for learners to suggest shorter ways for recording. See the number patterns that are created. See the multiplication tables.
	Grouping and sharing leading to division	Solve word problems, explain solutions to equal sharing and grouping with whole numbers up to 10 and include remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 20 with answers that may include remainders.	Encourage learners to do, talk and record the strategies.
	Money	Recognise SA currency 5c, 10c, 20c, 50c, R1, R2, R 5 Solve problems with totals & change from R10.	SA currency 5c- R50 (denominations) Solve problems involving change to R 20 and 50c.	Learners practise recognising money and changing rands and cents into smaller denominations. E.g. Share 50c equally amongst four children. They talk about their strategies.
	Mental Maths	• Work within number range 0-10	• Rapid recall of sums to 20 • Order and compare numbers to 20	Ask what number comes before , after, halfway, between 5,a particular number -20 Question about less than, more than e.g. what is 3 more than 4; 3 less than 7; 2 more than 6, etc.
PATTERNS FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend, simple patterns by using concrete objects.	Copy, extend and describe in words.	

SPACE AND SHAPE	**Position , orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	Recognise and name 3D objects in the classroom and in pictures. • ball shapes (spheres) • box shapes (prisms)	Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders	
	2D shapes **Features of shapes**	Recognise familiar shapes Copy and make patterns with shapes	Recognise and name 2D shapes: • Circles, triangles, squares, rectangles. Describe, sort and compare 2D shapes in terms of: • Size, colour, straight sides round sides.	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relates to the workshops offered.
MEASUREMENT	**Length**	Informal measuring • Compare, order the length, height or width of 2 or more objects placed next to each other. • Use language to discuss comparison e.g. longer, shorter, taller, wider; centimetres, metres.	• Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order, estimate, measure, describe and record.	Develop an understanding of length and the talk that goes with it. Prepare and practise for workshop measurement where length is a concept that has to be mastered. Learners can begin by finding things that are exactly 1 metre long. It is useful to have everyday referents as comparisons e.g. the width of a door and height of a window is often 1m. Once learners have some experience of measuring in metres, they should estimate before every measurement. Finally they can measure a variety of lengths or distances in metres.

	Mass	• Estimate, measure, compare, order, record using non-standard measurements • Use appropriate language.	• Non-standard e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order, estimate, measure, describe and record.	• Prepare and practise for skills measurement where mass is a concept that has to be mastered. • Take into account the number range appropriate for the term, as well as the range of problem types and the kind of measuring units required for the different skills offered.
	Capacity/ Volume	• Compare and order the amount of liquid (volume) in containers. • Prepare learners for skills subjects offered where capacity is dealt with. Convert between litres and millilitres, know how to use measuring cups, etc.	• Use non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Prepare learners for skills subjects offered where capacity is dealt with. Convert between litres and millilitres, know how to use measuring cups, etc.	**What is capacity? What is volume?** A litre bottle has the capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. Capacity is the total amount that an object can hold (or the amount of space inside the object). Volume is the amount of space that something takes up.
DATA HANDLING	**Collect and sort objects**	Collect and sort everyday objects Draw a picture of the collected objects.	Collect data about the class or school to answer questions posed by the teacher. Represent data in pictograph. Analyse and interpret data Answer questions about data in pictograph.	Give learners objects to sort. Allow them to draw the sorted arrangements.

TERM 2 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliability to 20 • Estimate and check by counting out. • Encourage grouping counting.	• Count objects to at least 130 everyday objects in 10s, 5s, 2s, 3s • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	• Estimate, predict count out to check. • Encourage learners to count on. • Subitising also happens where they group objects with the eye and count in bigger
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 40 Count forwards in • 10s, 5s, 2s from any multiple of 10 ,5, 2 between 0 and 40	Count forwards and backwards in 1s, from any number between 0 and 140 • Count forwards and backwards in 10s, 5s, 2s, 3s and 4s from any multiple of 10, 5, 2, 3, and 4 between 0-140.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Recognise, identify and read numbers from 0-40 • Write number symbols 1-10 • Recognise, identify and read number names 0-10 • Write number names 1-10	• Identify, recognise and read, write number symbols: 0-120. • Identify, recognise, read and write number names 0 – 20.	Show groups of objects for learners to identify and match number symbols and write this in exercise books Say number names to reinforce this number work.

	Describe, order and compare objects/ number	• Describe, order, compare objects / numbers to 10 according many, few, most, least, more than, less than, the same as, just as many, smallest to greatest, greatest to smallest. - Use number line.	• Compare, whole numbers to 30 using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.
	Place Value		• Recognise the place value of numbers 11-40. • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	**Use Flard cards** to show how the numbers are constructed. The place value cards can be shown alongside the bundles or groups of objects. Ask what each digit represents (**The value of the digits)** what does the 7digit represent in 27? What does the 2 digit represent in 29?
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving in context and context–free calculations	**Use the techniques to solve the problems** • drawings or concrete apparatus e.g. counters • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	**Use the techniques to solve the problems** • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to record what they have done. (The doing, talking and) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.

	Addition and Subtraction	**Solve word problems** and explain solutions to +, - to answer 10. **Calculations** • Add & subtract up to 7 • Practise number bonds up to 6.	**Solve word problems** and explain own solutions to problems involving +, - with answers up to 0-40. **Calculations:** • Add & subtract up to 30. • Use appropriate symbols • Practise number bonds to 10.	• Use concrete apparatus and the number line do work out all sums with the answers up to 10. • Learners are expected to solve the word problems using the following techniques mentioned above.
	Repeated addition leading to multiplication	Solve word problems involving repeated addition and to multiplication with answers up to 10. **Context –free calculations** Repeated addition (i.e. the same number) to 10. Use appropriate symbols (+, ×, =, □).	Solve word problems in context, explain solution to problems involving repeated + and × with answers to 20. **Context –free calculations** Multiply numbers 1-10 by 1, 2 and 5. Use appropriate symbols (+, ×,=, □)	
	Grouping and sharing leading to division	Solve word problems; explain solutions to equal sharing and grouping with whole numbers up to 10 and include remainders.	Solve word problems in context and explain own solution to problems to 30 that involve equal sharing and grouping up to 20 with answers that may include remainders.	Allow learners to use concrete, semi concrete apparatus and explain and record their findings always. When learners talk about their strategies they internalise the methods used and others also through listening may learn how to apply their minds.
	Mental Maths	Work within number range 0-10.	Practise rapid recall of + and - sums to 30. Recall addition and subtraction facts to 10.	• Ask what number comes 1st, second, after, before, last, etc. • Question about less than, more than e.g. what is 3 more than 4; 3 less than 7; 2 more than 6, etc.

MEASUREMENT	**Time**	• Passing of time(yesterday, today, tomorrow); • Telling the time	Passing of time (longer, shorter, faster and slower-compare) • tell 12-hour day in hours on analogue/ digital	Use the calendar to describe time in terms of days, weeks, months. • teach before, after/ next. • Discuss birthdays and events.
	Length	Informal measuring • Compare, order the length, height or width of 2 or more objects placed next to each other. • Use language to talk about comparison e.g. longer, shorter, taller, and wider.		• Develop an understanding of length and the talk that goes with it. • Prepare and practise for measurement where length is a concept that has to be mastered in the skills subjects offered.

TERM 2 GR 1 AND GR 2 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliability to 20. • Estimate and check by counting out. • Encourage grouping counting.	• Count objects to at least 140 everyday objects in 10s, 5s, 2s, 3s, 4s • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	• Estimate, predict count out to check. • Encourage learners to count on. • Subitising also happens where they group objects with the eye and count in bigger numbers. NB: All counting skills develop will be practically applied in different workshops.
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 50 • 10s , 5s, 2s from any multiple of 10, 5, 2 between 0 and 50	• Count forwards in 1s,10s, 5s, 2s, 3s, 4s from any number between 0-140 • Count backwards in 1s, 10s, 2s, 5s, 3s, 4s from any number in 1s and any multiple of 10, 5, 2, 3, 4 between 0-140.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting. **Resources** String of counting beads; the abacus to practise counting in groups of ten, 5, 2, 3, 4.
NUMBER CONCEPT DEVELOPMENT				
	Place Value		• Recognise the place value of numbers 11-40 • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the **value of each digit.**	**Use Flard /** place value **cards** to show how the numbers are constructed. Show the bundles or groups of objects next to it. Ask what each digit represents what is the value of 7 represent in 37? What does the 3 digit represent in 37?

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving	**Use the following techniques to solve the problems** • doubling and halving • building up and breaking down of numbers • draw pictures • number lines supported by concrete apparatus e.g. counting beads.	**Use the following techniques to solve the problems** • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain solutions to +, - to answer 10. Talk about solutions to problems. **calculations** • addition to 10 • subtract from 10 Practise number bonds to 7.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-40. **calculations** • add to 40 • subtract from 40 • Use appropriate symbols Practise number bonds to 15.	**Drawings or concrete apparatus** Learners will continue to draw pictures and use concrete apparatus to solve problems. It is important that the pictures or drawings contain numbers as well as number sentences. **Building up and breaking down** Learners to split (decompose) and recombine numbers to help make calculations easier. break up numbers using place value; Break up numbers using multiples of 10; and break up into number pairs e.g. pairs that make 20. **Doubling and halving** Learners continue using doubling and halving as a calculating strategy. **Number lines** Learners should be constructing their own number lines and breaking up the numbers in manageable parts.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problem involving repeated addition with answers up to 10 **context –free calculations** • Repeated addition (i.e. the same number) to 10. • Use appropriate symbols.	Solve word problems in context and explain own solution to problem involving repeated addition with answers up to 40 **context –free calculations** • Multiply numbers 1-10 by 1,2 & 5 • Use appropriate symbols (+, ×, =)	

	Grouping and sharing leading to division	Solve and explain solutions to practical problems involving equal sharing and grouping up to 10 with answers that may include remainders.	Solve word problems to 30 in context and explain own solution to problems that involve equal sharing and grouping up to 20 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping. **Grouping** (e.g. twelve children at tables of four, how many tables). **Sharing** (e.g. twelve children at four tables, how many at each).
	Sharing leading to fractions		Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying; Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
	Mental Maths	• Work within number range 0-10	• Number range 0- 40	• Ask what number comes 1st, second, after, before, last, etc. • Question about less than, more than e.g. what is 3 more than 4; 3 less than 7; 2 more than 6, etc.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**		• Copy, extend and describe in words. • Simple patterns made with physical objects	• **Copying**, **extending** and **describing** the pattern helps learners to see the logic and check that they have properly understood the logic of the pattern.
	Number patterns	Copy, extend and describe sequences to 50. Count forwards and backwards in: • 1s from any number between 0 and 50 • Count forwards in • 10s, 5s, 2s from any multiple of 10, 5, 2 to 50. • Create and describe own number patterns.	Copy, extend and describe simple number sequences 0-140. Count forwards and backwards in • 1s from any number between 0 and 140 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 4, 3 2 to 140 • Create and describe own number patterns.	**Complete number patterns… multiples, even, odd, etc.** Number sequences can be linked with and support counting. As learners counting skills change and develop, the kinds of number sequences learners work with can develop. Sequences should show counting forwards and backwards in different multiples.

SPACE AND SHAPE	**Position , orientation and views**	• Apply the language of position learnt when giving directions to complete a task.	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.	• Follow directions to complete tasks related to other skills. • Concentrate on the correct language usage. • Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. • List instructions to get to the tuck shop. • Practise the position words by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.
	3D objects	• Describe and build with 3D objects • Build with concrete materials such as building blocks, etc.	• Recognise and name 3D objects in the classroom. • Ball shapes (spheres) • Box shapes (prisms) • Cylinders	• Construct models that have reference to the skills subjects offered.
	2D shapes		• Recognise and name 2D shapes - circles - triangles - squares - rectangles	**Recognising and naming circles, triangles, squares and rectangles** Work with circles, squares and different sizes and triangles. Work with many different examples of shapes – ensure that learners are exposed to varied shapes everywhere.
	Features of shapes		• Describe, sort and compare 2D shapes in terms of**:** - size - colour - straight sides - round sides	

MEASUREMENT	**Time**	• Passing of time • Telling the time		Use the calendar to describe time in terms of days, weeks, months. Teach before, after/ next. Discuss birthdays and events.
	Length	**Informal measuring** • Compare; order the length, height or width of 2 or more objects placed next to each other. • Use language to talk about comparison e.g. longer, shorter, taller and wider. • Measurement in cm, m.	• Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record.	• Develop an understanding of length and the talk that goes with it. • Prepare and practise measurement in length as required in the skills subjects offered. • Teach conversions where required.
	Mass	• Estimate, measure, compare, order, record using non-standard measurements	• Compare, order estimate, measure, describe and record. Use a scale, measuring cups, etc. in grams and kg.	Expose learners to various scales for measuring. Teach conversions where applicable and make sure that learners will be able to understand e.g. how to weigh/ measure the ingredients to make scones; etc.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects • Draw a picture of the collected objects	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph.	Learners sort objects and draw the sorted arrangements **The complete data handling cycle.** In the data handling cycle Sort and represent the information in ways which make it easier to analyse. Practise a pictograph analyse the information in the pictograph by answering questions posed by the teacher.

TERM 2 GR1 AND GR 2 (COMBINED LESSON)				
LESSON 4 WEEK 7 & 8	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBER CONCEPT DEVELOPMENT				
NUMBERS OPERATIONS AND RELATIONSHIPS	**Describe, order and compare number**	**Describe, order and compare objects/ numbers to 10** • according to many, few, most, least, more than, less than, the same as, just as many, most to least and least to most.	• Compare, order, describe whole numbers using smaller than, greater than, more than, less than and is equal to, from smallest to greatest and vice versa.	Use counters, objects, etc. When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. Use number line to show order and to compare numbers to ten
	Place Value		• Recognise the place value of numbers 11-50 • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Engage in many experiences to establish tens as a benchmark and units. Ten is 1 ten and contains 0 ones. Regular 'ten and one'; Manipulate concrete apparatus group to form ten ones and understand that 10 is one group of ten loose ones. Words (25 = 2 groups of 10 and 5 ones or 2 tens and 5 ones) need to be used regularly to establish a language that symbolises decomposing and recomposing. Fill in the missing number (this can be done or explained by using concrete apparatus) 36 = 3 tens and ____ ones 25 = __ tens and 5 ones.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT- FREE CALCULATIONS				
	Problem solving techniques	- drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	- drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	Allow learners to use objects in order to strategise. They talk about their methods employed to do the problem and to write down what they have done. (doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	• Solve word problems in context and explain solutions to +, - with answers up to 10.	• Solve word problems in context, explain own solutions to problems involving +, - with answers up	Use concrete apparatus and the number line do work out all sums with the answers up to 10.

		Context- free calculations • Add and subtract -10. • Practise bonds to 7.	to 50. **Context- free calculations** • Add to 50 • Subtract from 50 • Use appropriate symbols Practise number bonds to 15	
	Repeated addition leading to multiplication	• Solve word problems and explain solutions to problems involving repeated addition with answers up to 20. **Context- free calculations** • Do repeated addition (use the same number e.g. 2 + 2 + 2 + 2 = 8) to 10 • Use appropriate symbols.	• **Repeated addition 0-50 leading to multiplication** • Solve word problems in context and explain solution to problems involving repeated addition and to multiplication with answers up to 50. **Context- free calculations** • Multiply numbers 1-10 by 1, 2 and 5 • Use appropriate symbols (+, ×, =)	Use number lines to show repeated addition by drawing the equal jumps on the number line. Support this by recording the number sentence as well.Probe for the number pattern. • **Repeated addition** - How many wheels do 4 bicycles have? - How many eyes do 7 children have? Learners might solve the problem in the following way: - Pictures or drawings should show grouping. - Learners should be encouraged to count in 2s to get to the answer. They should also be encouraged to represent their counting in a number sentence. - Thami drinks 3 cups of milk every day. How many cups of milk does he drink in a week?

	Grouping and sharing leading to division	Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	Concrete apparatus are used initially. Link this teaching to halves and doubles. Note the number patterns and record this on chart for the classroom. Note how grouping is linked to sharing… highlight the division operation.
	Sharing leading to fractions		Sharing leads to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show relationship to multiplication, e.g. 20 divided by 10 rows = 2 check by multiplying; Do the addition and subtraction. e.g. share between 2 (½), amongst 3 ($\frac{1}{3}$) etc.
	Money	Recognise SA currency 5c, 10C, 20C, 50C, R1, R2, R 5 Solve problems involving totals and change from R10.	Solving money problems involving totals and change to R20 and cents up to 50c.	Keep advertisements of shopping specials from the Argus/ community papers for this practical aspect of the lesson. Allow learners to choose a few items to shop for and work out the monies spent, and change received. Be innovative and develop own little list to shop for. Use play money for this experience. Indirectly you are teaching budgets.
	Mental Maths	• Work within number range 0-10	**Number range 0- 50** • Order, compare, more, less, addition, subtraction, quick recall of addition, doubles to 15 and bonds to 15.	Ask what number comes 1st, second, after, before, last, etc. Question about less than, more than e.g. What is 3 more than 4; 3 less than 7; 2 more than 6, etc?
	Fractions		• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	Share between 2 = half of; share amongst 3, thirds; amongst 4, quarter of: work with money… half price, quarter of the price?

SPACE AND SHAPE	**Position and direction**	• Apply the language of position learnt when giving directions to complete a task. • Follow directions around the classroom, school.	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object.	• Concentrate on the correct language usage. • Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. • List instructions to get to the tuck shop. • Practise the position words by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.
	Symmetry	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	If learners are not sure whether a picture or shape has a line of symmetry, they can test by folding the piece of paper and seeing whether the two halves match exactly. The folded line is the line of symmetry.
MEASUREMENT	**Capacity/ Volume**	• Compare and order the amount of liquid (volume) in containers. • Prepare to teach Capacity as per the various workshops the learners will attend by using a measuring jug, measuring cups, ml. litres , etc.	• Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order, estimate, measure, compare, order and record and describe.	Prepare and practise for the skills subjects offered so that learners can apply their knowledge of capacity in litres and millilitres well in the applicable subjects they choose. **What is capacity? What is volume?** A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain the volume of one cup of water at a particular time. **Capacity is the total amount that an object can hold** (or the amount of space inside the object). **Volume is the amount of space that something takes up.**

DATA HANDLING	**Collect and sort data**	• Collect and sort everyday objects • Draw a picture of the collected objects • Answer questions about how the sorting was done (process). • Answer questions about what the sorted • Describe the sorted collection.	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph. • Analyse and Interpret data. • Answer questions about data in pictograph.	• Give learners objects to sort • Allow them to draw the sorted arrangements • To sort, represent and describe **are skills** that support the pre number work. **The complete data handling cycle** In the data handling cycle • Sort and represent the information in ways which make it easier to analyse. • Practise a pictograph analyse the information in the pictograph by answering questions posed by the teacher. **A class pictograph** • Work through the complete data cycle to make a class pictograph at least twice in the year. Work together helps learners to be involved in all the stages of the process without getting lost in the detail of any stage, e.g. drawing all the pictures. • Make a class graph allow for the focus on the key aspects of data handling and also on what they need to know about the important features of a pictograph.
TERM 2 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

MATHEMATICS

GRADE 3

TERM 2

TERM 2 GRADE 3			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate, count reliably to at least 300 objects. • Encourage grouping of objects to facilitate counting.	• **Counting on** is focus. • Learners must see 200 objects and suggest efficient ways of counting it. • Counting supports skills for understanding place value and calculations. e.g. Start at: - 198 and count in ones to 220. - 60 and count in tens to 300
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 300 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 300 • Count in 50s, 100s to at least 1000.	**Resources** String of counting beads, number grid, the abacus to practise counting in groups.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 800 • Identify, recognise and read number names – 200	Use flard cards/ place value cards to pack out number. Use calendar to influence ordinal numbers.
	Describe, order and compare number	**Describe compare and order number 0-300** • Compare whole numbers up to 300using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 300, smallest to greatest; greatest to smallest. **Ordinals to 31st**	
	Place Value	**Know place value to 300** • Decompose 3 digit numbers into hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number 243 =2 hundreds, 4 tens, 3 ones Know that the 4 digit in 143 4 tens/ 40/ forty.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Grouping and sharing leading to division	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	Allow learners to show tell and record all their workings. Use bright learners to demonstrate their techniques on the chalkboard. Peer teaching happens in this way.
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼.	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75.	
	Money	Solve money problems involving totals in rands and cents.	Practical activities works well here.
	Mental Maths	**Number range 0-500** • Order, compare, numbers to 160 and say which is - 2 more or 2 less - 3 more or 3 less, - 4 more or 4 less, etc. • Rapid recall of addition and subtraction facts to 20	**Mental strategies:** - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Relationship between addition and subtraction.
	Fractions	• Recognise fractions in diagrammatic form. • Concentrate on teaching unitary fractions ¼, ½, etc.	Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A strong sense of number is important.***
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Copying, extending, describing patterns helps to establish if the learner understands the logic thereof.
	Number Patterns	• Copy and extend number sequences to 160	Sequences should show counting forwards and backwards and can be practised on the number line.

SPACE AND SHAPE	**Position, orientation and views**	Read, interpret and draw informal maps, or top views of a collection of objects, find objects on maps.	**Record** directions from one place to another on an informal map.
	3D objects	Range of objects Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders • cones	Focus on building 3D objects using concrete materials such as cut- out 2D shapes, toothpicks, straws, other 3D geometric objects. Work with all objects mentioned. Distinguish whether The objects are curved or flat. Talk about the flat surfaces on prisms and cylinders and describe them according to whether they are circular, square, rectangular or triangular.
MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Tell 12-hour time in (analogue and digital clocks) - Hours - Half hours - Quarter hours - minutes	Practise talking about the duration of time and the sequencing of time. Populate the calendar with respective events: birthdays; religious festivals; historical. Tell time in hours and half hours.

TERM 2 GRADE 3			
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR 3 CONTENT**	**TEACHER NOTES**
NUMBER CONCEPT DEVELOPMENT			
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	Encourage grouping of objects to facilitate counting.	Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 400 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 400 • Count in 50s, 100s to at least 1000.	**Resources** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	**Describe compare and order number 0-400** • Compare whole numbers up to 180 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 400. • Use ordinal numbers to show order- 31st.	Use flard cards/ place value cards to pack out number. Use calendar to influence teaching of ordinal numbers.
	Place Value	• Know what each digit represents. • Identify and state the value of each digit. Know that the 5 digit in 357 represents 5 tens.	Use place value/ flard cards to show the number grouped and counted. 359 =3 hundred, 5 tens, 9 loose ones
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve the problems 400** - build up & break down numbers - doubles and halves - number lines - rounding off in tens **Practise number bonds to 30**	Allow learners to show tell and record all their workings. Peer teaching can be effective in this way.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75 **Calculations:** • Multiply numbers 1 to 10 by 2, 3, 4, 5 • Use appropriate symbols (+, ×, □, =)	Note that Multiplication is repeated addition of the same number, grouping, hence the emphasis on addition initially. It is the inverse of division and it is commutative. E.g. 20× 4 = 4 × 20 = 80 Doubling (×2). Note the number patterns.

	Grouping and sharing leading to division **Sharing leading to fractions**	Solve number problems in and out of context; explain own solutions to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼ **Calculations:** • Divide number to 50 by 2, 5, 4, 10. • Use appropriate symbols: (÷, =-, □)	Encourage learners to learn tables – see the relationship between × and ÷ The inverse property can be highlighted here. Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A strong sense of number is important.***
	Fractions	• Recognise fractions in diagrammatic form. • Unitary fractions: third, quarter, one fifth.	A good number sense will enable learners to recognise that fractions make up pieces of a whole.
	Mental Maths	**Number Concept: Range 0-500** • Order and compare numbers to 500 and say which is more: 142 or 241? • Rapid recall of plus and minus facts to 20 and multiples of 10 to 100	Mental Strategies: see previous weeks lesson.
	Money	• Solve money problems involving totals and change.	Conversions to smaller denominations.
MEASUREMENT	**Length**	**Formal measuring** • Estimate, measure, compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres use a ruler. • Investigate the distance around 2D shapes- Perimeter.	Practical work is emphasised. Note the measurement skills in Length required in the skills subjects. Only regular practise will equip learners with the necessary skills to measure length appropriately.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres. • Know the standard cup is 250ml, teaspoon is 5ml etc.	Compare and record all measurements and talk about, ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Analyse the data**	• Collect data about the class or lengths measured and plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organize data provided in a list or tally or table in a bar graph. • Represent data on bar graph.

TERM 2 GRADE 3			
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR 3 CONTENT**	**TEACHER NOTES**
NUMBER CONCEPT DEVELOPMENT			
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and count, group to at least 500 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 500 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 500. • 50s, 100s to at least 1000	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Place Value	**Recognise place value of numbers to 500** • Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 386 = 3 hundreds + 8 tens and 6 loose ones; Know the 4 digit in 458 is 4 hundred/400.
SOLVE PROBLEMS IN CONTEXT			
	Problem Solving techniques	**Use the following techniques to solve the problems-500** - build up and break down numbers - doubles and halves - number lines - rounding off in tens	Use bright learners to tell and show their techniques used to solve the problems as the weaker ones often learn better in this way.
	Repeated addition leading to multiplication	**Solve number problems** in context and explain own solution to problems involving multiplication with answers up to 75.	**Note:** multiplication as repeated addition. (addition of the same number) grouping, hence the emphasis on addition initially. It is the inverse of division and it is commutative. E.g. 9× 5= 5× 9 = 45. Doubling is equivalent to (×2). Allow learners to see the number patterns formed.

	Grouping and sharing leading to division **Sharing leading to fractions**	**Solve number problems** in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse property can be highlighted here.
	Fractions	• Recognise fractions in diagrammatic form. • Recognise unitary fractions.	Acknowledge that fractions are pieces of one whole.
	Mental Maths	**Number Concept: Range 0- 500** • Ordering and comparing to 500 • Rapid recall of +, -, ×, ÷ to 20 • Subtract multiples of 10 from 100	See previous lesson for Mental Strategies.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Range of patterns** - Regularly increasing patterns - Decreasing patterns Create own geometric patterns and describe own patterns.	See the skills subjects offered and note how the Maths teaching can support the necessary skills e.g. for beading, knitting, welding, etc.
SPACE AND SHAPE (GEOMETRY)	**2D shapes: Range of shapes**	**Range of shapes** ▪ circles, triangles, squares, rectangles **Features of shapes** • straight sides • round sides • shape	Focus on the kind of side each shape has. Draw circles, squares, rectangles and triangles. Consolidate through written work.
MEASUREMENT	**Mass**	**Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2 kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Measure with a scale. Teach conversions. Take learners body mass and populate a bar graph as an activity. Ask relevant questions to test understanding. ***Note the data handling can be integrated here.***

TERM 2 GRADE 3			
LESSON 4 WEEK 7 & 8	**TOPIC**	**GR 3 CONTENT**	**TEACHER NOTES**
NUMBER CONCEPT DEVELOPMENT			
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects forwards and backwards**	• Count forwards and backwards in 1s to 500 • Count forwards and backwards in multiples of 10s, 5s, 2s, 3s, 4s, to at least 200. • 100s to at least 500.	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	• Compare whole numbers up to 200 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 200. • Use ordinal numbers to show position.	See previous notes.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of 100s, 10s and ones/ units.	Use place value/ flard cards to show the number grouped and counted. 198 =1 hundred, 9tens and 8 loose ones
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Techniques **Addition and Subtraction**	**Use the foll. techniques/methods to do calculations to 500** • build up & break down numbers • doubles and halves • number lines s • rounding off in tens **Calculations** Add to 99 Subtract from 99 Use appropriate symbols (+, - , =, □) **Practise number bonds to 20**	Allow learners to show, tell and record their findings. The number line is a powerful resource to use. Learners see the jumps and note the calculation work.
	Repeated addition leading to multiplication	**Calculations** Multiply numbers 1to 10 by 2, 5, 3, 4. Use the appropriate symbols(+,×, =, □)	Note that multiplication is the same as repetitive addition of the same number. The emphasis is initially on addition. Multiplication is the inverse of division. Mutiplication is commutative, i.e. 6 × 5 = 5 × 6 = 30

	Division	**Calculations:** Divide numbers to 50 by 2, 4, 5,10, 3 Use appropriate symbols (÷, -, =, □)	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse of × is ÷ i.e. 8×5=40 40÷5 =8. See the number patterns formed.
	Mental Maths	**Number Concept: Range 0- 200** • Ordering and comparing to 200 • Rapid recall of +, -, ×, ÷ to 20	**Mental Strategies** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between + & - • Use the relationship between × and ÷.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Consolidate previous lesson	Make sure that the basics are understood to ensure that the learner can apply the basics in the respective skills subjects offered.
	Number Patterns	**Copy, extend and describe** • Copy, extend, describe number sequences to at least 750 • 20s, 25s, 50s, 100s, to at least 1000. • Create and describe own patterns.	Good counting skills will enhance calculation strategies.
SPACE AND SHAPE (GEOMETRY)	**3D objects**	**Range of objects** Recognise and name 3D objects in the classroom and in pictures. - ball shapes (spheres), box shapes (prisms), cylinders, pyramids and cones - cones	Work on 3D can be consolidated through written exercises. Learners can continue to build 3D objects from recycling material or construction kits.
	2D shapes: Range of shapes	**Features of objects:** Describe, sort, compare 3D objects in terms of - 2d shapes that make up the faces of 3D OBJECTS - flat or curved surfaces **Range of shapes** - circles, squares, rectangles, triangles	Focus on the kind of side each shape has Talk about shapes whether they have round or straight sides. Draw circles, squares, rectangles and triangles. Consolidate through written wor

MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars, do calculations – length of days on calendar. • Know analogue and digital clocks and cell phones • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Learners also have to tell the time in hours and half hours.
	Length	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe and record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Take account of the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally they can measure a variety of lengths or distances in metres.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. grocery items measured and recorded. Learners body mass – weighed and recorded.
TERM 2 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2 and 3

(COMBINED)

TERM 2

TERM 2 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 150 everyday objects • Encourage grouping of objects to facilitate counting.	• Estimate and count to at least 160 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is the focus. • Learners must see 140 objects and suggest ways of counting it. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-150 • 10s, 5s, 2s, from any multiple of 10, 5, 2 between 0-150.	Count forwards and backwards in: • 1s from 0-160 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 160. • 100s to 500	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise, read, write number symbols to 150 and number names: 0-50.	• Identify, recognise, read, write number symbols: 1000 and number names to 250.	• Show groups of objects for learners to identify, match number symbols and write this in exercise books.
	Describe, order and compare number	**Describe, order and compare numbers to 50** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. - Use ordinal numbers to show order, place, position.	**Describe compare and order number 0- 500** • Compare whole numbers up to 500 using smaller than, greater than more than, less than, is equal to. • Order numbers up to 500, **Ordinals to 31st**	• Use number line to show order and to compare numbers *Develop a strong number sense so that calculations to 99 are arrived at in quick solutions. If learners can order and compare confidently beyond the requirement then it will only increase their number and operational sense.*

	Place Value	• Recognise the place value of numbers 11-25 • Decompose 2 digit numbers into 10s and 1s.	**Know place value to 500** • Know what each digit represents. • Decompose 3 digit numbers into100s, 10s, 1s,	• Use place value/ flard cards to show the number grouped and counted. • Know: 3digit in 138 =3 tens
SOLVE PROBLEMS IN CONTEXT (word problems)				
	Problem solving techniques	• **Use the following techniques to solve the problems up to 50** - draw or pack out concrete apparatus - build up & break down numbers - doubles and halves - number lines supported by concrete apparatus.	**Use the following techniques to solve the problems 500** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens	• Allow learners to show tell and record all their workings. Use bright learners to tell and show their techniques for working out of sums as the weaker ones often learn better in this way.
	Addition and Subtraction	**Solve problems** and explain solutions to 15. **Practise number bonds to 10**	**Solve problems** and explain solutions to 500 **Practise number bonds to 20**	Learners are expected to solve the word problems using the following techniques mentioned above.
	Repeated addition leading to multiplication	**COMBINED** in context and explain own solution to problems involving repeated addition and multiplication with answers up to 30.	**Solve number problems** in context 500 and explain own solution to problems involving multiplication with answers up to 75.	Learners should be encouraged to write number sentences for all the word problems. Expect learners to use repeated addition number sentences to show the solution.
	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	• **Sharing:** I have 18 pencils to share equally among the three of you; how many will you each get? • **Grouping:** How many cars can you make if you have 20 wheels? How many motorbikes? • **Array:** Mongezi packs out 20 counters into 10 rows. How many counters in a row?

	Money	• Solve money problems involving totals and change to R20 and cents	• Solve money problems involving totals in R and c • Convert between R and c	E.g. Share 50c equally amongst four children.
	Mental Maths	**Number range 0- 50** • Order, compare numbers to 50 • rapid recall of +, -, facts to 10.	**Number Range 0- 500** • Order, compare numbers • rapid recall of addition and subtraction facts to 20. • Add and subtract multiples of 10 from 100	- Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Make with physical objects. • Make p with drawings of lines, shapes or objects.	• Copy, extend and describe in words. • Make with physical objects • Make with drawings of lines, shapes or objects.	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly.
	Number patterns	• Copy, extend and describe number sequences to at least 60. • Sequences should show counting forwards and backwards in: - 1s, from any number between 0 and 100 - 2s, 5s, 10s from any multiple of 2, 5, 10, between 0-100. • Create and describe own number patterns.	• Copy, extend and describe number sequences to at least in 500. • Sequences show counting forwards and backwards. • 100s, to at least 1000. • Create and describe own number pattern.	Sequences should show counting forwards and backwards in: - Number lines - Number grids - Number chains

SPACE AND SHAPE	**Position , orientation and views**		**Position and Direction** • Follow directions to move around the school.	• Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	• Recognise and name 3D objects: balls (spheres), box (prisms) • know the features of 3D objects in terms of size, colour, objects that roll, objects that slide • Build with concrete materials such as building blocks, recycling material and construction kits	Range of objects • Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders - cones	
	2D shapes **Features of shapes**	Range of shapes Recognise and name 2D shapes • circles • triangles • squares Features • Size, colour, straight sides, round sides.	Recognise and name 2D shapes - circles - triangles - squares - rectangles Describe, sort & compare 2D shapes in terms of: • size, colour, straight sides, round sides, shape	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relates to the workshops offered.
	Symmetry	Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.		Written exercises should **NOT** only be draw in the other half; should include examples where learners draw in the line of symmetry. The line of symmetry should not always be a vertical line.

MEASUREMENT	**Time**	**Telling the time** • know sequence of days of week • know sequence of months of year • place birthdays, religious festivals, public holidays, historical events on calendar **Calculate length of time and passing of time** - use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hours of half hours.	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Familiar with calendars by the continual placing of - Birthdays; - religious festivals; - historical events; - school events; and - public holidays on the calendar. During independent work time learners continue to sequence events from their daily lives and sequence pictures of events in order.

TERM 2 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Encourage grouping of up to 150 objects.	• Encourage grouping of up to 500 objects.	• Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-150 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-150.	Count forwards and backwards in: • 1s to 500 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 500. • 100s to1000	• Encourage games that promote counting. • Encourage counting on /back from any multiple.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read, write number names: 0-25.	• Identify, recognise, read, write number symbols 0-1 000 • Identify, recognise and read number names 0– 250.	• Show groups of objects for learners to identify and match number symbols and write this in exercise books.
CONTEXT-FREE CALCULATIONS				
	Techniques	• drawings or pack out concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus	• build up and break down numbers • doubles and halves • number lines • rounding off in tens	Allow learners to show, tell and record all their workings. Use bright learners to talk about their techniques used for sums as the weaker ones often learn better in this way.
	Addition and Subtraction	• Add to 20 • Subtract to 20 • Use the appropriate symbols (=,+, -, □) **Practise bonds to 10.**	• Add to 200 • Subtract to 200 • Use the appropriate symbols (=,+, -, □) **Practise bonds to 20.**	Use concrete apparatus and the number line do work out all sums with the answers up to 700 Solve the word problems using the techniques mentioned above.

	Repeated addition leading to multiplication	• Multiply numbers1-10 by 2 • Use the appropriate symbols(+, -, □, =)	• Multiply numbers 1-10 by 2, 3, 4, 5, • Use the appropriate symbols(×, □, =)	**Allow for the different ways to do calculations see techniques above.**
	Division	Complete via grouping and sharing in context.	• Divide numbers to 50 by 2, 4, 5, 10. • Use appropriate symbols (-, ÷, □, =)	Allow learners to use concrete, semi concrete apparatus. They explain and record their findings always. Allow learners to talk about the strategies used as in this way they internalise their techniques.
	Mental Maths	**Number range 0- 20** • Order, compare, numbers to 20 • Rapid recall of addition and subtraction facts to 10.	**Number Range 0- 500** • Order, compare numbers to 500 • Rapid recall of addition and subtraction facts to 20. Add and subtract multiples of 10 from 100	**Mental strategies** to be developed: - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS FUNCTIONS AND ALGEBRA	**Number Patterns**	Copy, extend and describe: • Simple number sequences to at least 150 • Sequences must show counting forwards and backwards in: • 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4 between 0 and 150	Copy, extend and describe: • Simple number sequences to at least 500 • Sequences must show counting forwards and backwards with increasing number ranges • 50s, 100s, to at least 1000	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly.
SPACE AND SHAPE	**Position, orientation and views**	Recognise and match different views of the same object.	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps.	Make this as practical as possible, allow the learners to record their findings by using the appropriate language.
	Position and direction	Follow the directions to move around the school.	Follow directions from one place on an informal map.	Practise proper maths vocabulary.

	Symmetry		Determine the line of symmetry through paper folding and reflection.	Note that a line of symmetry is not always a vertical line.
MEASUREMENT	**Length**	**informal measuring** • Non-standard measures e.g. hand spans, paces, pencil lengths, etc. • Compare, order, estimate, measure, describe, record • Describe standard measures: m, cm. • **Formal measuring** Estimate, measure, compare order and record length using metres (metre sticks or metre lengths of string) as the standard unit of length.	**Formal measuring** • Estimate, measure and compare using sticks, string that is a metre length. • Estimate, measure and record lengths in centimetres using a ruler, tape measure. Investigate the distance around 2D shapes- Perimeter.	• Practical work is emphasized. Practise measurement skills in Length that is required in the particular skills subjects offered. • Practise measuring the perimeter around shapes. Note the importance of the Calculation skills here. ***Practise is imperative!***

TERM 2 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 150 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to facilitate counting.	• Estimate and count to at least 500 objects reliably. • Encourage grouping of objects to facilitate counting.	• Learners must see 560 objects and suggest efficient ways of counting it. • Counting supports skills for understanding place value and calculations. *Counting skills is the basis for all functional Maths skills needed in all skills subjects.*
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-150 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-150.	Count forwards and backwards in: • 1s to 500 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 500. • 20s, 25s, 50s, 100s to1000	Use abacus, objects, beads on a string, etc. Encourage games that will promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read number symbols: 0-150 • Write number symbols 0-150. • Identify, recognise and read number names 0 – 50. • Write number names 0-50.	• Identify, recognise , read number symbols: 0-1 000 • Write number symbols 0-1 000 • Identify, recognise and read number names 0 – 250. • Write number names 0-250.	Devise a number game to enhance teaching of number names and symbols.
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens, ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 456 is 4 hundreds

	Place Value	Recognise place value of numbers 11-50 • Decompose 2 digit numbers into, tens, ones/ units. • Identify and state the value of each digit.	Recognise place value of numbers to 500 • Decompose 3 digit numbers into tens, ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the numbers grouped and counted. • 369 = 6 groups of tens, 3 groups of hundreds and 9 loose ones; • Know the 4 digit in 49 is 4 tens.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving	Use the techniques to solve the problems to 20 • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Use the following techniques to solve the problems to 500 • build up & break down numbers • doubles and halves • number lines • rounding off in tens	Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 50. **Calculations: context -free** • Add to 50 • Subtraction from 50 • Use the appropriate symbols (=, +, -, □) • **Practise number bonds to 15**	Solve word problems in context. Explain own solutions to problems involving multiplication with answers up to 500. **Calculations: context-free** • Add to 500 • Subtraction from 500 • Use the appropriate symbols (=, +, -, □) • **Practise number bonds to 30**	• Use concrete apparatus and the number line do work out all sums • Learners are expected to solve the word problems using the techniques previously mentioned.
	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping • **grouping** (e.g. sixteen children at tables of four, how many tables) • **sharing** (e.g. fifteen children at fiver tables, how many at each)

	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 30. **Calculations: *context free*** • Multiply 1-10 by 2 • Use the appropriate symbols (×, =, □)	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75. **Calculations: *context free*** • Multiply 1-10 by 2, 3, 4, 5 • Use the appropriate symbols (×, =, □)	Examples of strategies to solve problems. (depends on the learners number sense). Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets. Multiplicative comparison (e.g. three times as many boys as girls): which is represented as one to one correspondence. Rectangular arrays (e.g. three rows of six children): which are represented as rows and columns.
	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping • **grouping** (e.g. twelve children at tables of four, how many tables) • **sharing** (e.g. twelve children at four tables, how many at each)
	Sharing leading to fractions		**Calculations:** • Divide numbers 75 by 2, 4, 5, 10, 4 • Use appropriate symbols (÷, =, □)	30 divided by 10 rows = 3 check by multiplying; Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½ of), amongst 3 ($\frac{1}{3}$ of ,) etc.
	Money	Solving money problems involving totals and change to R70 and cents up to 50c.	Solving money problems involving totals and change to R100 and cents up to 50c.	Practise: Recognising SA currency and changing money into smaller denominations.

	Mental Maths	**Number range 0- 25** • Order, compare, rapid recall of +, -, ×,÷ to 25	**Number Range 0- 200** • Order, compare, rapid recall of +, -, ×,÷ to 200	The following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range of patterns • Regularly increasing patterns • Decreasing patterns	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly. Patterning is done in most skills subjects.
SPACE AND SHAPE	**Position , orientation and views**	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.		Follow directions to complete tasks related to other skills. Concentrate on the correct language usage. Ask learners to record how they will navigate towards the tuckshop area/ the principal's office, etc. List instructions to get to the tuck shop. Practise the position vocabulary by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.

	3D objects	Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders **Features of objects** Describe, sort, compare 3D objects in term of • size • objects that can roll • objects that can slide	Recognise and name 3D objects in the classroom and in pictures. • ball shapes (spheres) • box shapes (prisms) • cylinders • pyramids • cones **Features of objects** Describe, sort, compare 3D objects in term of • 2D shapes that make up the faces of 3D objects. • flat or curved surfaces	• Construct models that have reference to the skills subjects.
	2D shapes	Recognise, name 2D shapes • circles • triangles • squares • rectangles	Range of shapes • circles • triangles • squares • rectangles	Focus on the kind of side each shape has- round or straight sides. Draw circles, squares, rectangles and triangles.
	Features of shapes	Describe, sort and compare 2D shapes in terms of**:** • size • colour • straight sides • round sides	**Features of shapes** Sort and compare 2D shapes in terms of: • shape • straight sides • round sides	
MEASUREMENT	**Time**	Know days of the week. Months of the year. Use the calendar for calculations of weeks, days, and months of the year.	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of and passing time.	Practise talking about the duration of time and the sequencing of time. During independent work time learners continue to sequence events from their daily lives and sequence pictures of events in order. Learners also tell time in hours and half hours.

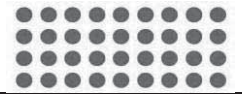
	Mass	• Non-standard units e.g. blocks, bricks, etc. and units e.g. grams, kilograms, • Use language to compare e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. **Mass: Introducing formal measuring:** Compare order and record the mass of commercially packaged objects which have e.g. 1 kg of rice and 2 kilogram of flour. Use bathroom scale to measure learners mass.	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non -standard measures. e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • The expectation is that learners only read to the nearest whole kilogram.	• Prepare and practise for weighing of mass that occurs in the skills subjects. • Exercise measurement in problem-solving and calculation work. Ensure that the basics for informal practices are taught using the non - standard measures before the formal units are addressed. Learners will then have a sense of the 'muchness' thereof. Do conversions.
DATA HANDLING	**Collect and organise data**	• Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. - Weight of selected learners, - Grocery items

TERM 2 GRADE 2 AND 3 (COMBINED LESSON)	
LESSON 4 WEEK 7 & 8	**REVISION: TAKE FULL ADVANTAGE OF RE-TEACHING CERTAIN CRITICAL CONCEPTS/KNOWLEDGE FOR FURTHER CLARITY.**
TERM 2 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**

MATHEMATICS

GRADE 1

TERM 3

TERM 3 GRADE 1			
LESSON 1 WEEK 1 & 2	**TOPICS**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliably to 30 • Encourage group counting and counting on.	• Estimate, predict count out to check. • Subitising happens where the eye groups objects and the learner counts in bigger numbers.
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 60 Count **forwards in** • 10s, 5s, 2s from any multiple of 10, 5, 2, between 0 and 60.	• Encourage games that promote counting. • The arrangement helps them to count more easily. For example, counters could be placed in rows. 
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, identify and read, numbers symbols and number names 0-60. • Write number symbols 1-20 • Recognise, identify, read and write number names 1-10	• Show groups of objects for learners to identify and match number symbols and write this in exercise books. • Relate this work to all skills programmes learners may be doing.
	Describe, order and compare number	**Describe, order and compare objects and numbers to15** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • **Order objects** from most to least; least to most. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Describe and **order numbers** from smallest to greatest; greatest to smallest. Use the number line.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners line up to enter or exit the classroom, etc. • Use number line to show order and to compare numbers to ten.
	Place value	**Recognise the place value of at least two-digit numbers to 15** • Partition/split two-digit numbers into tens and ones: e.g. 12is 10 and 2	• Use flard cards/ place value cards for this purpose. (learners pack out the 10s and 1s to show understanding of each digit and the number)

SOLVE PROBLEMS IN CONTEXT AND CONTEXT–FREE CALCULATIONS			
	Problem-solving techniques	Use the following techniques when **solving problems**: • concrete apparatus e.g. counters • pictures to draw the story sum. • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	Competence and confidence levels in number work will determine the technique the learner will employ to work out the problem. • Allow learners to demonstrate their thinking by talking about their method used to derive at the answer. • The **'doing, talking and recording'** will assist in reinforcing what has been learnt Practical work is vital here. Note connections between doubling and halving (sharing between 2 and groupings in 2, etc.)
	Addition and Subtraction	Solve word problems in context and explain solutions to problems involving addition, subtraction with answers up to 12	
	Repeated addition leading to multiplication	Solve word problems in context and explain solutions problems involving repeated addition and equal sharing and grouping with whole numbers up to 12 and include remainders.	
	Grouping and sharing leading to division	Solve word problems in context and explain solutions to problems involving equal sharing and grouping with whole numbers up to 12 and with answers that may include remainders include remainders.	
	Money	Recognise S A currency and solve problems including totals and change to R20 and cents.	Use play money for shopping activities.
CONTEXT FREE- CALCULATIONS (THE TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)			
	Addition and Subtraction	• Add to12 • Subtract from 12 • Use appropriate symbols (+, -, =, □) Practise number bonds to 9	Regular practise in calculations work on the number line will support the learner to eventually have a mental number line and do mental calculations.
	Repeated addition leading to multiplication	• Repeated addition (i.e. adding the same number) to 12 that will lead to multiplication • Use appropriate symbols (+, -, =, □)	Show this on the number line so that learners see the pattern.
	Mental Maths	• work within number range 0-10 • rapid recall of number bonds • rapid recall of + and – facts • compare and order nos. up to 15.	Use calendar for this rapid recall of number. Put the larger number first in order to count on

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe simple patterns by using concrete objects.	**Copying and extending** patterns help learners to see and understand the logic of how the pattern is made.
	Number Patterns	Copy, extend and describe simple number sequences forwards and backwards at least 50. Create and describe own number pattern.	**Provide apparatus for counting.**
SPACE AND SHAPE	**Position , orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	Recognise and name 3D objects - balls (spheres); box (prisms) Know the features of 3D objects in terms of - size - colour, objects that roll, objects that slide Build with concrete materials such as building blocks, recycling material and construction kits.	Expose learners to the 3D objects that are also relevant to the various other skills subjects. • Allow them to sort according to size, colour • Build with objects • Make balls, boxes, from clay, play dough • Consolidate through written exercises.
	2D shapes	Recognise and name 2D shapes - circles - triangles - squares **Features**: Size, colour, straight sides, round sides.	• Understand size, and deal with shapes in all respects that it may feature in the other skills subjects.
MEASUREMENT	**Time**	• Passing of time (order events, compare lengths of time, etc.). • Tell 12 hour time in hours on analogue and digital clock (hour, half an hour and quarter of an hour).	• describe time in terms of days, weeks, months- use calendar • teach before, after/ next, the following.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record using non-standard measurements • Use appropriate language. 'Heavy, light' • Prepare for mass as per various workshops learners will attend by using a mass metre scale, measuring cups, etc. in grams and kg.	• Bring bathroom scale to measure body mass. Collect data for graph work **extend the lesson to data handling.** • Allow learners to weigh themselves and record their weight on the board. Use pictograph/ bar graph, etc.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Allow for questions about what was done. Allow for drawing of the sorted data Sorting, representing and describing are good skills that support the pre number work.

		TERM 3 GRADE 1	
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATION-SHIPS	**Count objects**	• Estimate and check by counting out objects reliably to 30 • Encourage counting on and group counting.	• Estimate, count out to check. • Encourage learners to count on. • Subitising supports the grouping of objects for rapid counting. *NB: All counting skills developed will be practically applied in the different skills subjects.*
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 60 **Count forwards in** • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 and 60.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting. Counting is a vital skill for calculation work that follows.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare number	**Describe, order and compare objects and numbers to 15** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	• When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use the calendar to show the order of days, months, events • Use number line to show order and to compare numbers to 15.
	Place value	**Recognise the place value of at least two-digit numbers to 15** Partition/ split two-digit numbers into tens and ones to 13 = 10 and 3	• Use flard cards/ place value cards for this purpose.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
Problem solving	**Problem-solving techniques**	Use the following techniques when **solving problem**: • concrete apparatus e.g. counters • pictures to draw the story sum. • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	Allow learners to use a technique that they are comfortable with.
	Addition and Subtraction	Solve word problems in context and explain solutions to problems involving addition, subtraction with answers up to 14	Try to use problems that are current or concentrate on a particular skill subject that lends it to relevant word problems. Allow learners to ***do talk and record*** the word problems.
	Repeated addition leading to multiplication	Solve word problems in context and explain solutions problems involving repeated addition and equal sharing and grouping with whole numbers up to 14 and include remainders.	
	Grouping and sharing leading to division	Solve word problems in context and explain solutions to problems involving equal sharing and grouping with whole numbers up to 14 and with answers that may include remainders include rem.	
	Money	Recognise S A currency and solve problems including totals and change to R20 and cents.	Recognising SA currency. Shopping activities involving totals and change.
CONTEXT FREE	**CALCULATIONS (THE TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)**		
	Addition and Subtraction	• Add to14 • Subtract from 14 • Use appropriate symbols (+, -, =, □) Practise number bonds to 9	Regular practise in calculations work on the number line will support the learner to eventually have a mental number line and do mental calculations.
	Repeated addition leading to multiplication	• Repeated addition (i.e. adding the same number) to 14 that will lead to multiplication • Use appropriate symbols (+, -, =, □)	Show this on the number line so that learners see the pattern.
	Mental Maths	**Work within number range 0-15** • Rapid recall of number bonds to 9; add & sub facts to 14. • Order a given set of numbers. • Compare and order numbers up to 14.	Use number line, calendar, doubling and halving.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy, extend, describe simple number patterns to -70 • Count in 10s, 5s, 2s from any of its multiples to 70 • Count forwards & backwards in 1s from any number -70.	Use abacus, beads on the string or any concrete apparatus for extensive practise. Allow for games where counting is consolidated further.

SPACE AND SHAPE	**Position , orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Concentrate on doing practical exercises here.
	3D objects	Recognise and name 3D objects: - balls (spheres) - boxes (prisms) Know the features of 3D objects in terms of size and colour. Build 3D objects with concrete materials such as building blocks, recycling material.	Expose learners to the 3D objects that are also relevant to the various other skills subjects they may be doing.
MEASUREMENT	**Time**	• Passing of time: order events, compare lengths of time, etc. • Telling the time (morning afternoon, night, etc.) • Sequence events: yesterday, today, tomorrow. • Tell 12 hour time in hours on analogue and digital clock (hour, half an hour and quarter of an hour). • Know days of the week, months of year • Know how many days in _ weeks, months in __ years.	Use the calendar to describe time in terms of days, weeks, months • teach before, after/ next Discuss birthdays and events. Note: the calendar can be used for number work and also serves as a good resource for consolidation work.
	Length	Informal measuring- non- standard units • Estimate, measure, compare and record length using non-standard measures e.g. hand spans, string, pencils, and paces. • Use language to discuss comparison e.g. longer, shorter, taller, wider; • Formal measurement may happen if learners have a sense of length as completed informally: centimetres, metres. – use tape measure, ruler.	Practise with informal measurement is important and in preparation for the formal measuring in the other skills subjects. The teacher must liaise with the skills co ordinator so that he/she can prepare adequately here. e. g. measuring the length of metal in Welding, or pipes for plumbing, etc.
	Capacity/ Volume	• Compare and order the amount of liquid (volume) in containers. • Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml, litres, etc.	Do research regarding the skills subjects and direct your teaching to include the necessary skills and knowledge that need to be taught so that learners can acquire the appropriate skills for the practical subjects. Prepare well for the basics.

TERM 3 GRADE 1			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliably to 40 • Encourage group counting and counting on. • Subitising also happens where a group objects is noted with the eye and learners continue to count in this way.	NB: All counting skills developed will be practically applied in the skills subjects. The aim is to encourage a mental system for group counting in order to support all calculation work that will follow.
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 80 Count forwards and backwards in • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 and 80	• Use abacus, objects, beads on a string, number grids, etc. • Encourage games to promote counting activities.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, identify and read, number symbols 1 to 80 • Write number symbols 0 to 20 • Recognise, identify, read and write number names 0 to 10	Show groups of objects for learners to identify and match number symbols. Record this.
	Describe, order and compare number	**Describe, order and compare objects and numbers to 15** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	• Use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use counters and the number line to show order and to compare numbers to 15.
	Place value	**Recognise the place value of at least two-digit numbers to 15** • Partition/ split two-digit numbers into tens and ones to14 e.g. is 10 and 4	• Use flard cards/ place value cards for this purpose.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT –FREE CALCULATIONS			
	Problem-solving techniques	Use the following techniques when **solving problem**: • concrete apparatus e.g. counters • pictures to draw the story sum. • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	Allow learners to use a technique that they are comfortable with.
	Addition and Subtraction	Solve word problems in context and explain solutions to problems involving addition, subtraction with answers up to 14	Try to use problems that are current or concentrate on a particular skill subject that lends it to relevant word problems. Allow learners to ***do talk and record*** the word problems.
	Repeated addition leading to multiplication	Solve word problems in context and explain solutions problems involving repeated addition and equal sharing and grouping with whole numbers up to 15 and include remainders.	
	Grouping and sharing leading to division	Solve word problems in context and explain solutions to problems involving equal sharing and grouping with whole numbers up to 15 and with answers that may include remainders include remainders.	
	Money	Recognise S A currency and solve problems including totals and change to R20 and cents.	Practical shopping experience- use play money.
CONTEXT FREE CALCULATIONS (THE TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)			
	Addition and Subtraction	• Add to15 • Subtract from 15 • Use appropriate symbols (+, -, =, □) Practise number bonds to 9	Regular practise in calculations work on the number line will support the learner to eventually have a mental number line and do mental calculations.
	Repeated addition leading to multiplication	• Repeated addition (i.e. adding the same number) to 15 that will lead to multiplication • Use appropriate symbols (+, -, =, □)	Show this on the number line so that learners see the pattern.
	Mental Maths	**Work within number range 0-15** • Rapid recall of number bonds, addition and subtraction facts. • Order a given set of numbers. • Compare and order numbers up to 14.	Use number line, calendar, doubling and halving.

PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy number sequences to at least 80. • Counting forwards from any multiple of 10, 5, 2 between 0 and 80. • Create and describe own number patterns.	Complete number patterns… multiples, even, odd, etc. Use the number line.to show the pattern.
SPACE AND SHAPE	**Symmetry**	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	
MEASUREMENT	**Length**	Informal measuring- non- standard units • Estimate, measure, compare and record length using non - standard measures e.g. hand spans, string, pencils, paces. • Use language to discuss comparison e.g. longer, shorter, taller, wider; • Formal measurement: centimetres, metres. – use tape measure, ruler, etc.	• Prepare for skills subjects where Length is a concept to be mastered. • Move on to formal measures as required in the skills subjects e.g. measure the length of fabric for Needlework and clothing etc.
	Capacity/ Volume	• Estimate, compare and order the amount of liquid (volume) in containers. • Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml. litres, etc.	• Prepare for skills subjects where measurement in where capacity / volume is done. • Do research regarding the skills subjects and direct teaching to be all inclusive.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Allow them to answer questions about how and what was done. Let them draw the sorted arrangements. Sorting, representing and describing are good skills that support the pre number work.

TERM 3 GRADE 1			
LESSON 4 WEEK 7 & 8	**TOPICS**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability - 40 • Encourage grouping counting. *All counting skills developed will be practically applied in different* skills subjects.	• Estimate, predict count out to check. • Subitising also happens where the objects are grouped with the eye and counted easier.
	Count objects forwards and backwards	Count objects forwards and backwards in 1s from any number between 1 and 80. Count objects forwards and backwards in multiples of 10s, 5s, 2s from any number between 1 and 80.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, Identify and **read, write numbers symbols and number names 0-80**	• Show groups of objects for learners to identify and match number symbols and write this in exercise books.
	Describe, order and compare number	**Describe, order and compare objects to 15** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. - Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.
	Place value	**Recognise the place value of at least two-digit numbers to 15** • Partition / split two-digit numbers into tens and ones to15 = 10 and 5	• Use flard cards/ place value cards for this purpose.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT- FREE CALCULATIONS			
	Problem solving techniques	Use the following techniques when solving problems and explain solutions to problems • pictures to draw the story sum. • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus.	• Allow learners to strategise; also to talk about the methods employed to do the problem and to write down what they have done. (the doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 15	
	Repeated addition leading to multiplication Grouping and sharing	Solve word problems in context and explain solutions problems involving repeated addition and equal sharing and grouping with whole numbers up to 15 and include remainders.	• Try to use problems that are current or concentrate on a particular skill subject that lends it to relevant word problems. Allow learners to ***do talk and record*** the word problems.
CONTEXT FREE	**CALCULATIONS (THE TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)**		
	Addition and Subtraction	**Context – free calculations** - Add up 10 15 - Subtract from 15 - Use appropriate symbols (+, -, =, □) **Practise number bonds to 9**	• Number bonds must be practised everyday- this will support learners to see number patterns and extend on it.
	Mental Maths	• Work within number range 0-15 • Compare and order nos. up to 20.	• Rapid recall of number bonds.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy number sequences to at least 80. • Counting forwards from any multiple of 10, 5, 2 between 0 and 80. • Create and describe own number patterns.	• All the number work dealt with have natural patterning that can be explored e.g. Bonds up to 10, any number + 2, + 3, + 3, etc.
SPACE AND SHAPE	**Symmetry**	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	

MEASUREMENT	**Capacity/ Volume**	• Compare and order the amount of liquid (volume) in containers. • Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml. litres, etc.	Prepare and practise for measurement for practical skills measurement where capacity / volume must be mastered. Do research regarding the practical skills subjects and direct teaching to include the necessary here.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Allow them to answer questions about how and what was done. Let them draw the sorted arrangements. Sorting, representing and describing are good skills that support the pre number work.
TERM 3 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2

TERM 3

TERM 3 GRADE 2			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects forwards and backwards**	Count forwards and backwards in • 1s from any number between 0-160 • 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4 between 0-160	Use a string of counting beads, number grid, the abacus to practise counting in 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols and number names: 0-160. • Identify, recognise, read and write number names 0-60	Care should be taken when talking about three-digit numbers, e.g. one should say one hundred and forty-three' rather than 'one, four, three'.
	Describe, order and compare numbers	**Describe, order and compare numbers to 60** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. • Use ordinal numbers to show order, place or position.	Use of the calendar for ordering and position.
	Place Value	Recognise the place value of numbers **11-60.** • Decompose 2 digit numbers into multiples of tens &ones. • Identify and state the value of each digit.	Increase number range from 25-60. Use place value/ flard cards to show the building up of number. 43 = 4tens and 3 ones.
	Mental Maths	**Number range 0- 60** • Order, compare, rapid recall, calculation strategies are concentrated on. • Work on consolidating the rapid recall of addition and subtraction facts to 30 • Add and subtract multiples of 10 from 0-50	**Questions that can be asked:** - Use relationship between addition and subtraction. - Put larger number first in order to count on or back. - Halving and doubling - Building up and breaking down.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	• draw pictures or pack out concrete apparatus • build up and break down numbers • doubles and halves • number lines supported by concrete apparatus.	Encourage learners to include number symbols in their recordings, including in picture representations and ultimately the number sentences.
	Addition and Subtraction	Solve word problems and explain own solutions to problems involving +, - , ×, ÷ with answers up to 60.	
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 30.	Multiplication is grouping There are three main categories of problem situations that involve the multiplication of whole numbers: • Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? • Multiplicative comparison (e.g. three times as many boys as girls): which is represented as many to one correspondence • Rectangular arrays (e.g. three rows of four children): which are represented as rows and columns?
	Grouping and sharing	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping.
CONTEXT-FREE CALCULATIONS (TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)			
	Addition and Subtraction	• Addition to 60 • Subtraction from 60 **Practise number bonds to 15**	Practise is imperative here.
	Repeated addition leading to multiplication	• Multiply numbers 1-10 by 2, 5 and 4 • Use the appropriate symbols (+, -, =, □)	Allow learners to recognize and to make the connections with the respective number patterns.

	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Simple patterns made with physical objects. Simple patterns made with drawings of lines, shapes or objects.	Practise patterns done in skills subjects.
	Number Patterns	• Copy, extend, describe number sequences to - 160. • Sequences should show counting forwards & backwards in: - in 1s, from any number between 0 and 180 - 2s, 5s, 10s from any multiple of 2, 5, 10 between 0-160. • Create and describe own number patterns.	Sequences should show counting forwards and backwards in: A written sequence of numbers 100; 99; 98; 97; 96, on number lines, number grids, number chains.
SPACE & SHAPE (GEOMETRY)	**Position, orientation and views**	**Position and views.** • Match different views of the same everyday object **Position and Direction** • Follow directions to move around the classroom.	• Work on 3D can be consolidated through written exercises. • Know the language to direct movement : left, right, above, behind, etc.
MEASUREMENT	**Time**	• Know sequence of days of week • Know sequence of months of year • Place birthdays, religious festivals, public holidays, historical events on calendar. **Calculate length of time and passing of time** • Use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hrs, half hours.	The calendar and the clock work well here. Consider this option when doing Mental Maths as well.

TERM 3 GRADE 2			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Count objects reliably to at least 170. • Estimate and encourage grouping strategy to check and facilitate counting.	• Count in groups is the focus and preparation for understanding Calculations.
	Count objects forwards and backwards	Count forwards and backwards in • 1s from any number between 0 -170 • 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4 between 0 -170	Use string of counting beads, the abacus, no. grid to practise counting in groups of 10, 5, 2, 3, and 4.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols and number names: 0-170. • Identify, recognise, read and write number names 0-70	Care should be taken when talking about 3 digit numbers, for example one should say 'one hundred and thirteen –rather than 'one, one, three.
	Describe, order and compare numbers	**Describe, order and compare numbers to 70** • Compare, order whole numbers from smallest to greatest, vice versa and equal to. • Use ordinal numbers to show order, place or position.	Write the number symbols. One hundred and thirty-one Match number names to number symbols Complete number sequences
	Place Value	• Recognise the place value of numbers 11-70. • Decompose 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	**The value of the digits** - What number does the 7 represent in 67? (7ones - Use the place value cards to prove the statements.
	Mental Maths	**Number range 0- 70** • Ordering and comparing nos. Which is more: 14 or 41? • Rapid recall of -,+, to 30 • Quickly recall halving and doubles to 70 • More, less	Use the calendar, domino cards, etc. Use calculation strategies: halving, doubling, number line, building up and breaking down, relationship between addition and subtraction.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	**Use the techniques to solve the problems - 70** • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Learners are at different levels in counting and may use different techniques to show their answers. Encourage the recording of the written number sentences.
	Addition and Subtraction	Solve word problems and explain own solutions to problems involving +, - with answers up to 0-70.	Encourage the doing, talking and recording of problems.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 40. • Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? • Multiplicative comparison (e.g. three times as many boys as girls): which is represented as many to one correspondence • Rectangular arrays (e.g. three rows of four children) which are represented as rows and columns.	There are three main categories of problem situations that involve the multiplication of whole numbers: Problem situations for multiplication involve the following three numbers in a mathematical relationship: - The number of objects in each set - The number of sets - The total number
	Grouping and sharing leading to division	Solve word problems and explain own solution to problems that involve equal sharing and grouping up to 40.	As with multiplication, the basic understanding of division is equal sharing and grouping. **Grouping**: six children at tables of 2, how many tables? **Sharing** : sixteen children at four tables, how many at each? **Array :** Mongezi packs out 18 counters into 3 rows. How many counters in a row?
	Sharing leading to fractions	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼ , $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying. Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½), amongst 3 ($\frac{1}{3}$) etc.

CONTEXT FREE CALCULATIONS (THE TECHNIQUES FOR PROBLEM SOLVING ABOVE IS APPLICABLE.)			
	Addition and Subtraction	• Addition up to 70 • Subtraction from 70 • Use the appropriate symbols (+,-, =, □) Practise bonds to 18.	Practise is imperative here.
	Repeated Addition leading to Multiplication	• Multiply numbers 1-10 by 2, 5 and 4 • Use the appropriate symbols (+, -, =, □)	Allow learners to recognize and to make the connections with the respective number patterns.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• **Copy, extend and describe** in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or obj.	Make sure that learners can see the logic of the pattern is made, understand the pattern and can describe the pattern.
SPACE AND SHAPE (GEOMETRY)	**2D shapes**	**Range of shapes** Recognise and name 2D shapes • Circle, triangles, squares, rectangles **Features of shapes** Describe, sort and compare 2D shapes in terms of: • Size, colour, straight sides, round sides	Cut-out cardboard models of shapes. This allows learners to see different triangles, squares and rectangles placed in different positions. Sort shapes according to straight or round sides. Sort and group shapes according to triangles, squares, circles.
MEASUREMENT	**Length**	**Informal measuring** • Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record. • Describe standard measures: m, cm **Formal measuring** • Estimate, measure, compare order, record length using metres (metre sticks/ lengths of string) - standard unit of length.	Focus on estimating, measuring, comparing and recording lengths, widths and heights with informal units and formal units of measurement. Take account the skills subjects and practise length accordingly.

TERM 3 GRADE 2			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Count objects to at least 180 everyday objects reliably. • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	• Count in groups is preparation for understanding multiples. • Display number cards to show the number of objects counted. • Allow for the opportunity to see that a group of 180 can be composed in different ways e.g. • 14 groups of ten; 180 loose ones; or 2 groups of 70 and 35 groups of 2, etc.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-180. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4, between 0-180.	**Resources** String of counting beads; abacus to practise counting in groups of ten, 5, 2, 3, 4. Give opportunity to **count on** from a collection of objects e.g. 21; 24; 27; 30; …
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	**Describe, order and compare numbers to 75** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. • Use ordinal numbers to show order, place or position.	Use the language of ordering , comparing: first, second, third, fourth, fifth, sixth, etc. use the calendar. How many? As many as, the same number as… equal to, more than, less than, fewer than, greater than, smaller than, larger than... first, last, before, after, next, between ...
	Place Value	Recognise the place value of numbers 11-75. • Decompose 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	58 = 5 groups of tens and 8 loose ones This is supported by using the flard cards or place value cards. **The value of the digits** What number does the 6 represent in 67?

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	**Use the techniques to solve the problems** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	Methods used will depend on the counting levels the learners are at. Encourage the recording of the number sentence at all times.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 40.	
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 40. • Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? • Multiplicative comparison (e.g. three times as many boys as girls): which is represented as many to one correspondence • Rectangular arrays (e.g. three rows of four children): which are represented as rows and columns?	Multiplication is grouping. Problem situations for multiplication involve the following three numbers in a mathematical relationship: - The number of objects in each set - The number of sets - The total number
	Grouping and sharing leading to division	Solve word problems in context; explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders.	
	Money	Solving money problems involving totals and change to R70.	Recognition of SA currency and conversions into smaller denominations.
CONTEXT-FREE CALCULATIONS (THE SAME TECHNIQUES AS FOR PROBLEM SOLVING APPLY)			
	Addition and Subtraction	• Addition up to 75 • Subtraction from 75 • Use the appropriate symbols (+,-, =, □) Practise bonds to 20.	Practise is imperative here.
	Repeated addition leading to multiplication	• Multiply numbers 1-10 by 2, 5 and 4 • Use the appropriate symbols (+, -, =, □)	Allow learners to recognize and to make the connections with the respective number patterns.

	Mental Maths	Number Concept Range 75 • Rapid recall of bonds to 15 • Add and subtract multiples of 10 to 50 • Compare numbers to 75 e.g. 4 more or 4 less, 3 more or 3 less, etc.	Quick/ rapid recall and strategies are concentrated on here. Use relationship between addition and subtraction. Halving and doubling.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	**Copying, extending** and **describing** patterns help learners to see the logic, whether they understood the pattern and develop language & speaking skills.
MEASUREMENT	**Mass**	• Non-standard units e.g. blocks, bricks, etc. and unit e.g. grams, kilograms, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. • Describe standard measures: Kilogram (kg); gram (g) **Mass: Introducing formal measuring** Compare, order and record the mass of commercially packaged objects which have their mass stated in kilograms e.g. 2 kilograms of rice and 1 kilogram of flour. Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Learners should measure a variety of objects using a range of objects as informal units. Learners should be taught to always state the unit when giving the mass e.g. the book is has the same mass as 34 marbles. During independent work time learners can to estimate, measure, compare, order and record volumes and capacities with non-standard instruments and informal units of capacity.

	Capacity/ Volume	**Informal measuring** Non-standard e.g. cups, containers, bottles, spoons, etc. Use language to talk about the comparison e.g. more than/ less than, full/empty; Compare, order, estimate, measure, and record the capacity of containers. **Standard measures**: litre (l), millilitre (ml). Describe the capacity of the container by counting and stating how many of the informal units it takes to fill the container e.g. the bottle has the capacity of 4 cups.	Cooking and baking are useful a context in which learners can practise measuring capacity. Choose recipes in which measurements are given in cups, teaspoons and other informal units.
DATA HANDLING	**Collect and organise data**	Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	Learners need to know that it is important first to read the graph title, so that they know what the data is about. They also need to read the titles of the horizontal and vertical axis. Learners need to know that they must read along the bottom and side to see what the graph is about.

TERM 3 GRADE 2			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATION SHIPS	**Count objects**	• Estimate, check and count objects to at least 180 everyday objects in 10s, 5s, 2s, 3s, and 4s. • Encourage the grouping of objects to facilitate counting.	Give opportunity to **count on** from a collection of objects e.g. 75; 77; 79; 81; … See links between ordinal and cardinal counting. This is achieved when the counting is stopped on reaching the 75th object.
	Count objects forwards and backwards	Count forwards and backwards in 1s from any number between 0-180. Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4, between 0 -180.	**Resources:** String of counting beads; the abacus to practice counting in groups of ten, 5, 2, 3, 4.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise and read number symbols: 0-180. • Write number symbols 0-180. • Identify, recognise, read and write number names 0 – 75.	
	Describe, order and compare numbers	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa to 75	The number line remains an important image that is particularly helpful for assessing where a number is positioned in relation to other numbers. The number line image will also support learners in their mental strategies for calculations.
	Place Value	Recognise the place value of numbers 11-75. • Decompose 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Increase number range from 25-75. Use place value/ flard cards to show the number grouped and counted. Show different arrangements of numbers, for example, 48 as 48 loose ones, 4 tens and 8 loose ones and 4 groups of tens and 8 loose ones; and state the value of each digit… Know what the number 4 digit represents e.g. in 43?

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	• Use the techniques to solve the problems - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	Learners are at different levels in counting: those that count all tend to use **concrete apparatus and will count one object at a time or** draw **sticks/ the pictures** to solve problems. It is important that the pictures or drawings are accompanied by numbers as well as number sentences. Learners on level 3 will **build up and break down** numbers. This technique proves that there is a sense of number as learners **decompose and recompose** numbers to do their calculations. **Doubling and halving** This technique is quite sophisticated (level 3) and requires a strong number sense. **Refer to previous lesson.**
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-75.	
	Repeated addition leading to multiplication	Revise the previous lessons work	
	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. As with multiplication, the basic understanding of division is equal sharing and grouping - **grouping** (e.g. twelve children at tables of four, how many tables) - **sharing** (e.g. twelve children at four tables, how many at each)	
CONTEXT-FREE CALCULATIONS (THE SAME TECHNIQUES AS FOR PROBLEM SOLVING IS APPLICABLE)			
	REVISE THE PREVIOUS WEEKS ADDITION, SUBTRACTION AND REPEATED MULTIPLICATION TO 75 AND NUMBER BONDS TO 20		

PATTERNS, FUNCTIONS AND ALGEBRA	**Number Patterns**	Copy, extend and describe number sequences to at least 180 Sequences should show counting forwards, backwards in: - 1s from any number between 1 and 180 - 10s from any multiple of 10 between 1 and 180 - 5s from any multiple of 5 between 1 and 180 - 2s from any multiple of 2 between 1 and 180 Create and describe own patterns.	Learners can cover, colour, or circle numbers as they count on number lines and number grids. Fill in missing numbers on number lines, number grids, in number sequences, number chains
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views** **3D objects**	**Language of position** Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. **Position and direction** Follow directions to move around the classroom. Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders Recognise and name 2D shapes • circles • triangles • squares • rectangles	Use the language of size to compare different shapes e.g. draw a triangle inside the square, the triangle is smaller than the square. **Recognising and naming circles, triangles, squares and rectangles** Learners should work with circles and squares of different sizes and triangles with different shapes. Work with many different examples of shapes so that learners are exposed to shapes in the environment.
MEASUREMENT	**Capacity/ Volume: Informal measuring**	• Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare, order estimate, measure, record and describe.	A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. Capacity is the total amount that an object can hold (or the amount of space inside the object). Volume is the amount of space that something takes up.

DATA HANDLING	**Collect and organise data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph. • Analyse and Interpret data. • Answer questions about data in pictograph	Representing data via picto/ bar graph. Analyse and interpret data Learners answer questions about the picture graph, e.g. What TV programme is the most popular in our class? Etc.
TERM 3 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 1 and 2

(COMBINED)

TERM 3

TERM 3 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPICS**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects forwards and backwards**	Count objects forwards and backwards in • 1s from any number between 0 and 60 Count forwards in • 10s ,5s, 2s from any multiple of 10, 5, 2 between 0 & 60	• Count forwards & backwards in 1s from any number between 0 and 160. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any of the afore-mentioned multiples between 0 -160.	String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	Identify, recognise, read, write numbers symbols and number names 0-60	Identify, recognise, read, write number symbols and number names 0-160.	Use place value cards to pack out correctly.
	Describe, order and compare numbers/ objects	**Describe, order and compare objects and number to15** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare **numbers** according to smaller than, greater than, less than, is equal to.	**Describe, order and compare numbers to 60** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. • Use ordinal numbers to show order, place or position.	Use of the calendar for ordering and position. This aspect of number work is important
	Place Value	Recognise the place value of at least two-digit numbers to 15. Partition two-digit numbers into tens and ones e.g. 12 is 10 and 2	Recognise the place value of numbers 11-60. Decompose 2 digit numbers into multiples of tens and ones. Identify and state the value of each digit.	Increase number range from 25-60. Use **place value/ flard cards** to show the numbers grouped and counted. Show different arrangements of numbers, for example, 47 as 47 loose ones, 4 tens and 7 loose ones and 4 groups of tens and 7 loose ones; and state the value of each digit. In 43 the 4 digit represents 40/ 4T / 4tens.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem Solving techniques	- concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus.	- draw or pack out concrete apparatus - build up & break down numbers - doubles and halves - number lines supported by concrete apparatus.	All techniques used must be recorded in learner class work books. This will enable the teacher to establish if intervention is required.
	Addition and Subtraction	• Solve word problems and explain solutions to +, - to answer 12.	• Solve word problems in and explain own solutions to problems involving +, - with answers up to 60.	Allow learners to talk about the methods they use.
	Repeated addition leading to multiplication	• Solve word problems and explain own solution to problems involving repeated addition with answers up to 12.	• Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 30.	• There are three main categories of problem situations that involve the multiplication of whole numbers: - Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? - Multiplicative comparison (e.g. three times as many boys as girls): which is represented as many to one correspondence - Rectangular arrays (e.g. three rows of four children): which are represented as rows and columns?
	Money	• Recognise SA currency 5c, 10c, 20c, 50c, R1, R2, R 5 • Solve problems with totals & change from R20.	• Solve money problems involving totals and change to R60	• Learners practise recognising money and change rands and cents into smaller denominations. **E.g. s** Share 50c equally amongst four children. Bubble gum sweets cost 10c each. Busi spent 50c. How many bubble gum sweets did she buy?

CONTEXT-FREE CALCULATIONS (THE ABOVE PROBLEM SOLVING TECHNIQUES APPLY)				
	Addition and Subtraction	• Addition up to 12 • Subtraction from 12 **Number bonds to 9**	• Addition up to 60 • Subtraction from 60 **Number bonds to 15**	
	Repeated addition leading to multiplication	• Repeated addition (i.e. adding the same number) to 12 that will lead to multiplication • Use appropriate symbols (+, -, =, □)	• Multiply number 1 to 10 by 2, 5 and 4 • Use appropriate symbols (+. - , =, □)	
	Mental Maths	**Number range 0-15** • Rapid recall of number bonds to 9 • Rapid recall of +, – facts • Compare and order numbers up to 12.	**Number range 0- 60** • Work on consolidating the rapid recall of addition and subtraction facts to 30 • Add and subtract multiples of 10 from 0-50	Use calculation strategies to add and subtract efficiently - Use relationship between addition and subtraction. - Put larger number first in order to count on or back. - Halving and doubling - Building up and breaking down.
	Fractions		• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	Learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend simple patterns by using concrete objects.	Copy, extend and describe in words simple patterns made with physical objects /drawing of lines, shapes or objects.	**Copying, extending and describing** will enable the teacher to check if the learners understand the logic of the pattern.
SPACE & SHAPE (GEOMETRY)		• Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	**Position and views.** • Match different views of the same everyday object. **Position and direction** • Follow directions to move around the classroom.	• Work on 3D can be consolidated through written exercises. • Know the language to direct movement : left, right, above, behind, etc.

	3D objects	Recognise and name 3D objects know the **features of 3D** objects in terms of • size • colour, objects that roll, objects that slide Build with concrete materials such as building blocks, recycling material and construction kits.	Range of objects Recognise and name 3D objects in the classroom. • ball shapes (spheres) • box shapes (prisms) • cylinders	Expose learners to the 3D objects that are also relevant to the various other skills courses they will be attending. Allow them to sort according to size, colour Build with objects Make balls, boxes, from clay, play dough Consolidate through written work.
	2D shapes	Range of shapes **Recognise and name 2D shapes:** circles, triangles, squares **Features**: size, colour, straight sides, round sides.	Range of shapes **Recognise and name 2D shapes:** circles; triangles; squares; rectangles **Features**: size, colour; straight sides; round sides. Describe, sort and compare 2D shapes in terms of**:**	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relates to the workshops offered.
	Symmetry	Recognise symmetry in own body, draw a line of symmetry in geometrical and non-geometrical shapes.	Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	Look for lines of symmetry in concrete objects and pictures. Shape has a line of symmetry; they can test by folding the piece of paper and seeing whether the two halves match exactly. The folded line is the line of symmetry.
MEASUREMENT	**Time**	Passing of time (order events, compare lengths of time, etc.). • morning afternoon, night, • 12 hour time in hours on analogue and digital clock (hour, half an hour and quarter of an hour).	Telling the time • Sequence days of week • Sequence months of year • Place birthdays, religious festivals, public holidays, historical events on calendar Calculate length of time and passing of time Use calendars to calculate and describe length of time in days or weeks. Use clocks to .calculate length of time in hours of half hours.	Use the calendar. Have a working clock in the classroom.

TERM 3 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability -30	• Estimate and check by counting objects to at least 170 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s.	Count in groups is the focus and preparation for understanding: multiples; place value; number names Counting skills necessary for calculating Learners should also be counting back from any given multiple.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	Recognise, Identify and read, write numbers symbols and number names 0-70.	Recognise, Identify and read,, write number symbols and number names: 0-170.	Care should be taken when talking about three-digit numbers e.g. Say one hundred and twenty-five and *not one twenty five*.
	Describe, order and compare objects to 15	• Compare, order, and describe **objects / numbers** according to many, few, most, least, more than, less than, the same as, just as many, is equal to • Use **number line to describe and order numbers** from smallest to greatest and greatest to smallest and position of number.	Describe, compare, whole numbers using smaller than, greater than, more than, less than and is equal to, up to 70. • Order whole numbers from smallest to greatest and vice versa.	Develop/ organise a number game to enhance teaching number.
	Place Value	Recognise the place value of at least two-digit numbers to 15 • Partition two-digit numbers into tens and ones e.g. 13 • is 10 and 3 ones	Recognise the place value of numbers 11-70. • Decompose 2- digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	- show different arrangements of numbers, for example, 65 can be shown as 65 loose ones, 6 tens and 5 loose ones and 6 groups of ten and 5 loose ones; **The value of the digits** - What is the value of the 5 in 57? - Use the place value/ flard cards.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem Solving techniques	- concrete apparatus - pictures - draw the sum. - building up, breaking down numbers - doubling and halving - number lines supported by concrete apparatus	- drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus	• Learners are at different levels in counting and may use different techniques to show their answers. • Encourage written number sentences.
	Addition and Subtraction	Solve word problems in context and explain solutions to problems involving + and – with answers up to 13	Solve word problems in context and explain solutions to problems involving + and – with answers up to 70	Encourage the doing, talking and recording of problems solved.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition with answers up to 15.	Solve word problems in context, explain own solution to problems involving repeated addition to multiplication with answers up to 40. Problem situations for multiplication involve the following three numbers in a mathematical relationship: - The number of objects in each set - The number of sets - The total number	Understanding that multiplication is grouping. - Equivalent groups (e.g. 3 tables, each with 4 children): which are represented as repeated sets? - Multiplicative comparison (e.g. 3 times as many boys as girls): which is represented as many to one correspondence - Rectangular arrays e.g. 3 rows of 4 children which are represented as rows and columns. There are three main categories of problem situations that involve the multiplication of whole numbers: Each of these situations can be associated with particular ways of asking a question.

	Grouping and sharing leading to division	Solve word problems, explain solutions to equal sharing and grouping with whole numbers up to 13 and include remainders.	Solve word problems and explain own solution to problems that involve equal sharing and grouping up to 40.	**Sharing:** I have 30 pencils to share equally amongst three how many will each get? **Grouping** A baker bakes 30 cupcakes. She puts 6 cupcakes in every box. How many boxes can she fill? **Array** Mongezi packs out 20 counters into 10 rows. How many counters in a row?
CONTEXT-FREE CALCULATIONS (THE ABOVE PROBLEM SOLVING TECHNIQUES APPLY)				
	Addition and Subtraction	• Addition up to 13 • Subtraction from 13 • Use the appropriate symbols(+, -, =, □) Practise bonds to 9	• Addition up to 70 • Subtraction from 70 • Use the appropriate symbols(+, -, =, □) Practise bonds to 18	- Allow learners to choose a method that- they are comfortable with. - Give the opportunity to do talk and record their findings - Peer teaching happens this way.
	Repeated addition leading to multiplication	• Repeated addition (i.e. adding the same number) to 13 that will lead to multiplication • Use appropriate symbols (+, -, =, □)	• Multiply number 1 to 10 by 2, 5 and 4 • Use appropriate symbols (+. -, =, □)	
	Sharing leading to fractions		Sharing leading to fractions. Solve word problems in context, explain own solutions to problems involving equal sharing leading to ½, ¼ , $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show the relationship to multiplication e.g. 20 divided by 10 rows = 2 check by multiplying. Do the + and -. Allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc. Show on the number line.
	Mental Maths	**Number range 0-15** Rapid recall of no bonds to 9 Compare and order nos. up to 20.	**Number range 0- 70** Order and compare nos. Which is more: 14 or 41? Rapid recall of -,+, to 30 Quickly recall halving and doubles to 70	Regular practise is imperative here. Test the concepts taught to ascertain whether learners understanding is correct.

	Fractions		• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend simple patterns by using concrete objects	**Copy, extend and describe** in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Patterns are prominent in every skills subject. Practise this skill
	Number patterns	Copy, extend, describe simple number patterns to -60 • Count in 10s, 5s, 2s from any of its multiples to 60 • Count forwards and backwards in 1s from any number -60.	Copy, extend and describe number sequences to at least 180. Show counting forwards and backwards in: • 1s, from any number between 0 and 180 • 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0 -180 • Create and describe own number patterns.	• Use abacus, beads on the string or any concrete apparatus for extensive practise. • Allow for games where counting is further consolidated.

MEASUREMENT	**Length**	**Informal measuring non-standard units** • Estimate, measure, compare and record length using non- standard measures e.g. hand spans, string, pencils and paces.	**Informal measuring** • Compare, order estimate, measure, describe and record non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. **Formal measuring** • Estimate, measure, compare order and record length using metres (metre sticks/ lengths of string) as the standard unit of length. • Describe standard measures: m, cm	Focus on estimating, measuring, comparing and recording lengths, widths and heights with informal units and formal units of measurement. Both these methods of measuring length can be practised in independent work time throughout. Take account the workshops learners attend and the units of measurement they need to know.
DATA HANDLING	**Collect and organise data**	• Collect and sort learners body mass. • Draw the pictograph for the above.	• Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	Know how to label the graph (title, categories, axis, key) The pictures or the spaces for pictures need to be the same size, know that it is important first to read the graph title, so that they know what the data is about. Read from left to right and bottom to top.

TERM 3 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability to 40 • Encourage grouping counting.	• Count objects to at least 180 everyday objects reliably. • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	• Count in groups is preparation for understanding multiples. • Display number cards to show the number of objects counted. • Allow for the opportunity to see that a group of 180 can be composed in different ways e.g. • 14 groups of ten; 180 loose ones; or 2 groups of 70 and 35 groups of 2, etc.
	Count objects forwards and backwards	Count objects forwards and backwards in1s from any number between 0 and 80 Count forwards and backwards in • 10s ,5s,2s from any multiple of 10, 5, 2 between 0 - 80	Count forwards and backwards in 1s from any number between 0-180. Count forwards and backwards in • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4, between 0-180.	**Resources:** String of counting beads; the abacus to practice counting in groups of ten, 5, 2, 3, 4. Give opportunity to **count on** from a collection of objects e.g. 21; 24; 27; 30;
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	Recognise, Identify and read, write numbers symbols 0-80	Identify, recognise and read number symbols: 0-180. • Write number symbols 0-180. • Identify, recognise and read number names 0 – 75. • Write number names 0-75.	See previous notes for solid number work here.
	Describe, order and compare numbers	Recognise, Identify and read, write numbers symbols and number names 0-80 Write number names 1-10	Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. Order whole numbers from smallest to greatest and vice versa.	Use the language of ordering and comparing: first, second, third, fourth, fifth, sixth, etc. How many? As many as, the same number as… Equal to, more than, less than, fewer than, greater than, smaller than, larger than...

	Place Value	**Recognise the place value of at least two-digit numbers to 15** • Partition two-digit numbers into tens and ones to14 e.g. is 10 and 4	Recognise the place value of numbers 11-75. • Decompose 2 digit numbers into multiples of tens & ones. • Identify and state the value of each digit.	58 = 5 groups of tens and 8 loose ones This is supported by using the flard / place value cards **The value of the digits** What number does the 7 represent in 67? Learners should use the place value cards to prove their statements.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Addition and Subtraction	Solve word problems in context and explain solutions to +, - to answer 15.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 75.	**Problem Solving technique/methods** - concrete apparatus - draw pictures building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus. Equivalent groups e.g. three tables, each with four children, which are represented as repeated sets? Multiplicative comparison e.g. three times as many boys as girls, which is represented as many to one correspondence.
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition with answers -15	Solve word problems in context and explain own solution to problems involving repeated addition & to multiplication with answers up to 75.	
	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems involving equal sharing and grouping up to 15 with answers that may include remainders.	Solve word problems in context and explain own solution to problems involving equal sharing and grouping up to 40 with answers that may include remainders.	
CONTEXT-FREE CALCULATIONS – THE PROBLEM SOLVING TECHNIQUES ARE USED				
	Addition and Subtraction	• Addition to 15 • Subtraction from 15 **Practise number bonds to 10.**	• Addition to 75 • Subtraction from 75 **Practise number bonds to 20**.	Rectangular arrays e.g. three rows of four children, which are represented as rows and columns? **Use the appropriate symbols(+, -, =, □)**
	Repeated addition leading to multiplication	• **Repeated addition (i.e. the same number) to 15** • Use the appropriate symbols(+, ×, =, □)	• Multiply numbers to 10 by 2, 5, 4 • Use the appropriate symbols(+, -, =, □)	• Expose the relationship with the multiplication tables. • Allow learners to see the beauty of the number patterns and how to extend on it.

	Money	Recognise SA currency 5c, 10c, 20c, 50c, R1, R2, R 5, R10 Solve problems with totals and change from R20.	5c, 10c, 20c, 50c, R1, R2 R5.00; banknotes R10, R20, R50 Solve money problems involving totals and change to R70 and cents up to 50c.	Learners practise recognising money and change money into smaller denominations.
	Mental Maths	• Rapid recall of no bonds- 8 • Compare and order nos. up to 20.	Compare numbers to 75 e.g. – 4 more or 4 less, etc. • Halving and doubling.	Quick/ rapid recall and strategies are concentrated on here. Ensure thorough consolidation of concepts.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy number sequences to at least 80. • Count forwards from any multiple of 10, 5, 2 between 0 & 80. • Create and describe own number patterns.	Copy, extend and describe number sequences to at least 180. Sequences should show counting forwards and backwards in: • in 1s, from any number between 0 and 180 • 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0-180 • Create and describe own number patterns.	Complete number patterns…multiples, even, odd, etc.
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views:**	Apply the language of position learnt when giving directions to complete a task. Left/right; up/down; in/out; near/far; under/over; front/back, etc.	• Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.	Ask learners to record how they will navigate towards the workshop areas / to the principal's office, etc. • List instructions to get to the tuck shop. • Practise the position words by putting a list of these words on the word wall.
	Symmetry	Recognise symmetry in own body, draw a line of symmetry in geometrical and non-geometrical shapes.	Recognise symmetry in own body, draw a line of symmetry in geometrical and non-geometrical shapes.	If learners are not sure whether a picture or shape has a line of symmetry, they can test by folding the piece of paper and seeing whether the two halves match exactly.

MEASUREMENT	**Mass**	Informal measuring • Estimate, measure, compare, order, record using non - standard measurements • Use appropriate language. Heavy, light • Prepare for mass as per various workshops learners will attend by using a mass metre scale, measuring cups, etc. in grams and kg.	• Non-standard units e.g. blocks, bricks, etc. and unit e.g. grams, kilograms, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Describe standard measures: Kilogram (kg); gram (g) **Introducing formal measuring** Compare, order and record the mass of e.g. 2 kilograms of rice and 1 kilogram of flour. Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Prepare and practise for measurement in the skills subjects where length is a concept that has to be mastered. Bring bathroom scale to measure body mass and collect data for graph work in data handling lesson. Allow learners to weigh themselves and record their weight on the board. Use pictograph/ bar graph, etc. **Informal measurement of mass using a balance and non-standard units** Learners can learn all the principles and practice of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units.
	Capacity /Volume		**Informal measuring** Non-standard e.g. cups, bottles, spoons, etc. Use language to talk about the comparison e.g. more than/ less than, full/empty. Order, estimate, measure, compare, order and record the capacity of containers. Describe the capacity of the container by counting and stating how many of the informal units it takes to fill the container e.g. the bottle has the capacity of 4 cups. **Standard measures**: litre (l), (ml)	During independent work time learners estimate, measure, compare, order and record volumes and capacities with non-standard instruments and informal units of capacity. Cooking and baking are useful a context in which learners can practise measuring capacity. Choose recipes in which measurements are given in cups, teaspoons and other informal units.

TERM 3 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 4 WEEK 7 & 8	**TOPIC**	**GR1 CONTENT**	**GR2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and encourage group counting out of objects reliability - 40	• Estimate and count to at least 180 everyday objects in 10s, 5s, 2s, 3s, and 4s. • Encourage the grouping of objects to facilitate counting.	• Count in groups is preparation for understanding multiples. • Allow for the opportunity to see that a group of 180 can be composed in different ways e.g. • 18 groups of ten; 180 loose ones; or 2 groups of 90 and 3 groups of 60, etc.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 1 and 80. • Count forwards and backwards in 10s, 5s, 2s from any multiple of 10, 5, 2 between 1 and 80.	• Count forwards and backwards in 1s from any number between 0 and 180. • Count forwards and backwards in 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4 between 0 and180.	Use abacus, objects, beads on a string, etc. Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare objects/ numbers	**Describe, order and compare objects to 15** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. - Show the above on the number line.	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa to 75	• How many? As many as, the same number as… Equal to, more than, less than, fewer than, greater than, smaller than, larger than... first, last, before, after, next, between ... • The cardinal aspect of a number is used to describe the number in a set; the ordinal aspect of a number refers to a number in relation to its position in the set. E.g. Colour the tenth circle yellow.

	Place value	Recognise the place value of at least two-digit numbers to 15 • Partition two-digit numbers into tens and ones to14 e.g. is 10 and 4	Recognise the place value of numbers 11-75. • Decompose 2 digit numbers into multiples of 10s and 1s. • Identify and state the value of each digit.	Use flard cards/ place value cards for this purpose. **Engage learners in** written activities that build and consolidate the concept of **groups of ten and loose ones/units**; and the value of a digit.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition with answers up to 15.	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 75.	**Use the techniques to solve the problems** • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.
	Grouping and sharing leading to division	Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping - **grouping** e.g. twelve children at tables of four, how many tables - **sharing** e.g. twelve children at four tables, how many at each
	Sharing leading to fractions	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying; Do the **+ and -** and see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
CONTEXT-FREE CALCULATIONS (THE SAME TECHNIQUES AS FOR PROBLEM SOLVING ABOVE ARE USED)				
	Repeated addition leading to multiplication	• **Repeated addition (i.e. the same number) to 15** • Use the appropriate symbols(+. =. □)	• Multiply numbers to 10 by 2, 5, 4 • Use the appropriate symbols(+, -, ×,=,□)	

	Mental Maths	**Work within number range 0-15** • Rapid recall of no bonds to 6 • Compare and order nos. up to 20.	**Number range 0- 75** Order and compare numbers to 75 Rapid recall of addition and subtraction facts to 15	**Questions that can be asked:** **Number names and symbols**. **More or less** What is 3 less than 25?; 1 more than 39? What is the 5th day of the school week? What is the 5th month of the year? **Ordering and comparing** - Which is more: 22 or 32? - Give a number between 30 and 32. - Addition & subtraction facts to 50
SPACE AND SHAPE (GEOMETRY)	**Position and direction**	• Apply the language of position learnt when giving directions to complete a task. • Follow directions around the classroom, school.	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.	Concentrate on the correct language usage. Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. List instructions to get to the tuck shop. Practise the position words by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.
	Symmetry	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	Learners should look for lines of symmetry in concrete objects and pictures.

MEASUREMENT	**Capacity/ Volume: Informal measuring**	• Compare and order the amount of liquid (volume) in containers. • Standard units of measurement will apply here, use a measuring jug, measuring cups, ml. litres, etc.	• Non-standard e.g. cups, containers, bottles, spoons etc. • Compare and order estimate, measure, record and describe.	A bottle can have a capacity of four full cups, but it may not be filled to its full capacity. Capacity is the total amount that an object can hold (or the amount of space inside the object). Volume is the amount of space that something takes up.
	DATA HANDLING	**Collect and organise data**	• Collect and sort everyday objects • Draw a picture of the collected objects • Answer questions about how the sorting was done (process). • Describe the sorted collection.	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph. • Analyse and Interpret data. • Answer questions about data in pictograph.
TERM 3 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

MATHEMATICS

GRADE 3

TERM 3

TERM 3 GRADE 3			
LESSON 1 WEEK 1 & 2	**TOPICS**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects forwards and backwards**	• Count forwards and backwards in 1s - 600 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 600. • Count in 20s, 25s, 50s,100s to at least 1000	**Resources:** String of counting beads, number grid, the abacus . Count in groups.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 600 • Identify, recognise, read and write number names – 300	Organize a game to sharpen the necessary skills regarding number symbols and number names.
	Describe, order and compare numbers	**Describe compare and order number 0- 600** • Compare whole numbers up to 600 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 600, smallest to greatest; greatest to smallest. **Ordinals to 31st**	Use flard cards/ place value cards to pack out number. Use calendar to influence ordinal numbers.
	Place Value	**Know place value to 600** • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number • 485 =4 hundreds, 8 tens, 8 ones • Know what the 4 digit represents in 542 i.e. 4 tens/ 40/ forty.
SOLVE PROBLEMS IN CONTEXT			
	Problem Solving techniques	**Use the following techniques to solve the problems to 600** - build up & break down numbers - doubles and halves - number lines - rounding off in tens	Allow learners to show tell and record all their workings/ techniques used for working out of sums as the weaker ones often learn better in this way.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 60.	Learners should be encouraged to write number sentences for all the word problems.

	Grouping and sharing leading to division	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to 60 with answers that may include remainders.	The basic understanding of division is equal sharing and grouping **grouping** (e.g. twelve children at tables of four, how many tables)
	Sharing leading to fractions	Solve and explain solutions to practical that problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	**sharing** (e.g. twelve children at four tables, how many at each) etc.
	Money	Solve money problems involving totals in rands and cents Change between rands and cents.	Practical shopping activities. Use play money.
CONTEXT-FREE CALCULATIONS			
	Addition and Subtraction	• Add up to 600 • Subtract from 600 • Use the appropriate symbols (+, -, =, □) Practise number bonds to 30	**Use the following techniques to solve the problems 600** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens
	Repeated addition leading to multiplication	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, =, □)	
	Division	• Divide numbers to 99 by 2, 4, 5, 10, 3 • Use the appropriate symbols(÷, =, □)	
	Mental Maths	**Number range 0-600** • Order, compare, numbers to 200 • Rapid recall of +, -,×,÷ facts to 20	**Mental strategies:** - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	• Copying, extending, describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly.
SPACE & SHAPE (GEOMETRY)	**Position, orientation and views**	Read, interpret and draw informal maps, or top views of a collection of objects, find objects on maps.	**Position and direction** Follow directions from one place on an informal map.
		3D objects: **2D shapes** **Features of shapes**	Range of objects Recognise and name **3D objects** in the classroom. • ball shapes (spheres), box shapes (prisms), cylinders, cones Recognise and name **2D shapes** - circles, triangles, squares, rectangles Describe, sort and compare 2D shapes in terms of**:** - size, colour, straight sides, round sides, shape
MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Familiar with calendars by the continual placing of birthdays; religious festivals; historical events; school events; and public holidays on the calendar. Tell time in hours & half hours.

TERM 3 GRADE 3			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	Estimate and count in groups to at least 650 objects and count reliably. • Encourage grouping of objects to facilitate counting.	Counting in groups and **counting on** is focus. Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	**Count forwards and backwards in** • 1s to 650 • multiples of 10s, 5s, 2s, 3s,4s, to at least 650. • 20s, 25s, 50s,100s to at least 1000	**Resources** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s, 20s, 50s, 25s.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 1000 • Identify, recognise and read number names – 650	
	Describe, order and compare number s	**Describe compare and order number 0- 650** • Compare whole numbers up to 650 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 650. • Use ordinal numbers to show order- 31st.	Use flard cards/ place value cards to pack out number. Use calendar to influence teaching of ordinal numbers.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 309 =3 groups of hundreds, 0 tens, 9 loose ones. Know that the 4 digit in 479 represents 4 hundreds.
SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving	**Use the following techniques to solve the problems 700** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens	• Allow learners to show tell and record all their workings. • Allow learners to show techniques for working out of sums. Peer teaching happens in this way.

	Grouping and sharing leading to division	Solve number problems in and out of context; explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	Encourage learners to learn tables – see the relationship between × and ÷ The inverse property can be highlighted here.
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***
	Money	• Solve money problems involving totals and change.	Learners practise change rands and cents into smaller denominations.
CONTEXT-FREE CALCULATIONS			
	Addition and Subtraction	• Add up to 700 • Subtract from 700 • Use the appropriate symbols (+, -, =, □) Practise number bonds to 30	**Use the following techniques to solve the problems 600** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens
	Repeated addition leading to multiplication	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, =, □)	
	Division	• Divide numbers to 99 by 2, 4, 5, 10, 3 • Use the appropriate symbols(÷, =, □)	
	Mental Maths	**Number Concept: Range 0- 600** • Ordering and comparing to 200, say which is more/ less • Rapid recall of +, -, facts to 20 • Add or subtract multiples of 10 from 0-100	**Mental Strategies:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between addition and subtraction • Use the relationship between multiplication and division.
	Fractions	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	Once a good number sense has been developed learners will be able to note that fractions are pieces of one whole.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• **Copy, extend and describe** in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	It is usually easier for learners to talk about the pattern after they have made it. Ask the following questions to access this: - What shapes do you see? - Are they all the same colour? - Are all the shapes the same size? etc. Patterning features in all practical subjects.
SPACE AND SHAPE	**Symmetry**	• Determine the line of symmetry through paper folding and reflection.	Note that a line of symmetry is not always a vertical line.
MEASUREMENT	**Length**	**Formal measuring** • Estimate, measure and compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres using a ruler. • Investigate the distance around 2D shapes- Perimeter.	• Practical work is emphasized. • Note the measurement skills in Length required in the skills subjects. • Measure perimeter around shapes and objects.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	• Compare and record all measurements and talk about, ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or lengths measured and to plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organize data provided in a list or tally or table in a bar graph. • Represent data on bar graph.

		TERM 3 GRADE 3	
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATION-SHIPS	**Count objects**	• Estimate and count, group to at least 700 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Learners must see 480 objects and suggest ways of counting it. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 700 • Count forwards and backwards in 10s, 5s, 2s, 3s, 4s, from any multiple of 10, 5, 2, 3, 4, to at least 700. • 20s, 25s, 50s,100s to at least 1000	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 309 =3 groups of hundreds, 0 tens and 9 loose ones; Know the 4 digit in 479 is 4 hundreds.
SOLVE PROBLEMS IN CONTEXT AND CONTEX- FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve the problems to 800** - build up & break down numbers - doubles and halves - number lines - rounding off in tens	Allow learners to show tell and record all their workings/ techniques used for working out of sums. Peer teaching happens indirectly in this way.
	Addition and Subtraction	Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 800o	
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75.	Learners should be encouraged to write number sentences for all the word problems.

	Grouping and sharing leading to division	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	The basic understanding of division is equal sharing and grouping **grouping** (e.g. twelve children at tables of four, how many tables)
	Sharing leading to fractions	Solve and explain solutions to practical that problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	**sharing** (e.g. twelve children at four tables, how many at each) etc.
	Money	Solve money problems involving totals in rands and cents Change between rands and cents.	Practical shopping activities. Use play money.
CONTEXT-FREE CALCULATIONS			
	Addition and Subtraction	• Add up to 800 • Subtract from 800 • Use the appropriate symbols (+, -, =, □) Practise number bonds to 30	**Use the following techniques to solve the problems 600** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens
	Repeated addition leading to multiplication	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, =, □)	Allow learners to show tell and record all their workings/ techniques used for working out of sums. Peer teaching happens indirectly in this way.
	Division	• Divide numbers to 99 by 2, 4, 5, 10, 3 • Use the appropriate symbols(÷, =, □)	
	Mental Maths	**Number Concept: Range 0-** 700 • Ordering and comparing to 200. • Rapid recall of +, -, to 70 • Add or subtract multiples of 10 from 0-100	Mental Strategies as in previous lesson.

	Fractions	• Recognise fractions in diagrammatic form • Recognise that five fifths make one whole, three thirds equals one whole.	A good number sense is needed to acknowledge the pieces of one whole.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range of patterns - Regularly increasing patterns - Decreasing patterns	• Copying, extending and describing the patterns helps to see if learners have understood the logic and have interpreted the pattern correctly. Learners can make patterns by threading beads. See skills subjects.
SPACE AND SHAPE (GEOMETRY)	**3D objects**	**Range of objects** Recognise, name 3D objects in the classroom and in pictures. • ball shapes (spheres) • box shapes (prisms) • cylinders • pyramids • cones **Features of objects:** Describe, sort, compare 3D objects in term of - 2D shapes that make up the faces of 3D objects. - flat or curved surfaces	Work on 3D can be consolidated through written exercises. Learners can continue to build 3D objects from recycled material or construction kits.
	2D shapes: Range of shapes	**Range of shapes** - circles, triangles, squares, rectangles **Features of shapes** Sort and compare 2Dshapes in terms of: • shape • straight sides • round sides	Focus on the kind of side each shape has. Talk about shapes whether they have round or straight sides. Draw circles, squares, rectangles and triangles. Consolidate through written work.

MEASUREMENT	**Length**	**Non-standard measures** e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order, estimate, measure, describe and record. • Describe standard measures: metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Take into account the number range appropriate for the term, as well as the range of problems types appropriate for the term. Finally they can measure a variety of lengths or distances in metres.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non-standard measures. E.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2 kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Informal measurement of mass using a balance and non-standard units Learners can learn all the principles and practise of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units.

TERM 3 GRADE 3			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and count, group to at least 700 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Learners must see 620 objects and suggest efficient ways of counting. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s to 700 • Count forwards and backwards in multiples of 10s, 5s, 2s, 3s, 4s, to at least 700. • 20s, 25s, 50s, 100s to at least 1000.	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 1000 • Identify, recognise and read number names – 700.	See previous notes for solid number work here.
	Describe, order and compare numbers	**Describe compare and order number 0-700** • Compare whole numbers up to 700 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 700. • Use ordinal numbers to show position.	See previous lesson's notes.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of 100s, 10s and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens &9 loose ones; • Know the 4 digit in 479 is 4 hundreds.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve the problems to 800** • build up & break down numbers • doubles and halves • number lines s • rounding off in tens	Allow learners to show, tell and record all their findings. Peer learning occurs when learners verbalise their findings
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75.	Note that multiplication is the same as repetitive addition of the same number,(6+6+6+6+6=30) grouping, hence the emphasis is initially on addition. It is the inverse of division and it is commutative. E.g. 6 × 5= 5 × 6 = 30 Doubling = × 2. Allow learners to see the patterns.
	Grouping and sharing leading to division	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse of × is ÷ highlight this!. Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	
CONTEXT-FREE CALCULATIONS			
	Addition and Subtraction	• Add up to 800 • Subtract from 800 • Use the appropriate symbols (+, -, =, □) Practise number bonds to 30	**Use the following techniques to solve the problems 600** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens

	Repeated addition leading to multiplication	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, =, □)	Show the number patterns formed. Highlight the multiplication tables and the inverse thereof
	Division	• Divide numbers to 99 by 2, 4, 5, 10, 3 • Use the appropriate symbols(÷, =, □)	
	Mental Maths	**Number Concept: Range 0-** 750 • Ordering and comparing to 200 and say which is more: 134 or 143? • Rapid recall of +, -, ×, ÷ to 20	**Mental Strategies:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between + & - • Use the relationship between multiplication and division.
MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Learners also have to tell the time in hours and half hours.
	Length	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe and record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Take account of the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally they can measure a variety of lengths or distances in metres.

	Mass	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non -standard measures. e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	Informal measurement of mass using a balance and non-standard units Learners can learn all the principles and practises of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. grocery items measured and recorded. Learners body mass – weighed and recorded.
TERM 3 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2 and 3

(COMBINED)

TERM 3

TERM 3 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPICS**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 160 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to facilitate counting.	• Estimate and count to at least 600 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is the focus. • Learners must see 560 objects and suggest ways of counting it. • Counting supports skills for understanding place value and calculations.
	Count objects forwards and backwards	Count forwards and backwards in: • 1s from 0-160 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-160.	Count forwards and backwards in: • 1s from 0-600 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 600. • 20s, 25s, 50s, 100s to1000	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise, read, write number symbols and number names: 0-160.	• Identify, recognise, read, write number symbols: 1000 and number names to 600	• Show groups of objects for learners to identify, match number symbols and write this in exercise books.
	Describe, order and compare number	**Describe, order and compare numbers to 60** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. - Use ordinal numbers to show order, place, position.	**Describe compare and order number 0- 600** • Compare whole numbers up to 600 using smaller than, greater than more than, less than, is equal to. • Order numbers up to 600, **Ordinals to 31st**	• Use number line to show order and to compare numbers *Develop a strong number sense so that calculations to 99 are arrived at in quick solutions. If learners can order and compare confidently beyond the requirement then it will only increase their number and operational sense.*
	Place Value	• Recognise the place value of numbers 11-60. • Decompose 2 digit numbers into 10s and 1s.	**Know place value to 600** • Know what each digit rep. • Decompose 3 digit numbers into100s, 10s, 1s,	• Use place value/ flard cards to show the number grouped and counted. • Know: 4 digit in 542 =4 tens

SOLVE PROBLEMS IN CONTEXT				
	Problem solving techniques	**Use the following techniques to solve the problems** - draw or pack out concrete apparatus - build up & break down numbers - doubles and halves - number lines supported by concrete apparatus.	**Use the following techniques to solve the problems 600** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens	• Allow learners to show tell and record all their workings. Use bright learners to tell and show their techniques for working out of sums as the weaker ones often learn better in this way.
	Addition and Subtraction	Solve problems in context and explain solutions to problems involving addition and subtraction with answers to 75	Solve problems in context and explain solutions to problems involving addition and subtraction with answers - 600.	Learners are expected to solve the word problems using the following techniques mentioned above.
	Repeated addition leading to multiplication	Solve problems in context and explain solutions to problems involving multiplication with answers up to 40	Solve problems in context and explain solutions to problems involving multiplication with answers up to 75	**Allow for the different ways of solving problems.** • Equivalent groups • Multiplicative comparison • Rectangular arrays.
	Grouping and sharing leading to division	Solve problems in context and explain solutions to problems involving equal sharing and grouping to 40 with answers up to 40 that may include remainders	Solve problems in context and explain solutions to problems involving equal sharing and grouping to 75 with answers up to 75 that may include remainders	Allow learners to use concrete, semi concrete apparatus and explain and record their findings always. When learners talk about their strategies they internalise the methods used and others also through listening may learn how to apply their minds.
	Sharing leading to fractions	Solve problems in context and explain solutions to problems involving equal sharing leading to solutions that may include unitary fractions e.g. ¼,½,	Solve problems in context and explain solutions to problems involving equal sharing leading to solutions that may include unitary and non-unitary fractions e.g. ¼,½,⅔, ¾	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying; Do the addition and subtraction… allow learners to see the relation? Work out the fraction involved e.g.

	Fractions	• Use fraction names and diagrammatic form.	• Use fraction names and diagrammatic form.	Solid number sense and thorough number concept are essential to understand parts of a whole.
	Money	• Solve money problems involving totals and change	• Solve money problems involving totals & change	Convert between rands and cents.
	Mental Maths	**Number range 0-60** • Order, compare numbers to 75 • rapid recall of +, - facts to 15	**Number Range 0-600** • Order, compare numbers to 150 • rapid recall of +, -, ×,÷ facts to 20	- Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Make with physical obj. • Make p with drawings of lines, shapes or objects.	• Copy, extend and describe in words. • Make with physical objects • Make with drawings of lines, shapes or objects.	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly.
SPACE AND SHAPE	**Position , orientation and views**	**Position and views.** • Match different views of the same everyday object **Position and Direction** • Follow directions to move around the classroom.	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps. **Position and Direction** • Follow directions from one place on an informal map.	• Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	• Recognise and name 3- D objects: balls (spheres), box (prisms) • know the features of 3D objects in terms of size, colour, objects that roll, objects that slide • Build with concrete materials: building blocks, recycling material, etc.	Range of objects • Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders - cones	Practical activities must be concentrated on.

MEASUREMENT	**Time**	Telling the time • know sequence of days of week • know sequence of months of year • place birthdays, religious festivals, public holidays, historical events on calendar Calculate length of time and passing of time - use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hours of half hours.	Telling the time • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Familiar with calendars by the continual placing of - Birthdays; - religious festivals; - historical events; - school events; and - public holidays on the calendar. • During independent work time learners continue to sequence events from their daily lives and sequence pictures of events in order. Learners also work with ex. related to telling the time in hours & half hours.

TERM 3 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPICS**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate, check by counting objects to at least 170 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to aid counting.	• Estimate and count to at least 650 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Counting supports skills for understanding place value and calculations.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare numbers	• Describe, compare, whole numbers using smaller than, greater than, more than, less than and is equal to, up to **70**. • Order whole numbers from smallest to greatest and vice versa.	• Describe, compare whole numbers up to **650** using smaller than, greater than more than, less than, is equal to. • Order whole numbers- 650. • Use ordinal numbers to show order.	• Use flard cards/ place value cards to pack out number. • Use calendar to influence ordinal numbers. Use abbreviations as well. Thirty first / 31st
	Mental Maths	**Number range 0- 75** • Order, compare, rapid recall of +, -, ×,÷	**Number Range 0- 700** • Order, compare, rapid recall of +, -, ×,÷	The following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.

CONTEXT-FREE CALCULATIONS				
	Calculation techniques	**Calculations to 75** • drawings or pack out concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus	**Calculations to 700** • build up and break down numbers • doubles and halves • number lines • rounding off in tens	Allow learners to show, tell and record all their workings. Peer teaching happens in this way.
	Addition and Subtraction	• Add to 75 • Subtract from 75 • Use appropriate symbols (+, -.=, □) Practise number bonds to 20	• Add to 75 • Subtract from 75 • Use appropriate symbols (+, -.=, □) Practise number bonds to30	Encourage the doing, talking and recording of methods used.
	Repeated addition leading to multiplication	• Multiply number 1 to 10 by 2, 5, 4 • Use appropriate symbols (+. ×, =, □)	• Multiply 2, 3, 4, 5,10, to a total of 100 • Use appropriate symbols (×, =, □)	• Show the number pattern formation in the teaching of the multiplication tables do repeated addition, the multiplication sum and the inverse thereof. E.g. 3+3+3+3 = 12 ; 3×4 =12 12 ÷4 = 3
	Division		Divide numbers to 99 by 5, 2, 4, 10, 3 Use symbols (=, ÷, □)	
	Money	• Solve money problems involving totals: change to R20 and up to 50c.	• Solve money problems involving totals and change.	Learners practise recognising money. Change in rands and cents and smaller denominations.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	A thorough number sense and good number concept are essential to understand the parts of a whole.

SPACE AND SHAPE	**Position, orientation and views**	Recognise and match different views of the same object.	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps.	• Make this as practical as possible, allow the learners to do the movements in this regard.
	Position and direction	• Follow directions to move around the classroom.	• Follow directions from one place on an informal map.	Practise proper maths vocabulary.
	Symmetry		Determine the line of symmetry through paper folding and reflection.	Note that a line of symmetry is not always a vertical line.
MEASUREMENT	**Capacity**	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	Compare and record all measurements and talk about, ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Collect and organise data**		• Collect data about the class or lengths measured and to plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organise data provided in a list or tally or table in a bar graph. • Represent data on bar graph.

TERM 3 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPICS**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects forwards and backwards**	Count forwards and backwards in: • 1s from 0-170 • 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-170.	Count forwards and backwards in: • 1s to 650 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 650. • 20s, 25s, 50s, 100s to1000	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare number	**Describe, order and compare number 75** • Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	**Describe, order and compare number 700** • Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens, ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 456 is 4 hundreds.
	Place Value	**Recognise the place value of numbers 11-75.** • Decompose 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	**Recognise the place value of numbers to 700.** • Know what each digit represents. • Decompose 3 digit numbers into hundreds, tens, ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the numbers grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 479 is 4 hundreds.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving	Use the techniques to solve the problems • drawings or concrete apparatus • building up and breaking down of numbers • doubling and halving • number lines supported by concrete apparatus.	Use the following techniques to solve the problems 700 • build up & break down numbers • doubles and halves • number lines • rounding off in tens	• Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	• Add up to75 • Subtract from 75 • Use the appropriate symbols (+. -, □, =)	• Add up to 800 • Subtract from 800 • Use the appropriate symbols (+. -, □, =)	Provide the opportunity for learners to demonstrate the methods they used on the chalk board. Peer teaching happens in this way.
	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 40.	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 75.	Examples of strategies to solve problems. (depends on the learners number sense). Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets. Multiplicative comparison (e.g. three times as many boys as girls): which is represented as one to one correspondence. Rectangular arrays (e.g. three rows of four children): which are represented as rows and columns.
	Repeated addition leading to multiplication (context free calculations)	• Multiply numbers 1 to 10 by 2, 5, 4 • Use appropriate symbols (+, ×, = , □)	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use appropriate symbols (×, = , □)	
	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	As with multiplication, the basic understanding of division is equal sharing and grouping • **grouping** (e.g. twelve children at tables of four, how many tables) • **sharing** (e.g. twelve children at four tables, how many at each)

	Division		• Divide numbers to 99 by 2, 4, 5, 10, 3 • Use appropriate symbols (÷, = , □)	e.g. 30 divided by 10 rows = 3 check by multiplying; Do the addition and subtraction… allow learners to see the relations
	Money	Recognise 5c, 10c, 20c, 50c, R1, R2, R5.00; banknotes R10, R20 R50 Solving money problems involving totals and change to R70 and cents up to 50c.	Recognise 5c, 10c, 20c, 50c, R1, R2, R5.00; banknotes R10, R20 R50. Solving money problems involving totals and change to R70 and cents up to 50c.	Learners practise recognising money and changing money into smaller denominations.
	Mental Maths	**Number range 0-75** • Order, compare numbers to 75 • Rapid recall of +, -, facts to 15	**Number Range 0-700** • Order, compare numbers say which is more/ less • Rapid recall of +, -, ×,÷, to 20	The following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range of patterns • Regularly increasing patterns • Decreasing patterns	• Copying, extending and describing the patterns helps to see if learners understand the logic and have interpreted the pattern correctly. Patterning is done in most skills subjects.

	Number patterns	**Copy, extend and describe** sequences backwards and forwards to • 0-140 in 1s, 10s, 5s, 2s, 3s, 4s. • Create and describe own patterns.	**Copy, extend and describe** • Copy, extend and describe number sequences to at least 700 • Create and describe own patterns.	• **Complete number patterns… multiples, even, odd, etc.** • Number sequences can be linked with and support counting.
MEASUREMENT	**Time**	Know days of the week, Months of the year. Use the calendar for calculations of weeks, days, and months of the year.	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. Familiar with calendars by the continual placing of birthdays; religious festivals; historical events; school events; and public holidays on the calendar. During independent work time learners continue to sequence events from their daily lives and sequence pictures of events in order. Learners also work with ex. related to telling the time in hours & half hours.
	Length	• Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record.	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Take account of the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally they can measure a variety of lengths or distances in metres.

	Mass	• Non-standard units e.g. blocks, bricks, etc. and unit e.g. grams, kilograms, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. • Describe standard measures: kilogram (kg); gram (g) **Mass: Introducing formal measuring:** Compare, order and record the mass of commercially packaged objects which have their mass stated in kilograms e.g. 2 kilograms of rice and 1 kilogram of flour. Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale.	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non-standard measures. e.g. blocks, bricks, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. **Introducing formal measuring** Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kilograms using a bathroom scale. The expectation is that learners only read to the nearest whole kilogram.	• Prepare and practise for workshop measurement where length is a concept that has to be mastered. • Problem-solving and calculations can continue to use the context of mass given in informal measurements. Informal measurement of mass using a balance and non-standard units Learners can learn all the principles and practises of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units.
DATA HANDLING	**Collect and organise data**	• Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. E.g. Grocery items measured and recorded. Learners body mass – weighed and recorded.

TERM 3 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 4 WEEK 7 & 8	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 180 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping counting.	• Estimate and count to at least 700 objects reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. • Counting supports skills for understanding place value and calculations.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read number symbols: 0-180. • Write number symbols 0-180. • Identify, recognise and read number names 0 – 75. Write number names 0-75.	• Identify, recognise, read, write number symbols – 1000 • Identify, recognise and read number names – 700	• Show groups of objects for learners to identify and match number symbols and write this in exercise books • Say number names to reinforce this number work.
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa to 75.	**Describe compare and order number 0- 700** • Compare whole numbers up to 700 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 700. • Use ordinal numbers to show order.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.
	Place Value	• Recognise the place value of numbers 11-50 • Break down 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	• Break down 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 479 is 4 hundreds.

SOLVE PROBLEMS IN CONTEXT AND CONTEXT-FREE CALCULATIONS				
	Problem solving techniques	• Use the techniques to solve the problems - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving • number lines supported by concrete apparatus.	Use the following techniques to solve the problems 800 - build up & break down numbers - doubles and halves - number lines - rounding off in tens	• Allow learners to use objects in order to strategize; also to talk about their methods employed to do the problem and to write down what they have done. (The Doing, Talking and Recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	• Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 -75. • Practise bonds to 20.	• Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0 - 800. • Practise bonds to 30.	• Use concrete apparatus and the number line do work out all sums with the answers up to 10.
	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 40.	Solve word problems in context and explain own solution to problems involving multiplication with answers up to 75 ***Context -free*** • Multiply 2,3,4,5,10 to a total of 100 • Use appropriate symbols (×, =, □).	• Use number line to support teaching, allow for drawings, apparatus, ask how we can write this in a simpler way. • Probe for the number pattern. **Repeated addition** - How many eggs in 3 half dozen? - How many eyes do 7 children have? Learners might solve the problem in the following way: - Pictures or drawings should show grouping.

	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 40 with answers that may include remainders.	• Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. • Solve and explain solutions to practical problems involving equal sharing & leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	• Concrete apparatus are used initially. • Link this teaching to halves and doubles. • Note the number patterns and record this on chart for the classroom. • Note how grouping is linked to sharing… highlight the division operation.
	Sharing leading to fractions	• Sharing leading to fractions • Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Show relationship to multiplication, e.g. 20 divided by 10 rows = 2 check by multiplying; • Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
	Mental Maths	**Number range 0-75** • Order, compare, rapid recall of +, -, ×,÷	**Number Range 0-700** • Order, compare, rapid recall of +, -, ×,÷	**Mental strategies** Put larger number first in order to count on or count back Number line Doubling and halving Building up and breaking down Use the relationship between + & -
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	• Start with concrete apparatus, graduate to money etc. • Share between 2 = half of; share amongst 3, thirds; amongst 4, quarter of: work with money… half price, quarter of the price?

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe: • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Copy, extend and describe: • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	Make sure that learners can describe the patterns.
MEASUREMENT	**Capacity/ Volume**	Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order estimate, measure, and record and describe.	Non-standard and standard measures • Use bottles with capacity of 1 litre or containers with capacity stated in mm. • Compare, order 2 l, 1 l, 500ml, 250ml, etc. • Know that a standard cup = 250ml;1l = 4 cups	Practise solving problems that relate to the skills subjects offered at the school.
DATA HANDLING	**Collect and sort data**	Collect data about the class or school to answer questions posed by the teacher. Represent data in pictograph. Analyse and Interpret data. Answer questions about data in pictograph.	The above data collected in ml and l can be represented on a bar bar and analysed for further discussion.	Give learners objects to sort • Sort and represent the information in ways which make it easier to analyse. • Practise a pictograph analyse the information in the pictograph by answering questions posed by the teacher. A class pictograph • Work through the complete data cycle to make a class pictograph at least twice in the year. Work together helps learners to be involved in all the stages of the process without getting lost in the detail of any stage, e.g. drawing all the pictures. • Make a class graph allow for the focus on the key aspects of data handling.
TERM 3 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

MATHEMATICS

GRADE 1

TERM 4

TERM 4 GRADE 1			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Count out objects reliably to 50 • Encourage counting in groups.	• Encourage learners to count on. • Good counting levels support calculations throughout.
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 80 **Count forwards in** • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 -100.	• Encourage group counting to prepare for calculations that can **occur**.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, identify **read numbers symbols 1-80.** • Write numbers symbols 1-15 • Recognise, identify, read and write number names 1-10	• Show groups of objects for learners to identify and match number symbols and write this in exercise books. • Relate this work to all skills programmes learners may be doing.
	Describe, order and compare number	**Describe, order and compare objects/ numbers to 15** • Compare objects according to many, few, most, least, more than, less than, the same as, just as many. • Order objects from most to least and least to most. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Describe and order numbers from smallest to greatest and greatest to smallest. • Use the number line.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • **Use number line** to show order and to compare numbers to ten.
	Place value	**Recognise the place value of at least two-digit numbers to 15** Partition two-digit numbers into tens and ones.	• Use flard cards/ place value cards for this purpose. (learners pack out the 10s and 1s to show understanding of number)

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS (+ - × □)			
	Problem solving	**Use the following techniques:** - concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus.	• Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learn from this shared experience. Number bonds must be practised everyday- this will support learners to see number patterns and extend on it.
	Addition Subtraction	**Solve word problems** in context and explain solutions to problems involving addition and subtraction with answers up to 20.	
		Calculations: • Add to 20 • Subtract from 20 • Use appropriate symbols (+. -, =, □) **Practise number bonds to 10.**	
	Repeated addition leading to multiplication	**Solve word problems** in context and explain own solutions to problems involving repeated addition with answers up to 20.	
		Calculations: • Repeated addition 3+3+3+3+3+=15 • Use appropriate symbols (+, =, □)	
	Grouping and sharing	**Solve word problems** in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.	
	Money	Solve problems with totals & change from R50.	Use play money for good shopping activities.
	Mental Maths	• Work within number range 0-15 • Rapid recall of no bonds • Rapid recall of + and - facts • Compare and order nos. up to 15.	Use calendar for rapid recall of numbers Build rigorous number sense through rapid recall of number-work to 20 Use calculation strategies: • Halving and doubling • Building up and breaking down, etc.

PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy, extend, describe simple number patterns to 80 • Count in 10s, 5s, 2s from any multiples of 10, 5, 2 to 80 • Count forwards, backwards in 1s from any number to 80 • Create and describe own patterns, talk about the rule that applies.	Use abacus, beads on the string or any concrete apparatus for extensive practise. Allow for games where counting is further consolidated. **T**alk about **the rule** applied in the number pattern
SPACE AND SHAPE	**Position , orientation and views**	• Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	Recognise, name , know the features of 3D objects in terms of size, objects that roll, slide : • balls (spheres) • box (prisms) Build with concrete materials such as building blocks, recycling material and construction kits.	Expose learners to the 3D objects that are also relevant to the various other skills courses they will be attending. Allow them to sort according to size, colour Build with objects- Make balls, boxes, from clay, play dough
	2D shapes	Recognise and know features of 2-D shapes in terms of size, straight, round sides: - Circles, triangles, squares	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relate to the practical subjects offered.
MEASUREMENT	**Time**	**Telling the time** • Know sequence of days of week; months of year • Place birthdays, religious festivals, public holidays, historical events on calendar. **Calculate length of time and passing of time** • Use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hours of half hours.	Teach before, after/ next. Discuss birthdays and events *Note: the Calendar can be used for number work and also serves as a good resource for consolidation work and is excellent for Mental Maths.* Have a working clock in the classroom.
	Capacity/ Volume	• Estimate, measure and compare the capacity of litre containers. E.g. litre bottle and a litre ice cream container. (l, ml) • Use non-standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug, measuring cups, ml, litres, etc.	• Prepare and practise measurement required in the practical subjects offered where capacity / volume must be mastered. • Do research regarding the practical skills subjects and direct teaching to prepare learners for measurement.
DATA HANDLING	**Collect and sort objects**	• Collect and sort everyday objects. • Give reason for sorted collections • Draw a picture of the collected objects. • Describe the sorted objects.	Let them draw the sorted arrangements. Sorting, representing and describing are good skills that support the pre number work.

		TERM 4 GRADE 1	
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability -90 • Encourage grouping counting.	Encourage learners to count on. Subitising occurs where they group objects with the eye and count in bigger numbers. NB: All counting skills developed will be practically applied in different skills subjects.
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 90 **Count forwards in** • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 -90.	Use abacus, objects, beads on a string, etc. Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, identify **read numbers symbols 1-90.** • Write numbers symbols 1-18 • Recognise, identify, read and write number names 1- 10	Show groups of objects for learners to identify and match number symbols and write this in exercise books. Say number names to reinforce this number work.
	Describe, order and compare number	**Describe, order and compare objects/ numbers to 18** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	Use counters, objects, etc. When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. Use **the calendar** to show the order of days, etc. Use **number line** to show order and to compare numbers to ten.
	Place value	**Recognise the place value of at least two-digit numbers to 18** Partition two-digit numbers into tens and ones to17 e.g. is 10 and 7	Use flard / place value cards. Good practise is required so that learners can continue to use the cards with ease when dealing with 3 digit numbers.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS			
	Problem solving in context	**Use the following techniques when solving word problems** concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus.	Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The doing, talking and recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learn from this shared experience. Once learners have moved to the **counting on** stage i.e. can count on from one of the components in the sum, the mental number line is developing. Regular practise of bonds will improve confidence to extend number range. Learners will also start seeing the number pattern e.g. Bonds of 9 (8+1, 7+2, 6+3, 4+5 and all the matching sums) If learners know 4+3 = 7; they can see the pattern 14 +3 =17, 24+3 = 27 etc.
	Addition Subtraction	**Solve word problems** in context and solution to problems involving addition and subtraction with answers up to 20	
		Calculations: • Add to 20 • Subtract from 20 • Use appropriate symbols +. -, =, □ Practise number bonds to 10	
	Repeated addition leading to multiplication	**Solve word problems** in context and explain solutions to problems involving repeated addition and to multiplication with answers up to 20. -	
		Calculations: - Repeated addition (4+4+4+4=16) to 20 - Use appropriate symbols (+. , =, □)	
	Grouping and sharing	**Solve word problems** in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.	
	Money	Recognise SA currency 5c, 10c, 20c, 50c, R1, R2, R 5 Solve problems with totals & change from R50.	Do shopping activities- use the play money. Convert between rands and cents.

	Mental Maths	• Work within number range 0-18 • Rapid recall of no bonds • Compare and order nos. up to 18.	Use calendar for this rapid recall of number work. Use beads on a string, number grid. Mental calculation strategies include the Number line, halving and doubling, etc.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend simple patterns by using concrete objects. • Create and describe own patterns.	Make sure that learners fully understand the logic of patterns and can describe the pattern.
	Number patterns	• Copy, extend, describe simple number patterns to -90 • Count in 10s, 5s, 2s from any of its multiples to 100 • Count forwards and backwards in 1s from any number -90	Use abacus, beads on the string or any concrete apparatus for extensive practise. Allow for games to consolidated counting.
SPACE AND SHAPE	**Position, orientation and views**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	Make this as practical as possible, allow the learners to do the movements in this regard.
	3D objects	Recognise, name , know the features of 3D objects in terms of size, objects that roll, slide : balls (spheres); box (prisms) Build with e.g. blocks, recycling material and construction kits.	Expose learners to the 3D objects that are also relevant to the various other skills subjects offered..
	2D shapes	Recognise and know features of 2D shapes in terms of size, straight, round sides: - circles - triangles - squares	Use shapes to make patterns. Patterns are practised and recorded in all its forms that relates to the practical subjects offered..
MEASUREMENT	**Time**	**Telling the time** • Know sequence of days of week • Know sequence of months of year • Place birthdays, religious festivals, public holidays, historical events on calendar. • **Calculate length of time and passing of time** - Use calendars to calculate and describe length of time in days or weeks. - Use clocks to calculate length of time in hours of half hours.	• describe time in terms of days, weeks, months. • teach before, after/ next. Discuss birthdays and events *Note: the Calendar can be used for number work and also serves as a good resource for consolidation work and is excellent for Mental Maths.* Have a working clock in the classroom.
	Length	**Informal measuring non-standard units** • Estimate, measure, compare and record length using non-standard measures e.g. hand spans, string, pencils, paces. **Formal measuring units** cm, m use the ruler and tape measure 100cm =1meter	Prepare and practise for measurement as offered in the **practical subjects** Teach the appropriate **units (m, cm)** when learners are ready as this skill will be necessary in most skills subjects.

		TERM 4 GRADE 1	
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability -50 • Encourage grouping counting.	Sharp counting skills will support basic calculations throughout. Subitising occurs where they group objects with the eye and count in bigger numbers. NB: All counting skills develop will be practically applied in different workshops.
	Count objects forwards and backwards	Count objects forwards and backwards in • 1s from any number between 0 and 100 Count forwards and backwards in • 10s, 5s, 2s from any multiple of 10, 5, 2 between 0 -100.	Use abacus, objects, beads on a string, etc. Encourage games that promote counting. The development of Mental number lines is what is hoped for here.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Recognise, identify **read numbers symbols 1-100.** • Write numbers symbols 1-20 • Recognise, identify, read and write number names 1-10	Show groups of objects to identify and match number symbols and write this in exercise books Say number names to reinforce this.
	Describe, order and compare numbers/ objects	**Describe, order and compare objects / numbers to 20** • Compare, order, objects according to many, few, most, least, more than, less than, the same as, just as many. • Describe and compare numbers according to smaller than, greater than, less than, is equal to. • Use number line to describe and order numbers from smallest to greatest and greatest to smallest.	Use counters, objects, number lines, etc. • Use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to 20. • Equip learners with a solid numerosity of all numbers to 20 thereafter they should be capable of working with larger numbers in the same way.
	Place value	**Recognise the place value of at least two-digit numbers to 20** Partition / spilt two-digit numbers into tens and ones to19 e.g. is 10 and 9	Use flard / place value cards for this purpose. Thorough practise will enhance number sense

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS			
	Problem solving	**Use the following techniques when solving word problems in context and context- free calculations.** Explain solutions to problems with answers up to 20 - concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus.	• Allow learners to use objects in order to strategise Make time to allow learners to talk about the methods they used to solve the problem and let them write down what they have done. (***The doing, talking and recording***) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience. • Expose learners to different types of word problems.
	Addition Subtraction Repeated addition leading to multiplication	**Solve problems** and explain solutions to problems with answers up to 20 •
		Calculations: Number Range 1-20 • Add to 20 • Subtract from 20 • Repeated addition 4+4+4+4+4 = 20 • Use appropriate symbols +. -, =, □ • **Practise number bonds to 10.**
	Grouping and sharing leading to division.	Solve word problems, explain solutions to equal sharing and grouping with whole numbers up to 20 and include remainders
	Money	• Recognise SA currency 5c, 10c, 20c, 50c, R1, R2, R 5 • Solve problems with totals & change from R50.	Do shopping activities – use play money.
	Mental Maths	• Work within number range 0-20 • Rapid recall of no bonds • Rapid recall of + and – sums. • Compare and order nos. up to 20.	Use calendar beads on a string, number. grid for this rapid recall of number work.
PATTERNS, FUNCTIONS AND ALGEBRA	**Number patterns**	• Copy number sequences to at least 100. • Count forwards from any multiple of 10, 5, 2 between 0 & 100. • Create and describe own number patterns.	Complete number patterns… multiples, even, odd, etc.

MEASUREMENT	**Length**	**Informal / formal measuring** • Compare; order the length, height or width of 2 or more objects placed next to each other. • Use language to talk about comparison e.g. longer, shorter, taller and wider. • Measure in centimetres and metres where applicable to prepare for skills subjects.	Develop an understanding of length and the talk that goes with it. Prepare and practise for practical skills subjects where measurement - **length is a concept** that has to be mastered for future learning.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record using non-standard measurements • Use appropriate language. Heavy, light • Prepare for mass in skills subjects offered - use a mass metre scale, measuring cups, etc. in grams and kg.	Prepare and practise mass as per the skills subject requirements. Bring bathroom scale to measure body mass and collect data for graph work in data. Allow learners to weigh themselves and record their weight on the board. Use pictograph/ bar graph, etc.
	Capacity/ Volume	• Estimate, measure and compare the capacity of litre containers. E.g. litre bottle and a litre ice cream container. (l, ml) • Use non- standard measures e.g. spoons, cups, etc. and note the measurement e.g. 4 cups equals one litre; one spoon equals 5 ml etc. • Use a measuring jug/ cups, ml. litres, etc.	Prepare and practise measurement as required in skills subjects offered where the **concepts -capacity / volume** must be mastered. Do research regarding the practical skills subjects and direct the teaching to include the measurement skills required.
DATA HANDLING	**Collect, organise, represent analyse and interpret data**	• Collect organise and sort learners body mass. • Represent this on a pictograph and interpret the data.	Sort body mass Arrange the masses on pictograph. Use the data to develop questions: Add all those weights over 55kg. What is half of the total? Etc.

TERM 4 GRADE 1	
LESSON 4 WEEK 7 & 8	**REVISION OF WORK TAUGHT FOR THE TERM.**
TERM 4 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**

MATHEMATICS

GRADE 2

TERM 4

TERM 4 GRADE 2			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and count objects reliably to at least 190. • Encourage grouping of objects to facilitate counting.	Count in groups and **counting on** is key. Learners must see 190 objects and think of ways to counting it. Counting supports the skill for understanding place value and for calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-190. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any of the aforementioned multiples between 0-190.	String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s. Note the varied patterns made.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	Identify, recognise, read, write number symbols and number names: 0-190.	Say numbers correctly e.g. two hundred and fifteen rather than. two-one-five Use place value/flard cards, pack out correctly to show **23 as 20 and 3**.
	Describe, compare and order numbers	**Describe, compare and order numbers to 90** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. • Use ordinal numbers to show order, place or position.	Until now learners have been comparing and ordering numbers in order to develop a feel for the size of numbers in relation to each other. Questions asked about number must assist to develop higher order thinking skills about number value. Help learners to develop the language to explain their thinking.
	Place Value	Recognise the place value of numbers 11-99. • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Learners should be able to respond to the following questions: • Which number is the same as 80 and 9? • Show 89 using the place value cards. • Show 89 on the abacus. • Show 89 using the base ten blocks. • Show 89 using unifix cubes.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve the problems up to 90** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus	Encourage learners to include number symbols in their recordings, including in the picture representations and ultimately the number sentences. Methods that can be used are: **Using halving to break down a number** 59 + 12 59 + (6 + 6) 59 + 6 → 65 + 6 = 71 **Count on and counting back** 68 – 59 = □ Counting on in ones from 59 is an appropriate strategy because the numbers are close to one another. **Identify near doubles** 34 + 35 explaining that it is double 34 plus 1 or double 35 minus 1 34 + 34 + 1 Learners might record their strategies using arrows: 34 + (30 + 4) + 1 34 + 30 → 64 + 4 → 68 + 1 = 69
	Addition and Subtraction	**Solve problems** Solve word problems and explain own solutions to problems involving +, - with answers up to 90.	
		Calculations • Add to 80 • Subtract from 80 • Practise number bonds to 18	
	Repeated addition leading to multiplication	**Solve problems** Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 90.	
		Calculations • Multiply numbers 1 to 10 by 2, 3, 4, and • Use appropriate symbols +. -, =, □	
	Grouping and sharing leading to division	**Solve problems** Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 90 with answers that may include remainders. Learners will use repeated subtraction to show how they arrive at an answer.	
	Money	5c, 10c, 20c, 50c, R1, R2, R5, banknotes R10, R20, R50 Solve money problems involving totals and change to R20 and cents up to 90c	

	Sharing leading to fractions	Allow learners to: • share and group things equally; • name fraction parts; • find fractions of whole objects; • recognise that a fraction is part of a whole; and • write fractions as one third, one half, etc.(½,⅓,¼,)) • Use fractions names: halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	Ask; How many equal parts are there? What do we call each part? This encourage learners to know that fractions are equal parts and identify and name fraction parts. **Writing**: do not introduce learners to writing the symbol of fractions. Learners learn how to label fraction parts as 1 quarter, 1 fifth **Examples of problems for this term**: - Six friends share 7 joy sticks equally. Draw a picture to show your answer. - Eight friends share 9 joy sticks equally. Draw a picture to show your answer.
	Mental Maths	**Number range 0-90** • Order, compare, rapid recall, calculation strategies are concentrated on • Work on consolidating the rapid recall of addition and subtraction facts to 90 • Add and subtract multiples of 10 from 0-90	**Questions that can be asked:** Number names and symbols Hold up a card or write down a number name. **More or less:** What is1 less than 30; 1 more than 49; 5 less than 16; 10 more than 30? What is the 10th letter of the alphabet? What is the 11th month of the year? **Order and compare;** Which is more: 21 or 71?
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. • Make simple patterns with physical objects • Make simple patterns with drawings of lines, shapes or objects.	Allow learners first to copy, then extend and finally describe the patterns. By now they should be able to describe patterns without the aid of guiding questions. Develop the language used here.

	Number Patterns	Copy, extend and describe number sequences to at least 190. Show counting forwards and backwards in: • 1s, from any number between 0 and 190 • 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0-190. • Create own number patterns.	Allow learners to determine the rules involved e.g. + 3, 4, 5, 10. Allow them to talk about the rules and to see the correlation with the multiplication tables.
MEASUREMENT	**Time**	**Telling the time** - Tell 12-hour time in hours, half hours and quarter hours on analogue clocks - Use clocks to calculate length of time	Use the calendar. Have a working clock in the classroom.
	Capacity/ Volume	**Introducing formal measuring** Estimate, measure, compare, order and record the capacity of objects by measuring in litres. Compare; order and record the capacity of commercially packaged objects whose capacity is stated in litres e.g. 2 litres of milk, 1 litre of cool drink, 5 litres of paint	So far this year it was recommended that learners focus on using jugs with gradation lines i.e. 250ml, 500ml, 1l, 2l Take account of the number range appropriate for the lesson, as well as the range of problems types.

TERM 4 GRADE 2			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting objects to at least 200 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to facilitate counting.	Count in groups and **counting on** is the focus. Learners must see 200 objects and think of ways of counting it. Counting supports the skill for understanding place value and calculations.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-200. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-200.	Use string of counting beads; the abacus, number grid to practise counting in groups of ten, 5, 2, 3, and 4.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	Identify, recognise and read, write number symbols and number names: 0-200.	Take care when talking about three-digit numbers, E.g. one hundred and forty– one is not one, four, one.
	Describe, compare and order numbers	**Describe, compare, and order whole numbers to 99** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. • Use ordinal numbers to show order, place or position.	Until now learners have been comparing and ordering numbers in order to develop a feel for the size of numbers in relation to each other. Questions on numbers should be carefully chosen to assist learners to develop higher order thinking skills about number value.
	Place Value	• Recognise the place value of numbers 11-99. • Decompose/ split 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Learners should be able to respond to the followingl questions: Which number is the same as 70 and 8? Show 78 using the place value/ flard cards. Show 78 on the abacus. Show 78 using the base ten blocks. Show 78 using unifix cubes.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS (+, -, ×, ÷, □)			
	Problem Solving techniques	**Use the techniques to solve the problems - 99** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus	Learners are at different levels in counting and may use different techniques to show their answers. Encourage written number sentences.
	Addition and Subtraction	**Solve word problems** and explain own solutions to problems involving +, - with answers up to 0-99.	• Encourage the doing, talking and recording of problems.
		Context-free calculations • Add to 99 • Subtract from 99 • Use appropriate symbols (+,-, □, =) Practise bonds to 20.	
	Repeated addition leading to multiplication	**Solve word problems** in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 50.	Understanding that multiplication is grouping. There are three main categories of problem situations that involve the multiplication of whole numbers: Each of these situations can be associated with particular ways of asking a question. Problem situations for multiplication involve the following three numbers in a mathematical relationship: - The number of objects in each set - The number of sets - The total number
		Calculations • Multiply number 1to 10 by 2,5,3 and 4 • Use appropriate symbols (+,×, - □, =) Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets? Multiplicative comparison (e.g. three times as many boys as girls): which is represented as many to one correspondence Rectangular arrays (e.g. three rows of four children) which are represented as rows and columns.	
	Grouping and sharing leading to division	• **Solve word problems** in context and explain own solution to problems that involve equal sharing and grouping up to 50 with answers that may include remainders.	The basic understanding of division is equal sharing and grouping. Learners to continue to use drawings and concrete apparatus to show their solutions. Number sentences should be used. Learners will use repeated subtraction to show how they arrive at an answer.

	Sharing leading to fractions	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼ , $\frac{1}{5}$, $\frac{1}{3}$, etc.	Continue to allow learners to: - share and group things equally; - name fraction parts; - find fractions of whole objects; - recognise that a fraction is part of a whole; and - write fractions as one third, one quarter, etc. - share between 2, amongst 3 etc.
	Money	Solve money problems involving totals and change using 5c, 10c, 20c, 50c, R1, R2, R5, banknotes R10 and R20, R50	Use tuck shop scenario to practise working with money. Do shopping activities to expose learners to spending and receiving change.
	Mental Maths	**Number range 0-99** • Order and compare numbers. Which is more: 16 or 61? • Rapid recall of -, +, to 99 • Quickly recall halving and doubles to 99	Use the calendar, domino cards, etc. Use calculation strategies: halving, doubling, number line, building up and breaking down, relationship between addition and subtraction.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Make simple patterns with physical objects Make simple patterns with drawings of lines, shapes or objects.	Patterns are created in most skills subjects. Note that learners need to copy, extend and describe patterns in Maths.
SPACE AND SHAPE (GEOMETRY)	**3D objects**	**Range of objectives** Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders	Work on 3D objects can be consolidated through written exercises. Learners can continue to build 3D objects from recycling material or construction kits.

	2D shapes: Range of shapes	**Range of objects** **Recognise and name 3D objects in the classroom.** Focus on the balls/ spheres; boxes/ prisms and cylinders **Know the features of objects** Describe, sort and compare the objects in terms of size, objects that can roll , slide Recognise and names of 2D shapes. • Triangles • Squares • rectangles **Know the features of shapes** • Describe, sort and compare 2D shapes in terms of size, colour, shape, straight sides, round sides.	**Position and views** Learners need to understand that objects look different when you look at them from different positions. **Written exercises** Although most of the work with 3D objects is done practically, work must be consolidated through written exercises. **Lines of symmetry in 2D geometrical and non-geometrical shapes.** **Lines of symmetry in concrete objects. Lines of symmetry can be vertical and horizontal.**
MEASUREMENT	**Length**	**Introducing formal measuring** Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths, widths and heights with informal units and formal units of measurement in meters.
	Mass	**Introduce formal measuring** • Do written activities by using products with the mass written on them.. • Use the bathroom scale with gradations to measure learners' weight in kg. Products with mass. Compare, order and record the mass of commercially packaged objects which have their mass stated in kilograms e.g. 2 kilograms of rice and 1 kilogram of flour.	**Work with kilograms** Learners can begin to be introduced to kilograms by working with groceries that are sold in kilograms, where the number of kilograms is stated on the packaging. Compare the mass of packages of different substances (such as rice, sugar, mealy meal, flour. Digital scales are easier to read because the mass is written in numbers. If you have a digital bathroom scale check that it states the mass only in whole kilograms. Some scales can be re-set to show only whole kilograms.

TERM 4 GRADE 2			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Count objects to at least 200 everyday objects reliably. • Estimate and check by counting. •	Encourage the grouping of objects to facilitate counting. Use number grids, number lines, number tracks, abacus and counting beads to support the counting.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-200. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4, between 0-200.	**Resources** String of counting beads; the abacus to practice counting in groups of ten, 5, 2, 3, 4. Ask learners: When we count in twos, will we use the number 20? Is the number 20 in the 2 times table.
Number concept development			
	Number symbols and number names	• Identify, recognise, read, write number symbols: 0-200. • Identify, recognise, read and write number names 0 – 99.	Concentrate on the proper vocabulary when saying the number name e.g. 56. (fifty –six)
	Describe, compare and order numbers	Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. Order whole numbers from smallest to greatest and vice versa.	Use the language of ordering and comparing: first, second, third, fourth, fifth, sixth, etc.
	Place Value	Recognise the place value of numbers 11-99. • Decompose / split 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	Partition two-digit numbers in multiple of tens and ones. Write the number: 6 tens and 3 ones _____ What is the value of the first 6 digit in 66? Give the value of the underlined digit in 43.

<table>
<tr><th colspan="4">SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS (+, -, ×, ÷, □)</th></tr>
<tr><td></td><td>Problem Solving techniques</td><td>- drawings or concrete apparatus
- building up and breaking down of numbers
- doubling and halving
- number lines supported by concrete apparatus.</td><td rowspan="4">Learners will use the method they are comfortable with to solve the following problems:

Repeated addition
How many wheels do 20 bicycles have?
Learners should use the multiplication grid to find the answers. This will help them to read and understand the table and master multiplication facts.
× 1 2 3 4 5 6 7 8 9 10
2 2 4 6 8 10 12 14 16 18 20
4 4 8 12 14 20 24 28 32 26 40
5 5 10 15 20 25 30 35 40 45 50 etc.

Note that learners often use different ways of solving a problem that may not be what the teacher expects. For example, a division problem may be solved by repeated subtraction, addition, or multiplication. Learners' methods will change in the course of the year as their understanding of and familiarity with the problem types grow, and as their number concept develops.</td></tr>
<tr><td></td><td>Addition and Subtraction</td><td>Solve word problems in context and explain own solutions to problems involving +, - with ans. up to 0 -99.

Context-free calculations
• Add to 99
• Subtract from 99
• Use appropriate symbols (+,-, □, =)
Practise number bonds to 20.</td></tr>
<tr><td></td><td>Repeated addition leading to multiplication</td><td>Solve word problems in context and explain own solutions to problems involving repeated addition and to multiplication with answers up to 30.
•

Calculations
• Multiply numbers 1 to 10 by 2, 3, 4, and
• Use appropriate symbols +. -, =, □</td></tr>
<tr><td></td><td>Grouping and sharing leading to division</td><td>Solve word problems that involve equal sharing that leads to solutions that include remainders.
Problems that involve equal sharing and grouping up to 99 with answers that may include remainders.</td></tr>
<tr><td></td><td>Sharing leading to fractions</td><td>Allow learners to:
- share and group things equally
- name fraction parts
- find fractions of whole objects
- recognise that a fraction is part of a whole; and
- write fractions as one third, one half, etc.(½,⅓,¼, ⅔)
• Use names of fractions, halves, quarters, thirds, fifths.
• Recognise fractions in diagrammatic form.</td><td>Ask the following type of questions:
How many equal parts are there?
What do we call each part?
These kind of activities encourage learners to
- know that fractions are equal parts;
- identify fraction parts; and
- name fraction parts.</td></tr>
</table>

	Money	• Recognise SA currency • Solve money problems involving totals and change	*Learners practise recognising money and converting between rands and cents.*
	Mental Maths	**Number range 99** • Rapid recall of bonds to 20 • Add and subtract multiples of 10 to 99 • Compare numbers to 99 e.g. – 4 more or 4 less, 3 more or 3 less, etc. • Use relationship between addition and subtraction • Halving and doubling.	**Use calculation strategies to add and subtract efficiently**: • Put the larger number first in order to count on or count back • Use the relationship between addition and subtraction 3 + 9 = 12 9 + 3 = 12 • Quickly recall addition doubles to 20, include corresponding subtraction facts.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	Copy, extend and describe in words. Simple patterns made with physical objects. Simple patterns made with drawings of lines, shapes or objects.	One kind of pattern learners can look for is symmetry, e.g. most leaves and animals' faces are symmetrical. Insects if viewed from above and the patterns on many birds if viewed from below.
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views:** **3D objects**	**Features of objects** Describe, sort, compare 3D objects in term of • size • objects that can roll • objects that can slide	Consolidated all work through written exercises. Learners can continue to build 3D objects from recycling material or construction kits.
MEASUREMENT	**Mass**	Consolidate the previous lessons content.	
DATA HANDLING	**Collect and organise objects** **Represent data** **Analyse and interpret data**	Analyse data from representations provided. Take a survey of the different social networks learners prefer; the cell phone service providers subscribed to etc.	Use all the data collected from the products measured, Learners mass taken on the scale and plot this on a pictograph. Formulate questions to see if learners can solve problems once the data collected are analysed and interpreted.
LESSON 4 WEEK 7 & 8	**REVISE ALL WORK TAUGHT DURING THE TERM.**		
TERM 4 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 1 & 2
(COMBINED)

TERM 4

TERM 4 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Count out objects reliably to 40 • Encourage counting in groups.	• Estimate and count objects reliably to at least 190. • Encourage grouping of objects to facilitate counting.	• Counting in groups and **counting on** is focus. • Learners must see 190 objects and suggest efficient ways of counting it. • Counting supports calculation skills.
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 80 **Count forwards in** • 10s, 5s, 2s from any multiple between 0 and 80.	• Count forwards and backwards in 1s from any number between 0-190. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any of the aforementioned multiples between 0-190.	• String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Recognise, identify and **read, write numbers symbols and number names 0-80.**	• Identify, recognise, read, write number symbols and number names from 0-190.	Care should be taken when talking about three-digit numbers, for example one should say one hundred and forty - four rather than one, four, four. Use place value cards to pack out correctly.
	Describe, order and compare number	**Describe, order and compare objects to 20** Compare objects according to many, few, most, least, more than, less than, the same as, just as many, is equal to.	**Describe, order and compare numbers to 90** Compare, order whole numbers from smallest to greatest and vice versa and equal to. Use ordinal numbers to show order, place or position.	Use of the calendar for ordering and position.

	Place Value	**Recognise the place value of at least two-digit numbers to 19** Partition two-digit numbers into tens and ones to: e.g. 15 is 10 and 5.	**Recognise the place value of numbers 11-90.** Decompose 2-digit numbers into multiples of tens and ones. Identify and state the value of each digit.	Increase number range from 25-60. Use place value/ flard cards to show the number grouped and counted. Know what the number 4 digit represents e.g. in 43?
	Mental Maths	**Number range 0-20** • Rapid recall of bonds • Rapid recall of + ,– facts • Compare, order nos. to 20.	**Number range 0-90** • Order, compare, rapid recall, calculation strategies. • rapid recall of addition and subtraction facts to 20 • Add and subtract multiples of 10 from 0-100	**More or less** - What is 1 less, 2 less, etc? Use calculation strategies to add and subtract efficiently Use relationship between addition and subtraction. Put larger number first in order to count on or back.
SOLVING PROBLEMS IN CONTEXT AND CONTEXT–FREE CALCULATIONS (+, -, ×, □)				
	Addition and Subtraction	Solve **word problems** in context and explain solutions to problems involving +, - with answers up to answer 20.	Solve **word problems** in context and explain solutions to problems involving +, - with answers up to answer 60.	**Use the following techniques when solving problems** and explain solutions to problems. - concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatus.
		Calculations • Use appropriate symbols +. -, =, • Add to 20 • Subtract from 20 **Practise number bonds to 10.**	**Calculations** • Use appropriate symbols +. -, =, □ • Add to 99 • Subtract from 99 **Practise number bonds to 18**	
	Repeated addition leading to multiplication	Solve word problems and explain own solution to problems involving repeated addition with answers up to 20.	Solve word problems in context and explain own solution to problems involving repeated addition and multiplication with answers up to 40.	
		Calculations Repeated addition (4+4+4=12)to 20 Use appropriate symbols (+,□, =)	**Calculations** Multiply number 1 to 10 by 2, 5, 3 and 4 (×, -□, =)	

	Grouping and sharing leading to division	Solve word problems, explain solutions to equal sharing and grouping with whole numbers up to 20 and include remainders.	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	**E.g. of problems that can be done** **Sharing** I have 24 pens to share equally amongst 3 boys; each gets? **Grouping** There are 30 apples in a box. How many bags of 3 apples can be filled? **Array** Monic packs out 20 counters into 10 rows. How many counters in a row? Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.
	Sharing leading to fractions	• Sharing leading to fractions.	• Sharing leading to fractions. • Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Teach according to the workshop dictates, i.e. halves and quarters. Also note the money problems and try to incorporate the fractions here.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	One of the first goals in the development of fractions should be to help learners construct the idea of fractional parts of the whole - the parts that result when the whole or unit has been partitioned into equally sized portions or fair shares.

PATTERNS, FUNCTIONS AND ALGEBRA	**Number Patterns**	Copy, extend, describe simple number patterns to -100 • Count in 10s, 5s, 2s from any of its multiples to 100 • Count forwards, backwards in 1s from any number 100. Create and describe own patterns, talk about the rule that applies.	Copy, extend and describe number sequences to at least 190. • Sequences should show counting forwards and backwards in: - in 1s, from any number between 0 and 180 - 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0-160 Create and describe own number patterns.	Sequences should show counting forwards and backwards. Count on : - Number lines - Number grids - Number chains
SPACE & SHAPE (GEOMETRY)	**Position, orientation and views:**	Describe the position of one object in relation to another e.g. on top of, behind, left, right, up, down, next to.	**Position and views.** • Match different views of the same everyday object. **Position and Direction** • Follow directions to move around the classroom.	• Work on 3D can be consolidated through written exercises. • Know the language to direct movement : left, right, above, behind, etc.
	3D objects	Recognise and name 3D objects **know the features** of 3D objects in terms of - size - colour, objects that roll, objects that slide **Build with concrete** materials such as building blocks, recycling material and construction kits.		• Expose learners to the 3D objects that are also relevant to the various other skills courses they will be attending. • Allow them to sort according to size, colour • Build with objects • Make balls, boxes, from clay, play dough • Consolidate through written work.

	2D shapes	**Range of shapes** Recognise and name 2D shapes - circles - triangles - squares **Features** - Size, colour, straight sides, round sides.		• Use shapes to make patterns. • Patterns are practised and recorded in all its forms that relates to the workshops offered.
	Symmetry	• Recognise and draw a line of symmetry in 2D geometrical and non-geometrical shapes. • Written exercise must include lines of symmetry that is not only vertical lines.	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.	Learners should look for lines of symmetry in concrete objects and pictures. Test by folding the piece of paper and seeing whether the two halves match exactly. The folded line is the line of symmetry.
MEASUREMENT	**Time**	Passing of time (order events, compare lengths of time, etc.). Telling the time (morning afternoon, night, etc.). Tell 12 hour time in hours on analogue and digital clock (hour, half an hour and quarter of an hour).	**Telling the time** • Know days of week • Know months of year • Place birthdays, religious festivals, public holidays, historical events on calendar **Calculate passing of time**	Use calendars to calculate and describe length of time in days or weeks. Use clocks to calculate length of time in hours of half hours.
	Capacity/ Volume	• Compare the capacity of litre containers. E.g. litre bottle and a litre ice cream container. (l, ml) • Estimate, measure and compare use the non-standard and standard unit measures.	**Informal measuring** Compare and order Estimate, measure, compare, order and record the capacity of containers. **Standard measures**: litre (l), millilitre (ml) how many of the informal units it takes to fill the container e.g. the bottle has the capacity of 4 cups.	Cooking and baking are useful a context in which learners can practise measuring capacity. Choose recipes in which measurements are given in cups, teaspoons and other informal units. Prepare for the capacity and volume that is relevant for the skills subjects.

TERM 4 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 2 WEEK 3 & 4	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability to 50 • Encourage grouping counting.	• Estimate and check by counting objects to at least 200 everyday objects in 1s, 10s, 5s, 2s, 3s and 4s. • Encourage grouping of objects to facilitate counting.	• Count in groups is the focus and preparation for understanding multiples and doing calculations.
	Count objects forwards and backwards	Count objects **forwards and backwards** in • 1s from any number between 0 and 100 **Count forwards in** • 10s, 5s, 2s from any multiple of 10, 5 , 2 between 0 -100.	Count forwards and backwards in 1s from any number between 0-200. Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-200.	Use string of counting beads; the abacus, no. grid to practice counting in groups of ten, 5, 2, 3, and 4. As the respective grade indicates. Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	Recognise, Identify and **read, write numbers symbols and number names 0-100.**	Identify, recognise and read, write number symbols and number names: 0-200.	Use flard / place value cards to pack out numbers and to check learners understanding.
	Describe, order and compare numbers	**Describe, order and compare objects to 20** • according to many, few, most, least, more than, less than, the same as, just as many to smaller than, greater than, less than, Use number line - describe, order , numbers: smallest to greatest and greatest to smallest.	Describe, compare, whole numbers using smaller than, greater than, more than, less than and is equal to, up to 99. Order whole numbers from smallest to greatest and vice versa.	Eighty –nine; 89 ; match number names **Cardinal** aspect of a number is used to describe the number in a set and the **ordinal** aspect of a number refers to a number in relation to its position in the set. The number line image will also support learners in their mental strategies in calculation work.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS (+, -, ×, □)				
	Addition and Subtraction	Solve word problems in context and explain solutions to +, - to answer 20.	Solve word problems and explain own solutions to problems with answers up to 0-99.	• Use the following techniques when solving problems and explain solutions to problems. - concrete apparatus e.g. counters - pictures to draw the story sum. - building up and breaking down numbers - doubling and halving - number lines supported by concrete apparatusLearners are at different levels in counting and may use different techniques to show their answers. • Encourage written number sentences. • Encourage the doing, talking and recording of problems. • As with multiplication, the basic understanding of division is equal sharing and grouping.
		Calculations Use appropriate symbols +. -, =, • Add to 20 • Subtract from 20 • **Practise bonds to 10**.	**Calculations** • Add to 99 • Subtract from 99 Use appropriate symbols (+,□,=) **Practise bonds to 18**.	
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition with answers up to 20.	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 40.	
		Calculations • Repeated addition to 20 • Use appropriate symbols (+, □, =)	**Calculations** • Multiply number 1 to 10 by 2, 5, 3 and 4 • Use appropriate symbols (+,×, -□, =)	
	Grouping and sharing leading to division	**Solve word problems**, explain solutions to equal sharing and grouping with whole numbers up to 20 and include remainders.	**Solve word problems** and explain own solution to problems that involve equal sharing and grouping up to 40. **Grouping** (e.g. twelve children at tables of four, how many tables?) **Sharing** (e.g. twelve children at four tables, how many at each?)	**E.g. Sharing:** I have 30 pencils to share equally among three how many will each get? **Grouping :** There are 27 sweets in a bowl. How many packets of 3 sweets can be filled? **Array** Mongezi packs out 20 counters into 10 rows. How many counters in a row?

	Sharing leading to fractions		Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼ , $\frac{1}{5}$, $\frac{1}{3}$, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying; Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 amongst 3 etc.
	Mental Maths	• Work within number range 0-20 • Rapid recall of no bonds • Compare and order nos. up to 20.	**Number range 0- 99** • Ordering and comparing nos. Which is more: 14 or 41? • Rapid recall of -,+, to 30 • Quickly recall halving and doubles to 99; More, less	Use the calendar, domino cards, etc. Use calculation strategies: halving, doubling, number line, building up and breaking down, relationship between addition and subtraction.
	Place Value	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digit numbers into tens and ones to 18 e.g. is 10 and 8	Recognise the place value of numbers 11-99. • Decompose 2 digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	During this term the number range has increased to 99. **The value of the digits** - What number does the 7 represent in 87? - What number does the 4 represent in 64? - Use the place value cards to prove the statements.
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• **Copy, extend** simple patterns by using concrete objects	**Copy, extend and describe** in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	• Concentrate on patterning required in the skills subjects. Make sure that learners understand the logic and can describe patterns.

	Number patterns	• Copy, extend, describe simple number patterns to -100 • Count in 10s, 5s, 2s from any of its multiples to 100 • Count forwards and backwards in 1s from any number -100	• Copy, extend, describe number sequences to at least 180. • Sequences should show counting forwards and backwards in: - 1s, from any number between 0 and 180 - 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0-180 • Create and describe own number patterns.	• Use abacus, beads on the string or any concrete apparatus for extensive practise. • Allow for games where counting is further consolidated.
MEASUREMENT	**Length**	**Informal measuring**- non-standard units Estimate, measure, compare and record length using non - standard measures e.g. hand spans, string, pencils, and paces. **Formal measuring units** • cm, m use the ruler and tape measure 100cm=1meter	**Informal measuring** Non-standard measures used are described and record. Describe standard measures: m, cm **Formal measuring** • Estimate, measure, compare order and record length using metres (metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths, widths and heights with informal units and formal units of measurement. Demonstrate the use of the tape measure. Consider the skills subjects offered and work on the measurement aspect thereof.

TERM 4 GRADE 1 AND 2 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR 1 CONTENT**	**GR 2 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and check by counting out objects reliability to 50 • Encourage grouping counting.	• Count objects to at least 200 everyday objects reliably. • Estimate and check by counting. • Encourage the grouping of objects to facilitate counting.	• Count in groups is preparation for understanding multiples. • Display number cards to show the number of objects counted. • Allow for the opportunity to see that a group of 180 can be composed in different ways e.g. • 14 groups of ten; 180 loose ones; or 2 groups of 70 and 35 groups of 2, etc.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare numbers	• Recognise, Identify and **read, write numbers symbols and number names 0-100.**	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	• Use the language of ordering and comparing: First, second, third, fourth, fifth, sixth, etc. • How many? As many as, the same number as… Equal to, more than, less than, fewer than, greater than, smaller than, larger than... first, last, before, after, next, between ...
	Place Value	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digit numbers into tens and ones to17 e.g. is 10 and 7.	**Recognise the place value of numbers 11-99.** • Decompose 2 digit numbers into multiples of tens &ones. • Identify and state the value of each digit.	58 = 5 groups of tens and 8 loose ones This is supported by using the flard cards or place value cards. **The value of the digits** (place value cards) What number does the 7 represent in 67?
	Mental Maths	Work within number range 0-20 • Rapid recall of no bonds • Rapid recall of + and – sums. • Compare and order nos. up to 20.	Number Concept Range 99 • Rapid recall of bonds -20 • Add and subtract multiples of 10 to 50 • Compare numbers to 99 e.g. 4 more or 4 less, etc.	Quick/ rapid recall and strategies are concentrated on here. • Use relationship between addition and subtraction • Halving and doubling.

<table>
<tr><th colspan="5">SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS (+, -, ×, ÷, □)</th></tr>
<tr><td></td><td>Addition and Subtraction</td><td>Solve word problems in context and explain solutions to +, - with answers to 20.</td><td>Solve word problems in context and explain own solutions to problems involving +, -, with answers to 99</td><td rowspan="4">• Learners are at different levels in counting and will therefore use different methods to solve a problem.
• Encourage the use of the following techniques when solving problems and explain solutions to problems.
- concrete apparatus e.g. counters
- pictures to draw the story sum.
- building up and breaking down numbers
- doubling and halving
• number lines supported by concrete apparatus.

As with multiplication, the basic understanding of division is equal sharing and grouping.
- grouping (e.g. 16 children at tables of four, how many tables)
- sharing (e.g. twelve children at four tables, how many at each)
Some learners arrive at school capable of modeling both grouping and sharing division problems with concrete apparatus.</td></tr>
<tr><td></td><td></td><td>calculations
• Add to 20
• Subtract from 20
• Use appropriate signs (+, -, =, □)
Practise number bonds to 10.</td><td>calculations
• Add to 99
• Subtract from 99
• Use appropriate symbols (+,-, □, =)
Practise number bonds to 20.</td></tr>
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<tr><td></td><td>Grouping and sharing leading to division</td><td>Solve word problems, explain solutions to equal sharing and grouping with whole numbers up to 15 and include remainders.</td><td>Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 50 with that may include remainders.</td></tr>
</table>

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**		• Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	Patterns can be made from identical repeating groups, where each group has only one kind of object but the position of the objects in a group change. Identical groups are repeated. In some patterns different objects are used to make up a group, but the groups of objects are repeated in the same way. Patterns can be made in which the size of objects alternates in exactly the same way.
	Number patterns	• Copy number sequences to at least 100. • Counting forwards from any multiple of 10, 5, 2 between 0 & 100. • Create and describe own number patterns.	• Copy, extend and describe number sequences to at least 200 • Create and describe own number patterns.	**Complete number patterns… multiples, even, odd, etc.** • Sequences should show counting forwards and backwards in: - in 1s, from any number between 0 and 200 - 2s, 5s, 10s 3s, 4s from any multiple of 2, 5, 10, 3, 4, between 0-200
SPACE AND SHAPE (GEOMETRY)	**Position, orientation and views**	• Apply the language of position learnt when giving directions to complete a task.	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.	Follow directions to complete tasks related to other skills. Concentrate on the correct language usage. Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. List instructions to get to the tuck shop. Practise the position words by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.

MEASUREMENT	**Length**	**Informal measuring** • Compare. Order the length, height or width of 2 or more objects placed next to each other. • Use language to talk about comparison e.g. longer, shorter, taller and wider. • Measurement in centimetres and metres.	• Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc. • Compare, order estimate, measure, describe and record.	Develop an understanding of length and the talk that goes with it. Prepare and practise for skills course where measurement - length is a concept that has to be mastered.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record using non- standard measurements • Use appropriate language. heavy, light • Consider mass as per skills subjects –use a scale, measuring cups, etc. in grams and kg.	**Non-standard** units e.g. blocks, bricks, etc. and unit e.g. grams, kilograms, etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier, etc. • Compare, order estimate, measure, describe and record. • Describe standard measures: Kilogram (kg); gram (g) **Introducing formal measuring** Compare, order and record the mass of commercially packaged objects which have their mass stated in kg e.g. 2 kg of rice and 1 kg of flour. Where bathroom scales are available, learners can measure their own mass in kg using a bathroom scale. The expectation is that learners only read to the nearest kg.	Consider the skills subjects offered and adapt teaching to accommodate practising the necessary maths concepts. Use bathroom scale to measure body mass and collect data for graph work in data handling lesson. **Informal measurement of mass using a balance and non-standard units** Teach measurement using non-standard units. Measuring with mass with non-standard units involves counting how many of the chosen unit has the same mass as the object being measured. For example a ruler has the same mass as 9 blocks.

DATA HANDLING	Collect and organise data	Collect organise and sort learners body mass. Represent this on a pictograph and interpret the data.	Collect data about capacity or mass that was measured above and represent the data on a pictograph, bar graph.	• Sort learners body mass • Arrange the masses on pictograph **Features of a pictograph that learners need to be taught**: • Where and how to label the graph (graph title) • Where and how to label the categories • The pictograph needs to have a key which explains what each picture means • The pictures or the spaces for pictures need to be the same size • How to place the pictures evenly in rows • How to read the graph

TERM 4 GRADE 1 AND 2	
LESSON WEEK 7 & 8	**REVISION OF THE WORK TAUGHT DURING THE TERM.**
TERM 4 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**

MATHEMATICS

GRADE 3

TERM 4

TERM 4 GRADE 3			
LESSON 1 WEEK 1 & 2	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATION-SHIPS	**Count objects forwards and backwards**	Count forwards and backwards in: • 1s to 800 • multiples of 10s, 5s, 2s, 3s, 4s, from to at least 800. • 20s, 25s, 50s,100s to at least 800	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare numbers	**Describe compare and order number 0-800** • Compare whole numbers up to 800 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 800, smallest to greatest; greatest to smallest. • Use, read and write ordinals to **31st**	Fill in the missing numbers on parts of a grid Fill in the missing numbers: 514 517 etc. Answer orally to the following questions: Which numbers lie between 482 and 487?
	Place Value	**Know place value to 800** • Know what each digit represents. • Decompose 3digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 745=7 hundreds, 4tens,5 ones Know what the number 4 digit represents in 745 (4 tens).
SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS			
	Problem Solving techniques	**Use the following techniques to solve problems to 800** • build up & break down numbers • doubles and halves • number lines s • rounding off in tens	**Number lines** Using number lines in order to help them calculate will allow learners a way to record their thinking and to keep track of it. It also allows learners to have a recording image that they can use to explain how they solved the problem. Allow learners to choose the technique most comfortable for them. - They need to be guided.
	Addition and Subtraction	**Calculations** • Add to 800 • Subtract from 800 • Use appropriate symbols(+, -, , □) Practise number bonds to 25	

	Repeated addition leading to multiplication	Solve **word problems** in context and explain own solution to problems involving multiplication with answers up to **100.** **Calculations** • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate signs (×,=, □)	**Repeated addition** How many wheels do 20 bicycles have? Noel walks 6 blocks a day. How many blocks does he walk in a week?
	Grouping and sharing leading to division	Solve **word problems** in context and explain own solution to problems that involve equal sharing and grouping up to 100 with answers that may include remainders. •	As with multiplication, the basic understanding of division is equal sharing and grouping **grouping** (e.g. twelve children at tables of four, how many tables) **sharing** (e.g. twelve children at four tables, how many at each) etc.
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve • equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	
	Division	**Calculations** • Divide numbers to 99 by 2, 3, 4, 5,10 • Use the appropriate symbols(÷, □, =)	
	Money	• Solve money problems involving totals in rands and cents • Convert between rands and cents.	S A currency- set up practical sessions where a shopping adventure is engaged in. Make use of play money and the shopping list.
	Mental Maths	**Number Concept: Range 0- 999** • Order, compare, numbers. • Rapid recall of +, -, facts to 20 • Multiplication and division facts for the 2 and 10 times table up to 10	**Mental strategies** are: - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
	Fractions	• Recognise fractions in diagrammatic form. • Write fractions as 1 half, 2 thirds, etc.	Understanding number: the wholeness of number is vital before learners can see fractions of the whole.
PATTERNS, FUNCTIONS AND ALGEBRAE	**Number Patterns**	• Copy, extend and describe number patterns in 1s, to 800 • From any multiple of 2s, 5s, 10s 3s, 4s, 20s, 25s, 50s to 800	Sequences should show counting forwards and backwards specified intervals. Encourage the creation of own number patterns.

SPACE & SHAPE (GEOMETRY)	**Position, orientation and views:**	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps. **Position and Direction** • Follow directions from one place on an informal map.	Allow for mapping/ verbalising routes to a particular venue at school. Learners require the language skills to do so.
	3D objects: **2D shapes** **Features of shapes**	Range of objects Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders - cones Recognise and name 2D shapes - circles - triangles - squares - rectangles Describe, sort and compare 2D shapes in terms of: - size, colour, straight sides, round sides, shape	Focus on building 3D objects using concrete materials such as cut- out 2D shapes, toothpicks, straws, other 3D geometric objects. Work with all objects mentioned distinguish whether they are curved or flat. Talk about the flat surfaces on prisms and cylinders and describe them according to whether they are circular, square, rectangular or triangular. Consolidated work via written exercises.
MEASUREMENT	**Time**	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	During independent work time learners continue to sequence events from their daily lives and sequence pictures of events in order.
	Length	**Formal measuring** • Estimate, measure, compare using sticks, metre length strings • Estimate, measure, record lengths in centimetres using a ruler. • Investigate the distance around 2D shapes- Perimeter.	Length is a concept required in the all skills subjects. Measure perimeter around shapes and objects.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	Compare & record all measurements talk about, ask questions and allow for recording of sums relating to the measured capacity.

TERM 4 GRADE 3			
LESSON 2 WEEK 3 & 4	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate, count, group to at least 1000 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Counting in groups & **counting on** is focus. - See previous lesson
	Count objects forwards and backwards	**Count forwards and backwards in:** • 1s to 1000 • multiples of 10s,5s, 2s, 3s,4s, to at least 1000. • 20s,25s,50s,100s to at least 1000	**Resources** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s, 20s, 50s, 25s, etc.
NUMBER CONCEPT DEVELOPMENT			
	Describe, order and compare number s	**Describe compare and order number 0- 1000** • Compare whole numbers up to 1000 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 1000 • Use ordinal numbers to show order- 31st.	• Use flard cards/ place value cards to pack out number. • Use calendar to influence ordinal numbers.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens, ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 309 =3 hundreds, 0 tens, 9 loose ones; 4 digit in 479 =4 hundreds/ 4H/ 400
SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS			
	Addition and Subtraction	Solve **word problems** and explain own solution to problems involving addition and subtraction with answers up to 999. **Calculations** • Add to 999 • Subtract from 999 • Use appropriate symbols(+, -, □) Practise number bonds to 30	The foll. techniques can be used: - build up & break down numbers - doubles and halves - number lines s - rounding off in tens

	Repeated addition leading to multiplication	**Solve number problems** in context and explain own solution to problems involving multiplication with answers up to **100**. •	*Note* that Multiplication is **repetitive addition** of the same number,**(6+6+6 +6 = 24)** hence the emphasis is on addition initially. Multiplication is the **inverse (6×4=24 24÷4= 6** of division and it is **commutative. E.g. 8 × 4= 4 × 8 = 32**
		Calculations • Multiply 2, 3, 4, 5, 10 to a total of **100** • Use the appropriate signs (×,=, □)	
	Grouping and sharing leading to division	**Solve number problems** in context and explain own solution to problems that involve equal sharing and grouping up to **100** with answers that may include remainders	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse property can be highlighted here. Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	
	Division	**Calculations** Divide 2, 3, 4, 5,10 to a total of 100 • Use the appropriate symbols(×,-,=)	
	Fractions	• Recognise fractions in diagrammatic form • Recognise that five fifths make one whole, three thirds = 1 whole.	Only once a good number sense has been developed can the learner acknowledge the pieces of one whole.
	Mental Maths	**Number Concept: Range 0-** 1000 • Order and compare numbers to 1000 and say which is more: 313 or 131? • Rapid recall of +, -, ×, ÷ to 100 • Addition and Subtraction facts to 20 • Two times table up to 2×10 • Ten times table up to 10×10	**Mental strategies are:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between addition and subtraction • Use the relationship between multiplication and division.
	Money	• Recognise S A currency and solve problems involving totals and change.	Change rands and cents into smaller denominations.

PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• **Copy, extend and describe** in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	It is usually easier for learners to talk about the pattern after they have made it. Learners need to be trained in what to look for and how to describe the pattern.
	Symmetry	• Determine the line of symmetry through paper folding and reflection.	Note that a line of symmetry is not always a vertical line.
MEASUREMENT	**Length**	**Formal measuring** • Estimate, measure and compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres using a ruler. • Investigate the distance around 2D shapes- Perimeter.	Practical work is emphasised and work on the necessary measurement skills in Length that is required in the particular skills subjects offered. Measure perimeter around shapes and objects.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	Compare and record all measurements. Discuss and ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or lengths measured and to plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organize data provided on a list /tally /table • Represent data on bar graph.

TERM 4 GRADE 3			
LESSON 3 WEEK 5 & 6	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate group and count reliably to at least 1000 objects. **e.g. s** - Start at 600 and count back in 50s to 100. - Start at 100 and count on in 20s to 400. - Start at 360 and count on in threes to 421.	• Learners must see 880 objects and suggest efficient ways of counting it. • Counting supports the skill for understanding place value; rote counting, knowing number names and symbols; skills for calculating.
	Count objects forwards and backwards	• Count forwards and backwards in 1s - 1000 • Count forwards and backwards in multiples of 10s, 5s, 2s, 3s, 4s, to at least 1000. • 20s,25s,50s,100s to at least 1000	**Resources:** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
Number concept development			
	Describe, order and compare numbers	**Describe compare and order number 0-1000** • Compare whole numbers up to 1000 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 1000. • Use ordinal numbers to show order.	• Use flard cards/ place value cards to pack out number. • Use calendar to influence ordinal numbers.
	Place Value	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 479 is 4 hundreds.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT–FREE CALCULATIONS (+, -, ×, ÷, □)			
	Problem Solving techniques **Addition and Subtraction**	**Use the following techniques to solve the problems** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens **Solve word problems** in context and explain own solution to problems involving addition and subtraction with answers up to 999	• Allow learners to show tell and record all their workings. Peer learning can be effective in this way. • Learners may use any techniques they feel comfortable with. • Check solutions to calculations by using the inverse property.
		Calculations • Add to 999 • Subtract from 999 • Use appropriate symbols(+, -, □) • Practise number bonds to 30	
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 100. •	Note that Multiplication is repetitive addition of the same number, hence the emphasis is on addition initially. Multiplication is the inverse of division and it is commutative. E.g. 8 × 4= 4 × 8 = 32. Doubling (×2) Encourage learners to learn tables – see the relationship between multiplication and division. The inverse property can be highlighted here. ***A solid sense of number is vital when working with fractions.***
		Calculations • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate signs (×,=, □)	
	Grouping and sharing leading to division	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 100 with answers that may include remainders.	
		Calculations • Divide 2, 3, 4, 5,10 to a total of 100 Use the appropriate symbols(÷,□,=)	
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	

	Mental Maths	**Number Concept: Range 0-** 999 • Compare numbers to to 1000 • Say which is 5 more or 5 less 4 more or 5 less, etc. Rapid recall: - Multiplication and division facts for the 2 times and 10 times table up to 2 × 10 - addition and subtraction facts to 20	**Mental Strategies:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between addition and subtraction Use the relationship between multiplication and division
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. **Range of patterns** - Regularly increasing patterns - Decreasing patterns	Learners can make patterns by threading beads. Patterns are done in most skills subjects. Do allow learners to talk about the logic and their understanding of patterns as this leads to problem solving.
MEASUREMENT	**Length**	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe and record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Recording lengths in centimetres. Take account of the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally they can measure a variety of lengths or distances in metres.
	Mass	**Informal measuring** • Estimate, measure, compare, order, record mass using a non-standard balance scale and non- standard measures • Talk about the comparison e.g. light, heavy, etc. **Introducing formal measuring** • Compare, order and record mass e.g. 5 kg sugar, 2,5 kg flour, 2kg rice, use bathroom scales to weigh own body mass. • Where bathroom scales are available, learners can measure their own mass in kg using a bathroom scale. The expectation is that learners only read to the nearest whole kg.	Informal measurement of mass using a balance and non-standard units Learners can learn all the principles and practises of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units.

TERM 4 GRADE 3			
LESSON 4 WEEK 7 & 8	**TOPIC**	**CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate and count, group to at least 1000 objects and count reliably.	• Counting in groups & **counting on** is focus.
	Count objects forwards and backwards	• Count forwards and backwards in 1s to1000 • Count forwards and backwards in multiples of 10s, 5s, 2s, 3s,4s, to at least 1000. • 20s, 25s, 50s, 100s to at least 1000.	**Resources** String of counting beads, number grid, the abacus to practise counting in groups of 10s, 5s, 2s, 3s, 4s.
NUMBER CONCEPT DEVELOPMENT			
	Number symbols and number names	• Identify, recognise, read, write number symbols – 1000 • Identify, recognise and read number names – 500.	See previous notes for solid number work here.
	Describe, order and compare numbers	**Describe compare and order number 0- 1000** • Compare whole numbers up to 1000 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 1000. • Use ordinal numbers to show order.	See previous notes for solid number work here.
	Place Value	• Know what each digit represents. • Decompose 3Digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 607 =6 groups of hundreds, 0 tens & 7 loose ones; • Know the 4 digit in 946 is 4 tens/ 40

SOLVING PROBLEMS IN CONTEXT AND CONTEXT–FREE CALCULATIONS (+, -, ×, ÷, □)			
	Problem Solving techniques **Addition and subtraction**	**Use the following techniques to solve** the problems to 999 - build up & break down numbers - doubles and halves - number lines s - rounding off in tens **Calculations** • Add to 999 • Subtract from 999 • Use appropriate symbols(+, -, □) • Practise number bonds to 30	• Allow learners to show tell and record all their workings. • Use bright learners to tell and show their techniques for working out of sums as the weaker ones often learn better in this way.
	Repeated addition leading to multiplication	Solve number problems in context and explain own solution to problems involving multiplication with answers up to 100. **Calculations** • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate signs (×,=, □)	Note that Multiplication is repetitive addition of the same number, grouping of number, hence the emphasis is on addition initially. It is the inverse of division and multiplication is commutative. E.g. 9× 4= 4 × 9= 36 Doubling is equivalent (to × 2). Allow learners to see the patterning in the above.
	Grouping and sharing leading to division	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 100 with answers that may include remainders.	Encourage learners to learn tables – see the relationship between multiplication and division. The inverse of × is ÷ can be highlighted here. Understanding number – the wholeness of number is vital before learners can see fractions of the whole. ***A solid sense of number is vital!***
	Division	**Calculations** • Divide 2, 3, 4, 5,10 to a total of 100 • Use the appropriate symbols(÷,-,=)	
	Sharing leading to fractions	Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	
	Fractions	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	Only once a good number sense has been developed can the learner acknowledge the pieces of one whole.

	Mental Maths	**Number Concept: Range 0-** 999 • Ordering and comparing to 1000 and say which is more: 878 or 787? • Rapid recall of +, -, ×, ÷ to 100 • Multiplication and division fact for the 2, 10 times table • Rapid recall of addition and subtraction facts to 20	**Mental Strategies:** • Put larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down • Use the relationship between addition and subtraction • Use the relationship between multiplication and division.
MEASUREMENT	**Area**	Investigate the area using tiles.	Practical work. Written recording in note books.
	Perimeter	Investigate the distance around 2D shapes.	Practical work and do written consolidation in note books.
	Length	**Non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.** • Compare, order, estimate, measure, describe and record. • Describe standard measures: Metre (m), centimetre (cm) **Formal measures e.g. m, cm** • Estimate, measure, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length.	Focus on estimating, measuring, comparing and recording lengths in centimetres. Take account of the number range appropriate for the term, as well as the range of problems types appropriate for this term. Finally they can measure a variety of lengths or distances in metres.
DATA HANDLING	**Collect and organise data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data on bar graph. • Answer questions about data on bar graph.	Represent data collected in mass on bar graph. Grocery items measured and recorded. Learners body mass – noted and recorded.
TERM 4 WEEK 9 &10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**		

MATHEMATICS

GRADE 2 & 3

(COMBINED)

TERM 4

TERM 4 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 1 WEEK 1 & 2	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects**	• Estimate group and count objects reliably to at least 160.	• Estimate, group and count, to at least 1000 objects and count reliably.	Counting supports the skill for understanding place value; rote counting, knowing number names and symbols; skills for calculating.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-160. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any of the aforementioned multiples between 0-160.	Count forwards and backwards in • 1s to 1000 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 1000. • 20s, 25s, 50s, 100s to 1000.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare number	**Describe, order and compare numbers to 60** • Compare, order whole numbers from smallest to greatest and vice versa and equal to. - Use ordinal numbers to show order, place or position.	**Describe compare and order number 0- 800** • Compare whole numbers up to 800 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 800, smallest to greatest; greatest to smallest.	Use **number line** to show order and to compare numbers
	Place Value	• Recognise the place value of numbers 11-60. • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	**Know place value to 800** • Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 485 =4 groups of hundreds, 8 tens ,5 ones • Know what the number 4 digit represents in 742 i.e. 4 tens.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS				
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 80.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-800.	**Solve the problems to 800** • build up & break down numbers • doubles and halves • number lines s • rounding off in tens
		Calculations: Add to 80 Subtract from 80 • Use appropriate symbols (+, -, =, □) • Practise bonds to 20.	**Calculations:** Add to 800 Subtract from 800 • Use appropriate symbols (+, -, =, □) • Practise bonds to 30.	
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 50	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 100	Learners are expected to solve the word problems using a technique mentioned above that they are comfortable with. Encourage learners to write the
		Calculations: • Multiply 1 to 10 by 2, 5, 4 • Use the appropriate signs (×, □, =)	**Calculations:** • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate signs (×, □, =)	Record the number sentence for all the word problems. Expect learners to use repeated addition number sentences to show the solution.
	Grouping and sharing leading to division	• Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 30 with answers that may include remainders.	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to **100** with answers that may include remainders.	**Examples of problems that can be done** **Sharing** I have 18 pencils to share equally amongst the three of you; how many will you each get? **Grouping** How many cars can you make if you have 20 wheels? How many motorbikes? **Array** Mongezi packs out 20 counters into 10 rows. How many counters in a row?
	Division		**Calculations:** • Use the appropriate symbols(÷,=, □) • Divide numbers to 99 by 2, 3, 4, 5, 10	

	Division		**Calculations:** • Use the appropriate symbols(÷,=, □) • Divide numbers to 99 by 2, 3, 4, 5, 10	
	Sharing leading to fractions	Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, etc.	Solve and explain solutions to practical that problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Recognise fractions in diagrammatic form. • Write fractions as 1 half, 2 thirds, etc.	Encourage the building of a solid number sense and a thorough number concept before fractions are understood as parts of a whole.
	Money	Recognise SA currency. Solve money problems involving totals and change to R20 and cents up to 50c.	Solve money problems involving totals and change. Convert between rands and cents.	**E.g.** Share 50c equally amongst four children. Explain how you can do this. Recognition of SA currency- set up practical shopping activities.
	Mental Maths	**Number range 0- 60** • Order, compare, rapid recall, calculation strategies are concentrated on see *teacher notes.* • Work on consolidating the rapid recall of addition and subtraction facts to 30 • Add and subtract multiples of 10 from 0-50	**Number Concept: Range 0- 800** • Order, compare, numbers. • Rapid recall of +, -, ×,÷	Rapid recall is required here the following **mental strategies** must be concentrated on. - Put larger number first in order to count on or count back - Number line - Doubling and halving - Building up and breaking down - Use the relationship between addition and subtraction.
SPACE AND SHAPE	**Position, orientation and views**	Match different views of the same everyday object **Position and Direction** Follow directions to move around the classroom.	Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps. **Position and Direction** • Follow directions from one place on an informal map.	• Make this as practical as possible, allow the learners to do the movements in this regard.

	3D objects	**Recognise and name 3D objects** - balls (spheres) - box (prisms) • know the features of 3D objects in terms of - size, colour, objects that roll, objects that slide • Build with concrete materials such as building blocks, recycling material and construction kits	**Range of objects** • Recognise and name 3D objects in the classroom. - ball shapes (spheres) - box shapes (prisms) - cylinders - cones	Have relevant objects available for recognition and discussion.
	2D shapes **Features of shapes**	**Range** of shapes • Recognise and name 2D shapes - circles - triangles - squares **Features** - Size, colour, straight sides, round sides.	**Recognise and name 2D shapes** - circles - triangles - squares - rectangles **Describe, sort and compare 2D shapes in terms of:** - size, colour, straight sides - round sides	• Use shapes to make patterns. • Practise patterns and record it in all its forms that relate to the skills subjects offered.
MEASUREMENT	**Time**	**Telling the time** • Place birthdays, religious festivals, public holidays, historical events on calendar • **Calculate length of time and passing of time** - Use calendars to calculate and describe length of time in days or weeks. • Use clocks to calculate length of time in hours and half hours.	**Telling the time** • Read dates on calendars • Place birthdays, public holidays, historical events on calendar • Know analogue and digital clocks • Calculate length of time and passing time.	Practise talking about the duration of time and the sequencing of time. During independent work time learners continue to sequence events from their daily lives and sequence pictures of events. Learners also work with examples related to telling the time in hours and half hours.

TERM 4 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON2 WEEK 3 & 4	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects forwards and backwards**	Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 4, 3 between 0-200.	Count forwards and backwards in • 1s to1000 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 1000. • 20s, 25s, 50s, 100s to1000.	Encourage games that will promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise read, write number symbols and number names: 0-200.	• Identify, recognise, read, write number symbols and number names to 1000.	• Show groups of objects for learners to identify and match number symbols and write this in exercise books. Say number names to reinforce this number work.
	Describe, order and compare numbers	• Describe, compare, whole numbers using smaller than, greater than, more than, less than and is equal to, up to 99. • Order whole numbers from smallest to greatest and vice versa.	• **Describe and** compare whole numbers up to 999 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 999. • Use ordinal numbers to show order.	• Use flard cards/ place value cards to pack out number. • Use calendar to influence ordinal numbers.
	Place Value	**Recognise the place value of numbers 11-99.** • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	**Recognise the place value of numbers to 999.** • Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	Use place value/ flard cards to show the number grouped and counted. 309 =3 groups of hundreds, 0 tens, 9 loose ones; Know that the 8 digit in 845 represents 8 hundreds.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS				
	Problem solving techniques	**Solve the problems to 99** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving - number lines supported by concrete apparatus.	**Solve the problems to999** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens.	• Allow learners to show, tell and record all their workings. Peer teaching occurs in this way.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 99.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-1000.	Use concrete apparatus and the number line do work out all sums.
		Calculations • Add to 99 • Subtract from 99 • Use appropriate symbols (+, -, =, □) Practise bonds to 20.	**Calculations** • Add to 999 • Subtract from 999 • Use appropriate symbols (+, -, =, □) Practise number bonds to 30.	
	Repeated addition leading to multiplication	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 50	Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 100	**Repeated addition** How many eyes do 7 children have? Learners might solve the problem in the following way: Pictures or drawings should show grouping. **Grids or arrays** A vegetable garden has 5 rows of plants. Every row has the same number of plants. If there is a total of 15 plants, how many plants are in each row?
		Calculations • Multiply 1 to 10 by 2, 5, 4 • Use the appropriate signs (×, □, =)	**Calculations** • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate signs (×, □, =)	

	Grouping and sharing leading to division	Solve word problems and explain own solution to problems that involve equal sharing and grouping up to 60. **Grouping** (e.g. twelve children at tables of four, how many tables?) **Sharing** (e.g. twelve children at four tables, how many at each?)	Solve number problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. • • **Divide** 2, 3, 4, 5,10 to a total of 99 • Use the appropriate symbols (÷, □, =)	Allow learners to use concrete, semi concrete apparatus and explain and record their findings always. When learners talk about their strategies they internalise the methods used and others also through listening may learn how to apply their minds.
	Sharing leading to fractions	Sharing leading to fractions Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½, ¼ , $\frac{1}{5}$, $\frac{1}{3}$, etc.	Solve and explain solutions to practical that problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc.	Show the relationship to multiplication here e.g. 20 divided by 10 rows = 2 check by multiplying.
	Mental Maths	Order and compare numbers to 99. • Which is more: 14 or 41? • Rapid recall of + and - to 20 • Quickly recall halving and doubles to 99	Order and compare numbers to 999. • Rapid recall of + and -, to 30 • Which is more/ less • Quick recall of halving and doubling to 999	Use the relationship between multiplication and division.
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	
SPACE AND SHAPE	**Position , orientation and views**	• Recognise and match different views of the same object.	• Read, interpret and draw informal maps, or top views of a collection of objects. • Find objects on maps.	• Make this as practical as possible, allow the learners to do the movements in this regard.

	Position and direction	Follow directions to move around the classroom.	**Position and Direction** • Follow directions from one place on an informal map.	
MEASUREMENT	**Length**	**informal measuring** • Compare, order estimate, measure, describe and record. • Describe standard measures: m, cm. **Formal measuring** Estimate, measure, compare order and record length using metres (metre sticks or metre lengths of string) as the standard unit of length.	**Formal measuring** • Estimate, measure and compare using sticks, metre length strings • Estimate, measure and record lengths in centimetres using a ruler. Investigate the distance around 2D shapes- Perimeter.	• Practical work is emphasised and works on the necessary measurement skills in Length that is required in the particular skills subjects offered. • Measure perimeter around shapes.
	Perimeter		**Perimeter** Investigate the distance around 2D shapes and 3D objects using direct and indirect measurements.	Do practical activities that relate to the skills subjects offered. Allow for measuring with a tape measure, ruler and work out the distance around the shape, object, etc.
	Perimeter		**Area** Investigate the area using tiling	Measure area by using tiling, and move on to formal measuring.
	Capacity	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	**Formal measuring** • Estimate, measure, compare, order and record the capacity of objects – measure in litres, half litres, quarter litres.	Compare and record all measurements and talk about, ask questions and allow for recording of sums relating to the measured capacity.
DATA HANDLING	**Collect and organise data**		• Collect data about the class or lengths measured and to plot the data on a bar graph. • Answer questions about data on bar graph.	• Re organise data provided in a list or tally or table in a bar graph. • Represent data on bar graph.

TERM 4 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 3 WEEK 5 & 6	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS & RELATIONSHIPS	**Count objects forwards and backwards**	• Count forwards in 1s, 10s,5s, 2s; 3s; 4s from any number between 0-200 • Count backwards in 1s, 10s, 2s, 5s, 3s, 4s from any number in 1s and any multiple of 10, 5, 2, 3, and 4 between 0-200.	Count forwards and backwards in • 1s to 1000 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 1000 • 20s, 25s, 50s, 100s to at least 1000.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting.
NUMBER CONCEPT DEVELOPMENT				
	Number symbols and number names	• Identify, recognise and read number symbols: 0-200. • Write number symbols 0-200 • Identify, recognise and read number names 0–75. • Write number names 0-75.	**Describe compare and order number 0- 1000** • Compare whole numbers to 1000 using smaller than, greater than more than, less than, equal to. • Order whole numbers up to 1000.	• Use flard cards/ place value cards to pack out number. • Use calendar to influence ordinal numbers.
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa.	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 479 is 4 hundreds.
	Place Value	• Recognise the place value of numbers 11-75. • Decompose 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	• Know what each digit represents. • Decompose 3 digit numbers into multiples of hundreds, tens and ones/units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 634=6 groups of hundreds, 3 tens and 4 loose ones; • Know the 4 digit in 479 is 4 hundreds.

SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS				
	Problem solving techniques	**Use the techniques to solve the problems** - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving number lines supported by concrete apparatus.	**Use the following techniques to solve the problems** - build up & break down numbers - doubles and halves - number lines s - rounding off in tens	Allow learners to use a method that they are comfortable with.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 99.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 999.	Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down their findings. (The doing, talking and recording) • This will assist in reinforcing what has been learnt. Peer learning happens via the shared experience.
		Calculations • Add to 99 • Subtract from 99 • Use the appropriate symbols (+, □, =) Practise bonds to 20.	**Calculations** • Add to 999 • Subtract from 999 • Use the appropriate symbols (+, □, =) Practise bonds to 30.	
	Repeated addition leading to multiplication	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 50	• Solve word problems in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 100	Examples of strategies to solve problems. (Depend on the learners' number sense). Equivalent groups (e.g. three tables, each with four children): which are represented as repeated sets. Multiplicative comparison (e.g. three times as many boys as girls):which is represented as many to one correspondence. Rectangular arrays (e.g. three rows of four children): which are represented as rows and columns.
		• Multiply 1 to 10 by 2, 5, 4 • Use the appropriate symbols (×, □, =)	• Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, □, =)	

	Grouping and sharing leading to division	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. • Divide 2, 3, 4, 5, 10 to a total of 99 • Use the appropriate symbols(÷, □, =)	As with multiplication, the basic understanding of division is equal sharing and grouping. • **grouping** (e.g. twelve children at tables of four, how many tables) • **sharing** (e.g. twelve children at four tables, how many at each).
	Mental Maths	*REVISE PREVIOUS WEEKS WORK*	*REVISE PREVIOUS WEEKS WORK*	*REVISE PREVIOUS WEEKS WORK*
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects.	**Copy, extend and describe in words.** • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range of patterns - Regularly increasing patterns - Decreasing patterns.	• **Copying** patterns helps learners to see the logic of how the pattern is made. • **Extending** the pattern helps learners to check that they have properly understood the logic of the pattern. • **Describing** the pattern helps learners to develop their language and speaking skills. It also helps you to see how learners have interpreted the pattern.

SPACE AND SHAPE	**Position , orientation and views**	• Recognise and match different views of the same object. • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object. • Follow directions to move around the classroom.		• Follow directions to complete tasks related to other skills. • Concentrate on the correct language usage. • Ask learners to record how they will navigate towards the workshop area/ to the principal's office, etc. • List instructions to get to the tuck shop.
MEASUREMENT	**Capacity/ Volume**	• Non-standard e.g. cups, containers, bottles, spoons etc. • Use language to talk about the comparison e.g. more than/ less than, full/empty. • Compare and order estimate, measure, compare, order and record and describe.	Concentrate on standard units of measurement. l, ml	What is capacity? What is volume? A bottle can have a capacity of four full cups, but it may not be filled to its full capacity; it could, for example, only contain a volume of one cup of water at a particular time. Capacity is the total amount that an object can hold (or the amount of space inside the object). Volume is the amount of space that something takes up.

TERM 4 GRADE 2 AND 3 (COMBINED LESSON)				
LESSON 4 WEEK 7 & 8	**TOPIC**	**GR2 CONTENT**	**GR3 CONTENT**	**TEACHER NOTES**
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Count objects**	• Estimate, check and count objects to at least 180 everyday objects in 10s, 5s, 2s, 3s, and 4s. • Encourage the grouping of objects to facilitate counting.	• Estimate and count, group to at least 10] • 00 objects and count reliably. • Encourage grouping of objects to facilitate counting.	• Estimate, predict count out to check. • Encourage learners to count on. • Subitising also happens where they group objects with the eye and count in bigger numbers. NB: All counting skills develop will be practically applied in different workshops.
	Count objects forwards and backwards	• Count forwards and backwards in 1s from any number between 0-180. • Count forwards and backwards in, 10s, 5s, 2s, 4s, 3s from any multiple of 10, 5, 2, 3, 4, between 0 -180.	Count forwards and backwards in • 1s - 700 • 10s, 5s, 2s, 3s, 4s from any multiple of 10, 5, 2, 3, 4 to at least 1000 • 20s, 25s, 50s, 100s to at least 1000.	• Use abacus, objects, beads on a string, etc. • Encourage games that promote counting. **Resources:** String of counting beads; the abacus to practice counting in groups of ten, 5, 2, 3, 4.
NUMBER CONCEPT DEVELOPMENT				
	Describe, order and compare number	• Compare, whole numbers using smaller than, greater than, more than, less than and is equal to. • Order whole numbers from smallest to greatest and vice versa to 75.	**Describe compare and order number 0- 1000** • Compare whole numbers up to 100 using smaller than, greater than more than, less than, is equal to. • Order whole numbers up to 1000. • Use ordinal numbers to show order.	• Use counters, objects, etc. • When we talk about position we use ordinal numbers… first, second, third, fourth, fifth, etc. this can be dealt with when learners have to present a task, talk about who will be first, etc. • Use number line to show order and to compare numbers to ten.

	Place Value	• Recognise the place value of numbers 11-50 • Break down 2-digit numbers into multiples of tens and ones. • Identify and state the value of each digit.	• Know what each digit represents. • Break down 3digit numbers into multiples of hundreds, tens and ones/ units. • Identify and state the value of each digit.	• Use place value/ flard cards to show the number grouped and counted. • 309 =3 groups of hundreds, 0 tens and 9 loose ones; • Know the 4 digit in 479 is 4 hundreds.
SOLVING PROBLEMS IN CONTEXT AND CONTEXT – FREE CALCULATIONS				
	Problem solving techniques	• Use the techniques to solve the problems - drawings or concrete apparatus - building up and breaking down of numbers - doubling and halving • number lines supported by concrete apparatus.	Use the following techniques to solve the problems - build up & break down numbers - doubles and halves - number lines - rounding off in tens	• Allow learners to use objects in order to strategise; also to talk about their methods employed to do the problem and to write down what they have done. (The Doing, Talking and Recording) This will assist in reinforcing what has been learnt. Other learners also indirectly learnt from this shared experience.
	Addition and Subtraction	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 99. **Calculations** • Add up to 99 • Subtract from 99 • Use the appropriate symbols (+, -, □, =) • Practise bonds to 20.	Solve word problems in context and explain own solutions to problems involving +, - with answers up to 0-999. **Calculations** • Add up to 999 • Subtract from 999 • Use the appropriate symbols (+, -, □, =) • Practise number bonds to 30.	Use concrete apparatus and the number line do work out all sums with the answers up to 10.

	Repeated addition leading to multiplication	Solve **word problems** in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 50 **Calculations** • Multiply 1 to 10 by 2, 5, 4 • Use the appropriate symbols (×, □, =).	Solve **word problems** in context and explain own solution to problems involving repeated addition and to multiplication with answers up to 100 **Calculations** • Multiply 2, 3, 4, 5, 10 to a total of 100 • Use the appropriate symbols (×, □, =).	• Use number line to support teaching, allow for drawings, apparatus, and ask how we can write this in a simpler way. • Probe for the number pattern. • **Repeated addition** - How many wheels do 4 bicycles have? - How many eyes do 7 children have? Learners might solve the problem in the following way: - Pictures or drawings should show grouping.
	Grouping and sharing leading to division **Sharing leading to fractions** **Division**	Solve word problems in context and explain own solution to problems that involve equal sharing and grouping up to75 with answers that may include remainders. Solve word problems in context and explain own solutions to problems that involve equal sharing leading to ½,¼, $\frac{1}{5}$, $\frac{1}{3}$, etc. • Sharing leading to fractions.	Solve number problems in and out of context and explain own solution to problems that involve equal sharing and grouping up to 75 with answers that may include remainders. Solve and explain solutions to practical problems that involve equal sharing leading to ½, ¼, $\frac{1}{5}$, $\frac{1}{3}$, ¾, ⅔, etc. **Calculation** • **Divide** 2, 3, 4, 5,10 to a total of 99 • Use the appropriate symbols(÷, □, =.)	• Concrete apparatus are used initially. • Link this teaching to halves and doubles. • Note the number patterns and record this on chart for the classroom. • Note how grouping is linked to sharing… highlight the division operation. Show relationship to multiplication, e.g. 20 divided by 10 rows = 2 check by multiplying; Do the addition and subtraction… allow learners to see the relations and to work out what fraction is involved e.g. share between 2 (½,), amongst 3 ($\frac{1}{3}$,) etc.

	Money	• 5c, 10c, 20c, 50c, R1, R2, R5. Banknotes R10 and R20 R50. • Solving money problems involving totals and change to R75 and cents up to 50c.		• Have a shopping list for a shopping experience … this works well for a practical lesson. • Keep advertisements of shopping specials from the Argus/ community papers for this practical aspect of the lesson.
	Mental Maths	Number range 0- 75.	Number Concept: Range 0- 999 • Order and compare to 999 Say which is more, less 929or 292? • Rapid recall of +, -, ×, ÷ to 60	• Ask what number comes 1st, second, after, before, last, etc. • Question about less than, more than e.g. What is 3 more than 4; 3 less than 7; 2 more than 6, etc?
	Fractions	• Use names of fractions, halves, quarters, thirds, fifths. • Recognise fractions in diagrammatic form.	• Recognise fractions in diagrammatic form. • Recognise that five fifths make one whole, three thirds = 1 whole.	• Share between 2 = half of; share among 3, thirds; among 4, quarter of: work with money… half price, quarter of the price?
PATTERNS, FUNCTIONS AND ALGEBRA	**Geometric Patterns**	• Copy, extend and describe in words. • Simple patterns made with physical objects • Simple patterns made with drawings of lines, shapes or objects.	Copy, extend and describe in words. • Simple patterns made with physical objects. • Simple patterns made with drawings of lines, shapes or objects. Range of patterns - Regularly increasing patterns - Decreasing patterns	• **Copying** patterns helps learners to see the logic of how the pattern is made. • **Extending** the pattern helps learners to check that they have properly understood the logic of the pattern.
SPACE AND SHAPE	**Position, orientation and views**	Language of position • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object.	Language of position • Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object.	• Make this as practical as possible, allow the learners to do the movements in this regard.

	Position and direction	Recognise and match different views of the same object. Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object.	Recognise and match different views of the same object. Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to the different views of same object.	• List instructions to get to the tuck shop. • Practise the position words by putting a list of these words on the word wall. Left/right; up/down; in/out; near/far; under/over; front/back, etc.
	Symmetry	• Recognise symmetry in own body; draw a line of symmetry in geometrical and non-geometrical shapes.		
MEASUREMENT	**Perimeter**		**Perimeter** Investigate the distance around 2D shapes and 3D objects using direct and indirect measurements.	Do practical activities that relate to the skills subjects offered. Allow for measuring with a tape measure, ruler and work out the distance around the shape, object, etc.
	Perimeter		**Area** Investigate the area using tiling	Measure area by using tiling, and move on to formal measuring.
DATA HANDLING	**Collect and sort data**	• Collect data about the class or school to answer questions posed by the teacher. • Represent data in pictograph. • Analyse and Interpret data. • Answer questions about data in pictograph.	Analyse data given on a bar graph. Plot data from capacity/ volume measure above on a bar graph. List questions that can be asked.	
TERM 4 WEEK 9 & 10	**REVISION WORK AND COMPLETE THE FORMAL ASSESSMENT TASKS.**			

INTERMEDIATE PHASE

MATHEMATICS

GRADE 4

OVERVIEW

Summary of Annual Teaching Plan: Mathematics Grade 4

Time	Term 1	Time	Term 2	Term 3	Term 4
Week 1	Baseline assessment	**Week 1 & 2**	Properties of whole numbers	Properties of whole numbers	Properties of whole numbers
Week 2	Properties of whole numbers				
Week 3 & 4	Number sentences	**Week 3 & 4**	Add and subtract: • in financial context • In context of measurement	Time	Capacity: Consolidating basic operations in context
Week 5 & 6	Add and subtract	**Week 5 & 6**	Multiply and divide: • in financial context • In context of measurement	Area, perimeter in context of basic 2D shapes; volume	Data
ASSESSMENT	**Assessment: FAT 1** Test on work from week 1 -6	**ASSESSMENT**	**Assessment: FAT 3** Project on financial mathematics or Test on work from week 1 - 6	**Assessment: FAT 5** Investigation on relationship between area and perimeter of 2D shapes	**Assignment: FAT 7** Completing assignment demonstrating the data cycle
Week 7 & 8	Multiply and divide	**Week 7 & 8**	Common Fractions	Length: Consolidating basic operations in context	Basic operations in financial context
Week 9 &10	Add, subtract, multiply and divide	**Week 9 & 10**	Common Fractions: In context of measurement	Mass: Consolidating basic operations in context	Revision
ASSESSMENT	**Assessment: FAT 2** Test on term 1's work	**ASSESSMENT**	**Assessment: FAT 4** Test/Exam on term 1 and 2 work	**Assessment: FAT 6** Test on term's work	**Assessment: FAT 8** End of year exam

MATHEMATICS

GRADE 5

OVERVIEW

Summary Annual Teaching Plan: Mathematics Grade 5

Time	Term 1	Time	Term 2	Term 3	Term 4
Week 1	Baseline assessment	**Week 1 & 2**	Properties of whole numbers	Properties of whole numbers	Properties of whole numbers
Week 2	Properties of whole numbers				
Week 3 & 4	Number sentences	**Week 3 & 4**	Add and subtract: • in financial context • In context of measurement	Time and temperature	Capacity: Consolidating basic operations in context
Week 5 & 6	Add and subtract	**Week 5 & 6**	Multiply and divide : • in financial context • In context of measurement	Area, Perimeter in context of basic 2D shapes; volume	Data
ASSESSMENT	**Assessment: FAT 1** Test on work from week 1 - 4	**ASSESSMENT**	**Assessment: FAT 3** Project on financial mathematics or Test on work from week 1 - 6	**Assessment: FAT 5** Investigation on relationship between area and perimeter of 2D shapes	**Assignment**: **FAT 7** Completing assignment demonstrating the data cycle
Week 7 & 8	Multiply and divide	**Week 7 & 8**	Common Fractions	Length: Consolidating basic operations in context	Basic operations in financial context
Week 9 &10	Revision: Add, subtract, multiply and divide	**Week 9 & 10**	Common Fractions: In context of measurement	Mass: Consolidating basic operations in context	Revision
ASSESSMENT	**Assessment: FAT 2** Test on term 1's work	**ASSESSMENT**	**Assessment: FAT 4** Test/Exam on term 1 and 2 work	**Assessment: FAT 6** Test on term's work	**Assessment**: **FAT 8** End of year exam

MATHEMATICS

GRADE 6

OVERVIEW

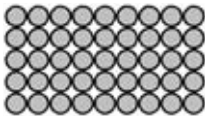
Summary Annual Teaching Plan: Mathematics Grade 6

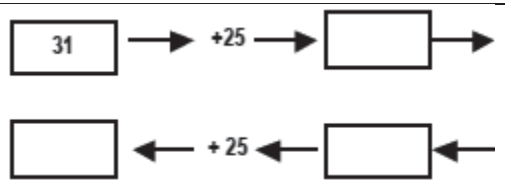
Time	Term 1	Time	Term 2	Term 3		Term 4
Week 1	Baseline assessment	**Week 1 & 2**	Properties of whole numbers	Properties of whole numbers	**Week 1 & 2**	Properties of whole numbers (consolidating decimal fractions; percentages)
Week 2	Properties of whole numbers					
Week 3 & 4	Number sentences	**Week 3 & 4**	Add and subtract: • in financial context • In context of measurement	Time and temperature	**Week 3 & 4**	Mass: Consolidating basic operations in context
Week 5 & 6	Add and subtract	**Week 5 & 6**	Multiply and divide: • in financial context • In context of measurement	Decimal fractions; Percentages	**Week 5 & 6**	Capacity: Consolidating basic operations in context
ASSESSMENT	**Assessment: FAT 1** Test on work from week 1 - 4	**ASSESSMENT**	**Assessment: FAT 3** Project on financial mathematics or Test on work from week 1 - 6	**Assessment: FAT 5** Investigation on relationship between area and perimeter of 2D shapes	**ASSESSMENT**	**Assignment: FAT 7** Completing assignment demonstrating the data cycle
Week 7 & 8	Multiply and divide	**Week 7 & 8**	Common Fractions	Length: Consolidating basic operations in context	**Week 7**	Data; Probability
					Week 8	Properties of 3D shapes
Week 9 &10	Revision: Add, subtract, multiply and divide	**Week 9 & 10**	Common Fractions: In context of measurement	Area, Perimeter in context of basic 2D shapes; Volume	**Week 9 & 10**	Decimal fractions; Percentages in context
ASSESSMENT	**Assessment: FAT 2** Test on term 1's work	**ASSESSMENT**	**Assessment: FAT 4** Test/Exam on term 1 and 2 work	**Assessment: FAT 6** Test on term's work	**ASSESSMENT**	**Assessment: FAT 8** End of year exam

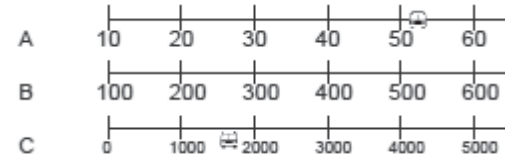
MATHEMATICS

GRADE 3 and 4

TERM 1

Lesson	Topic	Concepts: Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 1 Week 1	**Baseline assessment**				
Term 1 Lesson 1 Week 2	Properties of whole numbers	• Count forwards and backwards from any multiple of between 0 and 200 in multiples of: 1s, 2s, 3s, 4s, 5s, 10s, 100s to at least 500 • Read and write Number names and symbols to 100 • Order, compare and represent numbers to at least 2-digit numbers • Count odd and even numbers to at least 50 • Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10	• Count forwards and backwards in 2s, 3s, 5s, 10s, between 0 and at least 250 and multiples: 1 digit to at least 50 • Read and write Number names and symbols to 250 • Order, compare and represent numbers to at least 2-digit numbers • Represent odd and even numbers to at least 50. • Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 4 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

				 Counting should not always start on the first multiple, nor should it always start on any other multiple e.g. counting in 2s can start from 5 or 27 or 348. **Place value** (number range 0 to 999) • Learners should be able to break up numbers into hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation • Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks **Compare and order** (number range 0 to 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid	

				- Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > example: 89 * 98, 109 * 190 **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs. Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:  Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g. 53 (see above). STEP 3	

				Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

Lesson	Topic	Concepts Gr 3	Concepts Gr 4	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	Number sentences Caps p. 39	• Number sentences • Patterns in addition and subtraction with bonds of 10, 100 • Inverse relationships between addition and subtraction and the Mathematical value thereof • Develop addition and subtraction techniques using number sentences • Order of subtraction • Using number sentences to help learners see and use patterns in addition and subtraction number bonds	• Number sentences • Patterns in addition and subtraction with bonds of 10, 100, 1 000 • Inverse relationships between addition and subtraction and the Mathematical value thereof • Develop addition and subtraction techniques using number sentences • Order of subtraction • Using number sentences to help learners see and use patterns in addition and subtraction number bonds	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 • **The inverse relationship between addition and subtraction** • **The commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, , Mental Maths booklets available from publishers

				through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that addition and subtraction are inverse operations Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that	

				- they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged examples: 58 – 58 = 0 264 – 264 = 0 304 – 0 = 304 After completing a number of similar examples, they can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you subtract a number from itself you get zero". **Further examples:** 37 – 4 + 4 = 37 27 + 6 – 6 = 27	

				After completing a number of similar examples, the learners can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you add a number and then take away the same number you end with the number you started with". As an extension of the above calculations, learners can work with pairs of equivalent number sentences, in which the numbers in each pair of addition – subtraction number sentences are the same. • **using number sentences helps learners develop addition and subtraction techniques** **examples:** 36 +13 = 49 therefore 49 – 13 = 36 **order of subtraction**:	

				When you change the order in which you subtract numbers, the answers will NOT be the same. The commutative property does NOT hold for subtraction **using number sentences to help learners see and use patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100	

Lesson	Topic	Concepts: Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 1 Lesson 3 Week 5 & 6	Add and subtract	• Add and subtract whole numbers of at least 2 digits • Explore different methods re. breaking down	• Add and subtract whole numbers of at least 2 digits • Judge reasonableness of answers • Check solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract	**Learners should solve problems in contexts and do context free calculations.** It helps learners to become more confident in and more independent at mathematics, if they have techniques to: • check their solutions themselves • judge the reasonableness of their solutions **Judging reasonableness of solutions** Learners should be trained to judge the reasonableness of solutions. One way to do this is to estimate the answers before calculating. They can round off the numbers involved in the calculations. When adding or subtracting 2-digit numbers, learners can round off to the nearest 10 When adding or subtracting 3-digit numbers, learners can round off to the nearest 100 When adding two numbers that are close to each other e.g. 345 and 340, learners can use doubling as a way of estimating the answers. **Checking solutions** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

				• check a subtraction calculation by adding. **example:**144 – 48 = 96, then 96 + 48 = 144 Using the inverse operation to check solutions, is one reason for teaching addition and subtraction simulteneously. **Breaking down all numbers according to** **place value parts to add example**: Calculate 362 + 486 362 + 486 = 300 + 60 + 2 + 400 + 80 + 6 2 + 6 = 8 = 300 + 400 + 60 + 80 + 2 + 6 **or** and 60 + 80 = 14 = 700 + 140 + 8 and 300 + 400 = 700 = 848 means 362 + 486 = 848	

<table>
<tr><th>Lesson</th><th>Topic</th><th>Concepts: Gr 3</th><th>Concepts: Gr 4</th><th>Teachers Guide</th><th>Suggested LTSM</th></tr>
<tr>
<td>Term 1

Lesson 4

Week
7 & 8</td>
<td>Multiply and divide</td>
<td>• Multiply 2, 4, 5, 10, 3 to a total of 50

• Use appropriate symbols(x, =, □)

• use and understand the language of multiplication;

• represent multiplication as arrays;

• use the appropriate symbols to interpret number sentences;

• understand that repeated addition can be represented using the multiplication symbol;</td>
<td>Multiply at least whole 1-digit by 1-digit numbers ;

Divide at least whole 1-digit by 1-digit

• Use commutative property of multiplication

• Break up numbers to multiply

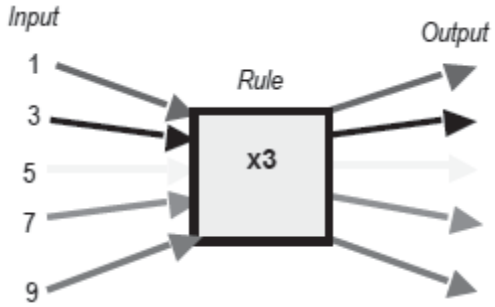
• Multiply and divide to indicate inverse operations

• Solve problems involving sharing and grouping</td>
<td>In this section of work Grade 4 learners should
• move from skip counting and repeated addition to seeing the patterns in multiplication tables up to 10 x 10

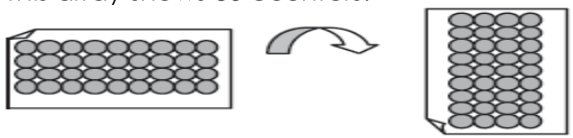
• learn short cuts and fast techniques for multiplying by one digit numbers and by ten
Once learners have understood the basics of each multiplication table, they should learn it. The tables can be practised in the daily mental Mathematics programme.

Learners should solve problems in contexts and do context free calculations.

Learners can use pictures of grouped objects to count in groups. Learners can also use diagrams of arrays to count in groups. They can then complete tables like the one below.

example
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>x 7</td><td>7</td><td>14</td><td>21</td><td></td><td>35</td><td></td><td></td><td></td><td></td><td>70</td></tr>
</table>
Learners can also use flow diagrams to record multiplication facts


Commutative property of multiplication Numbers can</td>
<td>Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table</td>
</tr>
</table>

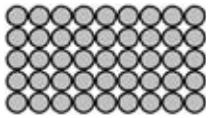
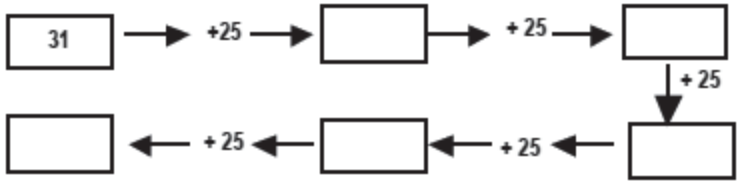
		• practise and understand that multiplication can be done in any order (the commutative law or property); • use the number line to show multiplication calculations and be able to explain the representation (how the jumps show repeated addition). • Divide numbers to 50 by 2, 4, 5, 10, 4 • Use appropriate symbols(÷, =, □) • Repeated subtraction		be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division.	

				There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
Week 9 & 10	**Revision: Add, subtract, multiply and divide**				

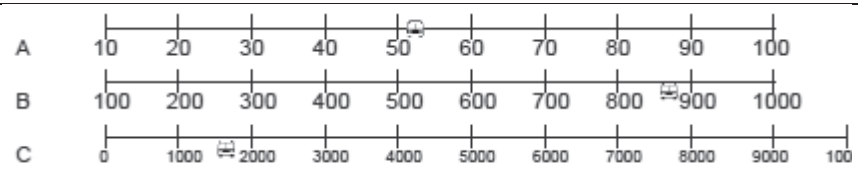
MATHEMATICS

GRADE 4

TERM 1

Lesson	Topic	Concepts Gr 4	Teachers Guide	Suggested LTSM
Term 1 Week 1	**Baseline assessment**			
Term 1 Lesson 1 Week 2	Properties of whole numbers Caps p.37	• Count forwards and backwards in 2s, 3s, 5s, 10s, between 0 and at least 250. • Multiples • Order, compare and represent numbers to at least 2-digit numbers • Represent odd and even numbers to at least 50. • Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 4 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.  Counting should not always start on the first multiple, nor should it always start on any other multiple e.g. counting in 2s can start from 5 or 27 or 348. **Place value** (number range 0 to 999)	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

			• Learners should be able to break up numbers into hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation • Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks **Compare and order** (number range 0 to 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid - Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > **example:** 89 * 98, 109 * 190 **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs. Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:	

			 Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g. 53 (see above). STEP 3 Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

Lesson	Topic	Concepts Gr 4	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	Number sentences Caps p. 39	• Number sentences • Patterns in addition and subtraction with bonds of 10, 100, 1 000 • Inverse relationships between addition and subtraction and the Mathematical value thereof • Develop addition and subtraction techniques using number sentences • Order of subtraction • Using number sentences to help learners see and use patterns in addition and subtraction number bonds	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 • **the inverse relationship between addition and subtraction** • **the commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that addition and subtraction are inverse operations	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, , Mental Maths booklets available from publishers

			Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that - they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged examples: 58 – 58 = 0 264 – 264 = 0 304 – 0 = 304 After completing a number of similar examples, they can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you subtract a number from itself you get zero". **Further examples:** 37 – 4 + 4 = 37 27 + 6 – 6 = 27 After completing a number of similar examples, the learners can be asked to explain what they notice in their own words.	

			Learners are expected to be able to say "When you add a number and then take away the same number you end with the number you started with". As an extension of the above calculations, learners can work with pairs of equivalent number sentences, in which the numbers in each pair of addition – subtraction number sentences are the same. • **using number sentences helps learners develop addition and subtraction techniques** **examples:** 36 +13 = 49 therefore 49 – 13 = 36 **order of subtraction**: When you change the order in which you subtract numbers, the answers will NOT be the same. The commutative property does NOT hold for subtraction **using number sentences to help learners see and use patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100	

Lesson	Topic	Concepts gr 4	Teachers Guide	Suggested LTSM
Term 1 Week 5 & 6	**Add and subtract** Caps p. 44	• Addition and subtraction of whole numbers of at least 2 -3 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract	**Learners should solve problems in contexts and do context free calculations.** **Judging reasonableness of solutions** Learners should be trained to judge the reasonableness of solutions. One way to do this is to estimate the answers before calculating. They can round off the numbers involved in the calculations. When adding or subtracting 2-digit numbers, learners can round off to the nearest 10 When adding or subtracting 3-digit numbers, learners can round off to the nearest 100 **Checking solutions** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96 • check a subtraction calculation by adding. **example:**144 – 48 = 96, then 96 + 48 = 144 **Breaking down all numbers according to place value parts to add** **example**: Calculate 362 + 486 362 + 486 = 300 + 60 + 2 + 400 + 80 + 6 2 + 6 = 8 = 300 + 400 + 60 + 80 + 2 + 6 **or** and 60 + 80 = 14 = 700 + 140 + 8 and 300 + 400 = 700 = 848 means 362 + 486 = 848	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

<table>
<tr><th>Lesson</th><th>Topic</th><th>Concepts Gr 4</th><th>Teachers Guide</th><th>Suggested LTSM</th></tr>
<tr>
<td>Term 1

Week
7 & 8</td>
<td>Multiply and divide

Caps
p. 52</td>
<td>Multiplication of at least whole 2-digit by 1-digit numbers ;

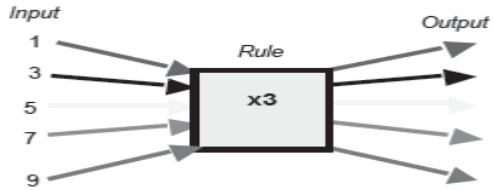
Division of at least whole 2-digit by 1-digit
• numbers
• Multiples
• Commutative property of multiplication
• Breaking up numbers to</td>
<td>Learners should move from skip counting and repeated addition to seeing the patterns in multiplication tables up to 10 x 10

They must learn short cuts and fast techniques for multiplying by one digit numbers and by ten

Learners should solve problems in contexts and do context free calculations.

Learners can use pictures of grouped objects to count in groups. Learners can also use diagrams of arrays to count in groups. They can then complete tables like the one below.

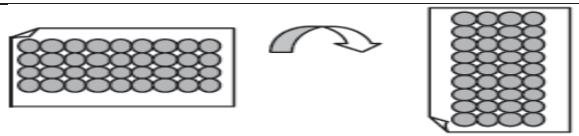
example
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>x 7</td><td>7</td><td>14</td><td>21</td><td></td><td>35</td><td></td><td></td><td></td><td></td><td>70</td></tr>
</table>
Learners can also use flow diagrams to record multiplication facts

Commutative property of multiplication Numbers can be multiplied in any order. example: 3 x 4 = 4 x 3

Learners can be convinced of this by providing them with an array of counters, which can be turned

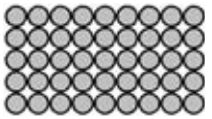
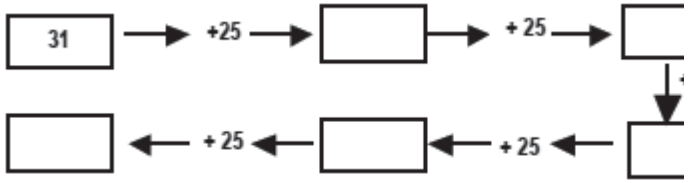
example
This array shows 36 counters.</td>
<td>Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table</td>
</tr>
</table>

		multiply • Multiplication and division as inverse operations • problems involving sharing • problems involving grouping	 Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
Week 9 &10		**Revision: Add, subtract, multiply and divide**		

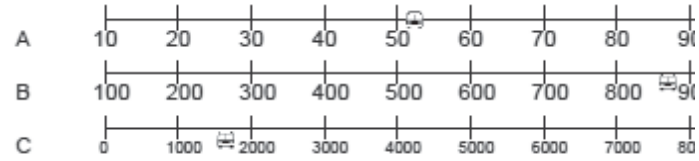
MATHEMATICS

GRADE 4 and 5

TERM 1

Lesson	Topic	Concepts Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 1	**Baseline assessment**				
Term 1 Lesson 1 Week 2	**Properties of whole numbers**	• Count forwards and backwards in 2s, 3s, 5s, 10s, between 0 and at least 250.	• Count forwards and backwards in 2s, 3s, 4s, 5s, 10s, between 0 and at least 500	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 4 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines
		• Multiples	• Multiples and factors		
		• Order, compare and represent numbers to at least 2-digit numbers	• Order, compare and represent numbers to at least 4-digit numbers	Counting should not always start on the first multiple, nor should it always start on any other	

		• Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10	• Recognize the place value of digits in whole numbers to at least 4 digit numbers. • Round off to the nearest 10, 100	multiple e.g. counting in 2s can start from 5 or 27 or 348. **Compare and order** (number range 0 to 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid - Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > **example:** 89 * 98, 109 * 190 **Place value** (number range 0 to 999) • Learners should be able to break up numbers into hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation • Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs.	

		• Represent odd and even numbers to at least 50.	• Represent odd and even numbers to at least 100.	Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:  Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g. 53 (see above). STEP 3 Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

Lesson	Topic	Concepts Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	Number sentences Caps p. 39	• Number sentences • Patterns in addition and subtraction with bonds of 10, 100, 1 000 • Inverse relationships between addition and subtraction and the Mathematical value thereof • Develop addition and subtraction techniques using number sentences • Order of subtraction • Using number sentences to help learners see and use patterns in addition and subtraction number bonds	• Number sentences • Using number sentences to consolidate properties of addition • Number sentences focusing on the inverse property of addition and subtraction • number sentences consolidating the multiplicative properties of 1 • number sentences to consolidate the commutative and associative properties • Order of subtraction • Addition and subtraction facts for 10, 100, 1 000	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 • **The inverse relationship between addition and subtraction** • **The commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, , Mental Maths booklets available from publishers

				addition and subtraction are inverse operations Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that - they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged examples: 58 – 58 = 0 264 – 264 = 0 304 – 0 = 304 After completing a number of similar examples, they can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you subtract a number from itself you get zero". **Further examples:** 37 – 4 + 4 = 37 27 + 6 – 6 = 27 After completing a number of similar examples, the learners can be asked to explain what they notice in their own words.	

				Learners are expected to be able to say "When you add a number and then take away the same number you end with the number you started with". As an extension of the above calculations, learners can work with pairs of equivalent number sentences, in which the numbers in each pair of addition – subtraction number sentences are the same. • **using number sentences helps learners develop addition and subtraction techniques** **examples:** 36 +13 = 49 therefore 49 – 13 = 36 **order of subtraction**: When you change the order in which you subtract numbers, the answers will NOT be the same. The commutative property does NOT hold for subtraction **using number sentences to help learners see and use patterns in addition and subtraction number bonds for:** - 10 - multiples of 10 - multiples of 100	

Lesson	Topic	Concepts Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 5 & 6	**Add and subtract**	• Addition and subtraction of whole numbers of at least 2 -3 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract	• Addition and subtraction of whole numbers of at least 4 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract • **Expanded vertical method**	**Learners should solve problems in contexts and do context free calculations.** It helps learners to become more confident in and more independent at mathematics, if they have techniques to: • check their solutions themselves • judge the reasonableness of their solutions **Judging reasonableness of solutions** Learners should be trained to judge the reasonableness of solutions. One way to do this is to estimate the answers before calculating. They can round off the numbers involved in the calculations. When adding or subtracting 2-digit numbers, learners can round off to the nearest 10 When adding or subtracting 3-digit numbers, learners can round off to the nearest 100 When adding two numbers that are close to each other e.g. 345 and 340, learners can use doubling as a way of estimating the answers. **Checking solutions** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96 • check a subtraction calculation by adding. **example:**144 – 48 = 96, then 96 + 48 = 144 Using the inverse operation to check solutions, is one reason for teaching addition and subtraction simultaneously	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

<table>
<tr><th>Lesson</th><th>Topic</th><th>Concepts Gr 4</th><th>Concepts Gr 5</th><th>Teachers Guide</th><th>Suggested LTSM</th></tr>
<tr>
<td>Term 1

Week 7 & 8</td>
<td>Multiply and divide</td>
<td>Multiplication of at least whole 2-digit by 1-digit numbers ;

Division of at least whole 2-digit by 1-digit
• numbers
• Multiples
• Commutative property of multiplication
• Breaking up numbers to multiply
• Multiplication and division as inverse operations
• problems involving sharing
• problems involving grouping</td>
<td>Multiplication of at least whole 2-digit by 2-digit numbers;

Division of at least whole 3-digit by 1-digit
• numbers
• Multiples
• Commutative property of multiplication
• Breaking up numbers to multiply
• Multiplication and division as inverse operations
• problems involving sharing
• problems involving grouping
• Use Vertical column method for multiplication when ready</td>
<td>Move from skip counting and repeated addition to seeing the patterns in multiplication tables up to 10 x 10
• learn short cuts and fast techniques for multiplying by one digit numbers and by ten
Once learners have understood the basics of each multiplication table, they should learn it. The tables can be practised in the daily mental Mathematics programme.
Learners should solve problems in contexts and do context free calculations.
Learners can use pictures of grouped objects to count in groups. Learners can also use diagrams of arrays to count in groups. They can then complete tables like the one below.
example
<table>
<tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
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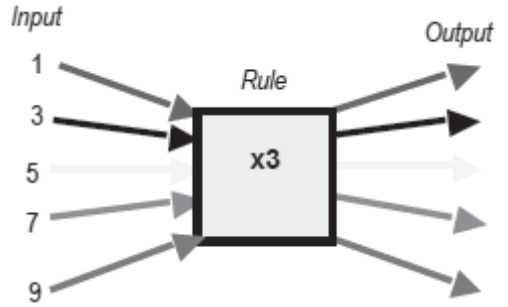
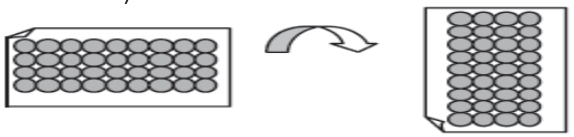
</table>
Learners can also use flow diagrams to record multiplication facts</td>
<td>Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table</td>
</tr>
</table>

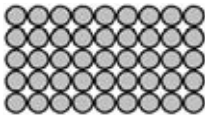
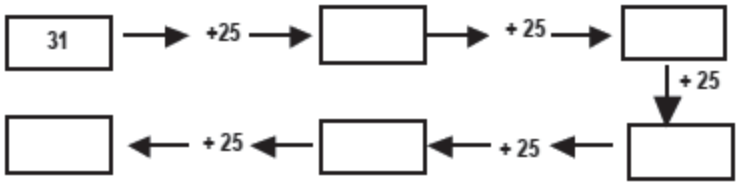
		Division:	Introduce **"clue board"** **method for division**	 **Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply**	

				Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
Week 9 & 10		**Revision: Add, subtract, multiply and divide**			

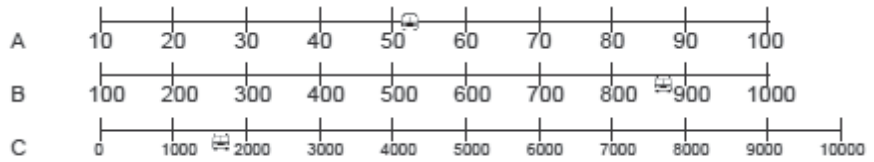
MATHEMATICS

GRADE 5

TERM 1

Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 1		**Baseline assessment**		
Term 1 Week 2	**Properties of whole numbers** Caps p. 125	• Count forwards and backwards in 2s, 3s, 4s, 5s, 10s, between 0 and at least 500 • Multiples and factors • Order, compare and represent numbers to at least 4-digit numbers • Represent odd and even numbers to at least 100. • Recognize the place value of digits in whole numbers to at least 4 digit numbers. • Round off to the nearest 10, 100	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 4 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.  Counting should not always start on the first multiple, nor should it always start on any other multiple e.g. counting in 2s can start from 5 or 27 or 348.	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

			Place value (number range 0 to 999) • Learners should be able to break up numbers into hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation **Compare and order** (number range 0 to 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid - Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > **example:** 89 ∗ 98, 109 ∗ 190 **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs. Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:	

			 Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g. 53 (see above). STEP 3 Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

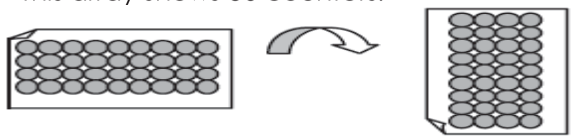
Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	**Number sentences** Caps p. 127	Number sentences • Using number sentences to consolidate properties of addition • Number sentences focusing on the inverse property of addition and subtraction • number sentences consolidating the multiplicative properties of 1 • number sentences to consolidate the commutative and associative properties • Order of subtraction • Addition and subtraction facts for 10, 100, 1 000	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 • **the inverse relationship between addition and subtraction** • **the commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that addition and subtraction are inverse operations Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that - they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, work cards with combinations for drilling, Mental Maths booklets available from publishers

			examples: 58 – 58 = 0 264 – 264 = 0 304 – 0 = 304 After completing a number of similar examples, they can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you subtract a number from itself you get zero". **Further examples:** 37 – 4 + 4 = 37 27 + 6 – 6 = 37 After completing a number of similar examples, the learners can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you add a number and then take away the same number you end with the number you started with". As an extension of the above calculations, learners can work with pairs of equivalent number sentences, in which the numbers in each pair of addition – subtraction number sentences are the same. • **using number sentences helps learners develop addition and subtraction techniques** **examples:** 36 +13 = 49 therefore 49 – 13 = 36 **(start here and increase number range ie digits for operations)** **order of subtraction**: When you change the order in which you subtract numbers, the answers will NOT be the same. The commutative property does NOT hold for subtraction.	

			using number sentences to help learners see and use patterns in addition and subtraction number bonds for: - 10 - multiples of 10 - multiples of 100	

Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 5 & 6	Add and subtract Caps p. 132	• Addition and subtraction of whole numbers of at least 4 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract	**Judging reasonableness of solutions** When adding or subtracting 3-digit numbers, learners can round off to the nearest 100 When adding two numbers that are close to each other e.g. 345 and 340, learners can use doubling as a way of estimating the answers. **Checking solutions** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96 • check a subtraction calculation by adding. **example:** 144 – 48 = 96, then 96 + 48 = 144 Using the inverse operation to check solutions is one reason for teaching addition and subtraction simultaneously. **Breaking down all numbers according to place value parts to add** **Example:** Calculate 5 362 + 2 486 = 5 000 + 300 + 60 + 2 + 2 000 + 400 + 80 + 6 = 5 000 + 2 000 + 300 + 400 + 60 + 80 + 2 + 6 = 7 000 + 700 + 140 + 8 = 7 848 **OR** 2 + 6 = 8 and 60 + 80 = 140 and 300 + 400 = 700 and 5 000 + 2 000 = 7 000 and 7 000 + 700 + 140 + 8 = 7 848 means 5 362 + 2 486 = 7 848	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines,

		• Expanded vertical method	**Expanded vertical method** 6 423 = 6 000 + 400 + 20 + 3 + 7 581 = 7 000 + 500 + 80 + 1 + 1 479 = 1 000 + 400 + 70 + 9 =14 000 + 1 300 + 170 + 13 = 14 000 + 1 000 + 300 +100 + 70+ 10 + 3 = 15 483 600 130 13 9 8 7 4 3 = 90 000+ 8 000 + 700 + 40 + 3 – 4 5 6 8 4 = 40 000+ 5 000 + 600 + 80 + 4 50 000+ 3 000 + 0 + 50 + 9 = 53 059	

Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 1 Week 7 & 8	Multiply and divide Caps p. 140	Multiplication of at least **whole 2-digit by 2-digit** numbers;	**Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table, flow diagram templates

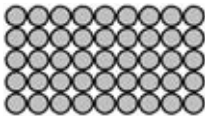
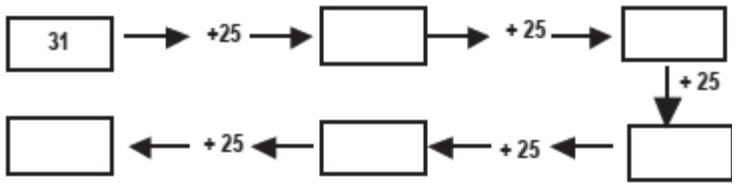
		Methods: **Vertical column method** Division of at least whole **3-digit by 1-digit (Clue bord method)** • numbers • Multiples • Commutative property of multiplication • Multiplication and division as inverse operations	does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not. **Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362 **Example** 175 ÷ 4 Learners can write out a **"clue board"** of what they know about multiplying by 4 **Example:** 4 x 10 = 40 4 x 20 = 80 (doubling the first statement) 4 x 5 = 20 (halving the first statement) 4 x 4 = 16 4 x 3 = 12 Learners multiply and then subtract to calculate **Multiply ; Subtract** 4 x **20** = 80 ; 175 – 80 = 95 4 x **20** = 80 ; 95– 80 = 15 4 x **3** = 12 ; 15 – 12 = 3	

		• problems involving sharing • problems involving grouping	175 ÷ 4 = **20 + 20 + 3** + remainder 3 = 43 remainder **3**	
Week 9 & 10	**Revision add, subtract, multiply and divide**			

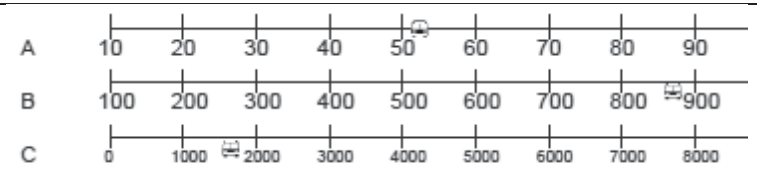
MATHEMATICS

GRADE 5 and 6

TERM 1

Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 1	**Baseline assessment**				
Term 1 Week 2	**Properties of whole numbers**	• Count forwards and backwards in 2s, 3s, 4s, 5s, 10s, between 0 and at least 500 • Multiples and factors • Recognize the place value of digits in whole numbers to at least 4 digit numbers.	• Count forwards and backwards in 2s, 3s, 4s, 5s, 10s, 20s, 25s, 50,s 100s between 0 and at least 5 000 • Multiples and factors • Recognizing the place value of digits in whole numbers to at least 5-digit numbers	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 4 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.  Counting should not always start on the first multiple, nor should it always start on any other multiple e.g. counting in 2s can start from 5 or 27 or 348.	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

		• Order, compare and represent numbers to at least 4-digit numbers • Round off to the nearest 10, 100 • Represent odd and even numbers to at least 100.	• Order, compare and represent numbers starting with 4-digit numbers and develop to 5 digits • Round off to the nearest 10, 100, 1 000	**Place value** (number range 0 to 999) • Learners should be able to break up numbers into hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation **Compare and order** (number range 0 to 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid - Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > **example:** 89 * 98, 109 * 190 **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs. Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:	

				 Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g.53 (see above). STEP 3 Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

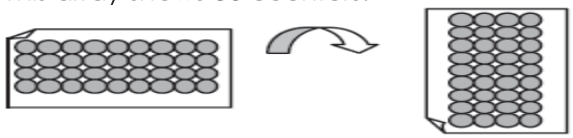
Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	**Number sentences**	Number sentences • Using number sentences to consolidate properties of addition and subtraction • Number sentences focusing on the inverse property of addition and subtraction • Number sentences consolidating the multiplicative properties of 1 • Number sentences to consolidate the commutative and associative properties • Order of subtraction • Addition and subtraction facts for 10, 100, 1 000	Number sentences • Using number sentences to consolidate properties of addition and subtraction • Number sentences focusing on the inverse property of addition and subtraction • Quick mental calculation techniques especially multiplying by multiples of 10,100, 100, 10 000 • Commutative property of addition	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 • **the inverse relationship between addition and subtraction** • **the commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that addition and subtraction are inverse operations	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, work cards with combinations for drilling, Mental Maths booklets available from publishers

				Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that - they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged **examples:** 58 – 58 = 0; 264 – 264 = 0; 304 – 0 = 304 After completing a number of similar examples, they can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you subtract a number from itself you get zero". **Further examples:** 37 – 4 + 4 = 37; 27 + 6 – 6 = 37 After completing a number of similar examples, the learners can be asked to explain what they notice in their own words. Learners are expected to be able to say "When you add a number and then take away the same number you end with the number you started with".	

				As an extension of the above calculations, learners can work with pairs of equivalent number sentences, in which the numbers in each pair of addition – subtraction number sentences are the same. • **using number sentences helps learners develop addition and subtraction techniques** **examples:** 36 +13 = 49 therefore 49 – 13 = 36 **<u>(start here and increase number range ie digits for operations)</u>** **order of subtraction**: When you change the order in which you subtract numbers, the answers will NOT be the same. The commutative property does NOT hold for subtraction **using number sentences to help learners see and use patterns in addition and subtraction number bonds for:** - 10 - multiples of 10 - multiples of 100	

Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 5 & 6	**Add and subtract**	• Addition and subtraction of whole numbers of at least 4 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract	• Addition and subtraction of whole numbers of 4 digits expanding to 5 digits • Judging reasonableness of answers • Checking solutions	**Judging reasonableness of solutions** When adding or subtracting 3-digit numbers, learners can round off to the nearest100 When adding two numbers that are close to each other e.g. 345 and 340, learners can use doubling as a way of estimating the answers. **Checking solutions** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96 • check a subtraction calculation by adding. **example:**144 – 48 = 96, then 96 + 48 = 144 Using the inverse operation to check solutions, is one reason for teaching addition and subtraction simulteneously. **Breaking down all numbers according to place value parts to add** **Example:** Calculate 5 362 + 2 486 = 5 000 + 300 + 60 + 2 + 2 000 + 400 + 80 + 6 = 5 000 + 2 000 + 300 + 400 + 60 + 80 + 2 + 6 = 7 000 + 700 + 140 + 8 = 7 848 **OR** 2 + 6 = 8 and 60 + 80 = 140 and 300 + 400 = 700	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines,

		• Expanded vertical method • Column method	**METHODS:** • Expanded-column method • Column method	and 5 000 + 2 000 = 7 000 and 7 000 + 700 + 140 + 8 = 7 848 means 5 362 + 2 486 = 7 848 **Expanded vertical method** 6 423 = 6 000 + 400 + 20 + 3 + 7 581 = 7 000 + 500 + 80 + 1 + 1 479 = 1 000 + 400 + 70 + 9 =14 000 + 1 300 + 170 + 13 = 14 000 + 1 000 + 300 +100 + 70+ 10 + 3 = 15 483 600 130 13 9 8 7 4 3 = 90 000+ 8 000 + 700 + 40 + 3 – 4 5 6 8 4 = 40 000+ 5 000 + 600 + 80 + 4 50 000+ 3 000 + 0 + 50 + 9 = 53 059 **The vertical column method to add.** 1 1 1 1 56 423 + 21 479 + 7 581 85 483 **The vertical column method to subtract** *6 13 13* 98 743 – 45 684 53 059	

Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 7 & 8	**Multiply and divide**	Multiplication of at least **whole 2-digit by 2-digit** numbers;	Multiplication of at least whole **3-digit by 2-**digit numbers ; (expand number range if learners are ready – use calculator but they must show workings)	**Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplicati on table, flow diagram templates

				• **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
		Methods: **Vertical column method**		**Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362	
		Division of at least whole **3-digit by 1-digit (Clue bord method)** • numbers • Multiples • Commutative property of multiplication • Multiplication and division as inverse	Division of at least whole 2-digit by 2-digit expanding into 3 by 2 digits with the help of calculator • problems involving sharing • problems involving grouping	**Example** 175 ÷ 4 Learners can write out a **"clue board"** of what they know about multiplying by 4 **Example:** 4 x 10 = 40 4 x 20 = 80 (doubling the first statement) 4 x 5 = 20 (halving the first statement) 4 x 4 = 16 4 x 3 = 12 Learners multiply and then subtract to calculate	

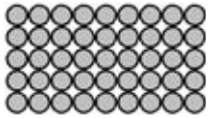
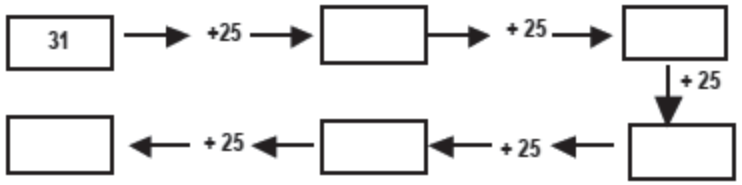
		operations • problems involving sharing • problems involving grouping		**Multiply** ; **Subtract** 4 x **20** = 80 ; 175 – 80 = 95 4 x **20** = 80 ; 95– 80 = 15 4 x **3** = 12 ; 15 – 12 = 3 175 ÷ 4 = **20 + 20 + 3** + remainder 3 = 43 remainder **3**	
Week 9 & 10	**Revision add, subtract, multiply and divide**				

MATHEMATICS

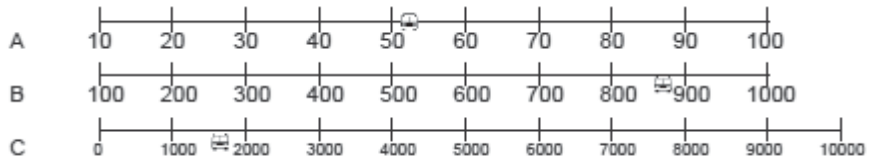
GRADE 6

TERM 1

Gr 6 Lesson Plan Term 1

Lesson	Topic	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 1	**Baseline assessment**			
Term 1 Week 2	Properties of whole numbers Caps p. 215	• Count forwards and backwards in 2s, 3s, 4s, 5s, 10s, 20s, 25s, 50,s 100s between 0 and at least 5 000 Multiples and factors • Order, compare and represent numbers starting with 4-digit numbers and develop to 5 digits • Recognizing the place value of digits in whole numbers to at least 5-digit numbers • Round off to the nearest 10, 100, 1 000	• Counting should not only be thought of as verbal counting. Learners should count using apparatus such as - counters - counting beads - number grids - structured, semi-structured and empty number lines - pictures of objects, especially pictures of large numbers of objects that are presented in a grouped or structured way. An example of a picture of objects suitable for counting is provided at the end of the Grade 6 section of Numbers, Operations and Relationships. - arrays or diagrams of arrays e.g.  - other diagrams for counting e.g.  Counting should not always start on the first multiple, nor should it always start on any other multiple e.g. counting in 2s can start from 5 or 27 or 348.	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines

			Place value (number range 0 to 9 999) • Learners should be able to break up numbers into thousands, hundreds, tens and units using - the number names (number words) - place value or flash cards - expanded notation • **Compare and order** (number range 0 to 9 999) • Learners should be given a range of exercises such as: - Arrange the given numbers below from the smallest to the biggest or biggest to smallest - Fill in missing numbers in ◊ a sequence ◊ on a number grid - Show a given number on a structured or semi-structured number line, e.g. show which number is halfway between 340 and 350 on a number line - Indicate which of two numbers is greater or smaller e.g. 5 431 or 5 413 - Replace * with <,= or > **example:** 89 * 98, 109 * 190 **Rounding off:** Possible teaching method: STEP 1 Divide the learners into pairs. Distribute a sheet of blank paper to each pair STEP 2 Draw these 3 number lines on the board:	

			 Explain to the learners that each number line represents a long road. In A there is a petrol station every 10 km, in B every 100 km and in C every 1 000 km. Call out a number and ask a learner to come and mark the number on the number line A, e.g. 53 (see above). STEP 3 Explain to the learners that a tour bus ran out of petrol at 53 km. Now ask the pairs between which two tens (petrol stations) number 53 lies (answer 50 and 60). Ask the pairs if 3 is closer to 50 or 60 (answer: 50). Record the answer on the board, i.e. 53 ≈ 50. (Note: ≈ is the sign for approximate.) Ask the pairs to explain the answer. STEP 4 Use the same process to do the on number lines B and C.	

Lesson	Topic	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 3 & 4	Number sentences Caps p. 217	Number sentences • Using number sentences to consolidate properties of addition and subtraction • Number sentences focusing on the inverse property of addition and subtraction • quick mental calculation techniques especially multiplying by multiples of 10,100, 100, 10 000 • Commutative property of addition	Patterns made up of number sentences will assist learners to make sense of and learn the following: • **Patterns in addition and subtraction number bonds for:** - multiples of 10 - multiples of 100 - multiples of 1 000 - multiples of 10 000 • **the inverse relationship between addition and subtraction** • **the commutative, associative, and distributive properties** of whole numbers and how we can use these properties to build up and break down numbers when we add and subtract to assist learners to make sense of and learn the following: -- multiple operations with and without brackets and the order of operations -- multiplication and division as inverse operations -- the commutative, associative, and distributive properties with whole numbers and how we can use these properties together with building up and breaking down numbers when we calculate -- quick mental calculation techniques especially multiplying by multiples of 10, 100, 100, 10 000 -- dividing by 10, 100, 1 000 as this is useful for decimal fractions The steps in any calculation are sets of equivalent statements. Exploring, understanding and learning the logic of the equivalent statements by working through patterns made up of number sentences, helps learners to learn calculating techniques. At the start of the year learners can work with number sentences that help them to understand and learn about how to use the commutative and associative properties when calculating whole numbers. This will prepare them for the calculations that follow. • Using number sentences to help learners understand and use the fact that addition and subtraction are inverse operations	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, work cards with combinations for drilling, Mental Maths booklets available from publishers

			Subtraction can undo what addition does and addition can undo what subtraction does if you keep the numbers the same. Learners are not expected to use the expression "inverse operations". They are expected to know that - they can use addition to check subtraction calculations - they can use subtraction to check addition calculations - if they add and subtract the same number from a number, the number remains unchanged Completing number sentences with multiple operations • **using number sentences helps learners develop addition and subtraction techniques**	

Lesson	Topic	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 5 & 6	Add and subtract Caps p. 222	• Addition and subtraction of whole numbers of 4 digits expanding to 5 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Expanded-column method • Column method	**Learners should solve problems in contexts and do context free calculations.** It helps learners to become more confident in and more independent at mathematics, if they have techniques to: • check their solutions themselves • judge the reasonableness of their solutions **Judging reasonableness of solutions** Learners should be trained to judge the reasonableness of solutions. One way to do this is to estimate the answers before calculating. They can round off the numbers involved in the calculations. When adding or subtracting 2-digit numbers, learners can round off to the nearest 10 When adding or subtracting 3-digit numbers, learners can round off to the nearest 100 When adding two numbers that are close to each other e.g. 345 and 340, learners can use doubling as a way of estimating the answers. **Checking solutions – CALCULATORS MAY BE USED** Learners should know that they can • check an addition calculation by subtraction. **example:** If 96 +48 =144, then 144 – 48 = 96 • check a subtraction calculation by adding. **example:**144 – 48 = 96, then 96 + 48 = 144 Using the inverse operation to check solutions, is one reason for teaching addition and subtraction simultaneously.	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines, calculators

		Build concept of "borrowing" digit by digit.	**The vertical column method to add.** 1 1 1 1 56 423 + 21 479 + 7 581 85 483 **The vertical column method to subtract** *6 13 13* 98 743 – 45 684 53 059	

Lesson	Topic	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 1 Week 7 & 8	Multiply Caps p. 241 and divide Caps p. 255	Multiplication of at least whole 3-digit by 2-digit numbers ; (expand number range if learners are ready – use calculator but they must show workings)	In this section of work Grade 4 learners should • move from skip counting and repeated addition to seeing the patterns in multiplication tables up to 10 x 10 • learn short cuts and fast techniques for multiplying by one digit numbers and by ten Once learners have understood the basics of each multiplication table, they should learn it. The tables can be practised in the daily mental Mathematics programme. **Learners should solve problems in contexts and do context free calculations.** **Use the vertical column method** 4 362 x 108	Counters, number cards, 200 number blocks, Multiplication table, Base 10 blocks, flard cards, number lines, calculators

<table>
<tr>
<td></td>
<td></td>
<td>Division of at least whole 2-digit by 2-digit expanding into 3 by 2 digits with the help of calculator
• problems involving sharing
• problems involving grouping</td>
<td>34 896 → 8 x 4 362
436 200 →100 x 4 362
471 096 → 108 x 4 362

Using multiplying to divide
Example
3 447 ÷ 17
Learners can write out a “clue board” of what they know about multiplying by 17. While they do not know the multiplication table of 17, learners should know 17 x 10 and how to use this to get multiples of 17 x 10, and 17 x 100 and how to use this to get multiples of 17 x 100.
Learners find 17 x 5 by halving 17 x 10
Learners use doubling to find 17 x 2; 17 x 4; 17 x 8.
Learners fill in other multiples as they need to use them
Learners use this to calculate by approximation.
Multiplying and then subtracting.

CLUE BOARD
100 x 17 = 1 700
200 x 17 = 3 400
10 x 17 = 170
20 x 17 = 340
5 x 17 = 85
2 x 17 = 34
3 x 17 = 51

<table><tr><th>Multiply</th><th>Subtract</th></tr><tr><td>200 x 17 = 3400</td><td>3447 – 3400 = 47</td></tr><tr><td>2 x 17 = 34</td><td>47 – 34 = 13</td></tr></table>
3447 ÷ 17 = 200 + 2 + remainder 13= 202 remainder 13

Problems
• problems involving sharing: 6 learners share 32 sweets. How many sweets does each learner get?</td>
<td></td>
</tr>
</table>

			• **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
Week 9 & 10	**Revision add, subtract, multiply and divide**			

MATHEMATICS

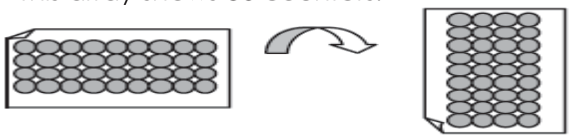
GRADE 3 and 4

TERM 2

Gr 3 and 4 Lesson Plans Combined Term 2

Lesson	Topic	Concepts: Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	**REVISION** Properties of whole numbers	• Order, compare and represent numbers to at least 2-digit numbers • Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10	• Order, compare and represent numbers to at least 2-digit numbers • Recognize the place value of digits in whole numbers to at least 2-digit numbers • Round off to the nearest 10, 100	**Compare and order** (number range 0 to 999) • Learners should be given a range of exercises to consolidate **Place value** (number range 0 to 999) **Rounding off:**	place value/flash cards; Base 10 blocks / Dienes blocks; number lines, number charts

Lesson	Topic	Concepts: Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract	Add and subtract whole numbers with **3 digits "INTRODUCE CARRYING OVER"** Judge reasonableness of answers Check solutions Explore different methods re. breaking down	Add and subtract whole numbers with **3 digits "INTRODUCE CARRYING OVER"** Judge reasonableness of answers Check solutions **METHODS:** Breaking down all numbers according to place value parts to add / subtract	**REMIND LEARNERS TO:** **Judging reasonableness of solutions** **Checking solutions** Using the inverse operation **Breaking down all numbers according to place value parts to add example**: Calculate 365 + 486 365 + 486 = 300 + 60 + 5 + 400 + 80 + 6 = 300 + 400 + 60 + 80 + 5 + 6 = 700 + 140 + 11 = 851	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

Lesson	Topic	Concepts: Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 3 Week 5 & 6	Multiply and divide	• Multiply 2, 4, 5, 10, 3 to a total of 50 • use the appropriate symbols to interpret number sentences; • understand that repeated addition can be represented using the multiplication symbol; • practice and understand that multiplication can be done in any order (the commutative law or property); • use the number line to show multiplication calculations and be able to explain the representation	• Multiply at least whole **2-digit by 1-digit numbers** ; • Divide at least whole **2-digit by 1-digit numbers** • Use commutative property of multiplication • Break up numbers to multiply • Multiply and divide to indicate inverse operations • Solve problems involving sharing and grouping	**Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table

		(how the jumps show repeated addition). • Divide numbers to 50 by 2, 4, 5, 10, • Use appropriate symbols(÷, =, □) • Repeated subtraction		**multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each?	

Lesson	Topic	Concepts Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 71	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

Lesson	Topic	Concepts Gr 3	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions** Caps p. 71	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

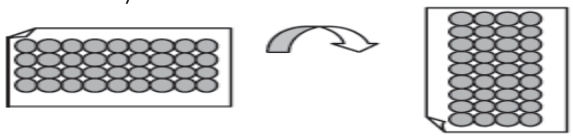
GRADE 4

TERM 2

Gr 4 Lesson Plans Term 2

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	Properties of whole numbers - Caps p. 68	• Order, compare and represent numbers to at least 3-digit numbers • Multiples • Recognize the place value of digits in whole numbers to at least -3 digit numbers • odd and even numbers to 100 • Round off to the nearest 10, 100	**Compare and order** (number range 0 to 999) **Introduce multiples in context of multiplication tables - counting** **Place value** (number range 0 to 999) **Odd and even numbers** **Rounding off:**	Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract numbers with 3 digits continuing with 4 digits - • in financial context • In context of measurement Caps p. 69	• Add and subtract whole numbers of at least 3 digits • Judge reasonableness of answers • Check solutions **METHODS:** • Breaking down all numbers according to place value parts to add / subtract **"INTRODUCE CARRYING OVER"** **METHODS:** Breaking down all numbers according to place value parts to add / subtract	**Judging reasonableness of solutions** **Checking solutions by using the inverse** See examples in CAPS **Breaking down all numbers according to place value parts to add example**: Calculate 365 + 486 365 + 486 = 300 + 60 + 5 + 400 + 80 + 6 = 300 + 400 + 60 + 80 + 5 + 6 **or** 60 + 80 = 140 = 700 + 140 + 11 300 + 400 = 700 = 851 means 365 + 486 = 848	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 3 Week 5 & 6	**Multiply** (Caps p. 76) **and divide** (Caps p.84) • in financial context • In context of measure ment	• Multiply at least whole **2-digit by 1-digit numbers; develop into 2 x 2 digits** • Divide at least whole **2-digit by 1-digit numbers; develop into 3 by 1 digits** • Use commutative property of multiplication • Break up numbers to multiply • Multiply and divide to indicate inverse operations • Solve problems involving sharing and grouping	**Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division.	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table

			There are two kinds of problems that result in division. It is important that learners experience both of these, namely • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 71	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions**	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form • Addition of common fractions with same denominators	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

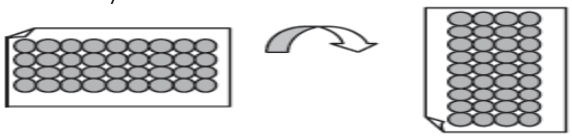
GRADE 4 and 5

TERM 2

Gr 4 and 5 Combined Lesson Plans Term 2

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	Properties of whole numbers - Caps p. 68	• Order, compare and represent numbers to at least 3-digit numbers • Multiples • Recognize the place value of digits in whole numbers to at least -3 digit numbers • Represent odd and even numbers to 100 • Round off to the nearest 10, 100	• Order, compare and represent numbers to at least 4 / 5-digit numbers • Multiples and factors: 2 digits to at least 100 • Recognize the place value of digits in whole numbers to at least 5 digit numbers • Represent odd and even numbers to at least 100. • Round off to the nearest 10, 100, 1 000	**Compare and order** (number range 0 to 999) **Multiples and factors** **Place value** (number range 0 to 999) **Odd and even numbers** **Rounding off:**	Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks

Lesson	Topic	Concepts: Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract numbers with 3 digits continuing with 4 digits - • in financial context • In context of measurement Caps p. 69	• Add and subtract whole numbers of at least 3 digits • Judge reasonableness of answers • Check solutions **METHODS:** Breaking down all numbers according to place value parts to add / subtract **"INTRODUCE CARRYING OVER"** **METHODS:** Breaking down all numbers according to place value parts to add / subtract	• Add and subtract whole numbers with **4 digits (introducing 5 digits selectively)** **"USE CARRYING OVER"** **METHODS:** Breaking down all numbers according to place value parts to add / subtract **LEAD INTO EXPANDED COLUMN METHOD**	**Judging reasonableness of solutions** **Checking solutions by using the inverse** See examples in CAPS See examples in CAPS	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 3 Week 5 & 6	Multiply (Caps p. 76) and divide (Caps p.84) • in financial context • In context of measure ment	• Multiply at least whole 2-digit by 1-digit numbers; develop into 2 x 2 digits • Divide at least whole 2-digit by 1-digit numbers; develop into 3 by 1 digits • Use commutative property of multiplication • Break up numbers to multiply • Multiply and divide to indicate inverse operations • Solve problems involving sharing and grouping	• Multiplication of at least whole 3-digit by 2-digit numbers; • Division of at least whole • 3-digit by 1-digit numbers ; • Commutative property of multiplication • Breaking up numbers to multiply • Multiplication and division as inverse operations • problems involving sharing and grouping	**Commutative property of multiplication** Numbers can be multiplied in any order. **example:** 3 x 4 = 4 x 3 Learners can be convinced of this by providing them with an array of counters, which can be turned **example** This array shows 36 counters.  Learners can write a multiplication number sentence for the array before and after it is turned. This allows them to see that 4 x 9 = 9 x 4 Learners can also write division number sentences for the array: 36 ÷ 4 = 9 and 36 ÷ 9 = 4 This helps learners to see that multiplication and division are inverse operations. **Breaking up numbers to multiply** Learners can compare flow diagrams to learn useful ways to break up numbers for multiplying **multiplication and division as inverse operations** It is important that learners understand that they can change any division statement into a multiplication statement. **example:** 48 ÷ 8 = 6 can be changed into 6 x 8 = 48 **or** 8 x 6 = 48. Learners can also use arrays to investigate the relationship between multiplication and division. There are two kinds of problems that result in division. It is important that learners experience both of these, namely	Counters , number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplic ation table

				• **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	
			• Vertical method for multiplication	**Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362	
			• Clue board method for division	**Example** 175 ÷ 4 Learners can write out a **"clue board"** of what they know about multiplying by 4 **Example:** 4 x 10 = 40 4 x 20 = 80 (doubling the first statement) 4 x 5 = 20 (halving the first statement) 4 x 4 = 16 4 x 3 = 12 Learners multiply and then subtract to calculate	

				Multiply ; **Subtract** 4 x **20** = 80 ; 175 – 80 = 95 4 x **20** = 80 ; 95– 80 = 15 4 x **3** = 12 ; 15 – 12 = 3 175 ÷ 4 = **20 + 20 + 3** + remainder 3 = 43 remainder **3**	

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 71	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions**	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths) • Describe and compare common fractions in diagram form • Addition of common fractions with same denominators	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

GRADE 5

TERM 2

Gr 5 Lesson Plans Term 2

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	Properties of whole numbers Caps p. 125	• Order, compare and represent numbers to at least 5-digit numbers • Multiples and factors: 2 digits to at least 100 • Represent odd and even numbers to at least 100. • Recognize the place value of digits in whole numbers to at least 5 digit numbers. • Round off to the nearest 10, 100, 1 000	**Compare and order** (number range 0 to 999) Consolidate factors with multiplication tables **Odd and even numbers** **Place value** (number range 0 to 999) Learners should be able to break up numbers into thousands, hundreds, tens and units **Rounding off:** 10, 100, 1 000	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract • in financial context • In context of measurement Caps p. 157	Add and subtract whole numbers with **4 digits (introducing 5 digits selectively)** **"USE CARRYING OVER"** **METHODS:** Breaking down all numbers according to place value parts to add / subtract	**<u>REMIND LEARNERS TO:</u>** **Judging reasonableness of solutions** **Checking solutions** Using the inverse operation **Breaking down all numbers according to place value parts to add** **Example:** Calculate 5 362 + 2 486 = 5 000 + 300 + 60 + 2 + 2 000 + 400 + 80 + 6 = 5 000 + 2 000 + 300 + 400 + 60 + 80 + 2 + 6 = 7 000 + 700 + 140 + 8 = 7 848 **OR** 2 + 6 = 8 and 60 + 80 = 140 and 300 + 400 = 700 and 5 000 + 2 000 = 7 000 and 7 000 + 700 + 140 + 8 = 7 848 means 5 362 + 2 486 = 7 848	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines

		EXPANDED COLUMN METHOD **COLUMN METHOD**	**Expanded vertical method** 56 423 = 50 000 + 6 000 + 400 + 20 + 3 + 7 581 = 7 000 + 500 + 80 + 1 + 21 479 = 20 000+ 1 000 + 400 + 70 + 9 = 70 000+ 14 000 + 1 300 + 170 + 13 = 70 000 + 10 000 + 5 000 + 400 + 80+ 3 = 85 483 600 130 13 9 8 7 4 3 = 90 000+ 8 000 + 700 + 40 + 3 – 4 5 6 8 4 = 40 000+ 5 000 + 600 + 80 + 4 50 000+ 3 000 + 0 + 50 + 9 = 53 059 **The vertical column method to add.** 1 1 1 5 6 4 2 3 + 7 5 8 1 6 4 0 0 4 **The vertical column method to subtract** **Or** 8 6 13 13 8 7 4 3 –5 6 8 4 3 0 5 9	

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson plan 3 Week 5 & 6	Multiply (Caps p. 157 and divide (Caps p.166 • in financial context • In context of measurement	• Multiplication of at least whole 3-digit by 2-digit numbers; • Division of at least whole 3-digit by 1-digit numbers ; • Commutative property of multiplication • Multiplication and division as inverse operations • problems involving sharing and grouping	**Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362 **Example** 175 ÷ 4 Learners can write out a **"clue board"** of what they know about multiplying by 4 **Example:** 4 x 10 = 40 4 x 20 = 80 (doubling the first statement) 4 x 5 = 20 (halving the first statement) 4 x 4 = 16 4 x 3 = 12 Learners multiply and then subtract to calculate **Multiply** ; **Subtract** 4 x **20** = 80 ; 175 – 80 = 95 4 x **20** = 80 ; 95– 80 = 15 4 x **3** = 12 ; 15 – 12 = 3 175 ÷ 4 = **20 + 20 + 3** + remainder 3 = 43 remainder **3**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table, flow diagram templates

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 160	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths) • Describe and compare common fractions in diagram form • Solve problems in contexts involving common fractions, including grouping and sharing	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions**	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems using diagrams and practicals	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths) • Describe and compare common fractions in diagram form • Addition of common fractions with same denominators • Solve problems in contexts involving common fractions, including grouping and sharing	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

GRADE 5 and 6

TERM 2

Gr 5 and 6 Combined Lesson Plans Term 2

Lesson	Topic	Concepts: Gr 5	Concepts Grade 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	Properties of whole numbers	• Order, compare and represent numbers to at least 5-digit numbers • Multiples and factors: 2 digits to at least 100 • Recognize the place value of digits in whole numbers to at least 5 digit numbers. • Represent odd and even numbers to at least 100. • Round off to the nearest 10, 100, 1 000	• Order, compare and represent numbers to at least 5-digit numbers • Multiples and factors • Recognizing the place value of digits in whole numbers to at least 5-digit numbers • Round off to the nearest 5(in context of money), 10, 100, 1 000, 10 000	**Compare and order** (number range to the grade) Consolidate with Mental Maths **Place value** • Learners should be able to break up numbers into different forms of expanded notation **Rounding off:** 5, 10, 100, 1 000, 10 000 , 100 000	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts Gr 5	Concepts Grade 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract • in financial context • In context of measure-ment Caps p. 157	Add and subtract whole numbers with **4 digits (introducing 5 digits selectively)** **"USE CARRYING OVER"** **METHODS:** Breaking down all numbers according to place value parts to add / subtract **EXPANDED COLUMN METHOD**	• Addition and subtraction of whole numbers of at least 4 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Column method Build concept of "borrowing" digit by digit	**REMIND LEARNERS TO:** **Judging reasonableness of solutions** **Checking solutions** Using the inverse operation **Breaking down all numbers according to place value parts to add** **Example:** Calculate 5 362 + 2 486 = 5 000 + 300 + 60 + 2 + 2 000 + 400 + 80 + 6 = 5 000 + 2 000 + 300 + 400 + 60 + 80 + 2 + 6 = 7 000 + 700 + 140 + 8 = 7 848 **OR** 2 + 6 = 8 and 60 + 80 = 140 and 300 + 400 = 700 and 5 000 + 2 000 = 7 000 and 7 000 + 700 + 140 + 8 = 7 848 means 5 362 + 2 486 = 7 848 **Expanded vertical method** 56 423 = 50 000 + 6 000 + 400 + 20 + 3 + 7 581 = 7 000 + 500 + 80 + 1 + 21 479 = 20 000+ 1 000 + 400 + 70 + 9 = 70 000+ 14 000 + 1 300 + 170 + 10 = 70 000 + 10 000 + 5 000 + 400 + 80+ 4 = 85 484	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines

				600 130 13 9 8 7 4 3 = 90 000+ 8 000 + 700 + 40 + 3 – 4 5 6 8 4 = 40 000+ 5 000 + 600 + 80 + 4 50 000+ 3 000 + 0 + 50 + 9 = 53 059	

Lesson	Topic	Concepts: Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson plan 3 Week 5 & 6	Multiply (Caps p. 157 and divide (Caps p.166 • in financial context • In context of measurement	• Multiplication of at least whole 3-digit by 2-digit numbers; • Division of at least whole 3-digit by 1-digit numbers ; • Commutative property of multiplication • Breaking up numbers to multiply • Multiplication and division as inverse operations • problems involving sharing and grouping	Multiplication of at least whole 3-digit by 2-digit numbers expand to 4 by 3 digits. (use calculator but show workings) Division of at least whole 2-digit by 2-digit expanding into 3 by 2 digits with the help of calculator • problems involving sharing • problems involving grouping **NO LONG DIVISION REQUIRED - CALCULATORS**	**Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362 **INTRODUCING THE CLUE BORD METHOD OF DIVISION** **Larger numbers to be calculated with calculator- number sentences must be presented**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines, multiplication table, flow diagram templates

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 160	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$; $\frac{1}{100}$; • Compare and order common fractions, • Equivalence between common fraction and decimal fraction forms of the same number • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths) • Describe and compare common fractions in diagram form	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions)

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions**	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$ • Compare and order common fractions, • Equivalence between • Solving problems	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$; ; $\frac{1}{100}$ • Compare and order common fractions, • Equivalence between • common fraction and decimal fraction forms of the same number • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths) • Describe and compare common fractions in diagram form • Addition of common fractions with same denominators • Solve problems in contexts involving common fractions, including grouping • and sharing	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

GRADE 6

TERM 2

Gr 6 Lesson Plan Term 2

Lesson	Topic	Concepts Grade 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	Properties of whole numbers Caps p. 215	Order, compare and represent numbers to at least 5-digit numbers Recognizing the place value of digits in whole numbers to at least 5-digit numbers Multiples and factors Round off to the nearest 5 (in context of money), 10, 100, 1 000, 10 000	**Compare and order** (number range 0 to 9 999) • Learners should be given a range of exercises **Place value** (number range 0 to 9 999) • Learners should be able to break up numbers into ten thousands, thousands, hundreds, tens and units using expanded notation **Max 3 digits multiples** **Rounding off –** practice in context	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines

Lesson	Topic	Concepts Grade 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 2 Week 3 & 4	Add and subtract Caps p. 262	• Addition and subtraction of whole numbers of at least 4 digits • Judging reasonableness of answers • Checking solutions **METHODS:** • Column method Build concept of "borrowing" digit by digit	**Judging reasonableness of solutions** **Checking solutions** **The vertical column method to add.** 1 1 1 1 56 423 + 21 479 + 7 581 85 483 **The vertical column method to subtract** 6 *13 13* 98 743 – 45 684 53 059	Counters, number cards, 200 number blocks, Base 10 blocks, flard cards, number lines, calculators

Lesson	Topic	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 2 Week 5 & 6	Multiply Caps p. 278	Multiplication of at least whole 3-digit by 2-digit numbers expand to 4 by 3 digits. (use calculator but show workings)	In this section of work Grade 4 learners should • move from skip counting and repeated addition to seeing the patterns in multiplication tables up to 10 x 10 • learn short cuts and fast techniques for multiplying by one digit numbers and by ten Once learners have understood the basics of each multiplication table, they should learn it. The tables can be practised in the daily mental Mathematics programme. **Learners should solve problems in contexts and do context free calculations.**	Counters, number cards, 200 number blocks, Multiplication table, Base 10 blocks, flard cards, number lines, calculators
	and divide Caps p. 284	Division of at least whole 2-digit by 2-digit expanding into 3 by 2 digits with the help of calculator • problems involving sharing • problems involving grouping NO LONG DIVISION	**Use the vertical column method** 4 362 x 108 34 896 → 8 x 4 362 436 200 →100 x 4 362 471 096 → 108 x 4 362 **Using multiplying to divide** Example 3 447 ÷ 17 Learners can write out a "clue board" of what they know about multiplying by 17. While they do not know the multiplication table of 17, learners should know 17 x 10 and how to use this to get multiples of 17 x 10, and 17 x	

		REQUIRED	100 and how to use this to get multiples of 17 x 100. Learners find 17 x 5 by halving 17 x 10 Learners use doubling to find 17 x 2; 17 x 4; 17 x 8. Learners fill in other multiples as they need to use them Learners use this to calculate by approximation. Multiplying and then subtracting. **CLUE BOARD** 100 x 17 = 1 700 200 x 17 = 3 400 10 x 17 = 170 20 x 17 = 340 5 x 17 = 85 2 x 17 = 34 3 x 17 = 51 **3447 ÷ 17 = 200 + 2 + remainder 13= 202 remainder 13** **Problems** • **problems involving sharing**: 6 learners share 32 sweets. How many sweets does each learner get? • **problems involving grouping**: Samkele has one large packet with 32 sweets. How many smaller packets can she make with 6 sweets in each? Some problems and calculations should have a remainder, and some should not.	

Multiply	Subtract
200 x 17 = 3400	3447 – 3400 = 47
2 x 17 = 34	47 – 34 = 13

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 4 Week 7 & 8	**Common fractions** Caps p. 226	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$; $\frac{1}{100}$; • Compare and order common fractions, • Equivalence between common fraction and decimal fraction forms of the same number • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths, hundredths) • Describe and compare common fractions in diagram form • Solve problems in contexts involving common fractions, including grouping and sharing	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 5 Week 9 & 10	**Common fractions**	$\frac{1}{2}$; $\frac{1}{4}$; $\frac{1}{8}$; $\frac{1}{10}$; ; $\frac{1}{100}$ • Compare and order common fractions, • Equivalence between • common fraction and decimal fraction forms of the same number • Solving problems	• Compare and order common fractions of different denominators (halves, quarters, eighths, tenths, hundredths) • Describe and compare common fractions in diagram form • Addition and subtraction of common fractions with same denominators • Solve problems in contexts involving common fractions, including grouping and sharing	apparatus and diagrams Fraction wall, fraction circles, magnetic fraction strips, square or dotty grid paper, geoboards, light carton shapes (cut into circles, diagrams of pies, rectangles) Paper to fold fraction strips, Cuisenaire rods, number lines(fractions

MATHEMATICS

GRADE 4

TERM 3

Gr 4 Lesson Plans Term 3

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 3 Lesson 1 Week 1 & 2	**Properties of whole numbers** Caps p. 92	• Order, compare and represent numbers to at least 4-digit numbers • Multiples • Recognize the place value of digits in whole numbers to at least – 4 digit numbers • odd and even numbers to 100 • Round off to the nearest 10, 100	**Compare and order** (number range 0 to 999) Learners should be given a range of exercises to consolidate Consolidate multiples with counting exercises in Mental maths **Place value** (number range 0 to 9 999) Learners should be able to break up numbers into thousands, hundreds, tens and units and expanded notations **Odd and even numbers in counting context from 100 chart** **Rounding off – consolidate**	Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes 3 blocks; counters; 100 chart

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 3 Lesson 1 Week 3 & 4	**Time** Caps p. 55	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time	• Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds • calculation of the number of days between any two dates within the same year • calculation of time intervals where time is given in minutes and/or hours only • calculations should be limited to whole numbers	• Instruments include analogue and digital watches • Cell phone watches • Stopwatches • Current calenders

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Area, perimeter and volume** (in context of basic 2D shapes) Caps p. 114	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** Measure perimeter using rulers or measuring tapes. **Measurement of area** Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. **Measurement of volume** Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM

Term 3
 	
Lesson 4
 	
Week 7 & 8
	Length
	
	(Consolidating basic operations in context)
	
	Caps p. 73
		• estimating
		• measuring
		• recording
		• comparing and ordering
			• Practical measuring of 2-D shapes and 3-D objects
			• Reading instruments for measuring lengths
			• Compare and order lengths up to 4 digits in mm, cm, m, km
			• Calculations (including conversions) and problem-solving
			• Estimate and calculate using mm, cm, m, km
			• Solve problems relating to distance and length
			• Include rate and ratio problems
			• Conversions between units
			  ○ mm ↔ cm
			  ○ cm ↔ m
			  ○ m ↔ km
				Measuring instruments:
				rulers, metre sticks, tape measures,
				trundle wheels

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	**Mass** (Consolidating basic operations in context) Caps p. 108	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment with different calibrations

MATHEMATICS

GRADE 4 and 5

TERM 3

Gr 4 and 5 Combined Lesson Plans Term 3

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	**Properties of whole numbers**	• Order, compare and represent numbers to at least 4-digit numbers	• Order, compare and represent numbers to at least 5-digit numbers	Compare and order (number range 0 to 99 999)	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,
		• Multiples	• Multiples and factors: 2 digits to at least 100	Consolidate in context of multiplication tables	
		• Odd and even numbers to 100	• Represent odd and even numbers to at least 100.	Odd and even numbers - counting and patterns	
		• Recognize the place value of digits in whole numbers to at least – 4 digit numbers	• Recognize the place value of digits in whole numbers to at least 5 digit numbers.	Place value (number range 0 to 99 999) Learners should be able to break up numbers into thousands, hundreds, tens and units and expanded notations	
		• Round off to the nearest 10, 100	• Round off to the nearest 10, 100, 1 000	Rounding off: 10, 100, 1 000	

Lesson	Topic	Concepts: Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 2 Week 3 & 4	**Time**	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time	• Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds • calculation of the number of days between any two dates within the same or consecutive years • calculation of time intervals where time is given in minutes and/or hours only • calculations should be limited to whole numbers and common fractions	• Instruments include clocks and watches. • Cell phone watches • Stopwatches • Current calendars
	Temperature	Temperature is not within the Gr 4 syllabus	• Practical measuring of temperature • Measuring instruments • Units • Calculations and problem-solving related to temperature	**Learning common temperature referents**. • the freezing point of pure water is 0oC • the boiling point of pure water is 100oC • the average normal human body temperature • the daily environmental temperatures. **Reading temperature measurement** • on pictures of thermometers • on real thermometers.	Relevant thermometers

				Reading calibrated capacity measuring instruments **Recording and reporting on temperature measurements.** Learners should record and report on temperature measurements. **Calculations and problem-solving related to temperature.** Calculations and problem-solving involving temperatures should be limited to positive whole numbers and fractions of the grade.	

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Area, perimeter in context of 2D shapes** **Volume**	• Perimeter • Measurement of area • Measurement of volume	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** • Measure perimeter using rulers or measuring tapes. • in mm / cm / m / km • Formulae may be used if learners can manipulate. **Measurement of area** • Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. • The relationship between the area and perimeter of rectangles and squares **Measurement of volume** • Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

Lesson	Topic	Concepts: Gr 4	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 4 Week 7 & 8	**Length**	• estimating • measuring • recording • comparing and ordering	• estimating • measuring • recording • comparing and ordering	• Practical measuring of 2-D shapes and 3-D objects • Reading instruments for measuring lengths • Compare and order lengths • Calculations (including conversions) and problem-solving • Estimate and calculate • In Grade 5 learners continue to record their measurements using rulers, • as millimetres or centimetres or millimetres and centimetres e.g. the pencil • is 11 centimetres and 3 millimetres long. They can sometimes record their • measurements in centimetres and fractions of centimetres e.g. the eraser is • 2 1/2*cm* long	Measuring instruments: rulers, metre sticks, tape measures, trundle wheels

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	**Mass -** consolidating the basic operations in context	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners need practice using examples in which the numbered intervals are divided into different calibrations. • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment with different calibrations

MATHEMATICS

GRADE 5

TERM 3

Gr 5 Lesson Plans Term 3

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	**Properties of whole numbers** Caps p.181	• Order, compare and represent numbers to at least 5-digit numbers	Compare and order (number range 0 to 99 999)	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,
		• Multiples and factors: 2 digits to at least 100	Consolidate in context of multiplication tables	
		• Represent odd and even numbers to at least 100.	Odd and even numbers - counting and patterns	
		• Recognize the place value of digits in whole numbers to at least 5 digit numbers.	Place value (number range 0 to 99 999) Learners should be able to break up numbers into thousands, hundreds, tens and units and expanded notations	
		• Round off to the nearest 10, 100, 1 000	Rounding off: 10, 100, 1 000	

Lesson	Topic	Concepts	Teachers Guide	Suggested LTSM
Term 3 Lesson 2 Week 3 & 4	**Time** Caps p. 144	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time	• Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds • calculation of the number of days between any two dates within the same or consecutive years • calculation of time intervals where time is given in minutes and/or hours only • calculations should be limited to whole numbers and common fractions	• Instruments include clocks and watches. • Cell phone watches • Stopwatches • Current calendars
	Temperature Caps p. 186	• Practical measuring of temperature • Measuring instruments • Units • Calculations and problem-solving related to temperature	**Learning common temperature referents**. • the freezing point of pure water is 0oC • the boiling point of pure water is 100oC • the average normal human body temperature • the daily environmental temperatures. **Reading temperature measurement** • on pictures of thermometers • on real thermometers. **Reading calibrated capacity measuring instruments** **Recording and reporting on temperature**	Relevant thermometers

			measurements Learners should record and report on temperature measurements **Calculations and problem-solving related to temperature** Calculations and problem-solving involving temperatures should be limited to positive whole numbers and fractions of the grade	

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Area, perimeter in context of 2D shapes** **Volume** Caps p.202	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** • Measure perimeter using rulers or measuring tapes. • in mm / cm / m / km • Formulae may be used if learners can manipulate. **Measurement of area** • Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. • The relationship between the area and perimeter of rectangles and squares **Measurement of volume** • Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

Lesson	Topic	Concepts Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 4 Week 7 & 8	**Length** Caps p. 163	• estimating • measuring • recording • comparing and ordering	• Practical measuring of 2-D shapes and 3-D objects • Reading instruments for measuring lengths • Compare and order lengths • Calculations (including conversions) and problem-solving • Estimate and calculate • In Grade 5 learners continue to record their measurements using rulers, • as millimetres or centimetres or millimetres and centimetres e.g. the pencil • is 11 centimetres and 3 millimetres long. They can sometimes record their • measurements in centimetres and fractions of centimetres e.g. the eraser is • 2 1/2*cm* long	Measuring instruments: rulers, metre sticks, tape measures, trundle wheels

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	**Mass -** consolidating the basic operations in context Caps p. 178	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners need practice using examples in which the numbered intervals are divided into different calibrations. • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment with different calibrations

MATHEMATICS

GRADE 5 and 6

TERM 3

Gr 5 and 6 combined Lesson Plans Term 3

Lesson	Topic	Concepts: Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 2 Lesson 1 Week 1 & 2	**Properties of whole numbers**	• Order, compare and represent numbers to at least 5-digit numbers	• Order, compare and represent numbers to at least 6-digit numbers	Compare and order (number range 0 to 99 999)	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,
		• Multiples and factors: 2 digits to at least 100	• Multiples and factors: 2 digits to at least 100	Consolidate in context of multiplication tables	
		• Represent odd and even numbers to at least 100.		Odd and even numbers - counting and patterns	
		• Recognize the place value of digits in whole numbers to at least 5 digit numbers.	• Recognize the place value of digits in whole numbers to at least 6 digit numbers.	Place value (number range 0 to 99 999) Learners should be able to break up numbers into ten thousands, thousands, hundreds, tens and units and different forms of expanded notations	
		• Round off to the nearest 10, 100, 1 000	• Round off to the nearest 5, 10, 100, 1 000, 10 000	Rounding off: 10, 100, 1 000	

Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 2 Week 3 & 4	**Time**	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time.	• Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds • calculation of the number of days between any two dates within the same or consecutive years • calculation of time intervals where time is given in minutes and/or hours only • calculations should be limited to whole numbers and common fractions	• Instruments include clocks and watches. • Cell phone watches • Stopwatches • Current calendars

	Temperature	• Practical measuring of temperature • Measuring instruments • Units • Calculations and problem-solving related to temperature	• Practical measuring of temperature • Measuring instruments • Units • Calculations and problem-solving related to temperature	**Learning common temperature referents**. • the freezing point of pure water is 0°C • the boiling point of pure water is 100°C • the average normal human body temperature • the daily environmental temperatures. **Reading temperature measurement** • on pictures of thermometers • on real thermometers. **Reading calibrated capacity measuring instruments** **Recording and reporting on temperature measurements** Learners should record and report on temperature measurements **Calculations and problem-solving related to temperature** Calculations and problem-solving involving temperatures should be limited to positive whole numbers and fractions of the grade	Relevant thermometers

PLEASE NOTE THAT IN WEEK 5 AND 6: AREA, PERIMETER AND VOLUME MUST BE DONE WITH GRADE 5 AND DECIMALS WITH GRADE 6

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Area, perimeter in context of 2D shapes** **Volume** Caps p.202	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** • Measure perimeter using rulers or measuring tapes. • in mm / cm / m / km • Formulae may be used if learners can manipulate. **Measurement of area** • Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. • The relationship between the area and perimeter of rectangles and squares **Measurement of volume** • Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Decimal fractions** Caps p. 252	• Recognizing, ordering and place value of decimal fractions • Calculations with decimal fractions • Solving problems	• Count forwards and backwards in decimal fractions to at least two decimal places • Compare and order decimal fractions to at least two decimal places • Place value of digits to at least two decimal places • Addition and subtraction of decimal fractions of at least two decimal places • Multiply decimal fractions by 10 and 100	Place value table, Base 10 blocks, place value / flard cards, diagrams
	Percentages Caps p. 267	• Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	• Equivalence between common fractions and percentage • Calculations	Place value table, Base 10 blocks, diagrams

Lesson	Topic	Concepts Gr 5	Concepts Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 4 Week 7 & 8	**Length** Caps p. 163	• estimating • measuring • recording • comparing and ordering	• estimating • measuring • recording • comparing and ordering	• Practical measuring of 2-D shapes and 3-D objects • Reading instruments for measuring lengths • Compare and order lengths • Calculations (including conversions) and problem-solving • Estimate and calculate • In Grade 5 learners continue to record their measurements using rulers, • as millimetres or centimetres or millimetres and centimetres e.g. the pencil • is 11 centimetres and 3 millimetres long. They can sometimes record their • measurements in centimetres and fractions of centimetres e.g. the eraser is • 2 1/2*cm* long	Measuring instruments: rulers, metre sticks, tape measures, trundle wheels

PLEASE NOTE THAT IN WEEK 9 AND 10:
GRADE 6 WILL DO AREA, PERIMETER AND VOLUME MUST BE DONE WITH GRADE 5 DOING MASS

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	**Mass -** consolidating the basic operations in context Caps p. 178	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners need practice using examples in which the numbered intervals are divided into different calibrations. • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment with different calibrations

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	Area, perimeter in context of 2D shapes Volume Caps p.282	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** • Measure perimeter using rulers or measuring tapes. • in mm / cm / m / km • No formulae **Measurement of area** • Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. • The relationship between the area and perimeter of rectangles and squares **Measurement of volume** • Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

MATHEMATICS

GRADE 6

TERM 3

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 1 Week 1 & 2	Properties of whole numbers	• Multiples and factors: 2 digits to at least 100 • Order, compare and represent numbers to at least 6-digit numbers • Recognize the place value of digits in whole numbers to at least 6 digit numbers. • Round off to the nearest 5, 10, 100, 1 000, 10 000	**Max 3 digits multiples –** work with lower range numbers that are used in the class on daily base **Compare and order** (number range 0 to 999) Learners should be given a range of exercises such as: **Place value** (number range 0 to 999) Learners should be able to break up numbers into thousands, hundreds, tens and units **Rounding off: 5, 10, 100, 1 000, 10 000**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 2 Week 3 & 4	Time Caps p. 228	• Reading time and time instruments • Reading calendars • Calculations and problem-solving with time.	• Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds • calculation of the number of days between any two dates within the same or consecutive years • calculation of time intervals where time is given in minutes and/or hours only • calculations should be limited to whole numbers and common fractions • Time zones	• Instruments include clocks and watches • Cell phone watches • Stopwatches • Current calendars • Time zone calendars
	Temperature Caps p. 266	• Practical measuring of temperature • Measuring instruments • Units • Calculations and problem-solving related to temperature	**Learning common temperature referents**. • the freezing point of pure water is 0oC • the boiling point of pure water is 100oC • the average normal human body temperature • the daily environmental temperatures. **Reading temperature measurement** • on pictures of thermometers • on real thermometers. **Reading calibrated capacity measuring instruments** **Recording and reporting on temperature measurements**	Relevant thermometers

			Learners should record and report on temperature measurements **Calculations and problem-solving related to temperature** Calculations and problem-solving involving temperatures should be limited to positive whole numbers and decimals of the grade.	

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 3 Week 5 & 6	**Decimal fractions** Caps p. 252	• Recognizing, ordering and place value of decimal fractions • Calculations with decimal fractions • Solving problems	• Count forwards and backwards in decimal fractions to at least two decimal places • Compare and order decimal fractions to at least two decimal places • Place value of digits to at least two decimal places • Addition and subtraction of decimal fractions of at least two decimal places • Multiply decimal fractions by 10 and 100	Place value table, Base 10 blocks, place value / flard cards, diagrams
	Percentages Caps p. 267	• Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	• Equivalence between common fractions and percentage • Calculations	Place value table, Base 10 blocks, diagrams

Lesson	Topic	Concepts	Teachers Guide	Suggested LTSM
Term 3 Lesson 4 Week 7 & 8	Length - consolidating the basic operations in context Caps p. 272	• estimating • measuring • recording • comparing and ordering	• Practical measuring of 2-D shapes and 3-D objects • Reading instruments for measuring lengths • Compare and order lengths • Conversions mm ↔cm↔m; m↔km • Calculations and problem-solving	Measuring instruments: rulers, metre sticks, tape measures, trundle wheels

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 5 Week 9 & 10	Area, perimeter in context of 2D shapes Volume Caps p.282	• Perimeter • Measurement of area • Measurement of volume	**Perimeter** • Measure perimeter using rulers or measuring tapes. • in mm / cm / m / km • No formulae **Measurement of area** • Find areas of regular and irregular shapes by counting squares on grids in order to develop an understanding of square units. • The relationship between the area and perimeter of rectangles and squares **Measurement of volume** • Find volume/capacity of objects (by packing or filling them in order to develop an understanding of cubic units.	Rulers, measuring tapes Grid paper Objects from learners' context

MATHEMATICS

GRADE 4

TERM 4

Gr 4 Lesson Plans Term 4

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 4 Lesson 1 Week 1 & 2	Properties of whole numbers Caps p. 92	• Order, compare and represent numbers to at least 4-digit numbers • Multiples • Recognize the place value of digits in whole numbers to at least – 4 digit numbers • Odd and even numbers to 100 • Round off to the nearest 10, 100	**Compare and order** Learners should be given a range of exercises to consolidate Consolidate multiples in the context of Mental Maths counting **Place value** (number range 0 to 9 999) **Odd and even numbers –** consolidate using 100 – 200 number chart **Rounding off:** 10, 100, explore 1 000	Recommended apparatus: place value/flash cards; Base 10 blocks / Dienes blocks

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 3 & 4	**Capacity** (Consolidating basic operations in context) Caps p. 88	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• consolidate their sense of how much 1 litre is; • further develop a sense of how much 1 milliliter is; • What is capacity? What is volume • Measuring capacity/ volume and reading capacity/ volume measuring Instruments • Learners need to read • Compare capacities up to 4 digits in *ml, l* • Recording capacities • Calculations (including conversions) and problem-solving • Estimate and calculate using *ml, l* • Solve problems relating to capacity • Solve problems relating to capacity	Different kinds of measuring equipment

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 4 Lesson 3 Week 5 & 6	**Data** Caps p.95	• Collecting and organizing data • Representing data • Analysing, interpreting and reporting data • Probability	Learners read, interpret, analyse and summarise pie charts, where the information is presented in fractions only • learners read, analyse data represented in words i.e. short paragraphs **Both graphs and questions to be provided by teacher or textbook**. Learners should work with at least • 1 pie graph where the information is given in common fractions and not percentages • 1 bar graph	Examples of context familiar data

Lesson	Topic	Concepts: Gr 4	Teachers Guide	Suggested LTSM
Term 4 Lesson 4 Week 7 & 8	**Basic operations in financial context** Add, subtract, multiply and divide	Add and subtract whole numbers Multiply and divide Judge reasonableness of answers Check solutions	Consolidate basic operation in financial context - money	Play money, supermarket catalogues, newspaper advertisements

Lesson	Topic	Concepts: Gr 4	Suggested LTSM
Term 4 Week 9 & 10	Revision	Prioritize concepts to be revisited	Use practice tests at back of textbooks Use old test and examination papers

MATHEMATICS

GRADE 4 and 5

TERM 4

Gr 4 and 5 Combined Lesson Plans Term 4

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 1 Week 1 & 2	**Properties of whole numbers**	• Order, compare and represent numbers to at least 4-digit numbers	• Order, compare and represent numbers to at least 6-digit numbers – expand number of digits if learners can handle	Compare and order Learners should be given a range of exercises to consolidate	place value/flash cards; Base 10 blocks / Dienes blocks; counters, 110 and 200 number charts; number lines
		• Multiples	• Multiples and factors: 3 digits to at least 100	Consolidate multiples in the context of Mental Maths counting	
		• Recognize the place value of digits in whole numbers to at least – 4 digit numbers	• Recognize the place value of digits in whole numbers to at least 6 digit numbers – expand digits if learners are ready.	Place value Learners should be able to break up numbers Write in different expanded notations	
		• Odd and even numbers to 100	• Odd and even numbers to 100	Odd and even numbers – consolidate using 100 – 200 number chart	
		• Round off to the nearest 10, 100	• Round off to the nearest 5, 10, 100, 1 000, 10 000 – expand number range for this term	Rounding off: 10, 100, explore further when learners are ready	

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 3 & 4	**Capacity** (Consolidating basic operations in context)	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• consolidate their sense of how much 1 litre is; • further develop a sense of how much 1 milliliter is; • What is capacity? What is volume • Measuring capacity/ volume and reading capacity/ volume measuring Instruments • Learners need to read • Compare capacities up to 4 digits in *ml, l* • Recording capacities • Calculations (including conversions) and problem-solving • Estimate and calculate using *ml, l* • Solve problems relating to capacity • Solve problems relating to capacity	Different kinds of measuring equipment

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 3 Week 5 & 6	**Data**	• Collecting and organizing data	• Collecting and organising data	Learners read, interpret, analyse and summarise pie charts, where the information is presented in fractions only	Examples of context familiar data
		• Representing data	• Representing Data	• learners read, analyse data represented in words i.e. short paragraphs **Both graphs and questions to be provided by teacher or textbook**.	
		• Analysing, interpreting and reporting data	Analysing, interpreting and reporting data	Learners should work with at least • 1 pie graph where the information is given in common fractions and not percentages • 1 bar graph	
		• Probability	Performing simple repeated events		

Lesson	Topic	Concepts: Gr 4	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 4 Week 7 & 8	**Basic operations in financial context** Add, subtract, multiply and divide	Add and subtract whole numbers Multiply and divide Judge reasonableness of answers Check solutions	Add and subtract whole numbers Multiply and divide Judge reasonableness of answers Check solutions	Consolidate basic operation in financial context - money	Play money, supermarket catalogues, newspaper advertisements

Lesson	Topic	Concepts: Gr 4 & 5	Suggested LTSM
Term 4 Week 9 & 10	Revision	Prioritize concepts to be revisited	Use practice tests at back of textbooks Use old test and examination papers

MATHEMATICS

GRADE 5

TERM 4

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 1 Week 1 & 2	**Properties of whole numbers** Caps p. 181	• Multiples and factors: 3 digits to at least 100 • Order, compare and represent numbers to at least 6-digit numbers – expand number of digits if learners can handle • Recognize the place value of digits in whole numbers to at least 6 digit numbers – expand digits if learners are ready . • Round off to the nearest 5, 10, 100, 1 000, 10 000 – expand number range for this term	**Max 3 digits multiples –** work with lower range numbers that are used in the class on daily base **Compare and order** (number range 0 to 999) Learners should be given a range of exercises **Place value** Learners should be able to break up numbers Write in different expanded notations **Rounding off: 5, 10, 100, 1 000, 10 000**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 3 & 4	**Capacity**	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• consolidate their sense of how much 1 litre is; • further develop a sense of how much 1 millilitre is; • What is capacity? What is volume • Measuring capacity/ volume and reading capacity/ volume measuring • Instruments • Learners need to read • Compare capacities up to 4 digits in *ml*, *l* • Recording capacities • Calculations (including conversions) and problem-solving • Estimate and calculate using *ml, l* • Solve problems relating to capacity • Solve problems relating to capacity	Different kinds of measuring equipment

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 3 Week 5 & 6	**Data** Caps p 187	Collecting and organising data	Collect data using: • tally marks and tables for recording • simple questionnaires with a (yes/ no type response) order data from smallest group to largest group	Material from STATS SA with modern and recent information
		Representing Data	Draw a variety of graphs to display and interpret data including: • pictographs (many-to-one correspondence) • bar graphs	
		Representing Data	Critically read and interpret data represented in • words • pictographs • bar graphs Summarise data verbally and in short written paragraphs that include • drawing conclusions about the data • making predictions based on the data	
	Probability Caps p. 289	Performing simple repeated events	Perform simple repeated events and list possible outcomes for events	

Lesson	Topic	Concepts: Gr 5	Teachers Guide	Suggested LTSM
Term 4 Lesson 4 Week 7 & 8	**Basic operations in financial context** Add, subtract, multiply and divide	Add and subtract whole numbers Multiply and divide Judge reasonableness of answers Check solutions	Consolidate basic operation in financial context - money	Play money, supermarket catalogues, newspaper advertisements

Lesson	Topic	Concepts: Gr 5	Suggested LTSM
Term 4 Week 9 & 10	Revision	Prioritize concepts to be revisited	Use practice tests at back of textbooks Use old test and examination papers

MATHEMATICS

GRADE 5 and 6

TERM 4

Gr 5 and 6 Combined Lesson Plans Term 4

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 1 Week 1 & 2	**Properties of whole numbers**	• Multiples and factors: 3 digits to at least 100 • Order, compare and represent numbers to at least 6-digit numbers – expand number of digits if learners can handle • Recognize the place value of digits in whole numbers to at least 6 digit numbers – expand digits if learners are ready . • Round off to the nearest 5, 10, 100, 1 000, 10 000 – expand number range for this term	• Multiples and factors: 2 digits to at least 100 • Order, compare and represent numbers to at least 6-digit numbers – expand number of digits if learners can handle • Recognize the place value of digits in whole numbers to at least 6 digit numbers – expand digits if learners are ready . • Round off to the nearest 5, 10, 100, 1 000, 10 000 – expand number range for this term	**Max 3 digits multiples –** work with lower range numbers that are used in the class on daily base **Compare and order** (number range 0 to 999) Learners should be given a range of exercises **Place value** Learners should be able to break up numbers Write in different expanded notations **Rounding off: 5, 10, 100, 1 000, 10 000** **Consolidate odd and even numbers with exercises**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 3 & 4	**Capacity**	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• consolidate their sense of how much 1 litre is; • further develop a sense of how much 1 millilitre is; • What is capacity? What is volume • Measuring capacity/ volume and reading capacity/ volume measuring • Instruments • Learners need to read • Compare capacities up to 4 digits in *ml*, *l* • Recording capacities • Calculations (including conversions) and problem-solving • Estimate and calculate using *ml, l* • Solve problems relating to capacity • Solve problems relating to capacity	Different kinds of measuring equipment

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 5 & 6	**Mass -** consolidating the basic operations in context	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume • **PLEASE NOTE: THIS IS REVISION FOR GR 5**	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners need practice using examples in which the numbered intervals are divided into different calibrations. • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into diferent units. • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment (eg. Bathroom scales, balances, kitchen scales, analogue and digital) with different calibrations

Lesson	Topic	Concepts: Gr 5	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 3 Week 7 & 8	**Data**	Collecting and organising data	Collecting and organising data	Collect data using: • tally marks and tables for recording • simple questionnaires with a (yes/ no type response) order data from smallest group to largest group	Material from STATS SA with modern and recent information
		Representing Data	Representing Data	Draw a variety of graphs to display and interpret data including: • pictographs (many-to-one correspondence) • bar graphs	
		Representing Data	Representing Data	Critically read and interpret data represented in • words • pictographs • bar graphs Summarise data verbally and in short written paragraphs that include • drawing conclusions about the data • making predictions based on the data	
	Probability	Performing simple repeated events	Performing simple repeated events	Perform simple repeated events and list possible outcomes for events	

Lesson	Topic	Concepts: Gr 5	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 4 Week 9 & 10	**Basic operations in financial context** Add, subtract, multiply and divide	Add and subtract whole numbers Multiply and divide Judge reasonableness of answers Check solutions **PLEASE NOTE: GRADE 5 MAY BE EXPOSED TO DECIMALS BUT NOT IN WRITTEN FORMAT**	**Decimal fractions IN CONTEXT** Caps p. 252 **Percentages** Caps p. 267	• Recognizing, ordering and place value of decimal fractions • Calculations with decimal fractions • Solving problems • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Consolidate basic operation in financial context - money	Play money, supermarket catalogues, newspaper advertisements

MATHEMATICS

GRADE 6

TERM 4

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 1 Week 1 & 2	**Properties of whole numbers** Caps p. 278	• Multiples and factors: 2 digits to at least 100 • Order, compare and represent numbers to at least 6-digit numbers – expand number of digits if learners can handle • Recognize the place value of digits in whole numbers to at least 6 digit numbers – expand digits if learners are ready . • Round off to the nearest 5, 10, 100, 1 000, 10 000 – expand number range for this term	**Max 3 digits multiples –** work with lower range numbers that are used in the class on daily base **Compare and order** (number range 0 to 999) Learners should be given a range of exercises **Place value** Learners should be able to break up numbers Write in different expanded notations **Rounding off: 5, 10, 100, 1 000, 10 000**	Counters, number cards, 100 number blocks, Base 10 blocks, flard cards, number lines,

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 2 Week 3 & 4	**Mass -** consolidating the basic operations in context Caps p. 259	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	Learners need to • consolidate their sense of how much 1kg is • consolidate their sense of how much 1g is • understand and know the relationship between kilograms and grams • Learners need practice using examples in which the numbered intervals are divided into different calibrations. • Learners should have a sense of which units are appropriate for measuring different masses • Reading instruments and measuring mass • Learners need practice using examples in which the numbered intervals are divided into diferent units. • Estimate and calculate using grams and kilograms. • Convert between units: g ↔ kg • Recording mass	Different kinds of measuring equipment (eg. Bathroom scales, balances, kitchen scales, analogue and digital) with different calibrations

Note: In Grade 6 learners work with the same units of mass they worked with in Grades 4 and 5. They also work with the same measuring instruments.

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 3 Week 5 & 6	**Capacity –** consolidating the basic operations in context Caps p. 253	• Practical measuring of 3-D objects • Measuring instruments • Units • Convert • Calculations and problem-solving related to capacity/volume	• litre; millilitre; kiloliter • Measuring capacity/ volume and reading capacity/ volume measuring • Instruments • Learners need to read • Compare capacities up to 4 digits in *ml, l, kl* • Recording capacities • Calculations (including conversions) and problem-solving • Estimate and calculate using *ml, l* • Solve problems relating to capacity • Solve problems relating to capacity	Different kinds of measuring equipment eg. Equipment in household context as well as workshop context

Note: Decimal fraction calculations should be carefully chosen so as only to include, even in the answers, decimal fractions with one or two decimal places. Problems with decimals should be limited to addition and subtraction

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 4 Lesson 4 Week 7	**Data** Caps p 268	Collecting and organising data	Collect data using: • tally marks and tables for recording • simple questionnaires with a (yes/ no type response) order data from smallest group to largest group	Material from STATS SA with modern and recent information
		Representing Data	Draw a variety of graphs to display and interpret data including: • pictographs (many-to-one correspondence) • bar graphs and double bar graphs	
		Representing Data	Critically read and interpret data represented in • words • pictographs • bar graphs • pie charts Summarise data verbally and in short written paragraphs that include • drawing conclusions about the data • making predictions based on the data	
	Probability Caps p. 289	Performing simple repeated events	Perform simple repeated events and list possible outcomes for events	

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM

Term 4
 	
Lesson 5
 	
Week 8
	Properties of 3D objects
	
	Caps p. 244
		• Know and name
		  o rectangular prisms
		  o spheres
		  o cylinders
		  o cones
		  o square-based pyramids
		• Cubes are introduced
		• Make 3-D models using cut out polygons
			• Objects and their distinguishing characteristics
			• Making models of 3-D objects
			• Interpreting drawings of 3-D objects and written exercises
				Physical work with relevant 3D objects

Lesson	Topic	Concepts: Gr 6	Teachers Guide	Suggested LTSM
Term 3 Lesson 6 Week 9 & 10	**Decimal fractions** **IN CONTEXT** Caps p. 252	• Recognizing, ordering and place value of decimal fractions • Calculations with decimal fractions • Solving problems	• Count forwards and backwards in decimal fractions to at least two decimal places • Compare and order decimal fractions to at least two decimal places • Place value of digits to at least two decimal places • Addition and subtraction of decimal fractions of at least two decimal places • Multiply decimal fractions by 10 and 100	Place value table, Base 10 blocks, place value / flard cards, diagrams
	Percentages Caps p. 267	• Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	• Equivalence between common fractions and percentage • Calculations	Place value table, Base 10 blocks, diagrams

SECTION 4

ASSESSMENT

4.1 Introduction

This section on assessment *standardises* the recording and reporting processes for Year 1-4 learners within the framework of the adapted skills curriculum in Special Schools that offer a skills programme. It also provides a policy framework for the management of school based assessment and school assessment records.

It is still required of teachers to offer a differentiated form of assessment as learners following an adapted curriculum with a skills focus have specific barriers to learning. Since a learner or learners may be functioning on different grades or levels (straddling), the assessment / recording / reporting system must make provision to reflect the *functioning* level(s) of each leaner. Each learner, regardless of his/her number of years in the School of Skills, must have access to the standard of assessment best suited to his/her needs. The learner's *abilities* determine what will be expected of him/her and the *pacing* of instruction must accommodate the individual learner.

4.2 Assessment Principles

4.2.1 Definition

Assessment is a continuous planned process of identifying, gathering and interpreting information about the performance of learners, using various forms of assessment. It involves four steps: generating and collecting evidence of achievement; evaluating this evidence; recording the findings and using this information to understand and thereby assist the learner's development in order to improve the process of learning and teaching. Assessment should be both informal (Assessment for Learning) and formal (Assessment of Learning). In both cases regular feedback should be provided to learners to enhance the learning experience.

Assessment is a process that measures individual learners' attainment of knowledge (content, and concepts) and skills by collecting, analysing and interpreting the data and information obtained from this process to:

- enable the teacher to judge a learner's progress in a reliable way.
- inform learners of their strengths, weaknesses and progress.
- assist teachers, parents and other stakeholders in making decisions about the learning process and the progress of learners.

Assessment should be mapped against the content, skills, intended aims and assessment criterion specified in the curriculum. In both informal and formal assessments it is important to ensure that in the course of a school year:

- all of the content is covered.
- the full range of skills is included.
- a variety of different forms of assessment are used.

4.2.2 Informal Assessment or Daily Assessment

Assessment for learning has the purpose of continuously collecting information on a learner's achievement that can be used to improve their learning. Informal assessment is a daily monitoring of learners' progress. This is done through observations, discussions, practical demonstrations, learner-teacher conferences, informal classroom interactions, etc. Informal assessment may be as simple as stopping during the lesson to observe learners or to discuss with learners how learning is progressing. Informal assessment should be used to provide feedback to the learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from learning activities taking place in the classroom. Learners or teachers can mark these assessment tasks. Self assessment and peer assessment actively involves learners in assessment. This is important as it allows learners to learn from and reflect on their own performance. The results of the informal daily assessment tasks are not formally recorded unless the teacher wishes to do so. The results of daily, informal assessment tasks are not taken into account for progression, promotion and certification purposes.

Informal, ongoing assessments should be used to scaffold the acquisition of knowledge and skills and should be the stepping stones leading up to the formal tasks in the Programmes of Assessment.

4.2.3 Formal Assessment

All assessment tasks that make up a formal programme of assessment for the year are regarded as Formal Assessment. Formal Assessment Tasks are marked and formally recorded by the teacher for progression and certification purposes. All Formal Assessment Tasks are subject to moderation for the purpose of quality assurance and to ensure that appropriate standards are maintained. Formal assessment tasks form part of a year-long formal Programme of Assessment.

a. Why use a Formal Assessment task
"Formal Assessment Task (assessment of learning)" – is a systematic way of assessment used by teachers to determine how well learners are progressing in a level and in a particular subject.

b. What is a Formal Assessment Task?
It is a set of questions and or instruction that learners need to respond to. A task may consist of a range of activities. A formal task must be valid, fair and reliable and must cover sufficient knowledge and or skills to report on the learners' progress.

Teachers must ensure that assessment criteria are very clear to the learners before the assessment process. This involves explaining to the learners which knowledge and skills are being assessed and the required length of responses. Feedback should be provided to the learners after assessment and could take the form of whole-class discussion or teacher-learner interaction. Examples of formal assessments include projects, oral presentations, demonstrations, performances, tests, examinations, practical demonstrations, etc. The forms of assessment used should be appropriate to the age and the developmental level of the learners. The assessment tasks should be carefully designed to cover the content and or skills of the subject. The design of these tasks should therefore ensure that a variety of skills are assessed.

Practical Assessment Tasks allow for learners to be assessed on a regular basis during the school year and also allow for the assessment of skills that cannot be assessed in a written format, e.g. test or examination.

4.3 Managing Assessment

4.3.1 People Involved in Assessment

The school and the teachers have overall responsibility for the assessment of learners. Teachers are expected to create a valid, reliable and credible assessment process.

4.3.2 Academic Curriculum

Year X	**Formal School-Based Assessments**			**Final End-of-Year Assessments**
	Term 1	Term 2	Term 3	Term 4
	• Suitable forms of assessment as determined by each academic subject	• Suitable forms of assessment as determined by each academic subject	• Suitable forms of assessment as determined by each academic subject	• Suitable forms of assessment as determined by each academic subject
	Dates:	Dates:	Dates:	Dates:
Term Report	100%	100%	100%	25%
End of Year	CASS 75%			25%

A programme of Assessment for Mathematics for years 1, 2, 3 and 4

Year X	**Formal School-Based Assessments**			
	Term 1	**Term 2**	**Term 3**	**Term 4**
	FAT 1 Test on work from week 1 -6 **FAT 2** Test on term 1's work	**FAT 3** Project on financial mathematics or Test on work from week 1 – 6 **FAT 4** Test/Exam on term 1 and 2 work	**FAT 5** Investigation on relationship between area and perimeter of 2D shapes **FAT 6** Test on term's work	**FAT 7** Completing assignment demonstrating the data cycle **FAT 8** End of year exam
	Dates:	Dates:	Dates:	Dates:
Term Report	100%	100%	100%	25%
End of Year	CASS 75%			25%

4.4 Recording and Reporting

Recording is a process in which the teacher documents the level of a learner's performance in a specific assessment task. It indicates learner progress towards the achievement of the knowledge and skill. Records of learner performance should provide evidence of the learner's progression. Records of learner performance should also be used to verify the progress made by teachers and learners in the teaching and learning process. Reporting is a process of communicating learner performance to learners, parents, schools, and other stakeholders. Learner performance can be reported in a number of ways. These include report cards, parents' meetings, school visitation days, parent-teacher conferences, phone calls, letters, class or school newsletters, etc.

Good record keeping is essential in all assessment, particularly in continuous assessment. A record book or file must be kept up to date by each teacher. It should contain:

- learners' names;
- dates of assessment;
- name and description of the assessment activity;
- the results of assessment activities, according to Subject;
- comments for support purposes.

Teachers report in percentages against the subject. The various achievement levels and their corresponding percentage bands are as shown in the table below. Recording is a process in which the teacher documents the level of a learner's performance. Teachers record the actual raw marks against the task using a record sheet. Records of learner performance should also be used to verify the progress made by teachers and learners in the teaching and learning process. Records should be used to monitor learning and to plan ahead.

Note: The seven point scale should have clear descriptions that give detailed information for each level. Teachers will record actual marks against the task by using a record sheet; and report percentages against the subject on the learners' report cards.

Codes and percentages for reporting in Grades R – 12

Rating code	Description of competence	Percentage
7	Outstanding achievement	80 – 100
6	Meritorious achievement	70 – 79
5	Substantial achievement	60 – 69
4	Adequate achievement	50 – 59
3	Moderate achievement	40 – 49
2	Elementary achievement	30 – 39
1	Not achieved	0 – 29

All records must be accessible, easy to interpret, securely kept, confidential and helpful in the teaching and reporting process. The school assessment policy determines the details of how record books must be completed. Schools are required to provide quarterly feedback to parents on the Programme of Assessment, using a formal reporting tool, such as a report card. The schedule and the report card should indicate the overall level of performance of a learner.

NOTE:
Criterion referencing is best used to describe learner's performance in a skill. Teachers must make use of suitable analytical rubrics when assessing a learner's competence for a specific skill using practical demonstrations.

4.5 Moderation of Assessment

Moderation refers to the process that ensures that the assessment tasks are fair, valid and reliable. Moderation should be implemented at school, district, and provincial levels if necessary. Comprehensive and appropriate moderation practices must be in place for the quality assurance of all subject assessments. The Formal School Based Assessment and the practical assessment tasks should be moderated by the relevant subject specialists at the district and, if necessary, provincial levels in consultation with the moderators at school.

Moderation serves five purposes:

1. It must ascertain whether subject content and skills have been sufficiently covered.
2. The moderator must ensure that the correct balance of cognitive demands are reflected in the assessments.
3. The assessments and marking are of an acceptable standard and consistency.
4. The moderator must make judgements about the comparability of learner performance across schools; whilst recognising that teachers teach in different ways.
5. The subject specialist/moderator must identify areas in which a teacher may need development and support and must ensure that this support is provided.

Moderation is therefore an on-going process and not a once-off end-of-year event.

4.6 General

This document should be read in conjunction with:

- White Paper 6 on Special Needs Education: Building an Inclusive Education and Training System (2001),
- *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R – 12*; and (NPPPR) (2011)
- The policy document; *National Protocol for Assessment Grades R – 12. (NPA) (2011)*
- Responding to Diversity through Curriculum and Assessment Policy Statements (2011)
- Guidelines to Ensure Quality Education and Support in Special Schools and Special School Resource Centres (2007)
- Operational manual to the National strategy on Screening, identification, Assessment and support (2008)
- Guidelines for full-service/inclusive schools (2010)

SECTION 5

REFERENCE

References used

CAPS Document (2012) Foundation Phase and Intermediate Phase