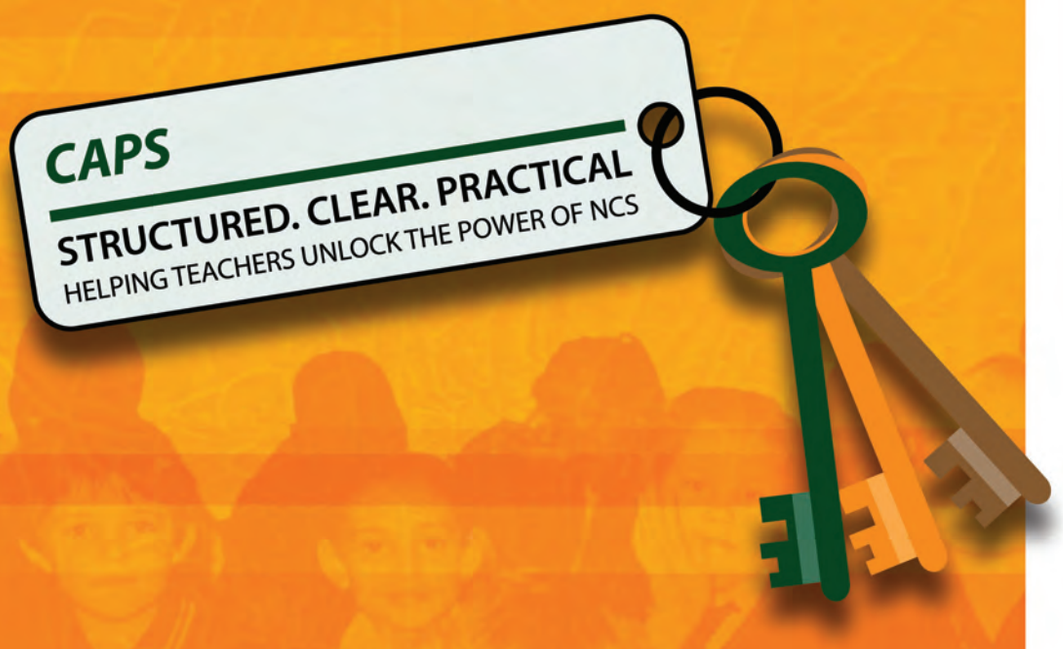
ENGLISH MATHEMATICS

National Curriculum Statement (NCS)

Curriculum and Assessment Policy Statement



Foundation Phase
Grade R

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

CURRICULUM AND ASSESSMENT POLICY STATEMENT

GRADE R

MATHEMATICS

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FOREWORD BY THE MINISTER



Our national curriculum is the culmination of our efforts over a period of seventeen years to transform the curriculum bequeathed to us by apartheid. From the start of democracy we have built our curriculum on the values that inspired our Constitution (Act 108 of 1996). The Preamble to the Constitution states that the aims of the Constitution are to:

- heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights;
- improve the quality of life of all citizens and free the potential of each person;
- lay the foundations for a democratic and open society in which government is based on the will of the people and every citizen is equally protected by law; and
- build a united and democratic South Africa able to take its rightful place as a sovereign state in the family of nations.

Education and the curriculum have an important role to play in realising these aims.

In 1997 we introduced outcomes-based education to overcome the curricular divisions of the past, but the experience of implementation prompted a review in 2000. This led to the first curriculum revision: the *Revised National Curriculum Statement Grades R-9* and the *National Curriculum Statement Grades 10-12* (2002).

Ongoing implementation challenges resulted in another review in 2009 and we revised the *Revised National Curriculum Statement* (2002) and the *National Curriculum Statement Grades 10-12* to produce this document.

From 2012 the two National Curriculum Statements, for *Grades R-9* and *Grades 10-12* respectively, are combined in a single document and will simply be known as the *National Curriculum Statement Grades R-12.* The *National Curriculum Statement for Grades R-12* builds on the previous curriculum but also updates it and aims to provide clearer specification of what is to be taught and learnt on a term-by-term basis.

The *National Curriculum Statement Grades R-12* represents a policy statement for learning and teaching in South African schools and comprises of the following:

(a) Curriculum and Assessment Policy Statements (CAPS) for all approved subjects listed in this document;

(b) *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*; and

(c) *National Protocol for Assessment Grades R-12.*

MRS ANGIE MOTSHEKGA, MP
MINISTER OF BASIC EDUCATION

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SECTION 1: INTRODUCTION AND BACKGROUND

1.1 BACKGROUND

The *National Curriculum Statement Grades R-12 (NCS)* stipulates policy on curriculum and assessment in the schooling sector.

To improve implementation, the National Curriculum Statement was amended, with the amendments coming into effect in January 2012. A single comprehensive Curriculum and Assessment Policy document was developed for each subject to replace Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines in Grades R-12.

1.2 OVERVIEW

(a) The *National Curriculum Statement Grades R-12 (January 2012)* represents a policy statement for learning and teaching in South African schools and comprises the following:

(i) Curriculum and Assessment Policy Statements for each approved school subject;

(ii) The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and

(iii) The policy document, National Protocol for Assessment Grades R-12 (January 2012).

(b) The *National Curriculum Statement Grades R-12 (January 2012)* replaces the two current national curricula statements, namely the

(i) Revised National Curriculum Statement Grades R-9, Government Gazette No. 23406 of 31 May 2002, and

(ii) National Curriculum Statement Grades 10-12 Government Gazettes, No. 25545 of 6 October 2003 and No. 27594 of 17 May 2005.

(c) The national curriculum statements contemplated in subparagraphs b(i) and (ii) comprise the following policy documents which will be incrementally repealed by the *National Curriculum Statement Grades R-12 (January 2012)* during the period 2012-2014:

(i) The Learning Area/Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R-9 and Grades 10-12;

(ii) The policy document, National Policy on assessment and qualifications for schools in the General Education and Training Band, promulgated in Government Notice No. 124 in Government Gazette No. 29626 of 12 February 2007;

(iii) The policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), promulgated in Government Gazette No.27819 of 20 July 2005;

(iv) The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding learners with special needs, published in Government Gazette, No.29466 of 11 December 2006, is incorporated in the policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and

(v) The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment (Grades R-12), promulgated in Government Notice No.1267 in Government Gazette No. 29467 of 11 December 2006.=

(d) The policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*, and the sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the *National Curriculum Statement Grades R-12.* It will therefore, in terms of *section 6A* of the *South African Schools Act, 1996 (Act No. 84 of 1996,)* form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

1.3 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) 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).

1.4 TIME ALLOCATION

1.4.1 Foundation Phase

(a) The instructional time in the Foundation Phase is as follows:

SUBJECT	GRADE R (HOURS)	GRADES 1-2 (HOURS)	GRADE 3 (HOURS)
Home Language	10	8/7	8/7
First Additional Language		2/3	3/4
Mathematics	7	7	7
Life Skills	**6**	**6**	**7**
• Beginning Knowledge	(1)	(1)	(2)
• Creative Arts	(2)	(2)	(2)
• Physical Education	(2)	(2)	(2)
• Personal and Social Well-being	(1)	(1)	(1)
TOTAL	**23**	**23**	**25**

(b) Instructional time for Grades R, 1 and 2 is 23 hours and for Grade 3 is 25 hours.

(c) Ten hours are allocated for languages in Grades R-2 and 11 hours in Grade 3. A maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 2 hours and a maximum of 3 hours for Additional Language in Grades 1-2. In Grade 3 a maximum of 8 hours and a minimum of 7 hours are allocated for Home Language and a minimum of 3 hours and a maximum of 4 hours for First Additional Language.

(d) In Life Skills Beginning Knowledge is allocated 1 hour in Grades R – 2 and 2 hours as indicated by the hours in brackets for Grade 3.

1.4.2 Intermediate Phase

(a) The instructional time in the Intermediate Phase is as follows:

SUBJECT	HOURS
Home Language	6
First Additional Language	5
Mathematics	6
Natural Sciences and Technology	3,5
Social Sciences	3
Life Skills	**4**
• Creative Arts	(1,5)
• Physical Education	(1)
• Personal and Social Well-being	(1,5)
TOTAL	**27,5**

1.4.3 Senior Phase

(a) The instructional time in the Senior Phase is as follows:

SUBJECT	HOURS
Home Language	5
First Additional Language	4
Mathematics	4,5
Natural Sciences	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Creative Arts	2
TOTAL	**27,5**

1.4.4 Grades 10-12

(a) The instructional time in Grades 10-12 is as follows:

SUBJECT	TIME ALLOCATION PER WEEK (HOURS)
Home Language	**4.5**
First Additional Language	**4.5**
Mathematics	**4.5**
Life Orientation	**2**
A minimum of any three subjects selected from **Group B** Annexure B, Tables B1-B8 of the policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12,* subject to the provisos stipulated in paragraph 28 of the said policy document.	**12 (3x4h)**
TOTAL	**27,5**

The allocated time per week may be utilised only for the minimum required NCS subjects as specified above, and may not be used for any additional subjects added to the list of minimum subjects. Should a learner wish to offer additional subjects, additional time must be allocated for the offering of these subjects.

SECTION 2: DEFINITION, AIMS, SKILLS AND CONTENT

2.1. INTRODUCTION

In Section 2, the Foundation Phase Mathematics Curriculum and Assessment Policy Statement (CAPS) provides teachers with a definition of mathematics, specific aims, specific skills, focus of content areas, weighting of content areas, recommended resources for the Foundation Phase Mathematics lessons, suggested guidelines on supporting learners with barriers to learning Mathematics, mental mathematics and enhancing the teaching of early numeracy skills in Grade R.

2.2. WHAT IS MATHEMATICS?

Mathematics is a language that makes use of symbols and notations for describing numerical, geometric and graphical relationships. It is a human activity that involves observing, representing and investigating patterns and qualitative 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 to decision-making.

2.3. SPECIFIC AIMS

The teaching and learning of Mathematics aims to develop the following in the learner:

- 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 of Mathematics;
- 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; and
- acquisition of specific knowledge and skills necessary for:
    - the application of Mathematics to physical, social and mathematical problems,;
    - the study of related subject matter (e.g. other subjects); and
    - further study in Mathematics.

2.4. 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; and
- build an awareness of the important role that Mathematics plays in real-life situations, including the personal development of the learner.

2.5. FOCUS OF CONTENT AREAS

Mathematics in the Foundation Phase covers five content areas. Each content area contributes to the acquisition of specific skills. The table below shows the general focus of the content areas as well as the specific focus of the content areas for the Foundation Phase.

Table 2.1 Foundation Phase Mathematics Content Focus

MATHEMATICS CONTENT KNOWLEDGE		
Content Area	**General Content Focus**	**Foundation Phase Specific Content Focus**
Numbers, Operations and Relationships	Development of number sense that includes: • the meaning of different kinds of numbers; • the relationship between different kinds of numbers; • the relative size of different numbers; • representation of numbers in various ways; and • the effect of operating with numbers.	The number range developed by the end of Grade 3 includes whole numbers to at least 1 000 and common fractions. In this phase, the learners' number concept is developed through working with physical objects to count collections of objects, partition and combine quantities, skip count in various ways, solve contextual (word) problems, and build up and break down numbers. • Counting enables learners to develop number concept, mental mathematics, estimation, calculation skills and recognition of patterns. • Number concept development helps learners to learn about properties of numbers and to develop strategies that can make calculations easier. • Solving problems in context enables learners to communicate their own thinking orally and in writing through drawings and symbols. • Learners build an understanding of basic operations of addition, subtraction, multiplication and division. • Learners develop fraction concept through solving problems involving the sharing of physical quantities and by using drawings. Problems should include solutions that result in whole number remainders or fractions. Sharing should involve not only finding parts of wholes, but also finding parts of collections of objects. In this phase, learners are not expected to read or write fraction symbols.

MATHEMATICS CONTENT KNOWLEDGE		
Content Area	**General Content Focus**	**Foundation Phase Specific Content Focus**
Patterns, Functions and Algebra	Algebra is the language for investigating and communicating most of Mathematics and can be extended to the study of functions and other relationships between variables. A central part of this content area is for the learner to achieve efficient manipulative skills in the use of algebra. It also focuses on the: • description of patterns and relationships through the use of symbolic expressions, graphs and tables; and • identification and analysis of regularities and change in patterns, and relationships that enable learners to make predictions and solve problems.	In this phase, learners work with both • number patterns (e.g. skip counting); and • geometric patterns (e.g. pictures). Learners should use physical objects, drawings and symbolic forms to copy, extend, describe and create patterns. 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. Describing the pattern helps learners to develop their language skills. Focussing on the logic of patterns lays the basis for developing algebraic thinking skills. Number patterns support number concept development and operational sense built in Numbers, Operations and Relationships. Geometric patterns include sequences of lines, shapes and objects but also patterns in the world. In geometric patterns learners apply their knowledge of space and shape.
Space and Shape (Geometry)	The study of Space and Shape improves understanding and appreciation of the pattern, precision, achievement and beauty in natural and cultural forms. It focuses on the • properties, relationships; • orientations, positions; and • transformations of two-dimensional shapes and three-dimensional objects.	In this phase learners focus on three-dimensional (3-D) objects, two-dimensional (2-D) shapes, position and directions. • Learners explore properties of 3-D objects and 2-D shapes by sorting, classifying, describing and naming them. • Learners draw shapes and build with objects. • Learners recognise and describe shapes and objects in their environment that resemble mathematical objects and shapes. • Learners describe the position of objects, themselves and others using the appropriate vocabulary. • Learners follow and give directions.
Measurement	Measurement focuses on the selection and use of appropriate units, instruments and formulae to quantify characteristics of events, shapes, objects and the environment. It relates directly to the learner's scientific, technological and economic worlds, enabling the learner to: • make sensible estimates; and • be alert to the reasonableness of measurements and results.	• In this phase the learners' concept of measurement is developed by working practically with different concrete objects and shapes, learning the properties of length, capacity, mass, area and time. • Learners measure the properties of shapes and objects using informal units where appropriate, such as hands, paces, containers, etc. • Learners compare different quantities by using comparative words such as taller/shorter, heavier/lighter etc. • Learners are introduced to standard units such as grams, kilograms; millilitres, litres; centimetres, metres. Activities related to time should be structured with the awareness that learners' understanding of the passing of time should be developed before they read about time.

MATHEMATICS CONTENT KNOWLEDGE		
Content Area	**General Content Focus**	**Foundation Phase Specific Content Focus**
Data Handling	Through the study of data handling, the learner develops the skills to • collect; • organise; • display; and • analyse and interpret given data.	The focus in the teaching and learning of data handling in the Foundation Phase is on sorting objects and data in different ways, based on the different features of the objects or data. • Learners are expected to interpret and construct pictographs and bar graphs with one-to-one correspondence with the given data.

2.6. WEIGHTING OF CONTENT AREAS

The weighting of mathematics content areas serves two primary purposes: firstly the weighting gives guidance on the amount of time needed to address the content within each content area adequately; secondly the weighting gives guidance on the spread of content in assessment. The weighting of the content areas is not the same for each grade in the Foundation Phase.

Table 2.2 Weighting of Content Areas in Foundation Phase

WEIGHTING OF CONTENT AREAS			
Content Area	**Grade 1**	**Grade 2**	**Grade 3**
Numbers, Operations and Relationships*	65%	60%	58%
Patterns, Functions and Algebra	10%	10%	10%
Space and Shape (Geometry)	11%	13%	13%
Measurement	9%	12%	14%
Data Handling	5%	5%	5%
	100%	**100%**	**100%**
*In Grade R – 3, it is important that the area of Numbers, Operations and Relationships is the main focus of Mathematics. Learners need to exit the Foundation Phase with a secure number sense and operational fluency. The aim is for learners to be competent and confident with numbers and calculations. For this reason the notional time allocated to Numbers Operations and Relationships has been increased. Most of the work on patterns should focus on number patterns to consolidate learners' number ability further.			

2.7 MATHEMATICS IN THE FOUNDATION PHASE

Foundation Phase Mathematics forges the link between the child's pre-school life and life outside school on the one hand, and the abstract Mathematics of the later grades on the other hand. In the early grades children should be exposed to mathematical experiences that give them many opportunities "to do, talk and record" their mathematical thinking.

The amount of time spent on Mathematics has a decisive impact on learners' development of mathematical concepts and skills. The activities learners engage in should, however, not be "keep busy" activities, but should be clearly focused on the mathematics as outlined in the curriculum.

2.7.1 Suggested guidelines for classroom management

All the time allocated to Mathematics on a single day should be considered as one period. During the Mathematics period the following should usually happen:

- **Whole class activity**
  - Mental mathematics
  - Consolidation of concepts
  - Classroom management (allocation of independent activities, etc.)
- **Small group teaching**
  - Counting
  - Number concept development (oral and practical activities)
  - Problem-solving (oral and practical activities)
  - Written recording
  - Developing calculating strategies (oral and practical activities)
  - Patterns
  - Space and shape
  - Measurement
  - Data Handling
- **Independent work**

  Learners practise and consolidate concepts developed in whole class and small group teaching.

  Whole class activity: where the focus will be mainly on mental mathematics, consolidation of concepts and allocation of independent activities for at least minutes per day at the start of the Mathematics lesson. During this time the teacher will also work with the whole class to determine and record (where appropriate) the name of the day, the date, the number of learners present and absent, and the nature of the weather. Mental mathematics will include brisk mental starters such as “the number after/before is; 2 more/less than 8 is; 4+2; 5+2; 6+2”, etc. During this time the teacher can also consolidate concepts that are a little challenging. Also important is that the teacher should assign the class their general class activity as well as independent activities that they do on their own while she gets on with the small group focused sessions.

  Small group focused lessons: are most effective when the teacher takes a small group of learners (8 to 12) who have the same ability with her on the floor or at their tables, while the rest of the class is engaged in independent activities. The teacher works **orally** and **practically** with the learners, engaging in such activities as counting, estimation, number concept development and problem-solving activities, as well as activities concerning pattern, space and shape, measurement and data handling, which should be carefully planned for.

  In order to reinforce learning, written work (work book, work sheet examples, work cards etc.) should form part of the group session where possible. Learners should have writing materials (class work books, etc.) available for problem-solving activities. The group sessions should be very interactive and learners should be encouraged to “**do, talk, demonstrate and record”** their mathematical thinking.

Teachers should take care not to underestimate the slower learners; they should also be stretched. It is easier to match the difficulty level of the work to the learners if the group the teacher is working with is of approximately equal ability. However, mixed ability groups can work well for construction, measurement and patterning or sorting activities, or for games.

Independent activities: While the teacher is busy with the small group focused lesson, the rest of the class must be purposefully engaged in a variety of mathematical activities that focus on reinforcing and consolidating concepts and skills that have already been taught during small group focused lessons. These independent activities should be differentiated to cater for different ability levels. Independent activities may include:

- work book activities;
- graded worksheets/work cards for counting, manipulating numbers, simple problems in context (word problems), etc.;
- mathematics games like Ludo, dominoes, jigsaw puzzles; and
- tasks that involve construction, sorting, patterning or measurement.

The Mathematics period should also provide for supporting learners experiencing barriers to learning, enrichment activities for high flyers, assessment activities, etc.

Both independent and small group focused lesson activities must be observed (practical, oral), marked and overseen (written recording) by the teacher as part of her informal and formal assessment activities.

Close tracking of learners' responses (verbal, oral, practical, written recording) in learning and teaching situations enables the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

2.7.2 Learners with barriers to learning Mathematics

It is important for learners who experience barriers to learning Mathematics to be exposed to activity-based learning. Practical examples using concrete objects together with practical activities should be used for a longer time than with other learners, as moving to abstract work too soon may lead to frustration and regression. These learners may require and should be granted more time for:

- completing assessment activities and tasks;
- acquiring thinking skills (own strategies

The number of activities to be completed should be adapted to the learner without compromising the concept and skills that are addressed.

2.7.3 Mental mathematics

Mental mathematics plays a very important role in the curriculum. The number bonds and multiplication table facts that learners are expected to know or recall fairly quickly are listed for each grade. In addition, mental mathematics is used extensively to explore the higher number ranges through skip counting and by doing activities such as "up and down the number ladder", e.g. the Grade 8 teacher might ask the following "chained" questions: "Start with 796. Make that 7 more. Yes, it is 803 Make that 5 less. Yes, it is 798. Make that 10 more … 2 more … 90 more … 5 less …" etc. These activities help learners to construct a mental number line.

Mental mathematics therefore features strongly in both the counting and the number concept development sections relating to the topics Number and Patterns, and may also occur during Measurement and Data Handling activities. When doing mental mathematics, the teacher should never force learners to do mental calculations that they cannot handle — writing materials and/or counters should always be available for those learners who may need them.

2.8 GRADE R

The approach to learning Mathematics should be based on the principles of integration and play-based learning. The teacher should be pro-active, a mediator rather than a facilitator. A mediator makes the most of incidental learning opportunities that arise spontaneously during a range of child-centred activities such as free play in the fantasy corner or block construction site, sand and water play activities as well as teacher-guided activities that focus on mathematical concepts such as counting, number concept development, space and shape, patterns, time and other emergent mathematics activities. Colour is not in itself a mathematical concept, but can be used to promote the acquisition of mathematical concepts in activities such as sorting, grouping and classifying.

All aspects of Grade R, including the classroom environment and teaching and learning practice, should promote the holistic development of the child. Development that is an integral part of emergent numeracy includes cognitive development (problem-solving, logical thought and reasoning), language development (the language of mathematics) and perceptual-motor as well as emotional and social development. All these aspects can be developed through stories, songs, rhymes, finger games and water play, educational toys including board games, construction and exploration activities (mass, time, capacity, measurement, etc.), imaginative play, outdoor play and "playground games". Many kinds of games and play could include aspects of numeracy, for example measuring during cooking or counting during shopping.

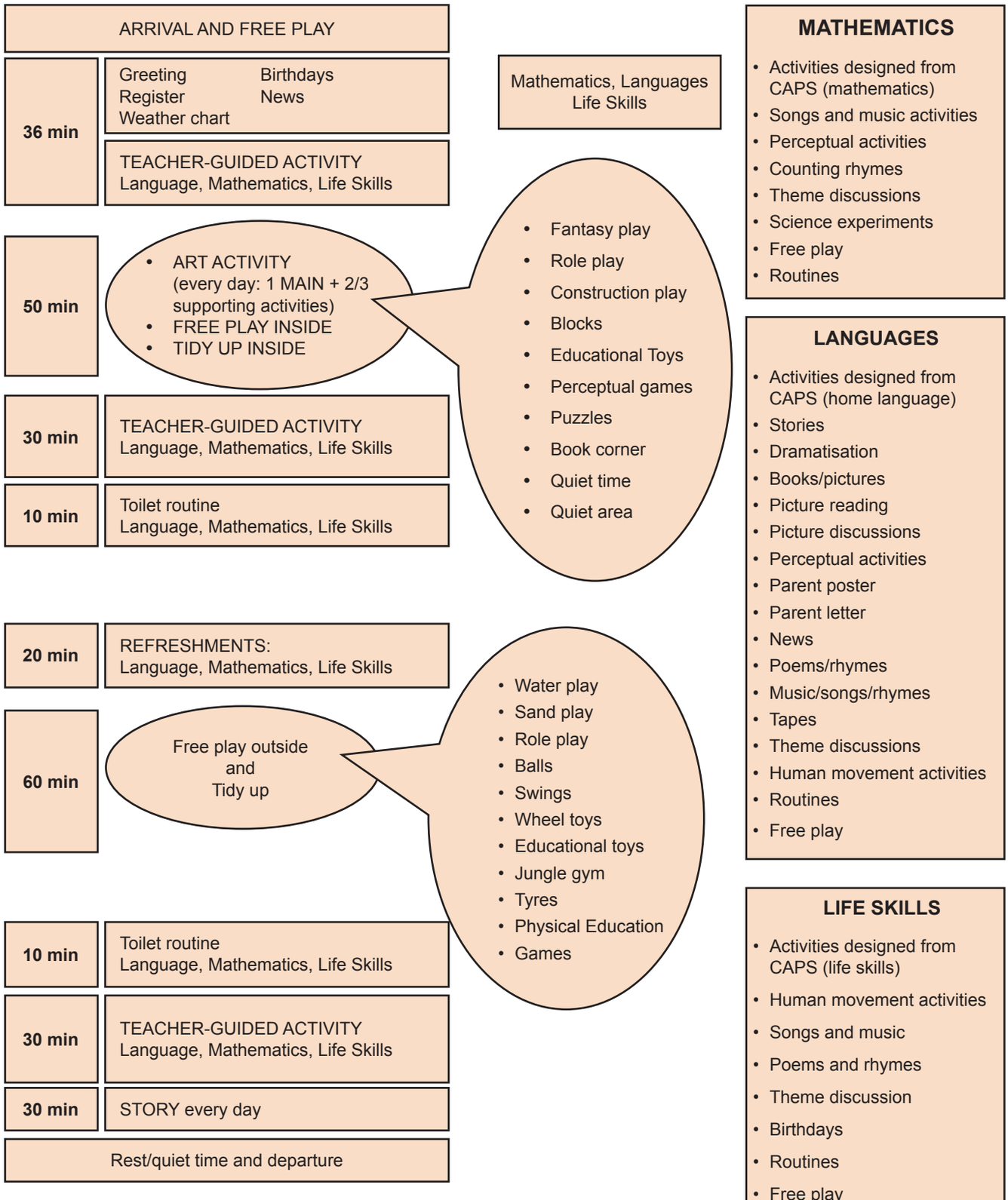
In other words, the acquisition of emergent mathematics and related mathematical concepts should, like all good teaching, adhere to the following learning principles where children move through three stages of learning, namely:

- the kinaesthetic stage (experience concepts with the body and senses);
- the concrete stage (3-D, using a variety of different objects such as blocks, bottle tops, twigs and other objects in the environment); and
- paper and pencil representation (semi-concrete representations using drawings, matching cards etc).

In the Grade R the timetable is called **the daily programme** (*see* Figure 1) and it comprises three main components, namely:

- teacher-guided activities;
- routines; and
- child-initiated activities or free play.

Figure 1: Grade R daily programme
(From ± 7:30 – 13:00)



The emphasis throughout should be on using these aspects of the daily programme to promote the acquisition of emergent numeracy in a fun and spontaneous context. For example, teacher-guided numeracy learning opportunities are offered during ring time. Most rings can be given a mathematical focus. The early morning ring when children are greeted and a roll-call is taken provides an opportunity for playing with numbers and, for example, counting. Other rings, such as the Mathematics ring, perceptual-motor rings, movement, music and science rings can also provide a Mathematics focus.

Creative arts activities could also have a mathematical emphasis, for example, using geometric shapes such as circles and squares to make a collage or designing a pattern to frame a picture. The weather chart, calendar and birthday rings also provide opportunities for exploring mathematical concepts. It is the teacher's knowledge and initiative that can maximise learning potential.

- *Routines*, where children participate actively, such as snack time, arrival, home time and toilet routines, can also be given a Mathematics focus. Children wearing red, for example, go to the toilet first (colour and ordinal number), each child gets a plate and a sandwich (one-to-one correspondence), Thandi would like a second sandwich, David doesn't want any more. What this amounts to is identifying and utilising a teachable moment, in other words, being a mediator of learning.
- During *free play* the teacher can promote **emergent mathematics** through the appropriate structuring of the free-play area. Outdoor free play such as climbing on a wooden climbing frame or riding on the cycle track might promote the acquisition of key mathematical vocabulary such as up/down, bottom/top, fast/slow, high/low, etc. Sand and water play will also enhance the understanding of concepts such as mass, volume and capacity. All these activities will also promote essential underpinning perceptual-motor skills, which become an inherent part of the successful acquisition in formal school of literacy and numeracy. Examples of these skills are:
  - developing an understanding of your position in space e.g. behind, in front, underneath or next to an object (this can, for example, be linked to place value in mathematics); and
  - directionality and laterality (this can be linked to number and letter formation and reading from left to right).

The practice outlined above is illustrative of a Grade R approach that promotes problem-solving, logical thinking and reasoning, as well as education for citizenship because of its focus on co-operative learning and negotiation. By utilising teachable moments, a teacher can encourage children to reflect on their decisions and predict possibilities, e.g. whether they think a container being used in water play will hold more than another container.

By making helpful suggestions and inviting a child to think about alternative positions and ways of problem-solving, a teacher can encourage children to think more deeply about an issue and find good reasons for the choices they make. In this way not only mathematical but also *holistic development* is addressed and critical premises underpinning CAPS are brought into play.

Assessment practices in Grade R should be informal and children should not be subjected to a 'test' situation. For this reason assessment activities have not been included in the Grade R CAPS. Each activity used for assessment should be carefully planned so that it integrates a variety of skills.

In Grade R most of the assessment takes place through observation, with the teacher recording the results of the assessment using a checklist. Thus, as the year progresses a full picture of each child, complete with challenges and strengths, is gradually built. This allows for challenges to be addressed and strengths to be maximised.

A traditional, formal classroom-based learning programme that is tightly structured and 'basics bound' should be avoided, as it does not optimise numeracy acquisition for the Grade R child. Grade R should not be a 'watered down'

Grade 1 class. It has its own unique characteristics based on how children in this age group make sense of their world and acquire the knowledge, skills, values and attitudes that will allow them to maximise the opportunities afforded in the formal learning years.

2.9 RECOMMENDED RESOURCES FOR THE FOUNDATION PHASE MATHEMATICS CLASSROOM

- Counters
- Large dice
- A big counting frame
- A height chart
- Big 1 – 100 and 101 – 200 number grid posters (100 – charts)
- Different number lines (vertical and horizontal)
- A set of Flard cards (expanding cards)
- Play money — coins and notes
- A calendar for the current year
- A large analogue wall clock
- A balance scale
- Building blocks
- Modelling clay
- A variety of boxes of different shapes and sizes brought from home
- A variety of plastic bottles and containers to describe and compare capacities
- Good examples of a sphere (ball), a rectangular prism (box), cube, cone, pyramid and cylinder. The teacher can make this herself.
- A number of plastic or cardboard squares, different rectangles, circles, different triangles all of different sizes
- Mathematical games, e.g. Ludo, Snakes and Ladders, Jigsaw Puzzles, Dominoes, Tangrams etc.
- Essential for Grades R and 1:
    - Areas for sand and water play
    - Apparatus for climbing, balancing, swinging and skipping
    - A play-shop with items to be bought with play-money
    - A variety of appropriate games such as ‘what’s in a square’?
    - Blocks

SECTION 3: CONTENT SPECIFICATION AND CLARIFICATION

3.1. INTRODUCTION

In the General Education and Training band there are five content areas in Mathematics:

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

Each content area is broken down into mathematical topics, for example in Space and Shape in the Foundation Phase one topic is two-dimensional shapes. Concepts and skills are specified within each topic. Section 3 of the Foundation Phase Mathematics specifies and clarifies the Mathematics content to be taught.

3.2. SPECIFICATION OF CONTENT TO SHOW PROGRESSION

The phase overview tables show the specification of concepts and skills and the progression from Grade R to 3. The grade overview tables show the progression of concepts and skills across the four terms of the year.

However, in certain topics the concepts and skills are similar in two or three successive grades. The clarification of content will give guidelines on how progression should be addressed in these cases. The specification of content should therefore be read in conjunction with the clarification of content.

The **Foundation Phase overview** shows progression of content areas; Numbers, Operations and Relationships, Patterns, Functions and Algebra, Space and Shape (Geometry), Measurement and Data Handling across Grades R to 3 as outlined in the tables below:

FOUNDATION PHASE OVERVIEW

1. NUMBERS, OPERATIONS AND RELATIONSHIPS

Progression in Numbers, Operations and Relationships

- The main progression in Numbers, Operations and Relationships happens in three ways:
  - The number range increases.
  - Different kinds of numbers are introduced.
  - The calculation strategies change.
- As the number range for doing calculations increases up to Grade 3, learners should develop more efficient strategies for calculations.
- Contextual problems should take account of the number range for the grade as well as the calculation competencies of learners. .

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
NUMBER CONCEPT DEVELOPMENT: Count with whole numbers				
1.1 **Count objects**	**Count concrete objects** Estimate and count to at least 10 everyday objects reliably.	**Count concrete objects** Estimate and count to at least 50 everyday objects reliably. Counting by grouping is encouraged.	**Count concrete objects** Estimate and count to at least 200 everyday objects reliably. Counting by grouping is encouraged.	**Count concrete objects** Estimate and counts to at least 1000 everyday objects reliably. Counting by grouping is encouraged.
1.2 **Count forwards and backwards**	Count forwards and backwards in ones from 1 to 10; Use number rhymes and songs	Count forwards and backwards in ones from any number between 0 and 100. **Count forwards in:** • 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 and 200 • 10s from any multiple of 10 between 0 and 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 of 4 between 0 and 200	Counts forwards and backwards in: • 1s from any number between 0 and 1000 • 10s from any multiple of 10 between 0 and 1000 • 5s from any multiple of 5 between 0 and 1000 • 2s from any multiple of 2 between 0 and 1000 • 3s from any multiple of 3 between 0 and 1000 • 4s from any multiple of 4 between 0 and 1000 • in 20s, 25s, 50s, 100s to at least 1000

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
NUMBER CONCEPT DEVELOPMENT: Represent whole numbers				
	Say and use number names in familiar context.			
1.3 Number symbols and number names	**Recognise, identify and read numbers** • Recognise, identify and read number symbols 1 to 10 • Recognise, identify and read number names 1 to 10	**Recognise, identify and read number symbols** • Recognise, identify and read number symbols 1 to 100 • Write number symbols 1 to 20 • Recognise, identify and read number names 1 to 10 • Write number names 1 to 10	**Recognise, identify and read number** • Recognise, identify and read number symbols 0 to 200 • Write number symbols 0 to 200 • Recognise, identify and read number names 0 to 100 • Write number names 0 to 100	**Recognise, identify and read number** • Recognise, identify and read number symbols 0 to 1 000 • Write number symbols 0 to 1 000 • Recognise, identify and read number names 0 to 1 000. • Write number names 0 to 1 000
NUMBER CONCEPT DEVELOPMENT: Describe, compare and order whole numbers				
1.4 Describe, compare and order numbers	**Describe, compare and order collection of objects up to 10.** • Describe whole numbers up to 10 • Compare which of two given collection of objects is big, small, smaller than, greater than, more than, less than, equal to, most, least, fewer up 10. • Order more than two given collections of objects from smallest to greatest up to 10	**Describe, compare and order objects up to 20** • Describe and compare collections of objects according to most, least, the same as • Describe and order collections of objects from most to least and least to most		

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
NUMBER CONCEPT DEVELOPMENT: Describe, compare and order whole numbers				
1.4 **Describe, compare and order numbers**	**Use ordinal numbers to show order, place or position** Develop an awareness of ordinal numbers e.g. first, second, third up to sixth and last	**Describe, compare and order numbers to 20** • Describe and compare whole numbers according to smaller than, greater than and more than, less than, is equal to • Describe and order numbers from smallest to greatest and greatest to smallest **Use ordinal numbers to show order, place or position** Position objects in a line from first to tenth or first to last e.g. first, second, third … tenth	**Describe, compare and order numbers to 99** • Describe and compare whole numbers up to 99 using smaller than, greater than, more than, less than and equal to • Describe and order whole numbers up to 99 from smallest to greatest, and greatest to smallest **Use ordinal numbers to show order, place or position** Position objects in a line from first to twentieth or first to last e.g. first, second, third … twentieth	**Describe, compare and order numbers to 999** • Describe and compare whole numbers up to 999 using smaller than, greater than, more than, less than and equal to • Describe and order whole numbers up to 999 from smallest to greatest, and greatest to smallest **Use ordinal numbers to show order, place or position** Use, read and write ordinal numbers, including abbreviated form (1^{st}, 2^{nd}, 3^{rd} up to 31^{st})
NUMBER CONCEPT DEVELOPMENT: Place value				
1.5 **Place value**		**Begin to recognise the place value of at least two-digit numbers to 20** • Decompose two-digit numbers into multiples of 10 and ones/units	**Recognise the place value of at least two-digit numbers to 99** • 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 999** • Decompose three-digit numbers up to 999 into multiples of 100, multiples of 10 and ones/units • Identify and state the value of each digit

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
SOLVE PROBLEMS IN CONTEXT				
1.6 Problem-solving techniques	Use the following techniques up to 10: • concrete apparatus e.g. counters • physical number ladder	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	Use the following techniques when solving problems and explain solutions to problems: • drawings or concrete apparatus e.g. counters • building up and breaking down of numbers • doubling and halving • number lines	Use the following techniques when solving problems and explain solutions to problems: • building up and breaking down numbers • doubling and halving • number lines • rounding off in tens
1.7 Addition and subtraction	Solve word problems (story sums) in context and explain own solution to problems involving addition and subtraction with answers up to 10.	Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 20.	Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 99.	Solve word problems in context and explain own solution to problems involving addition and subtraction leading answers up to 999.
1.8 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 using repeated addition and multiplication with answers up to 50.	Solve word problems in context and explain own solution to problems using multiplication with answers up to 100
1.9 Grouping and sharing leading to division	Solve and explain solutions to word problems in context (story sums) that involve equal sharing, grouping with whole numbers up to 10 and answers that may include remainders.	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.	Solves and explain solutions to practical 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 and grouping up to 100 with answers that may include remainders
1.10 Sharing leading to fractions			Solve and explain solutions to practical problems that involve equal sharing leading to solutions that include unitary fractions.	Solve and explain solutions to practical problems that involve equal sharing leading to solutions that include unitary and non-unitary fractions.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
SOLVE PROBLEMS IN CONTEXT				
1.11 Money	Develop an awareness of South African coins and bank notes	• Recognise and identify the South African coins (5c, 10c, 20c, 50c, R1, R2, R5) and bank notes R10 and R20 • Solve money problems involving totals and change to R20 and in cents up to 20c	• 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 R99 and in cents up to 90c	• Recognise and identify all 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				
1.12 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	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	Use the following techniques when performing calculations: • building up and breaking down numbers • doubling and halving • number lines • rounding off in tens
1.13 Addition and subtraction	Solve verbally stated addition and subtraction problems with solutions up to 10	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	• Add to 99 • Subtract from 99 • Use appropriate symbols (+, –, =, □) • Practice number bonds to 20	• Add to 999 • Subtract from 999 • Use appropriate symbols (+, –, =, □) • Practice number bonds to 30
1.14 Repeated addition leading to multiplication		• Add the same number repeatedly to 20 • Use appropriate symbols (+, =, □)	• Multiply numbers 1 to 10 by 2, 5, 3, and 4 to a total of 50 • Use appropriate symbols (+, x, =, □)	• Multiply any number by 2, 3, 4, 5, 10 to a total of 100 • Use appropriate symbols (x, □)
1.15 Division				• Divide numbers up to 100 by 2, 3, 4, 5, 10 • Use appropriate symbols (÷, =, □)

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
1.16 **Mental mathematics**	**Number concept: Range 10** Each activity commences with mental maths: • Counting everyday objects • Counting forwards and backwards • Ordinal counting • Clap hands many/few times • Which claps are most/least/more/ fewer • Which number comes before/after/ between	**Number concept: Range 20** • Name the number before and after a given number. • Order a given set of selected numbers • Compare numbers up to and say which is 1 and 2 more or less	**Number concept: Range 99** • Order a given set of selected numbers • Compare numbers up to 99 and say which is 1, 2, 3, 4, 5 and 10 more or less	**Number concept: Range 1000** • Order a given set of selected numbers • Compare numbers up to 1000 and say which is 1, 2, 3, 4, 5 and 10 more or less
		Rapidly recall: • Addition and subtraction facts to 10 **Calculation strategies** Use calculation strategies to add and subtract efficiently: • Put the larger number first in order to count on or count back • Number line • Doubling and halving • Building up and breaking down	**Rapidly recall:** • Addition and subtraction facts to 20 • Add or subtract multiples of 10 from 0 to 100 **Calculation strategies** Use calculation strategies to add and subtract efficiently: • 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.	**Rapidly recall:** • Recall addition and subtraction facts to 20 • Add or subtract multiples of 10 from 0 to 100 • Multiplication facts for the: - 2 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** 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.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
CONTEXT-FREE CALCULATIONS (cont.)				
1.17 Fractions			• Use and name unitary fractions in familiar contexts including halves, quarters, thirds and fifths • Recognise fractions in diagrammatic form • Write fractions as 1 half	• Use and name unitary and non-unitary fractions in familiar contexts 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, 2 thirds,

FOUNDATION PHASE OVERVIEW

2. PATTERNS, FUNCTIONS AND ALGEBRA

Progression in Patterns, Functions and Algebra

- In Patterns, Functions and Algebra, learners get opportunities to:
  - complete and extend patterns represented in different forms ; and
  - identify and describe patterns.
- Describing patterns lays the basis for learners in the Intermediate Phase to describe rules for patterns. This in turn becomes more formalised in algebraic work in the Senior Phase.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
2.1 **Geometric patterns**	**Copy and extend** Copy and extend simple patterns using physical objects and drawings (e.g. using colours and shapes).	**Copy, extend and describe** Copy, extend and describe in words • simple patterns made with physical objects • simple patterns made with drawings of lines, shapes or objects **Create own patterns** • with physical objects • by drawing lines, shapes or objects **Patterns around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage	**Copy, extend and describe** Copy, extend and describe in words • simple patterns made with physical objects • complex patterns made with drawings of lines, shapes or objects **Create and describe own patterns** • with physical objects • by drawing lines, shapes or objects **Patterns around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage	**Copy, extend and describe** Copy, extend and describe in words • simple patterns made with physical objects • more complex patterns made with drawings of lines, shapes or objects **Create and describe own patterns** • with physical objects • by drawing lines, shapes or objects **Patterns around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage
2.2 **Number patterns**		**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100 **Create and describe own patterns**	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 200 **Create and describe own patterns**	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 999 **Create and describe own patterns**

FOUNDATION PHASE OVERVIEW

3. SPACE AND SHAPE (GEOMETRY)

Progression in Space and Shape

The main progression in Space and Shape is achieved by:

- focussing on new properties and features of shapes and objects in each grade; and
- moving from learning the language of position and matching different views of the same objects to reading and following directions on informal maps.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
3.1 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.	**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.	**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 views • Recognise and match different views of the same everyday object	**Position and views** • Recognise and match different views of the same everyday object.	**Position and views** • Recognise and match different views of the same everyday object • Name an everyday object when shown an unusual view of it • Read, interpret and draw informal maps, or top views of a collection of objects • Find objects on maps
	Position and directions Follow directions to move around the classroom	**Position and directions** • Follow directions to move around the classroom • Follow instructions to place one object in relation to another, e.g. put the pencil behind the box	**Position and directions** • Follow directions to move around the classroom	**Position and directions** • Follow directions to move around the classroom and school • Give directions to move around the classroom and school • Follow directions from one place to another on an informal map

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
3.2 **3-D objects**	**Range of objects** Recognise and name 3-D objects in the classroom • ball shapes, • box shapes **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour • objects that roll • objects that slide **Focussed activities** • Use 3-D objects such as building blocks, recycling material etc, to construct composite objects e.g. towers, bridges etc	**Range of objects** Recognise and name 3-D objects in the classroom and in pictures • ball shapes (spheres) • box shapes (prisms) **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour • objects that roll • objects that slide **Focussed activities** • Observe and build given 3-D objects using concrete materials such as building blocks, recycling material, construction kits	**Range of objects** Recognise and name 3-D objects in the classroom and in pictures • ball shapes (spheres) • box shapes (prisms) • cylinders **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • objects that roll • objects that slide **Focussed activities** • Observe and build given 3-D objects using concrete materials such as cut-out 2-D shapes, building blocks, recycling material, construction kits, other 3-D geometric objects	**Range of objects** Recognise and name 3-D objects in the classroom and in pictures • ball shapes (spheres) • box shapes (prisms) • cylinders • pyramids • cones **Features of objects** Describe, sort and compare 3-D objects in terms of: • 2-D shapes that make up the faces of 3-D objects • flat or curved surfaces **Focussed activities** • Observe and build given 3-D objects using concrete materials such as cut-out 2-D shapes, clay, toothpicks, straws, other 3-D geometric objects

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
3.3 **2-D shapes**	**Recognise, identifies and names two-dimensional shapes in the classroom and in pictures, including:** • Learners Symbols • Class name	**Range of shapes** Recognise and name 2-D shapes • circles • triangles • squares **Features of shapes** Describe, sort and compare 2-D shapes in terms of: • size • colour • straight sides • round sides	**Range of shapes** Recognise and name 2-D shapes • circles • triangles • squares • rectangles **Features of shapes** Describe, sort and compare 2-D shapes in terms of: • size • shape • straight sides • round sides	**Range of shapes** Recognise and name 2-D shapes • circles • triangles • squares • rectangles **Features of shapes** Describe, sort and compare 2-D shapes in terms of: • shape • straight sides • round sides **Draw shapes** • circles • triangles • squares • rectangles
3.4 **Symmetry**	**Symmetry** • Recognise symmetry in own body	**Symmetry** • Recognise symmetry in own body. • Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes	**Symmetry** • Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes	**Symmetry** • Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes. • Determine line of symmetry through paper folding and reflection

FOUNDATION PHASE OVERVIEW

4. MEASUREMENT

Progression in Measurement

- The main progression in measurement across the grades is achieved by the introduction of:
  - new forms of measuring;
  - new measuring tools, starting with informal tools and moving to formal measuring instruments in Grades 2 and 3;
  - new measuring units, particularly in Grades 2 and 3.
- Calculations and problem-solving with measurement should take cognisance of the number work that has already been covered.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
4.1 Time	**Passing of time** Talk about the passing of time • Talk about things that happen during the day and things that happen during the night • Learners sequence events that happen to them during the day • Order regular events from their own lives	**Passing of time** Talk about the passing of time • Order regular events from their own lives • Compare lengths of time using language e.g. longer, shorter, faster, slower • Sequence events using language such as yesterday, today, tomorrow		

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
4.1 **Time**		**Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Name and sequence days of week and months of year • Place birthdays on a calendar	**Telling the time** • Name and sequence days of week and months of year • Place birthdays, religious festivals, public holidays, historical events, school events on a calendar • Tell 12-hour time in hours, half hours and quarter hours **Calculate length of time and passing of time** • Use calendars to calculate and describe lengths of time in: - days, - weeks • Use clocks to calculate length of time in: - hours - half hours	**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 **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 • Converting between weeks and months • Use clocks to calculate length of time in: - hours - half hours - quarter hours

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
4.2 **Length**	**Informal measuring** • Compare and order the length, height or width of two or more objects by placing them next to each other. Use language to talk about the comparison e.g. longer, shorter, taller, wider	**Informal measuring** • Compare and order the length, height or width of two or more objects by placing them next to each other. Use language to talk about the comparison e.g. longer, shorter, taller, wider • 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	**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, compare order and record length using metres (either metre sticks or metre lengths of string) as the standard unit of length	**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 how many informal units long they are. **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 • Estimate and measure lengths in centimetres using a ruler (No conversions between metres and centimetres required)

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
4.3 **Mass**	**Informal measuring** • Compare and order the mass of two or more objects by feeling them or using a balancing scale • Use language to talk about comparison e.g. light, heavy, lighter, heavier	**Informal measuring** • Estimate, measure, compare, order and record mass using a balancing scale and non-standard measures e.g. blocks, bricks • Describe the mass of objects by counting and stating the mass in informal units • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	**Informal measuring** • Estimate, measure, compare, order and record mass using a balancing scale and non-standard measures e.g. blocks, bricks. • Describe the mass of objects by counting and stating the mass in informal units • 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 only in kilograms e.g. 2 kilograms of rice and 1 kilogram of flour • Measure own mass in kilograms using a bathroom scale	**Informal measuring** • Estimate, measure, compare, order and record mass using a balancing scale and non-standard measures e.g. blocks, bricks • Describe the mass of objects by counting and stating the mass in informal units • 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 (No conversions between grams and kilograms are required)
4.4 **Capacity/ Volume**	**Informal measuring** • Compare and order the amount of liquid (volume) in two containers placed next to each other. Learners check by pouring into a third container if necessary • Compare and order the amount of liquid that two containers can hold if filled (capacity) • Use language to talk about comparison e.g. more than, less than, full, empty	**Informal measuring** • Compare and order the amount of liquid (volume) in two containers placed next to each other. Learners check by pouring into a third container if necessary • Compare and order the amount of liquid that two containers can hold if filled (capacity). • Use language to talk about comparison e.g. more than, less than, full, empty • Estimate , measure, compare, order and record the capacity of containers by using non-standard measures e.g. spoons and cups	**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	**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

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
4.4 **Capacity/ Volume**		• 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	• 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 • 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	• 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 (No conversions between millilitres and litres required)
4.5 **Perimeter and Area**				**Perimeter** Investigate the distance around 2-D shapes and 3-D objects using direct comparison or informal units. **Area** Investigate the area using tiling.

FOUNDATION PHASE OVERVIEW

5. DATA HANDLING

Progression in Data Handling

- The main progression in Data Handling across the grades is achieved by:
  - moving from working with objects to working with data; and
  - working with new forms of data representation.
- Learners should work through the full data cycle at least once a year – this involves collecting and organising data, representing data, analysing, interpreting and reporting data.
- Some of the above aspects of data handling can also be dealt with as discrete activities.

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
5.1 Collect and sort objects	**Collect and organise objects** Collect and sort everyday physical objects.	**Collect and organise objects** Collect and sort everyday physical objects.		
5.2 Represent sorted collection of objects	**Represent sorted collection of objects** Draw a picture of collected objects.	**Represent sorted collection of objects** Draw a picture of collected objects.		
5.3 Discuss and report on sorted collection of objects	**Discuss and report on sorted collection of objects** Answer questions about • how the collection was sorted • the drawing of the collection	**Discuss and report on sorted collection of objects** • Give reasons for how collection was sorted; • Answer questions about - how the sorting was done (process) - what the sorted collection looks like (product) • Describe the collection and/drawing • Explain how the collection was sorted		

TOPICS	GRADE R	GRADE 1	GRADE 2	GRADE 3
5.4 **Collect and organise data**		**Collect and organise data** • Collect data about the class or school to answer questions posed by the teacher	**Collect and organise data** • Collect data about the class or school to answer questions posed by the teacher	**Collect and organise data** • Collect data about the class or school to answer questions posed by the teacher • Organise data supplied by teacher or workbook/textbook • Organise data in - lists - tally marks - tables
5.5 **Represent data**		**Represent data** • Represent data in pictograph • Limited to pictographs with one-to-one correspondence	**Represent data** • Represent data in pictograph • Limited to pictographs with one-to-one correspondence	**Represent data** • Represent data in - pictograph (limited to pictographs with one-to-one correspondence) - bar graphs
5.6 **Analyse and Interpret data**		**Analyse and interpret data** Answer questions about data in pictograph • limited to pictographs with one-to-one correspondence	**Analyse and interpret data** Answer questions about data in pictograph • limited to pictographs with one-to-one correspondence	**Analyse and interpret data** Answer questions about data presented in • pictographs(limited to pictographs with one-to-one correspondence) • bar graphs

3.3 CLARIFICATION OF CONTENT

In this content clarification section, teachers are provided with:

- the Grade R to 3 term overview;
- suggested sequencing of topics into terms: not all aspects of all topics are taught in each term; some aspects of some topics need to be taught before other aspects of those topics;
- suggested pacing of topics over the year. Just as some content areas require more time than others, so some topics require more time than others; and
- clarification notes and teaching guidelines with examples where appropriate.

Each content area has been broken down into topics. All content areas must be taught every term. The sequencing of topics into terms gives an idea of how topics can be spread and revised throughout the year. It is not necessary to teach all the topics in Space and Shape, Measurement and Data Handling every term. However, all topics must be taught during the year.

In Section 2 (paragraph 2.6) a weighting of content areas is provided. When this is combined with the hours available in the year one can calculate notional hours for each content area.

Teachers may choose to sequence (or order) and pace the content differently from the recommendations in this chapter. Teachers may also change the suggested amounts of time allocated to topics slightly. However, cognisance should be taken of the relative weighting and notional hours of the content areas for Foundation Phase Mathematics.

- **Grade R** Mathematics is in the form of emergent mathematics and is therefore not broken up into lesson times. The Grade R teacher should weave the mathematics into the learner' daily activities although time should be set aside during the day when the teacher focuses exclusively on a mathematical activity, otherwise the learners will not become aware of and develop the desired mathematical concepts and skills.
- Time for Grades 1 – 3 has been allocated in the following way:
  - **Seven hours are to be used for Mathematics per week** (10 weeks x 4 terms x 7 hours = 280 hours per year)
  - Every Mathematics lesson should be **1hour 24 minutes per day for Grades 1 to 3**.
  - This then means that there are four terms of 10 weeks with five daily (Monday to Friday) lessons per week.
  - Allow a week for orientation and consolidation at the start of each term, since young children tend to forget a lot of content during the holidays and they also get out of the rhythm of schooling. Allow a week at the end of each term for consolidation of concepts. This gives 8 x 4 x 5 = 160 lessons.

3.4 SEQUENCING AND PACING OF CONTENT

The following tables are provided for each grade in Grade R-3:

- Pacing of topics for the year (shows the spread of topics across terms and recommends the amount of time to spend on each topic of each Content Area)
- Sequencing of topics for the year (shows how topics have been allocated to the terms and the progression of content and skills across the terms)

- Clarification notes per topic – these tables provide content clarification and teaching guidelines for each topic as sequenced across terms.

Lesson Planning – Topic Allocation per Term

Number is the most important topic in Foundation Phase Mathematics. Most of the time each week, term and year is focused on Numbers, Operations and Relationships. On average three or more Mathematics lessons in each week should focus on Numbers, Operations and Relationships. The remaining time is split among the other content areas.

Space and Shape and Measurement require more time and attention than Data Handling and Patterns, Functions and Algebra. The tables below give an indication of how many lessons to allocate to each content area and topic for each grade in Patterns, Functions and Algebra, Space and Shape, Measurement and Data Handling:

- Grade R allocation of content areas and topics in lessons

As **Grade R** Mathematics is in the form of **emergent mathematics** and therefore the following suggested time allocation provides for both the focused mathematical episodes and the interwoven, informal activities. This is to ensure comprehensive coverage of all the content available. Emergent mathematics activities may be to count the number of plates and mugs to put out for their snack, counting games played outside, indoor games such as dominoes and jigsaw puzzles, etc. The teacher has to organise all the activities according to her learners' needs and the resources available in her classroom.

Space and Shape is an important part of the young learner's mathematical development, and should be spread out over the week, with some focused episodes under the guidance of the teacher, and many opportunities for construction, sand and water play by the learners.

Measurement should be incorporated in counting activities, e.g. estimation and counting when measuring distances with hands, feet and steps.

The attendance register and weather chart give ample opportunity for working with **Data Handling**.

Table 3.1: Time allocation per content area per week

Content Area	Topics	Suggested Time
Numbers, Operations and Relationships	Counting Number Recognition Identify and describe whole numbers Number sense Solving problems	**120 minutes**
Patterns , Functions and Algebra	Copy, extend and create own patterns	**80 minutes**
Space and Shape (Geometry)	Recognise, identify and name 2-D shapes/pictures Geometric shapes Build 3-D objects using concrete materials Spatial Relations Directionality	**80 minutes**
Measurement	Time Length Mass Capacity	**80 minutes**
Data Handling	Collect, sort, draw, read and represent data	**60 minutes**
TOTAL		**420 minutes (7 hours per week)**

- **Allocation of content areas and topics in lessons for Grades 1 to 3**

On average three lessons (i.e. between 4 and $4\frac{1}{2}$ hours) a week are spent on Numbers, Operations and Relationships in Grades 1, 2 and 3. The remaining two lessons (i.e. between $2\frac{1}{2}$ and 3 hours) are split among the topics of the other content areas in the manner recommended below.

Table 3.2: Recommended number of lessons per content area per term for Grade 1

CONTENT AREA	TOPIC	Number of Lessons				
		Term 1	Term 2	Term 3	Term 4	Total
Numbers, Operations and Relationships	All topics of Numbers, Operations and Relationships	22	30	28	25	**105**
Patterns, Functions and Algebra	Number patterns	3	3	3	3	**12**
	Geometric patterns	1	1	1	1	**4**
Space and Shape (Geometry)	2-D shapes		3		3	**6**
	3-D objects	3		2	1	**6**
	Position, orientation and views	2			1	**3**
	Symmetry			1	1	**2**
Measurement	Time	2				**2**
	Length	2		2		**4**
	Mass	2			2	**4**
	Capacity/Volume	1	2		1	**4**
Data Handling	Collecting, sorting, representing and analysing objects	2	1			**3**
	Whole data cycle			3		**3**
	Sections of data cycle				2	**2**
Total Lessons		**40**	**40**	**40**	**40**	**160**

Table 3.3: Recommended number of lessons per content area per term for Grade 2

Content area	Topic	Number of Lessons				
		Term 1	Term 2	Term 3	Term 4	Total
Numbers, Operations and Relationships	All topics of Numbers, Operations and Relationships	24	25	24	26	**99**
Patterns, Functions and Algebra	Number patterns	3	3	3	3	**12**
	Geometric patterns	1	1	1	1	**4**
Space and Shape (Geometry)	2-D shapes		3		3	**6**
	3-D shapes	3		2	1	**6**
	Position, orientation and views		2	1		**3**
	Symmetry		1		1	**2**
Measurement	Time	3	1	3	1	**8**
	Length	3			1	**4**
	Mass		3		1	**4**
	Capacity/Volume			3	1	**4**
Data Handling	Whole data cycle	3		3		**6**
	Sections of data cycle		1		1	**2**
Total Lessons		**40**	**40**	**40**	**40**	**160**

Table 3.4: Recommended number of lessons per content area per term for Grade 3

Content area	Topic	Number of Lessons				
		Term 1	Term 2	Term 3	Term 4	Total
Numbers, Operations and Relationships	All topics of Numbers, Operations and Relationships	26	22	19	27	**94**
Patterns, Functions and Algebra	Number patterns	3	3	3	3	**12**
	Geometric patterns	1	1	1	1	**4**
Space and Shape (Geometry)	2-D shapes	2		2		**4**
	3-D shapes		3	3	1	**7**
	Position, orientation and views		2	3		**5**
	Symmetry		2		1	**3**
Measurement	Time	3	2	3	2	**10**
	Length		2	2		**4**
	Mass		2		1	**3**
	Capacity/Volume	2			1	**3**
	Perimeter			1		**1**
	Area				2	**2**
Data Handling	Whole data cycle	3		3		**6**
	Sections of data cycle		1		1	**2**
Total Lessons		**40**	**40**	**40**	**40**	**160**

- **Grade R overview per term**

GRADE R OVERVIEW 1. NUMBERS, OPERATIONS AND RELATIONSHIPS				
COUNTING				
TOPICS	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
1.1 Count objects (**Estimate** and **count** objects to develop number concept)	**Number range: 1 to 5** • One-to-one correspondence **Introduce the Helper's Chart** and the sequence in which refreshments are served • Count in ones - Concrete apparatus - Body parts - Clapping hands - Stamping feet - Climbing steps • Rote counting using number rhymes and songs	**Number range: 1 to 7** • One-to-one correspondence **Reinforce Helper's Chart** on a daily basis • Count in ones - Concrete apparatus - Body parts - Clapping hands - Stamping feet - Climbing steps • Rote counting using number rhymes and songs • Clap many times / fewer times	**Number range: 1 to 10** • One-to-one correspondence **Reinforce Helper's Chart** on a daily basis • Count in ones - Concrete apparatus - Body parts - Clapping hands - Stamping feet - Climbing steps • Rote counting using number rhymes and songs • Clap many times / fewer times: which number of claps are more/ less, most/least	**Number range: 0 to 10** • One-to-one correspondence **Reinforce Helper's Chart** on a daily basis • Count in ones - Concrete apparatus - Body parts - Clapping hands - Stamping feet - Climbing steps • Rote counting: number rhymes and songs • Clap many times / fewer times: which number of claps are more/ less, most/least
1.2 **Count** forwards and backwards	**Number range: 1** Incidental counting using number rhymes and songs, counters, 3-D objects, counting with body movements. **Count in:** • ones	**Number range: 1 to 4** Incidental counting using number rhymes and songs, counters, 3-D objects, counting with body movements. **Count in:** • ones	**Number range: 1 to 7** Incidental counting using number rhymes and songs, counters, 3-D objects, counting with body movements and number ladder. **Count in:** • ones	**Number range: 0 to 10** Incidental counting using number rhymes and songs, counters, 3-D objects, counting with body movements and number ladder. **Count in:** • ones • two's

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
1.3 **Number symbols and number names** (Recognise and identify number symbols and recognise number names)	**Number range:** • Number symbols: **1** • Number names: **one** - Kinaesthetic (experience with body) - Concrete with 3-D objects that involve the number 1. - Semi-concrete with picture cards that involve the number 1. - Semi-concrete with dots cards that involve the numbers 1. • Reinforce the knowledge gained that involves the number 1.	**Number range:** • Number symbols: **2 to 4** • Number names: **two, three, four.** - Kinaesthetic (experience with body) - Concrete with 3-D objects that involve the numbers 2, 3 and 4. - Semi-concrete with picture cards that involve the numbers 2, 3 and 4. - Semi-concrete with dots cards that involve the numbers 2, 3 and 4. • Reinforce the knowledge gained that involve the numbers 1 to 4.	**Number range:** • Number symbols: **5 to 7** • Number names: **five, six, seven** - Kinaesthetic (experience with body) - Concrete with 3-D objects that involve the numbers 5, 6 and 7. - Semi-concrete with picture cards that involve numbers 5, 6 and 7. - Semi-concrete with dots cards that involve numbers 5, 6 and 7. • Reinforce the knowledge gained that involves the numbers 1 to 7.	**Number range:** • Number symbols: **0 to 10** • Number names: **zero (naught), eight, nine, ten** - Kinaesthetic (experience with body) - Concrete with 3-D objects that involve the numbers 0, 8, 9 and 10. - Semi-concrete with picture cards that involve the numbers 0, 8, 9 and 10. - Semi-concrete with dots cards that involve the numbers 0, 8, 9 and 10. • Reinforce the knowledge gained that involves the numbers 0 to 10

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
NUMBER RECOGNITION				
1.4 **Describe, compare and order numbers**	**Use numbers in familiar contexts** • Learner should know his/her age	**Use numbers in familiar contexts** • Learner should know his/her house number and address	**Use numbers in familiar contexts** • Learner should now his/her home telephone number and/or cell number (contact number of parent).	**Use numbers in familiar contexts** • Reinforce knowledge regarding age, house number, address, home telephone/cell number. (contact number)
(Use numbers in familiar contexts)	• Completion of the daily attendance register. Make use of a variety of ways to take the daily attendance register e.g. - Is the learner with the ice-cream symbol/picture here today? - Is the learner with the name Sipho here today? - Is the learner with the name Sipho and surname Matlhola here today? • Identify numbers in pictures and dot cards • Play number card games	• Reinforce the use of numbers through completion of the daily attendance register as in first term e.g. - Is the learner that lives in house number 123 here today? - Is the learner living in 123 Wendy Street here today? - Is the learner with the telephone/ cell number 082 1234567 here today? • Identify numbers in pictures and dot cards • Play number card games • Identify numbers in adverts/flyers, old birthday cards etc.	• Reinforce the use of numbers through completion of the daily attendance register as in first term e.g. is the learner celebrating his/ her birthday on the 16 of March here today? etc. • Identify numbers in pictures and dot cards • Play number card games • Identify numbers in adverts/flyers, old birthday cards etc	• Reinforce the use of numbers through completion of the daily attendance register as in first term e.g. How many learners are absent today? How can we find out? The children discuss this amongst themselves. - Guess; - Count empty lockers; - Count empty chairs etc. • Identify numbers in pictures and dot cards • Play number card games • Identify numbers in adverts/flyers, old birthday cards etc • Identify numbers in magazines

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
NUMBER SENSE (RELATIONSHIPS)				
1.4 **Describe, compare and order numbers** (Identify and describe whole numbers) Compares which of two given collections of objects are: a) Big and small b) Bigger and smaller c) Smallest and biggest Compares which of two given collections of objects are: a) more than b) less than c) Is equal to (the same)	**Number range: 1** **Identify and describes** whole numbers up to 1.	**Number range: 1 to 5** • **Identify and describes** whole numbers 2, 3 and 4 • Reinforce numbers 1 to 4	**Number range: 1 to 7** • **Identify and describes** whole numbers 5, 6 and 7 • Reinforce numbers 1 to 7	**Number range: 0 to 10** • **Identify and describes** whole numbers 8, 9, 10 and 0 • Reinforce numbers 0 to 10
	Compares which of two given collections of objects are: • Big and small • Bigger and smaller • Biggest and smallest (Introduce the concept) • Orders more than two given collections of objects from smallest to biggest and biggest to smallest			
	• Many and fewer e.g. incidental clapping	• More than, less than, equal to • Many and fewer e.g. incidental clapping	• More than, less than, equal to • Many and fewer e.g. incidental clapping. Ask question which was most/least.	• More than, less than, equal to • Many and fewer e.g. incidental clapping. Ask question which was most/least.

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
Ordinal numbers	**Incidentally develop an awareness** of ordinal numbers e.g. first, second, third…last, next. • Introduce during: **Refreshment/ Snack Routine** and **Toilet Routine**- 1st, 2nd, last, next	**Incidentally develop an awareness** of ordinal numbers e.g. first, second, third, fourth…last, next. • Reinforce ordinal numbers incidentally through the daily toilet routine • Apply during Life Skills Physical development activities as well. • Also during creative art activities (where appropriate)	**Incidentally develop an awareness** of ordinal numbers e.g. first, second, third, fourth, fifth, last, next. • Reinforce ordinal numbers incidentally through the daily toilet routine • Apply during Life Skills Physical development activities as well.	**Incidentally develop an awareness** of ordinal numbers e.g. first, second, third, fourth, fifth, sixth, last, next. • Introduce ordinal numbers - first, second, third, up to sixth • Reinforce ordinal numbers incidentally through the daily toilet routine • Apply during Life Skills Physical development activities as well.
SOLVE PROBLEMS IN CONTEXT USING THE FOLLOWING TECHNIQUES:				
1.6 **Problem solving techniques** (Uses the following techniques and strategies)	Uses the following techniques • concrete apparatus e.g. counters	Uses the following techniques • concrete apparatus e.g. counters	Uses the following techniques • concrete apparatus e.g. counters • physical number ladder	Uses the following techniques • concrete apparatus e.g. counters • physical number ladder

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
1.7 **Addition and subtraction** (Orally solve word problems [story sums] and explains own solution to problems involving: a) Addition and subtraction with answers up to 10) **1.9** **Grouping and sharing leading to division** (equal sharing and grouping with whole numbers up to10 with answers that include emainders).		• Use counters and orally solve problems that involve the numbers 2, 3 and 4. • Reinforce the solving of problems that involve numbers 1 to 4	• Use counters and orally solve problems that involve the numbers 5, 6 and 7. • Reinforce the solving of problems that involve numbers 1 to 7	• Use counters and orally solve problems that involve the numbers 8, 9. 10 and 0. • Reinforce the solving of problems that involve numbers 1 to 10

TOPICS	TERM 1	TERM 2	TERM 3	TERM 4
1.11 **Money**		**Money** • Develop an awareness of South African coins. 20c, 50c, R1, R2, R5 • Identify colour and which animal appears on each coin • Identify similarities and differences between coins e.g. Sort play money according colour and size. • Provide play money in the home corner	**Money** • Develop an awareness of South African bank notes. R10, R20, R50, R100, R200, • Identify similarities and differences between notes e.g. Sort play money according colour and size. • Provide play money in the house corner	**Money** • Provide play money in the house corner
CALCULATE USING:				
1.13 **Addition and subtraction** (Solves orally stated addition and subtraction problems with solutions up to 10)		Orally solves addition and subtraction problems with answers up to 4.	Orally solves addition and subtraction problems with answers up to 7.	Orally solves addition and subtraction problems with answers up to 10.

- **Problem Types for Grade R**

The problems posed to Grade R learners should initially involve only objects that are present in the classroom, e.g. counters, children, shoes, but not, for example, sweets, rabbits, flowers, etc. Not all young children can pretend that counters or fingers are rabbits — they need the objects themselves. Only in the second half of the year may the teacher use pictures. The concrete objects should still be retained – the pictures are an addition NOT a replacement for the concrete objects. Twigs could be used if the teacher lacks resources

The following problems illustrate the problems types, and should be adjusted by the teacher to suit the level of her learners' understanding.

Grouping

Here are 8 cookies. (Teacher packs out 8 counters, or shows a picture of 8 cookies.) Teddy gets 2 cookies every day. For how many days can he get cookies?

Sharing

There are 6 cookies. (Teacher packs out 6 counters, or shows a picture of 6 cookies.) The 3 teddies must share the cookies so that they all get the same number of cookies. How many cookies can each teddy get?

Addition, subtraction, repeated addition

How many eyes do 2 children have?

How many ears do 4 children have?

How many fingers on one hand?

How many fingers on 2 hands?

Linda has 6 counters. She gives 2 counters to Ben. How many counters does she have now?

Teachers should mix the problem types from day to day. They should also gradually increase the sizes of the numbers they use in the problems, and not simply assume that their learners cannot cope with bigger numbers.

GRADE R OVERVIEW 2. PATTERNS, FUNCTIONS AND ALGEBRA				
TOPICS	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
2.1 Geometric patterns (Copy and extend simple repeating patterns using physical objects and drawings) (Creates own repeating patterns)	• Identify patterns in clothes, objects, and environment • Copy and complete patterns. • Copy patterns using body percussion • Copy, complete and create own pattern	• Copy , extend and create own patterns • Copy a given pattern using coins	• Copy, extend and create own pattern with pictures	• Copy , extend and create own auditory patterns • Copy a noise pattern • Play a game “hop scotch” pattern

GRADE R OVERVIEW 3. SPACE AND SHAPE (GEOMETRY)				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
3.1 **Position, orientation and views** Describes one 3-D object in relation to another (e.g. 'in front and behind)	**Spatial Relationships** **The position of two or more objects in relation to the learner** • In front of and behind • On, on top, under and below • In and out • Up and down • next to and between **Outdoor play is important. The jungle gym can be used to reinforce, for example:** • Maths concepts • Creative art • Physical development	**Spatial Relationships** **The position of two or more objects in relation to the learner** • On and under	**The position of two or more objects in relation to each other and to one another** • In front of and behind • On, on top, under, bottom and below • Next to • Middle • Left and right • Pegboard work **Describe objects from different perspectives, e.g. a doll, house from the front, the back, the sided depending on where you stand**	**Spatial Relationships** **The position of two or more objects in relation to the learner** • In front of and behind • On top, under or below • Top and bottom • Next to, between and middle • Left and right **The position of two or more objects in relation to one another** • Pegboard work • In front of and behind • On top, under or below • Top and bottom • Next to, between and middle • Left and right
Follows directions (alone and/or as a member of a group or team) to move/place self within a specific space (directionality)	• Directionality - forwards/ backwards • Games such as tracking the train • Obstacle course-following a direction • Physical education and music activities		• Forward/ backwards • Arrow Chart	• Forwards and backwards • Up and down, • Upwards and downwards • Left and right • Where does the sound come from?

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
3.2 **3-D objects** (Recognise, identifies and names three dimensional objects in the classroom: a) balls b) boxes	• **balls:** Introduce and explore balls • **boxes :** Introduce and explore boxes			
3.2 **3-D objects** **Describes, sorts and compares 3-D objects and 2-D shapes according to:** a) Size (big/small) b) Colour (red, blue, yellow, green,) c) Shape (circle, triangle, square rectangle) d) objects that roll e) objects that slide	• **Introduce Tidy-up Chart** (sorting toys) • **Size:** Sort 3-D objects according to **size** • **Colour:** Sort 3-D objects and 2-D shapes according to Primary colours • **Shape:** Sort 3-D objects and 2-D shapes according to shapes • **Objects that roll** - Identify and explore objects that roll - Reinforce objects that roll • **Objects that slide** - Identify and explore objects that slide - Recognise and explore objects that can slide and roll	• Sort according to similarities and differences • **Size:** Sort 3-D objects according to size • **Colour:** Identify and sort counters according to the colours red, blue, yellow, and green • **Shape:** Sort 3-D objects and 2-D shapes according to shapes	• **Size:** Sort 3-D objects according to **size** • **Colour:** Sort 3-D objects and 2-D shapes according to colours • **Shape:** Sort 3-D objects and 2-D shapes according to shapes	• **Size:** Sort 3-D objects according to **size** • **Colour:** Sort 3-D objects and 2-D shapes according to colours • **Shape:** Sort 3-D objects and 2-D shapes according to shapes

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
Builds 3-D objects using concrete materials (e.g. building blocks)	**Ongoing** • Provide building blocks and construction materials during free play inside on a daily basis • Explore with Building blocks	**Ongoing** • Provide building blocks and construction materials during free play inside on a daily basis • Explore with Building blocks	**Ongoing.** • Provide building blocks and construction materials during free play inside on a daily basis • Let learners build own construction by copying from a given construction example • Copy the same construction from a design or picture card • Reinforce copying the same construction from a design or picture card	**Ongoing** • Provide building blocks and construction materials during free play inside on a daily basis • Ongoing during free play inside
3.3 **2-D shapes** **Recognise, identifies and names two-dimensional shapes in the classroom and in pictures, including:** a) Learners Symbols b) Class name **How to build puzzles** **Minimum:** a) (Term 1: 6 pieces) b) (Term 2: 12 pieces) c) (Term 3: 18 pieces) d) (Term 4: 24 pieces)	• Allow each learner to choose own symbol card the first day • Display only the learner's **symbol/ photo** the first 3 months of the year • Introducing the class name e.g. by using a picture – the "Teddy Bear" class. • Label on classroom door with teachers name • Label indicating Grade R class **Puzzles** • **Introduce puzzles** and give guidance on how to build them. • Discuss the puzzle picture with special attention to detail such as colour, people/animals, objects, position of people/animals and objects • Learners should be able to at least complete **a 6-piece puzzle** at the end of term 1.	Display the learner's **symbol/photo and** learner's **name** the next 3 months. Ongoing **Puzzles (Ongoing)** • Provide a variety of puzzles during free play inside on a daily basis • Learners should be able to at least complete a **12-piece puzzle** at the end of term 2. • Make and complete own 4- piece puzzle	Display only the **learner's name** on a label the last 6 months of the year Ongoing **Puzzles (Ongoing)** • Provide a variety of puzzles during free play inside on a daily basis • Learners should be able to at least complete a **18 piece puzzle** at the end of term 3. • Make and complete own 5-piece puzzle	Display the **learner's name** on a label the last 6 months of the year. Ongoing **Puzzles (Ongoing)** • Provide a variety of puzzles during free play inside on a daily basis • Learners should be able to at least complete a **24-piece puzzle** at the end of term 4.

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
3.3 **2-D shapes** **Figure-ground Perception** **Geometric shapes** a) circle b) triangle c) square d) rectangle e) Conservation of shapes (Form constancy)	• Introduce figure- ground perception (Identify objects- "I spy with my little eye") • Introduce a circle • Introduce a triangle • Introduce a square	• Reinforce figure- ground perception through sorting activities, matching and grouping activities and tidy up routine. • Reinforce the triangle • Shape Conservation (form constancy of triangle)	• Reinforce figure- ground perception through sorting activities, matching and grouping activities and tidy up routine. • Reinforce the square • Shape Conservation (form constancy of shapes learnt up to date)	• Reinforce figure- ground perception through sorting activities, matching and grouping activities and tidy up routine. • Reinforce circle, triangle, square and rectangle • Shape Conservation (Form constancy of shapes learnt up to date)
3.4 **Symmetry** (Recognises line of symmetry in self, and own environment)	• Identify body parts (Under counting) • Head, eyes, nose, mouth, chin, neck, shoulders, arm, hand, fingers, chest, leg, knee, foot, toes • One's body has two sides • Reinforce the awareness that one's body has two sides e.g. "the one side" and "the other side" leading to "left and right" • Crossing the midline incorporated with counting. Above to be done during physical development • Using Rhymes and Songs • during Creative Art	• Crossing the midline - performing actions • Apply crossing of the midline during Life Skills (Physical Development) • Rhymes and Songs • Creative Art activities	• Crossing the midline – chalkboard activities • Apply crossing of the midline during Life Skills (Physical Development)	• Develop the awareness that there is symmetry in objects • Apply crossing of the midline during Life Skills (Physical Development)

GRADE R OVERVIEW 4. MEASUREMENT				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
4.1 **Time:** Describes the time of day in terms of day or night.	• Introduce both the concepts “day and night” and ”light /dark” • Morning, afternoon, tonight - (incidental learning during daily programme and weather chart			
Sequence recurring events in own daily life. a) Daily Programme	• **Introduce the Daily programme** - Learners experience the sequencing of events during a day. - Pictures are displayed from left to right developing reading direction - The leader of the day moves a movable arrow as the activities on the daily programme progress.	• **Daily Programme (ongoing)** - Reinforce the sequencing of recurring events in one day through the Daily programme	• **Daily Programme (ongoing)** - Reinforce the sequencing of recurring events in one day through the Daily programme	• **Daily Programme (ongoing)** - Reinforce the sequencing of recurring events in one day through the Daily programme
b) Weather Chart	• **Introduce** the **Weather Chart** (daily) - The teacher guides learners to determine the name of the day, date and month with song and rhyme, flash cards and displays labels and symbols on a calendar representing a week. - Develop an awareness of the time concept. - Indicate birthdays, outing, special days, holidays during the week - Sequencing months of the year through a song	• **Weather chart** (daily) - The teacher guides learners to determine the name of the day, date and month with flash cards and displays labels and symbols on a weekly calendar.	• **Weather chart** (daily) - The learners determine the name of the day, date and month with flash cards and displays labels and symbols on a weekly calendar.	• **Weather chart** (daily) - The learners determine the name of the day, date and month with flash cards and displays labels and symbols on a weekly calendar.

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
4.1 **Time:** Sequence recurring events in own daily life.				
c) Days of the week	• **Days of the Week** - Teacher teaches learners a song or a rhyme about the days of the week. Repeat every day as weather chart is discussed. - Sequencing days of the week using a song	• **Days of the Week (Ongoing)** - Teacher teaches learners a song or a rhyme about the days of the week. Repeat every day as weather chart is discussed.	• **Days of the Week (Ongoing)**	• **Days of the Week (Ongoing)**
d) Seasons Chart	• **Seasons chart** - Introduce the chart showing the four seasons indicating: o Summer o Autumn o Winter o Spring	• **Seasons chart** - The arrow indicating the present season is moved as the seasons change - The first day after the school holiday the teacher should ask learners what they did during holidays - Develop an awareness of what the learner does from the time he/she wakes up until going to school. - Develop an awareness of what happens between suppertime and bedtime.	• **Seasons chart** - The arrow indicating the present season is moved as the seasons change - The first day after the school holiday the teacher should ask learners what they did during holidays	• **Seasons chart** - The arrow indicating the present season is moved as the seasons change - The first day after the school holiday the teacher should ask learners what they did during holidays
Introduce Birthday Chart	• Introduce the **Birthday Chart** • Learners should know their age • Develop an awareness of reading direction • Learners should know their own birth date (day and month)	• Continuous whenever a learner has a birthday • Ongoing	• Continuous whenever a learner has a birthday • Ongoing	• Continuous whenever a learner has a birthday • Ongoing

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
4.2 **Length** Concretely compare and order objects using appropriate vocabulary to describe length • Introduce Height Chart - Measure with hands (Visual and incidental) - Measure with Footprints (Visual and incidental) - Measure with tape measure (Visual and incidental) - long, short, - longer, shorter, - tall, taller/ tallest (visual) - estimate	**Length** • Long and short, tall, taller and tallest (visual) • Introduce the concept of length • Height chart with hands/feet	**Length** • Longest and shortest, longer and shorter (explore length) • Reinforce the concept of length • Learners discover whether they have grown since the last term ***(Learners can compare their heights against something in the class, e.g., cupboard)***	**Length** • Estimate the length of different objects • Estimate and measure the length of different objects using feet, hands, a piece of string, a stick etc.	**Length** • Measure the height of the learners with a tape measure ***(Replace hands with tape measure)***

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
4.3 **Mass** Works concretely comparing and ordering objects using appropriate vocabulary to describe the following: a) Light, heavy b) Lighter, heavier c) Continuous during water and sand play			**Mass** • Introduce the concept of mass by comparing the masses of different objects e.g. - light/heavy - lighter/heavier • Reinforce mass (Lightest/heaviest)	
4.4 **Capacity/Volume** Works concretely comparing and ordering objects using appropriate vocabulary to describe the following: a) empty, full, b) a lot, a little c) less than, more than, d) Continuous during water and sand play			**Capacity/Volume** • Introduce the measuring concept of capacity by comparing how much various containers hold e.g. - "empty/full" - "more than/less than" - a lot, a little • Continuous during water and sand play	

GRADE R OVERVIEW 5. DATA HANDLING				
TOPIC	**TERM 1**	**TERM 2**	**TERM 3**	**TERM 4**
5.1 **Collect and sort objects** **Collects** physical objects of a similar kind (alone and/or as a member of a group or a team) e.g. ten leaves, ten shapes	• Introduce the concept of data handling by collecting data of how many boys and how many girls are in the class	• Collect objects (twigs of different sizes)	• Pose a question: "Are names with six letters most popular?" • Collect data to answer this question using the learners name cards.	• Use the Birthday Chart to determine whose birthdays are in which month. • Collect data from the learners to determine the colour of the play dough for the following week e.g. blue, yellow, green Collect data (Which mode of transport do learners use to come to school?)
Sort physical objects according to one attribute. e.g. size of leaves	• Sort the data by letting learners stand in a boys and girls row.	• Sort the collected objects (twigs of different sizes)	• Sort the name cards according to the number of letters in each name.	• Sort the data according to the relevant birthday month of each learner. • Each child selects one block representing the colour of his/her choice of play dough for the week • Sort the collected data (walk, with parent's car, taxi or bus)
5.2 **Represent sorted collections of objects** (Draw graphs to display data. Draws a picture as a record of collected objects)	• Make a graph representation the data using blocks or shapes	• Draw a graph of collected objects (twigs of different sizes)	• Draw a graph by pasting each name card below the relevant columns	• Draw a graph representing the learners birth days in each month. • Make use of real objects to make a graph such as blocks, stacking cubes, Lego or Duplo blocks representing the colours of dough you plan to make e.g. blue, yellow, and green.
				• Draw a pictograph representing the learners walking, coming by taxi, with a parent's car and arriving by bus.

TOPIC	TERM 1	TERM 2	TERM 3	TERM 4
5.3 **Discuss and report on sorted collections of objects** Read and interpret graphs. Answer questions based on own picture or own sorted objects. (e.g. “How many big leaves did you draw? Which are the most, the big leaves or the small leaves?”)	• Read and interpret data by using play dough to make a representation of the number of boys and girls in the class.	• Read and interpret graphs using questions	• Read and interpret data by counting the number cards in each column and coming to a conclusion.	• Read and interpret graphs using questions to determine which month has the most birthdays • According to the choice of the learners the colour of the play dough for the week will for example be yellow • Read and interpret graphs (How many walk, come by taxi, bus, etc.)

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3.5 CONTENT CLARIFICATION NOTES WITH TEACHING GUIDELINES

GRADE R TERM 1			
Week 1 Orientation	**Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.1 Time	**Sequencing recurring events in own daily life** • Introduce the Daily Programme - Develop the sequencing of events within one day. - Pictures are displayed from left to right. - The leader of the day moves a movable arrow from left to right as the activities on the daily programme progress. - Learners experience the sequencing of events during a day.	Daily programme represented in picture format	Daily

SUGGESTED DAILY PROGRAMME










Arrival	Register, birthdays', weather, news	Teacher-guided class activity, Visual Art & Free play inside	Tidy -up	Teacher-guided class activity	Toilet routine



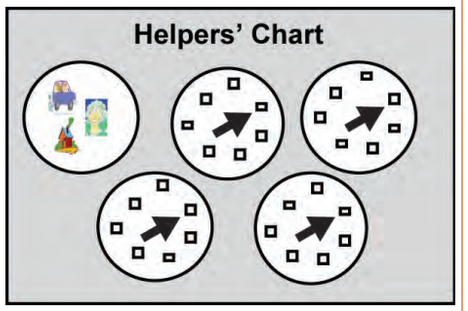





Refreshment time	Free play outside and Tidy-up	Toilet routine	Teacher-guided class activity and Story	Rest	Departure

Week 1 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
Notes: • Presentation of content is determined by the timeslot on the Daily Programme. • The Daily Programme is flexible, for example, Toilet Routine could be moved to a different timeslot depending on the contextual factors of a school. • Display all routine charts only after they have been introduced. • The clarification notes column is not written in consecutive order per day, but according to content area. Therefore you need to decide which day a specific activity should be done. • In some weeks there are more than five activities. This was merely to ensure that you have sufficient activities to choose from and it does not mean you should do all the activities included			
1.4 **Describe, compare and order numbers**	• Introduce Toilet Routine (use ordinal numbers to show order, place or position) - Develop an awareness of sequence/order of toilet routine e.g. ordinal numbers (first use toilet ,then wash hands, close the tap and then dry your hands etc). - Develop an awareness of ordinal numbers e.g. Liam is first, Jude is second etc.	Soap, facecloths Toilets Running water	After the toilet routine has been introduced, this activity takes place every day.

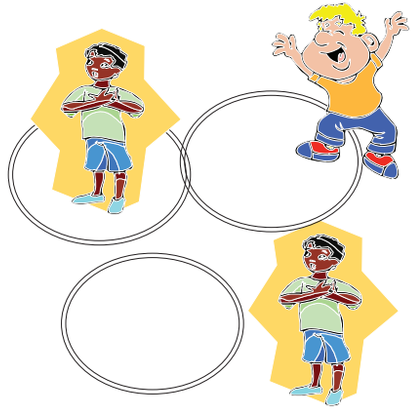
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<tr><th>Week 1
Orientation</th><th colspan="3">Suggested Contact Time :
One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)</th></tr>
<tr><th>Topic</th><th>Clarification Notes</th><th>Recommended Resources</th><th>Approximate Duration</th></tr>
<tr>
<td>3.2
3-D objects</td>
<td>
• Introduce Tidy-up Chart
- Establish smaller working groups.
- Promote ordering and sorting of apparatus.
Divide number of learners in your class into the eight tidy-up areas. Each group must take responsibility to tidy up an area on a rotational basis, weekly.
Describe, sort and compare 3-D objects in terms of:
• Size
• Colour
• Objects that roll
• Objects that slide
</td>
<td>
Tidy up Chart
<table>
<tr><td></td><td>Wash paint containers and brushes</td><td></td></tr>
<tr><td></td><td>Tidy up book corner</td><td></td></tr>
<tr><td></td><td>Pack away blocks</td><td></td></tr>
<tr><td></td><td>Sweep floor</td><td></td></tr>
<tr><td></td><td>Tidy up house corner</td><td></td></tr>
<tr><td></td><td>Pack away puzzles</td><td></td></tr>
<tr><td></td><td>Tidy up art table</td><td></td></tr>
<tr><td></td><td>Wipe tables clean</td><td></td></tr>
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<td>After the tidy-up routine has been introduced, this activity takes place every day.</td>
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Week 1 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• Introduce the Helpers' Chart and the sequence in which refreshments are served **Estimate and count objects to develop number concept by:** - Using the Helper's Chart to identify the helper of the day attending to a table during refreshment time. - The 5 circles on the Helpers' chart represent the five groups you divided your learners into, for example, the red group, the blue group, the yellow group, the green group and the orange group. You can also make use of different fruits / animals / transport, etc. - Each learner's symbol is placed inside the circle of the group he/she belongs to. - Turning the arrow attached in the middle of each circle identifies the leader of the group. The group leader rotates every day to ensure that each learner gets an opportunity to act as a leader. - The group leader counts the number of learners and plates according to the number of learners present in his/her group for that day (one-to-one correspondence).	**Helper's Chart** 	After the Helpers' chart has been introduced, refreshments are served this way every day.
3.3 **2-D shapes**	**Recognise, identifies and names two-dimensional shapes and/or pictures in the classroom** - **Learner's symbol** • **Allow each learner to choose their own symbol card** - Prepare the creative art display block with each learner's symbol (picture or photograph). - Paste a symbol on each learner's locker. - Allow learner to identify own locker linked to own symbol. - Pin symbol with name on learner's clothes. - Learners identify own and friend's symbols by playing games to encourage learners to identify the different symbol cards, e.g. learners sit in circle with teacher displaying all the symbols and ask learners to identify their symbol. - Small photographs of learners can also be used as symbol cards, if available. - **Class name** • **Promote the concept that learners belong in one big group by introducing the class name e.g. by using a picture – the "Teddy Bear" class.** Learners must also know their teachers' name.	Cards with learner's individual symbol. Make snap cards out of symbol pictures. Lockers, boxes or hooks against a wall marked with symbols. Grade R label Picture of class name for door Label with teacher's name and surname	As learners arrive the first day

Week 1 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
Notes: • Display only the learner's **symbol/photo** the first 3 months of the year. • Display the learner's **symbol/photo and** learner's **name** the next 3 months. • Display only the **learner's name** on a label the last 6 months of the year • Keep on door for the entire year. • Label with teachers name • Label indicating Grade R class			

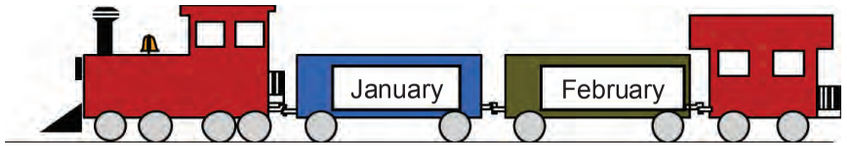
Week 2 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Estimate and count everyday objects reliably** **Daily counting** • Rote /rhythmic counting from 1-5 • Sing Number songs and rhymes Although learners do not have a concept of number when they enter Grade R, they should be encouraged to sing number rhymes and songs and do rote counting on a daily basis.	Number songs and rhymes	Daily

Week 2 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Compares which of two given collection of objects is big and small** **Introduce the concept of "big" and "small"** **Kinaesthetic** - Learners experience the concept big and small by curling their bodies to make themselves as small as possible and then stretching out as big as possible. - Let learners match their hands on a friends hands to see who's hands are big or small. - Compare teacher's hand against that of a learner. - Compare teacher's arm against that of a learner. **Describe , sort and compare 3-D objects and 2-D shapes according to size** **Concrete using 3-D objects** - Make big and small balls with play-dough. - Find big and small objects in the classroom. Mark the big objects with red stickers and the small objects with yellow stickers. Talk about the different objects sizes. - Sort big and small objects according to size. **Semi – concrete using 2-D shapes or pictures** Apply the concept big and small during art activities by: - Looking for pictures of "big" and "small" objects and cutting them out. - Let the learners trace their hands and cut it out. Put it on top of one another. See who's hands are big and who's are small. - Divide a paper into 2. - Paste all the small objects on one side of the paper and all the big objects on the other side of the paper.	Learners Play-dough Big and small objects Magazines, Newspapers, Advertisements, Scissors A3 Paper, Crayons	1 day

Week 2 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Describe the position of two or more 3-D objects in relation to the learner: in and out** **Kinaesthetic** - Give each child a "hoop". (Teacher demonstrates to the learners by doing the activity with them and saying the words: "in and out"). They must jump in and out the hoops acting on the instructions of the teacher. - Stand with one leg in the hoop and the other leg out of the hoop. - Take a box and let the learners jump in and out and let the learners discuss if the learner is in/out - Jump in and out the tyres as part of the physical development activity - Jump in and out the hoop with eyes closed. **Concrete using 3-D objects** Let the learners: - Put the doll (baby) in and take the doll out of the cot /bed - Throw a ball/beanbag into a hoop/tyre - Use clay and roll it into a ball then press it flat (birds nest); roll more than one small ball (eggs) and put them in/out the nest on instruction of the teacher. **Semi – concrete using 2-D shapes or pictures** Let the learners: - Look at a picture and see if they can find objects that demonstrate the concepts in and out. - Draw themselves in and out a hoop/bath/ etc.	**Hoops** 	1 day

Week 2 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Build 3-D objects using concrete material** • **Explore the many possibilities of block building during free play indoors** - The teacher's role is to mediate this play. - Explore the many possibilities of building block by guiding learners to build horizontally (flat), vertically (towers), high and low constructions - Sort and order the different blocks by matching the same shapes. - Sort and order the different shapes by matching according to same size. - Sort blocks according to big and small. - Each learner gets a 3 rectangular blocks and arrange them in as many ways as possible e.g. line them up, stack them in various ways. Learners can compare and copy each other as well as share blocks in pairs to make them more aware of positioning. - Promote the packing away of building blocks according to the outline provided at the back of the shelf by matching according to the same outline.	Blocks should be packed on shelves, with the outlines of the different blocks at the back of the shelf. Extra equipment such as small figures (pictures/faces pasted on clothes pegs) toy cars, farm animals, traffic signs etc. should be made available.	1day and repeat during free play time on a daily basis

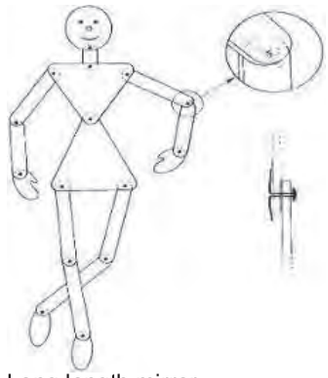
Week 2 **Orientation**	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Describe , sort and compare 3-D objects and 2-D shapes according to the primary colours, blue, red and yellow** Show only one colour at a time. Do not link one colour to one shape Divide learners into 5 groups. Give each group a pile of coloured 3-D objects and 2-D shapes. - Teacher introduces each colour by holding up a card with the colour she wants learners to know e.g. blue. Repeat with each colour. - Let learners sort 3-D objects and 2-D shapes according to the different card shown. **Kinaesthetic** - Pin different coloured circles (red, yellow, blue) cut out from cardboard on each learner's chest. - Let learners arrange themselves according to the different colours. **Concrete using 3-D objects** - The teacher calls five learners to the front and gives each one a different 3-D object to hold in his/her hand. - The rest of the class remains seated in their groups with a heap of 3-D objects in the middle of their tables. - The first learner in front holds up his/her 3-D object e.g. a blue unifix block or a yellow circle Logi shape or puzzles, etc. - The learners at the tables sorts the different 3-D objects according what the learner is holding up. **Semi – concrete using 2-D shapes or pictures** - Teacher prepares finger-paint- beforehand. - Learners draw shapes in the paint using their fingers. - Trace 2-D shapes and colour it in.	A variety of 3-D objects and 2-D shapes/ pictures in the classroom e.g. bottle tops, Lego blocks, Logi coloured shapes etc. Colour Cards of blue, red, yellow A variety of 2-D shapes and 3-D objects Red, yellow and blue circles cut out of cardboard prepared by the teacher. A variety of 3-D objects collected beforehand and placed in the middle of each group. **Finger paint recipe**: 1 cup flour 1 cup sugar 3 drops of food colouring/ powder paint 5 cups of boiling water (stir water in gradually)	1 day
3.3 **2-D shapes**			

Week 2 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.1 **Time**	**Sequencing of recurring events in own daily life** - Months of the year - Time **Introduce the Birthday Chart** - Design a colourful Birthday Chart, e.g. a train with 12 coaches (for each month) – the months are sequenced from left to right on the coaches. Place the name and symbol/photo of each learner in the applicable birthday month. - Develop an awareness of the time concept e.g. months of the year by singing the names of the months while pointing at the month's names. - Develop an awareness of reading direction e.g. display a label of each month of the year in one row from left to right. - Let learners identify their symbol/photo and memorise in which month their birthday is. - Encourage them to know their age. - Repeat this activity on a continuous basis. A **Birthday Chart** with twelve months of the year displayed from left to right. A crown or picture of a birthday cake indicates birthdays past. Birthdays to come have no crown or birthday cake. *Song: Compose your own tune* *"January, February, March.* *April, May, June July.* *August, September, October November, December.*  The entire year whenever there's a birthday.		

Note:

- A learner's birthday is a very special occasion and time must be set aside for a birthday ring where the rest of the class sings Happy Birthday and clap a number of times, demonstrating the birthday boys/girls age.
- Each learner in the class can draw a picture and the teacher can collate all the drawings into a birthday book for the learner who is celebrating their birthday.
- The teacher can also make a crown for the birthday boy or girl and the learners can decorate it with collage materials.
- The activity to be repeated the entire year whenever there is a birthday

Week 3 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Estimate and count everyday objects reliably** • Oral daily Counting - Rote /rhythmic counting from 1-5 - Sing Number songs and rhymes Although learners might not have a concept of number when they enter Grade R, they should be encouraged to sing number rhymes and songs and do rote counting on a daily basis.	Number songs and rhymes	Daily
	Identifying and count the different body parts (Body image) Oral daily rote counting from 1-5 **Kinaesthetic (Integrate with Life Skills-personal well-being)** - Develop an awareness of the number of the different body parts by counting the body parts. - Show me your nose and count it. How many noses do you have? - Show me your ears and count them. How many? Is it one more? Let's count on. - Show me your hands. How many? Let's count them. What else can you see on your hands? Fingers! Can you count them? Lets' count the one hands fingers: 1, 2,3,4,5. - How many eyes? Count your ears and your eyes. Touch your ears and eyes as you count, starting with your ears. - Sit apposite a friend and count his body parts but first touch it/them and then count it/them. Teacher will guide this process, e.g. touch your friends one ear; touch his other ear; count it/them: 1,2. Is it the same as yours? Proceed with this exercise. - Identify those body parts of which a person only has one e.g. one nose, one mouth, one chin etc. **Semi-concrete using 2-D shapes or pictures** Let the learners: - Look in mirror and trace/draw themselves. - Draw an outline of their bodies on newspaper and decorate appropriately. Draw a line through the mid-line. - Cut out pictures of different body parts from a magazine or advert and complete a face. - Cut out a face from a magazine and draw the rest of the body parts.	Action song/rhyme Puzzles/games that represent different people and body images Card games Learners Full length mirror A4 Paper, crayons Magazines, Adverts, Flyers, scissors	1 day

Week 3 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	**Recognise the line of symmetry in self** **Develop the awareness that one's body has two sides** **Kinaesthetic** Emphasize the concepts of "one side/the other side" The teacher talks to the learners about the front of the body and the back of the body as well as the top and the bottom of the body. **Let the learners:** - Look at themselves in a mirror in which they can see their whole body. - Identify which of their body parts on the one side are also on the other side of their body. - Touch parts of their bodies as required e.g. "Touch your toes, touch your feet, touch your legs" .Learners can also do this exercise with their eyes closed. - Touch one part of his/her body with another part e.g. "Touch your knee with your nose etc" (also an activity for mid-line crossing)	Learners  Long length mirror The teacher can make the split pin figure/ mannequin from hard cardboard	1 day
3.2 **3-D objects**	**Recognise, identify and name balls** - Learners play with balls and demonstrate and name all the things they can do with a ball. Teacher leads the discussion through questions. - Identify all the objects that can roll e.g. show the blocks and ask the question: "Do you think the block can roll? Let's see". - Roll all the objects and observe how they roll e.g. tins only roll on one side. - Use clay/dough to mould balls that can roll during creative activities (free play inside). - During movement the learners can try to let their bodies roll by rolling while lying or making their bodies like balls and roll.	Objects that are round for example oranges, apples, balls, empty round tins. (Make balls from anti-waste e.g. newspaper balls stuffed into an old pantyhose) Objects that are square e.g. blocks. Play dough recipe: 1 cup of flour ½ cup of salt 1 cup water 2 teaspoons cooking oil A few drops food colouring **Mix all ingredients**	1 day

Week 3 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name two-dimensional shapes in the classroom and in pictures** **- circle** • **Introduce a circle** When introducing a circle for the first time the objects used should be exactly alike in every way (same size, same colour, same texture) **Kinaesthetic** The teacher draws a circle on the floor/ground. Let the learners walk along the outline of the circle while saying, "I am walking along the circle....round and round". Let the learners: - Hold hands and form a circle. - Form a circle with their bodies. - Walk around in the circle while singing the ''Mulberry bush" song. - Sit down in the circle and pass an object from one to the other while singing "hot potato pass it on". The learner still having the object when the song stops must go and sit in the centre of the circle.	Song, "Here we go round the Mulberry bush". Game, 'hot potato, pass it on".	1 day
	Concrete using 3-D objects The teacher shows the learner a hoop and explains to them that this shape is called a circle. A circle has no corners. Let the learners: - Handle the 3-D hoop while running their fingers around the circle. - Find 3-D objects in the classroom that are the same shape as a circle. **Sort and compare 3-D objects according to size and colour** The teacher provides learners with a variety of 3-D objects and 2-D shapes in different sizes (big and small) and colours (red, yellow and blue) such as tennis balls, marbles, balloons, etc. Let the learners: - Sort objects into big and small. - Group objects into different colours.	Hoop A variety of round 3-D objects such as tennis balls, marbles, and balloons, etc. 2-D shapes such as cut out plastic circles	1 day

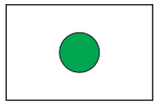
Week 3 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.1 **Time**	• **Introduce the Weather Chart and Calender** a) Time b) Days of the week c) Sequence of events d) Counting - The weather represents a week (5 days) using symbol cards. e.g. 5 days of the week ordered from left to right using weather symbols.(See example below) - The weather should be dealt with **every day.** - The teacher guides learners to determine the name of the day, date and month with flash cards as in diagram (later the learners can identify and display flash cards themselves). - The leader of the day observes the weather outside and shares findings with the rest of the group e.g. rainy-, cloudy-, sunny day - The teacher displays findings with a flash card as in diagram (later the learners can display cards themselves). - By doing this the learners learn about the weekdays and weekends. - They learn about today, yesterday, tomorrow, etc. incidentally. - The learners are given many opportunities to count up to 5. Counting sunny days, cold days, windy days, etc. - Display learner's symbol if there are any birthdays during that week. - Display any activities taking place during that week e.g. going to the zoo (represented by a picture of an animal)	The **Weather Chart** should represent a week e.g. days of the week ordered from left to right for the first 6 months and dealt with every day. Flash cards of: - Seven days of week - Numbers 1-31 - Names of the 12 months - Year e.g. 2012 - Cards with the weather conditions e.g.  windy  sunny  rainy  cloudy	After the weather chart is introduced this activity takes place every day. Teach learners a song to memorise the days of the week

Week 3 Orientation	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
	Example of Weather Chart **Weather Chart** June 2012 Sunday 12 / Monday 13 / Tuesday 14 / Wednesday 15 / Thursday 16 / Friday 17 / Saturday 18 		
4.1 **Time**	**Sequence recurring events in own daily life.** • **Days of a week** Teacher teaches learners a song or a rhyme about the days of the week. Repeat every day as weather chart is discussed. *Song:* *"There are seven days, there are seven days, there are seven days in a week.* *"Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday." (X2)*	Song: Days of the week, or compose own song of days of the week	
	• **Introduce the chart showing the four seasons indicating with an arrow indicating:** - Which season we are in at present. - Which season has just passed and - Which season is next? - Display the picture of the present season linked with the relevant months. e.g. January to March you can display the summer picture.	Four different cards with a picture of one of the seasons on it. **Season**  Summer Autumn Spring Winter	Adjust when seasons change

Notes:

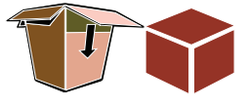
All new concepts should be presented according to these stages.

- Kinaesthetic stage (experience concepts with body and senses)
- Concrete stage (use 3-Dimensional objects)
- Semi-concrete stage (representation of a 3-D object on paper e.g. drawings, matching pictures, card games, worksheets, etc.) All "flat" shapes are regarded as two-dimensional.

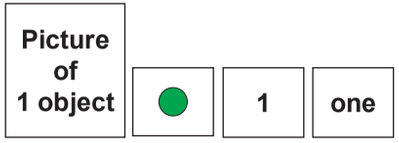
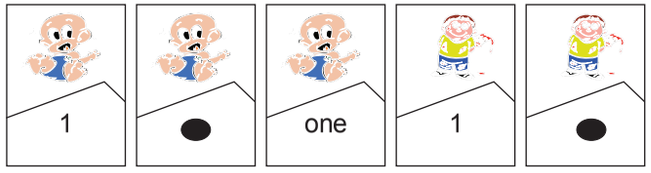
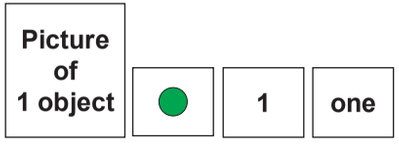
Week 4 Start with introduction to numbers	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Counting objects**	**Identify and describe whole numbers** **Introduce the meaning of the number 1** Oral daily rote counting from 1-5 **Kinaesthetic** Let the learners: - Identify body parts e.g. one nose. - Nod head once, tap on floor once, jump once etc. - Hold up 1 finger, 1 hand, 1 foot etc. - Form the number 1 with their body. - Write number 1 in the air/on the ground. - Clap hands only once	Number songs and rhymes Learners	1 day
	Concrete using 3-D objects Let the learners: - Identify any single object in the class. e.g. one building block. - Form the number 1 with clay/ play dough	Objects in class and environment	
	Semi-concrete using 2-D shapes or pictures Let the learners: - Identify the picture with one object on different flash cards. - Match the picture cards with one object on them to the cards with one dot on them. - Always link the picture cards and dot cards to the same number of counters e.g. pack the same number of counters on each dot. - After introducing the number 1 the teacher displays the flash cards against the wall for learners to view every day.	**Picture of 1 object**  1 Counter for each learner A variety of picture flash cards Dot flash cards	

Week 4 Start with introduction to numbers	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Identify patterns in the environment and in learners clothing** Let learners : - Talk about the patterns they observe in the environment and their clothing: - Which patterns have lines, blocks? - Are the patterns all the same, what are the differences and what are the similarities? - What makes a pattern? - A pattern is repetitive – lines / blocks / shapes **Copy and extend a pattern** **Kinaesthetic** The teacher ties a red ribbon and a blue ribbon on four learner's arms. She creates a pattern by placing a learner with a red ribbon in front of the classroom, then a learner with a blue ribbon, then a learner with a red ribbon. Let the learners complete the pattern.	   Red and blue ribbons	1 day
	Concrete using 3-D objects - The teacher designs a pattern with 3 blue and 3 red bottle tops. - Let the learners copy the teachers' pattern.	Red and blue bottle tops for each learner	

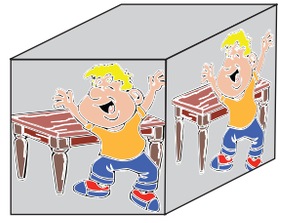
Week 4 Start with introduction to numbers	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects and** **3.3** **2- D shapes**	**Recognise, identify and name 3-D objects and 2-D shapes in the classroom and pictures** **Develop the ability to distinguish between objects in the "foreground and background"** **Concrete using 3-D objects** The teacher places different objects in the classroom and outside on the playground. Let the learners: - Indicate different objects in the classroom e.g. wooden objects, red objects, plastic objects etc. - Look for specific objects in the classroom on instruction of the teacher e.g. the ball in the Lego blocks container, the toy car in the cupboard, a pencil in the tin etc. - Look for identical objects e.g. round buttons among square ones, a red marble amongst coloured ones etc. - Sort object according to their kind e.g. size, colour, texture or shape. - Play the game, "I spy with my little eyes, something that is round....." - Look for specific objects in the environment on instruction of the teacher e.g. the bird in the tree, the ribbon in the tree, the pretty flower, the ant walking on the leaf etc. - At home the learner should be encouraged to fetch all the spoons, or knifes, or forks out of the drawer.	A variety of objects in the classroom and the environment	1 day
	Semi-concrete using 2-D shapes or pictures Show the learners a picture and ask questions related to the picture. Examples: - "What is the little girl holding in her hand?" - "How many people are in the boat?" etc. - Building of PUZZLES and playing picture dominoes are ideal to develop learners figure-ground perception	Any large picture to discuss (poster) **Puzzles** 	

Week 4 Start with introduction to numbers	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Recognise, identify and name 3-D objects by exploring the shapes and sizes of boxes** **Kinaesthetic** Let the learners: - Climb into and out of a big cardboard box. - Explore the inside of the box by communicating what they see inside the box e.g. the box has a floor / bottom, four sides / walls and a lid. - Fold the box open to observe the shape **Concrete using 3-D objects** - Use boxes to build structures e.g. a house, a garage (apply during Visual Arts to build a constructions with different size boxes) - Provide learners with different objects such as buttons, unifix blocks, bottle tops, plastic bread clips. Let the learners: - Sort the objects into groups of the same types - Explore what are the differences between the objects - Explore which objects are square and which are round - Sort objects according to the same colour	 A variety of big and small boxes (empty refrigerator and stove boxes)  Unifix blocks, bottle tops, plastic bread clips (learners can bring from home)	1 day

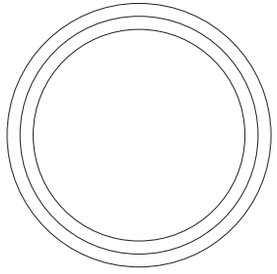
Week 4 Start with introduction to numbers	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom and in pictures** - a triangle **Introduce a triangle** When introducing a triangle for the first time the objects used should be exactly alike in every way (same size, same colour, and same texture). A triangle consists of three straight sides. This is called a triangle. **Kinaesthetic** Let the learners: - Make/form shapes with their bodies e.g. 3 learners form a triangle with their bodies. - Form a triangle using their fingers. - Make/form a triangle with pieces of wool or play dough. - Walk on the outline of a triangular shape. While walking say, 'I am walking along the triangle, one, two, three sides or one, two, three corners (angles). - Feel the shapes. Use giant size shapes or place different shapes in a "feely bag" The learner "feels" the shape in the bag and matches it with a set of matching cards (cards with shapes drawn on them). - Draw the triangle shape in the air, on the ground/floor (chalk) and eventually on paper. **Describe, sort and compare 3-D objects and 2-D shapes** **Concrete using 3-D objects** Let the learners: - Sort Logi shapes according to shape (circle and triangles), size (big and small) and colour (red, yellow, blue) - Look for triangular shapes in the classroom and environment.	Card games that develop the recognition of shapes. Wool or play dough. "Feely bag" (A cloth bag with elastic at the top) with different geometric shapes. Matching set of cards with shapes drawn on them. A4 paper and colouring pens/wax Logi shapes Objects in the classroom and environment	1 day

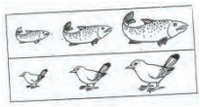
Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Describe and identify whole numbers** **Reinforce the knowledge gained in week 4 that involves the number 1** **Oral:** Rote counting from 1 to 5 **Kinaesthetic** Let the learners: - Do body percussion e.g. clap hands once. - The teacher shows a flash card representing the number 1 and learners hold up 1 finger, 1 hand, 1 foot etc.	Number songs and rhymes 	1 day
	Concrete using 3-D objects **Let the learners:** - Find one object in the classroom. - Count one counter.	One object One counter	
	Semi-concrete using 2-D shapes or pictures - Match a variety of one picture, and one dot flash cards. - Match a variety of picture and dot flashcards with the number symbol 1. - Match the number symbol and number name flash cards. - Make number puzzles and allow learners to match them e.g. 	A variety of flash cards with one picture, and one dot on them. Flash card with number symbol and number name 	

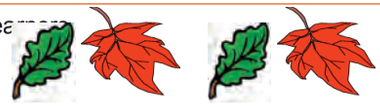
Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	**Reinforce the awareness that one's body has two sides e.g. "the one side" and "the other side" leading to "left and right"** **Kinaesthetic** The teacher explains the two sides of one's body. Let the learners: - Stand on one leg and then stand on the other leg. - Move rhythmically to the beat of the shaker to the one side of the classroom. When the shaker stops, the learners move to the other side of the classroom. **Concrete using 3-D objects** Each learner is given a beanbag. Let the learners**:** - Put the beanbag on the floor next to them. - Move the beanbag to the other side of their bodies using - their toes, hand etc. - Put the beanbag on the floor on the one side of their bodies and then move it to the other side. - Reinforce this concept by integrating it with visual arts by letting the learners make butterfly pictures (Fold paper in half; drop different colour of paint blobs on folded line; fold in middle and spread paint by rubbing picture; open and observe a butterfly; cut out on border line – **the butterfly has two sides that are the same)**	Shaker can be homemade – a container with a lid, filled with small stones. A beanbag for each learner	1 day
3.2 **3-D objects**	**Recognise, identify and names 3-D objects** **Introduce and explore objects that roll** - Discuss the "roundness" of objects. Put several round objects with in a "feely bag" (a cloth bag). Learners take an object from it and describe it`s roundness. - Learners demonstrate how various objects roll down a slope raising the table with two bricks.	"Feely bag" (A cloth bag with elastic at the top) Inside the bag are: Different sizes of balls, marbles, cylinders, empty cold drink tins, round plastic shapes or bottle tops. plastic shape	1 day

Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	**The position of two or more objects in relation to the learner** - In front / behind **Kinaesthetic:** The teacher chooses two learners with a counting rhyme: - Place two chairs in front of the classroom. - The two learners demonstrates the concepts in front and behind on the teachers instructions. e.g. o Sipho stand in front of the chair o Carl stand behind the chair - Once achieved the teacher holds up a flash card and the learners demonstrate the action using their own chairs. - ”This can also be demonstrated by using three learners. o Amy is standing behind Sipho, but Carl is standing in front of Amy. - The teacher provides learners with a big dice with different pictures showing “in front of and behind” written on the sides e.g. stand in front of someone with long hair; stand behind someone wearing a pants; sit behind each other, etc - Let the learners play a game in their groups by throwing the dice and performing the action it falls on.	Chairs Learners Flash cards with the action in front of and behind  	1 day

Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Compare which of two given objects are:** **bigger and smaller** • **Reinforce the concept of bigger and smaller** **Kinaesthetic** Let the learners: - Make their bodies big by stretching their arms above their head. - Make bodies small by bending down and curling up. - Determine whether a dog is bigger than a mouse **Concrete using 3-D objects** Always present at least two objects for comparison. - Compare different sizes of the same type of block, balls, plates, buttons, table, chair etc. and determine which objects are “big/small, bigger/smaller” and” biggest/smallest”. - Build constructions with the building blocks and learners compare whose construction is the biggest and whose is the smallest. **Semi-concrete using 2-D shapes or pictures** - Compare pictures illustrating the concepts of big/small and bigger/smaller. - Apply the concept of ‘big/small” during creative art.	Picture of a mouse and a dog (ensure that the picture of the dog is bigger than the picture of the mouse) Objects in the classroom such as blocks, balls, plates, buttons, beads, sticks, pegs, matchboxes, tins, pebbles, corks, shells, bottle tops, etc. Pictures illustrating big/small	1 day

Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Compare which of two given objects are:** - **Big and small** - **Bigger and smaller** - **Biggest and smallest** **Kinaesthetic** The teacher draws a small circle in the sand, on the ground/floor. - The learners walk on the outline of the small circle The teacher draws a bigger circle on the outside of the circle - The learners walk on the outline of the bigger circle - The teacher asks: o Which circle is the smallest?" o "Which circle is biggest " o "Walk on the small circle" o Walk on the big circle The teacher draws an even bigger circle on the outside of the circle. - The learners walk on the outline of the biggest circle as well - The teacher asks questions such as: o Which the circles are the biggest?" o "Which the circles are the smallest?	Big and small circles drawn in the sand/ on the floor/ground 	1 day

Week 5	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
	Concrete using 3-D objects Learners sort and compare different objects according to size.(bigger , smaller) e.g. - Big buttons from small ones - Big spoons from small ones - Big boxes from small boxes This activity can be extended to outdoor play (sand play and water play) where learners can compare objects and talk about which one is smaller/bigger, biggest and smallest. It could also be integrated with visual arts – make a collage using big/small objects. **Semi-concrete using 2-D shapes and pictures** Let the learners: - Play card games and identify the small/big/biggest from pictures. - Ask questions such as: “Which fish is first or which fish is last?” “Which fish is in the middle?”  - Progress to letters so that learners realise that pictures represents words. Learners do not have to read the letters. 	Building blocks and balls of different sizes Buttons, spoons, medicine boxes, shoe boxes, empty milk cartons, empty medicine containers , etc 	

Week 6	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Estimate and count everyday objects reliably** **Daily counting** - **Oral:** Rote /rhythmic counting from 1- 5 - Sing Number songs and rhymes	Number songs and rhymes	Daily
2.1 **Geometric patterns**	**Copy and extend a pattern using body percussion** **Kinaesthetic:** - Teacher demonstrates a body percussion pattern and learners must copy the pattern e.g. clap clap, stomp; clap, clap, stomp;....click, snap snap, click etc,... **Concrete using 3-D objects**: Copy pattern with objects e.g.: - Using different types of leaves - Using shapes e.g. circle, circle, triangle, circle,..... - Using objects e.g. red peg, blue peg, yellow peg, red peg,.....	Lea  Logi shapes Peg board pegs	1 day
	Semi-concrete using 2-D shapes or pictures Let the learners: - Create their own patterns with the picture cards e.g. flower, leaf, leaf, flower.... - Create their own patterns with colour cards e.g. red, blue, red, blue, red..... - During creative art let learners print patterns using sponge shape cut outs	Provide the learners with picture cards Colour cards Teacher can cut out shapes from sponges	

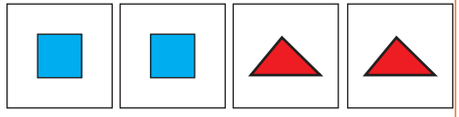
Week 6	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name a square** **Introduce a square** When introducing a square for the first time the objects used should be exactly alike in every way (same size, same colour, and same texture). A square consists of four sides. This is called a square. **Kinaesthetic** - The whole class forms a square. - Let the learners walk on a square made with rope on the carpet while saying," I am walking along a square- one side, two sides, three sides, four sides- all the sides are the same?" - Let groups of learners form smaller squares. **Concrete using 3-D objects** - The teacher shows the difference between a circle and a square by holding up a lid of a tin and a square tile. - The lid feels round and the tile has edges and corners. **Semi- concrete using 2-D shapes or pictures** - The teacher draws around the lid and around the tile. - The lid represents a circle and the tile represents a square. - Let the learners trace around the lid and the tile using crayons.	Learners Rope A lid of a tin A square tile A variety of round lids and square shaped objects Newsprint Crayons	1 day
	Sort 3-D objects and 2-D shapes or pictures Divide learners into groups. Let the learners: - Sort a variety of 3-D objects and 2-D shapes provided by the teacher according to size and colour - Reinforce shapes through playing of games and game cards during free play indoors.	Shape cards 3-D objects such as blocks, Lego blocks 2-D shapes such as Games that reinforce shapes such as "What's in a square"	
3.2 **3-D objects**	**Recognise, identify and name 3-D objects that slide** • **Introduce objects that can slide** Provide learners with a variety of different 3-D objects and 2-D shapes such as blocks, boxes, balls, etc. - Allow learners to experiment through play by seeing which objects can slide and which objects can roll. - The learners can use the slide in the playground or the teacher can use a table to make a slope by placing 2 blocks underneath it. - Can any of the objects slide upwards? - Which objects slide downwards? - Why are these objects able to slide?	Blocks Balls Boxes Slide / Table with blocks	1 day

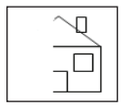
Week 6	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Describe one 3-D object in relation to another** • **Develop the concept of on/ under, below/ on top** **Kinaesthetic** - Learners each sit on their own chair. - Learners listen to the teachers` instructions and follow whilst performing actions e.g. sit on your chair, lie under your chair. - Stand on top of your chair. Sit under the table. - Put your hands on your head. - Put your hands under your legs. - Put a beanbag under your armpit. - Sit on the beanbag. - Hold the hoop under your knees. **Concrete using 3-D objects** - Let two learners hold a skipping rope and the rest of the class crawl under the rope. - Look for an object under the carpet/table/box etc. **Semi-concrete using 2-D shapes or pictures** - The teacher provides the learners with a variety of pictures where the concept of on, under and on top is illustrated e.g. a person sitting on a horse, a baby lying under a blanket etc. Let the learners: - Identify the concepts of on under and on top from the pictures.	 Chair for each learner on top of the table  under/below	1 day

Week 6	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.1 **Time**	**Describe the time of day in terms of day and night/ light and dark** • **Introduce both the concepts "day /night" and "light /dark"** Integrate these concepts with Beginning Knowledge topics in Life Skills **Kinaesthetic** - Experience darkness by sitting under the table and chairs which has been covered with a blanket. - Darken classroom by closing curtains and switching off the light. - Learners talk about their experiences when the classroom was dark and when it was light. - Provide a torch for light under the blanket. - Talk about activities which take place during the day and at night. **Semi-concrete using 2-D shapes or pictures** - The teacher prepares a poster of the sun and the moon and provides pictures showing what happened during the day and night time. - Learners must place their pictures under the sun and/or the moon.	Chairs and blankets  Torch Poster of day and night Pictures of day-time and night -time activities 	1 day

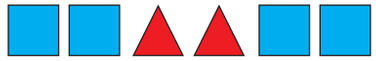
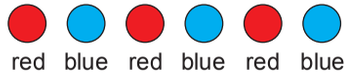
Week 7	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom** • **Introduce puzzles and give guidance on how to build them** - Discuss the puzzle picture with special attention to detail such as colour, people/ animals, objects, position of people/animals and objects - Identify, recognise and match the different types of puzzle pieces, e.g. o corner pieces. o pieces with one straight side.  o pieces with no straight sides. o counting the puzzle pieces. **How to build a puzzle:** - Pack all puzzle pieces 'face up'. - Identify the corner pieces and match the colours, objects, etc. on them with the corners of the puzzle. - Build the four sides (frame) using all the pieces with one straight side. - If learner struggles, they can build the puzzle on top of the given picture. - All puzzles should be completed before stored.	**A variety of puzzles – minimum 6 pieces**.	1 day

Week 7	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	**Describe one 3-D object in relation to the learner** • **The position of two or more objects in relation to the learner** - **In /out** **Kinaesthetic** - The teacher uses masking tape or skipping rope to make two lines on the floor. - The learners all stand on the one side and the teacher calls, "in the river (All the learners must jump between the two lines, then she shouts 'out of the river'. The learners must all jump out on either side of the two lines. - Learners who do not follow the instruction correctly are out and may not continue playing.	Game: In the river (between the two lines), out of the river (on the outside of the two lines) 2 Skipping ropes	1 day
	Concrete using 3-D objects: Let the learners: - Stand a few steps away from a basket/bucket - Throw beanbags in a basket **Semi-concrete using 2-D shapes or pictures** - Learners draw a picture illustrating in and out concepts.	Bucket or Basket Paper and Colouring pens/wax	

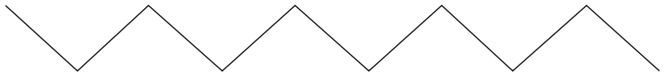
Week 7	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	• **The position of two or more 3-D objects in relation to the learner: Top/under/below** **Kinaesthetic** Let the learners follow instructions such as: - Put the red block on top of your friends head - Put the yellow block under/below your table - Put the block on your head and climb on your table - Crawl under the table with your eyes closed. **Concrete using 3-D objects:** Let the learners: - Pack the triangles on top of each other. - Pack the blue squares on top of each other. - Put the red circle under the yellow square. - Put the yellow circle and the red triangle under/below the blue square. **Semi-concrete using 2-D shapes or pictures** - Teacher prepares individual cards with pictures on them as well as cards with shapes on them. - Learners must place the shapes on top/under/below the picture as the teacher requests e.g. Place the blue square on top of the fruit basket.	Building blocks / Unifix blocks Logi shapes Different pictures  Shape Cards 	1 day

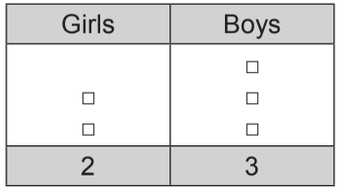
Week 7	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	• **Reinforce the awareness of symmetry in self (own body)** **Kinaesthetic** Let the learners**:** - Name their body parts. - Sing any action song about the body. The teacher demonstrates to the learners the concept of symmetry by hanging a rope in front of a learner. - Learners should imagine that their bodies are divided into two sides.  The teacher explains how the body is divided in two parts called the mid-line. - Everything a person has two of are found on both sided of the body e.g. eyes, ears, arms, legs etc. - Everything a person has one of is situated on the mid-line e.g. nose, mouth, navel. For symmetrical control, let the learners: - March, lifting the knees high. - March like stiff 'tin soldiers' - Cross arms, cross legs while marching. Integrate these actions with Performing Arts in Life skills **Semi-concrete using 2-D shapes or pictures** - Draw incomplete pictures on a piece of paper and ask the learners to complete the picture.	Song: "Head and shoulders, knees and toes" A single rope to demonstrate learner`s own bodies Incomplete pictures  	1 day

Week 7	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	• **The position of two or more 3-D objects in relation to the learner** - **up and down** **Kinaesthetic** Let the learners: - Demonstrate “up” and “down” by moving their bodies up and down on instruction of the teacher. - Climb up two steps while counting the number of steps. - Climb down the two steps while counting. - Climb “up” and “down” on equipment outside. - Climb “up” and “down” a rope climbing ladder if the school has one. - Look up and down. **Semi-concrete using 2-D shapes or pictures** - The teacher provides the learners with a variety of pictures where the concept of up and down is illustrated o e.g. a person climbing up a mountain, an air balloon going up into the air and coming down, someone walking down stairs etc. Let the learners: - Identify the concepts of up and down from the pictures.	Sing song , ”Oh the grand old duke of York” Make use of the stairs at the school Jungle gym (climbing equipment) Rope climbing ladder Pictures illustrating up and down e.g. the stairs 	1 day

Week 8	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	• **Crossing the midline incorporated with counting** **Kinaesthetic** Let the learners**:** - Twist and jump in rhythm while counting. - Stand facing each other and do criss-cross clapping (the left hand to the opposite learners left hand) singing a number song/rhyme. **Concrete using 3-D objects** Let the learners: - Throw the ball to a friend while counting. - Walk on a curved rope singing a song e.g. “One little elephant balancing” - Kick a ball to each other. The above activity can be integrated with Life Skills	Learners Number songs and rhymes  Ball, rope	1 day
2.1 **Geometric patterns**	• **Create own patterns** **Kinaesthetic** Let the learners create a pattern using**:** - Their bodies e.g. one girl with dress, two boys with trousers **Concrete using 3-D objects** - Using red and blue shapes. e.g. 2 blue squares, 2 red triangles, 2 blue squares ... - Apply a pattern during art activities by using red and blue paint with bottle tops.	Red and Blue plastic shapes  Using bottle tops and red and blue paint  	1 day
	Semi –concrete using 2-D shapes using secondary colours Let the learners: - Use their thumbs to print a colour border with paint e.g. green, orange, green ... along the top edge of their papers.(**activity can be done during Visual Arts)**	A4 Paper Green and orange paint or any other colours you have available.	

Week 8	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	**Recognise, identify and name 3-D objects** • **Reinforce objects that roll** **Concrete using 3-D objects:** Let the learners: - play with plastic bottles, tins, balls, an orange, etc. and explore the possibilities that they can roll. The teacher asks: - Which blocks in the block corner can roll? - Blocks cannot roll because they only have straight sides. - Roll different objects and see which can roll and which can't. - Learners should then realise that objects that are round can roll.	Plastic bottles Blocks. Lego blocks Tins, plastic cups, toilet paper rolls, candles, an orange, balls etc	1 day
3.1 **Position, orientation and views**	• **Develop a sense of direction by introducing both the concepts "at the front/at the back" and "forward/backward"** **Kinaesthetic** Let the learners: Follow directions of the teacher (alone and/or as a member of a group) and move or position themselves within the classroom e.g. - Stand "at the front "of the classroom. (consider the front of the classroom to be where the door is) - Stand "at the back" of the classroom. - Walk forward and back. - Crawl forward and back. - Jump forward and back.	Learners	1 day

Week 8	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	The teacher draws a pattern on the floor with chalk or on the ground e.g.  or  Let the learners: - Walk and/or crawl on the lines of the pattern. - Put a piece of red paper on the corners to represent a traffic light. When learners get to the corners they have to turn their whole body in order to get the sensation of direction.	Drawn on the ground. Red paper.	1 day
	Concrete using 3-D objects Let the learners: - Make a road with the building blocks. - Push a toy car forwards and backwards on the “road” of building blocks. - Push a toy car by turning to the one side and turning to the other side on the “road” of building blocks	Building blocks	

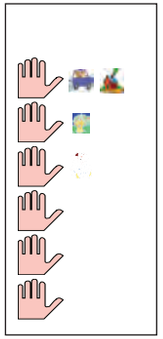
Week 8	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
5.1 **Collect and sort objects** **5.2** **Represent sorted collection of objects** **5.3** **Discuss and report on sorted collection of objects**	• **Introduce the concept of Data Handling by (using their bodies) collecting objects in the class or environment according to stated features for example:** **Kinaesthetic:** Divide learners into groups - In each group let all the boys stand in a row and let all the girls stand in a row next to the boys. - Let the learners count the number of boys and the number of girls in each group. - With this you can complete a boy(s) or girl(s) "body graph" per group. **Draw graph to display data** **Concrete using 3-D objects** - Learners can use above information to develop a **3-D object-graph** by using blocks/ shapes, etc. representing each learner. **Read and represent the graph** **Semi – concrete using 2-D shapes or picture** - Learners make a graph by using the dough to make small ball representing their own interpretation of the previous activity. - Give learners paper with a picture of a girl and boy on top of each learner's page. - Let learners roll balls representing the number of girls and boys in their group. - Learners place the number of balls under the applicable picture.	Learners standing in two rows  Dough A4 Paper	1 day

Week 9	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	• **Recognise and explore objects that slide and roll** The teacher holds a ball and bounces it on the floor. She lets it roll on the floor. The teacher then takes a box and does the same. The teacher asks learners: - Which object could roll? - Why could the box not roll? - Which object could slide? Teacher shows learners that a box has four sides (corners) and therefore cannot roll, but the ball has no corners and can roll. - Encourage learners to find objects in the class that can roll and slide. - Ask learners whether they can find an object(s) that can roll and slide.	 **Ball**  **Box**	1 day

Week 9	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name** **2-D shapes in the classroom and in pictures** - **a circle** **Kinaesthetic** Let the learners: - Make a circle using their fingers. - Make a circle using both hands. - Sit on a carpet, forming a circle while holding hands. - Walk on a big circle, made with string, on the carpet. - Play game where learners sit in a circle and sing a song. o One learner stands outside the circle and runs around it holding a ball in his/her hands. o The learner chooses to place the ball behind any of the learners seated in the circle. o The chosen learner must pick up the ball and try and throw the other learner with the ball, while he/she is running around the circle again to go and sit in the empty space. o If the ball touches the learner running away, he/she must go and sit in the middle of the circle and the game continues. **Concrete using 3-D objects** Let the learners: - Find round objects in the classroom. - Find shapes that represent a circle. **Semi-concrete using 2-D shapes or pictures** - Teacher names objects and learners must identify which objects are round e.g. orange, apple, table, ball, marble, book, box, etc.	Learners String Soccer ball, Tennis ball, Golf ball, Apple, Orange, Hoops, etc Orange, apple, table, ball, marble, book, box,	1 day

Week 9	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**The position of one or two objects in relation to each other** • **Concepts next to/ between- incorporated with colour** **Kinaesthetic** Teacher calls up three learners She illustrates the concepts next to and between by arranging the learners in different order saying: - Craig is standing next to Steve. - Mel is standing between Craig and Steve. Activity can be repeated with other learners. The teacher provides learners with building blocks of different colours and gives them instructions such as: - Put the red block next to the yellow block - Put the blue block between the red and the yellow block **Concrete using 3-D objects** Using beanbags in different colours (red, blue, yellow, green), give learners the instruction to: - Put the blue bean bag next to the yellow bean bag. - Put the red bean bag between the blue and the yellow bean bag. This activity can be incorporated into Life Skills.	Coloured blocks Coloured bean bags	1 day

Week 9	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	• **Orders more than two given collections of objects from smallest to biggest** **Kinaesthetic:** Provide learners with dough and let them make balls with the dough. - In the groups they then have to arrange the dough balls from smallest to biggest and biggest to smallest. **Concrete using 3-D objects:** - Each group member must find an object in the classroom. - Let the learners arrange objects they find from smallest to biggest in their respective groups. Teacher provides each group with old telephone directories. Let the learners: - Tear paper from the directory and crumple up the paper shaping them into a ball in their groups. - Learners must compare which ball is the biggest and which ball is the smallest. **Semi-concrete using 2-D shapes or pictures** - Give learners a sheet with pictures of big and small items. - Learners can colour the big items and circle the small items.	Play dough Any objects in the classroom Old telephone directories A4 sheet with pictures	1 day

Week 9	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 **Length**	**Concretely compare and order objects using appropriate vocabulary to describe height** - **Tallest/shortest** - **longest/ shortest** **Kinaesthetic** - The teacher calls up 4 learners and asks the class to help her to arrange them from tall to short. - Let learners arrange themselves in their groups from **tallest to shortest.** - One learner stands with his/her back against the wall while the other members of his/her group measure his/her height using their hands.		1 day
	Concrete 3-D using objects Teacher puts a variety of objects on each group's table such as rulers, pencils, crayons, erasers, etc. - **Sort** all the **long** objects and all the short objects together. - Learners must arrange the objects from **longest to shortest.** **Height Chart** - The teacher has a height chart ready against the wall to plot each learner's height. - Use learners' symbol cards to indicate each ones height on the height chart. - Together with the learners the teacher will come to the conclusion that Sipho is 6 hands high and Abby is only 5 hands high, because she's shorter.	**Rulers, Crayons, Pencils, Erasers, etc** 	

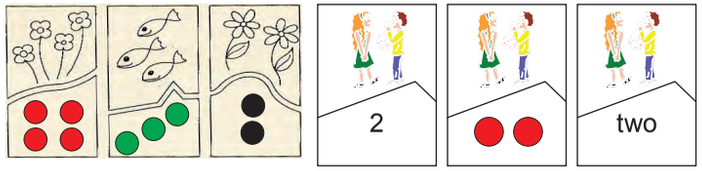
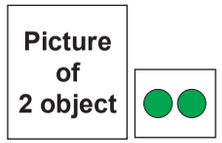
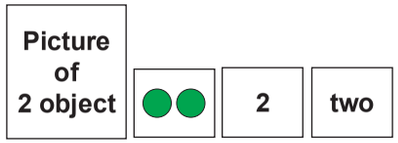
WEEK 10	Use Week 10 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Numbers, Operations and Relationships	**1.1 Count objects**	Estimates and rote counts up to 5 (Number songs & rhymes included to develop number concept)
		Recognises numbers in familiar context- e.g. age, register
		Understands ordinal numbers (e.g. during toilet routine)
		Understands one-to-one correspondence (Helpers' chart during refreshment time)
		Identifies number pictures and dot cards that involve number one
		Knows the number symbol 1
		Recognizes the number name one
	1.6 Problem solving techniques	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects
Patterns, Functions and Algebra	**2.1 Geometric patterns**	Identifies patterns in the environment
		Copies, extends and creates own patterns

WEEK 10	Use Week 10 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Space and Shape (Geometry)	**3.1 Position, orientation and views**	Knows in front of/behind
		Knows on top of, on, under, below
		Knows in, out
		Knows up, down
		Understands the concepts: forwards, backwards, front and back
	3.2 3-D objects and 3.3 2-D shapes	Recognises, identifies and names balls
		Recognises, identifies and names boxes
		Recognises, identifies and names his/her own symbol, his/her peers symbol and the class name
		Builds at least a 6 piece puzzle
		Shows the ability to distinguish between objects in the “foreground and background”
		Identifies and recognises the circle
		Identifies and recognises the triangle
		Identifies and recognises the square
		Compares which of two given collection of objects are bigger, smaller, biggest, smallest
		Sorts objects in: Size - big and small
		Colour – Primary colours (red, yellow, blue)
		Shape – circle ,triangle and square
		Objects that roll
		Objects that slide
Space and Shape (Geometry)	**3.4 Symmetry**	Recognises line of symmetry in Self
Measurement	**4.1 Time**	Uses words like day, night, light and dark, morning, afternoon tonight to describe time of the day
		Orders recurring events in own daily life (Daily Programme)
		Shows and awareness of days of the week, seasons and weather
		Knows own birthday date
	4.2 Length	Distinguishes between tall, taller, tallest, short, shorter, shortest (Height chart)

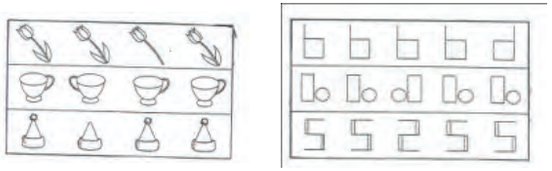
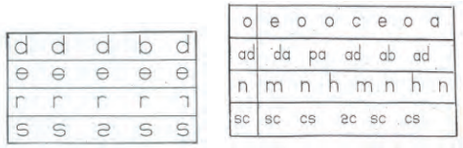
WEEK 10	Use Week 10 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Data Handling	**5.1** **Collect and sort objects**	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute
	5.2 **Represent sorted collection of objects**	
	5.3 **Discuss and report on sorted collection of objects**	

TERM 2 MATHEMATICS GRADE R			
Week 11	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 2** **Oral:** Count everyday objects up to 2. Count forwards and backwards up to 2. Rote counting 1-7 **Reinforce concepts of "many" and "few".** Clap hands many times...STOP. Clap hands fewer times. The teacher claps up to 2 times.	Two pictures of birds for counting song - "Two little Dickey birds"	1 day
	Kinaesthetic Let the learners: - Call 2 learners to the front. Count them - Count 2 chairs, tables etc. - Identify pairs of body parts such as eyes, ears, hands, legs, feet, knees, shoulders etc. - Do body percussion e.g. clap hands twice, nod their heads twice, tap on floor twice or jump twice etc. - Hold up 2 fingers, 2 hands, 2 feet.	Learner's bodies	

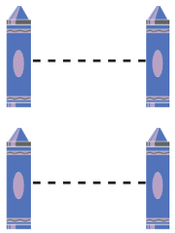
TERM 2 MATHEMATICS GRADE R Week 11 — Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)			
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects** Let the learners: - Identify two of the same objects in the classroom e.g. two shoes, two crayons etc. - Develop an awareness of number conservation by letting learners pack two counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 2 buttons, 2 pencils, 2 hoops, 2 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up	2 Counters or 2 objects for each learner	1 day

TERM 2 MATHEMATICS GRADE R			
Week 11	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Knows the number symbol and recognise the number name that involves the number 2** **Semi-concrete using 2-D shapes** Let the learners: - Match picture cards with 2 pictures on them with two cards with two dots on them. - Show flash cards with a picture of selected number of items on it e.g. a pair of shoes, two crayons etc. - Let learners look for the same number of objects in the classroom. - Identify flash cards with different numbers of pictures on them. - Identify flash cards with the number symbol 2. - Recognise flashcards with the number name. - Link the number symbol 2 with the number of objects and the number of dots. - Link the number name with the number symbol card, the number of pictures and the number of dots cards. - Add number 1 flashcards and let learners identify the numbers 1 and 2 - Make number puzzles and allow learners to match them e.g. 	Number flash cards with two objects. Objects in class and environment.  Flash card with two pictures, dots, number symbol and number name 	1 day

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Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects and** **3.3** **(2-D) shapes**	• **Describe, sort and compare 3-D objects and 2-D shapes according to similarities and differences** **Kinaesthetic** - Select two girls using a counting out rhyme. - The other learners identify in which way the two girls are the same? - Select a boy and a girl using a counting out rhyme. - The other learners identify in which way the boy and girl is different. - In pairs the one learners “poses” in a specific way and the other must copy the exact “pose” e.g. the - one learner stands with his/her hands on his/her head and on one leg. The other copies the “position. - Sort learners according to gender, those with shoes, those with sandals, and those that are bare feet. - Call the following learners to the front. o Girls and boys with trousers, a girl with a dress o All children with shoes on, one that is bare feet. - Ask questions such as: “Which learner does not match? “Which learner is different?”		1 day

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Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects and**	• **Describe, sort and compare 3-D objects and 2-D shapes according to similarities and differences** **Concrete using 3-D objects** - Two learners bounce balls: a big ball and a small ball - The other learners identify in which way the balls are the same and different. - One learner rolls an orange, another roll a ball. - The other learners identify in which ways the ball and the orange are the same and different. - Learners observe a boys shoes and a girls sandals - The other learners identify in which ways the shoes are the same and different. - Learners find objects which are the same in the classroom	Make own matching card games as in example below 	1 day
3.3 **2-D shapes**	**Semi-concrete using 2-D shapes or pictures** - Provide matching card games to promote similarities and differences e.g.  - Progress to more abstract cards **later in the year**. Learners do not have to read the letters. e.g. 	Matching card games	

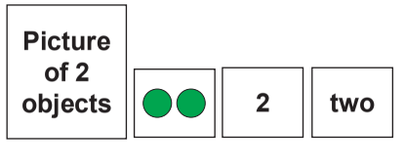
TERM 2 MATHEMATICS GRADE R Week 11 — Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)			
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using "equal to" or "the same"** **Kinaesthetic** Let the learners**:** - Develop the concepts of same and different. - Compare their fingers and their toes. Although they are the **same** number they look different. - Compare fingers, toes and eyes. They look different. We have the same number of fingers and toes namely 10 but we only have two eyes. - Compare ears, arms, legs and feet. They look different but they are the **same** number namely two of each. - The teacher draws two circles on the ground or forms two circles with a string on the floor. Instruct the learners to divide themselves so that there's and equal number of learners in each circle. Count the number of learners. Points out the groups are equal to the same.		1 day

TERM 2 MATHEMATICS GRADE R			
Week 11	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Concrete using 3-D objects** - Develop the concepts of same and different. - Place a set of the learner's symbols in the middle of the carpet. - Give each learner his/her symbol card. The learners try to match their symbols with the same one on the carpet. - Place a group of objects on the table and divide them into equal groups (one for you, one for me) **Examples:** 1. Place two objects of the same type e.g. crayons, in a row on the table. Ask one learner to **match** each of teacher's crayons with one of his/her own. (Learner needs to fetch two crayons to match teacher's number of crayons. "Now we each have the same/equal number of crayons" 2. Repeat the same exercise as above with 4 and 6 objects for the learners to understand the concept of "the same/equal" 3. The teacher places 2 blocks in a row on a table. She gives two learners each a block. Ask the learner to match each of their blocks with her blocks. (Learners each need to fetch another block to match teacher's two blocks) "Now we each have 2 blocks. We have the same number of blocks".  **Semi-concrete using 2-D shapes or pictures** - Let learners compare picture and dot flash cards. Identify the cards that are the same  - Provide matching card games during free play time indoors where learners can distinguish between similarities and differences.	 Blocks	1 day

TERM 2 MATHEMATICS GRADE R Week 11 — Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)			
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 Describe, compare and order numbers	• **Order and compare collections of objects using "more than"** **Oral:** Count everyday objects up to the number 2. **Reinforce concepts of "many" and "few"** Clap your hands many times ...STOP Clap your hands fewer times. The teacher claps up to the number 2. **Kinaesthetic** The learner says which of two given collection of objects is: "more than" Let the learners: - Count their eyes and their fingers. Ask question: "Which do they have more of?" - Show two fingers on one hand and 1 finger on the other hand. "Which hand is more?" - Choose 3 learners using a counting out rhyme. Group them in groups of 2 and 1  - Count how many learners in each group. Compare the two groups and ask questions such as: "Which group has more learners?" "Which group is more than one?"		1 day

TERM 2 MATHEMATICS GRADE R			
Week 11	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 Describe, compare and order numbers	**Concrete using 3-objects** - Place 2 pairs of scissors, 3 counters and 4 crayons on the table. Count each group's objects.  - Ask question such as: "Which groups has more objects. Which group has the most objects". "Which group has more than the scissors? Which group has more than three?" - Place a variety of concrete objects (shells, stones, corks etc.) on the table. Sort them into groups (all the corks together), counting the amount in each group and indicating which group is more, less, equal. Give them an opportunity to work with their own counters. Start with small numbers. - Integration: Containers must be provided during water play and sand play to give opportunities to experiment with concepts such as more than, less than an equal.	Any objects in the classroom	
	Semi-concrete using 2-D shapes or pictures - Let learners compare picture and dot flash cards. Identify the cards that are more than a number given by the teacher e.g. - Teacher says: Find a card which has more than 2 pictures of dots? - Match the cards with the same number of objects or counters. (pack a counter on each dot or picture) 	Picture and dot flashcards Counters	

Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Recognise and identify the number symbol and the number name that involve the number 2** **Oral:** Count everyday objects up to the number 2. Count forwards and backwards up to 2. Rote counting 1-7 **Reinforce concepts of "many" and "few".** Clap your hands many times ...STOP. Clap your hands fewer times. The teacher claps up to 2.	Number songs and rhymes	1 day
	Kinaesthetic Let the learners: - Bounce a ball once, in other words 1 time. - Bounce a ball twice, in other words 2 times. - Draw the number two on the ground and let learners walk the number two. - Draw the symbol two in the sand, in the air, on the carpet etc. - Make a number 2 with play dough. - Find 2 friends who are wearing shoes.	Balls Play dough	
	Concrete using 3-D objects Let the learners: - Pick up one counter. - Pick up two counters.	Counters	

Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Semi – concrete using 2-D shapes or pictures** Let the learners: - Identify picture flash card and link them with the same number of objects - Identify flash cards marked with two dots and link them with the same number of objects. - Identify the number symbol and number name flash cards and link them to the same number of counters. - Identify the number symbol 2 on pictures provided by the teacher. - Where else in the class can you see a number 2 - Divide class in groups Give opportunity to play number dominoes in groups.	Flash card with two pictures, dots, number symbol and number name  Counters Pictures on which the number symbol 2 appears	1 day

Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve and explain solutions to word problems (story sums) that involve the number** 2 **Kinaesthetic** **Examples:** 1. Teacher calls 1 learner to the front. Learners count him/her. Teacher calls another 1 and asks: How many learners altogether?" 1 and 1 → 2. (The teacher says: 1 and 1 makes 2) 2. Teacher packs out 1 chair. Add 1 more. How many chairs are there now? 1 and 1 → 2. 3. Teacher holds up 2 fingers. And says: "Count my fingers. If I hide one finger, how many fingers can you see? 2 take away 1 → 1. 4. Teacher holds up 2 fingers. And says: "Count my fingers. If I don't take away any fingers, how many fingers can you see? 2 take away 0 → 2. 5. There is one child is at home. One comes to play. How many children are there now? 6. There are two children at the table. Each child wants his own chair. How many chairs do we need? **Concrete using 3-D objects** **Examples:** (Use counters) 1. If you have one cookie and mommy gives you another one, how many cookies will you have? 2. Teacher has two counters in one hand and no counters in the other hand. How many counters does she have altogether? 3. Cay has 2 balls and 1 ball hops away. How many balls does Cay have left? 4. If you have 2 blocks and you give 1 block to a friend, how many blocks will each of you have?	Number songs and rhymes Counters (if you don't have cookies) Counters Balls Blocks	1 day

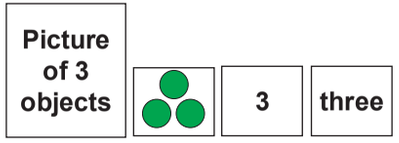
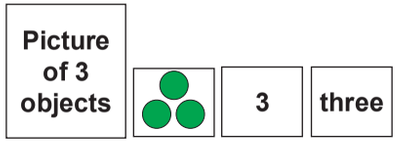
Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using "less than"** **Oral:** Count everyday objects up to the number 2. **Reinforce concepts of "many" and "few"** Clap your hands many times ...STOP Clap your hands fewer times. The teacher claps up to 2	Number songs and rhymes	1 day
	Kinaesthetic (Integrate with performing Arts in Life Skills - dance) - Sing the song: "Heads and shoulders, knees and toes" singing every word the first round - The next round you sing one word less e.g. "Heads and shoulders, knees and ....., knees and ...." - Sing song with another word less e.g. "Heads and shoulders, ...and ....., ... and ...." - Teacher points out that every time they sing one word less until no words are sung **Concrete using 3-D object** Teacher makes four strings of beads. Place 3 beads on the first string, 2 beads on the second string, one bead on the third string and 3 beads on the fourth string. Let learners identify: - Which string has the least beads? - Which string of beads has 1 more than the string with 2 beads? - Which string of beads has one less than the string with 3 beads?	Song: "Heads on shoulders, knees and toes" Four strings with a different number of beads.	

Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Semi-concrete using 2-D shapes or pictures** - Let learners compare picture and dot flash cards. Identify the cards that are more than and less than a number given by the teacher e.g. which card is more than 2? - Which card is less than 4? 	Make your own picture and dot card sets.	1 day
	• **Reinforce the comparison of two given collection of objects using:** - **more than,** - **less than (fewer)** **Oral:** Count everyday objects up to the number 2. Rote counting 1-7 **Reinforce concepts of "many" and "few"** Clap your hands many times ...STOP Clap your hands fewer times. The teacher claps up to the number 2.	Number songs and rhymes	
	The teacher makes two strings of beads. Place 3 beads on the first string, 2 beads on the second string, Let learners identify: - Which string has the least beads? - Which string has the most beads? - Which string of beads has more than 2 beads? - Which string of beads has less than 3 beads? Integrate with Visual Arts where learners tread straws, polystyrene chips, cut out shapes with punched hole in the middle, leaves etc.	Two strings with a different number of beads.	

Week 12	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Semi-concrete using 2-D shapes or pictures** Place a group of objects on the table and divide them into: - Equal groups (one for you, one for me) - Unequal groups (compare to see which group has most/least and which are the same) - If there are two groups that are not the same, what do we have to do to make them equal/same?	Two strings with a different number of beads.	1 day
3.2 **3-D objects and** **3.3** **2-D shapes**	• **Describe, sort and compare 3-D objects and 2-D shapes** **Concrete using 3-D objects** Let the learners: - Sort a variety of objects according to size - Sort and compare the different building blocks according to size (big and small). - Sort the blocks according to the same shapes **Semi-concrete using 2-D shapes or pictures** Divide learners into five groups. Give each group a variety of different shapes. - Let learners sort the shapes according to: o Colour o Shapes (even if the learners do not know the shapes). o Size - Make use of card games that promote colours, size and shapes	Variety of big and small objects in the class e.g. ball, doll, toy car, Lego block etc. Building blocks and balls of different sizes Logi Shapes or any other colourful shapes available	1 day

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 3** **Oral:** Count everyday objects up to number 3. Count forwards and backwards up to 3. Rote counting 1-7 **Reinforce the concepts of "many" and "few".** Clap your hands many times ...STOP. Clap your hands fewer times. The teacher claps up to 3 times.	Number songs and rhymes.	1 day
	Kinaesthetic - The teacher plays a drum or music. When the music stops the learners form groups of three. - Ask learners whose family consists of only 3 members. - Learners stand in a row; Teacher asks ''who's third in the row?'' Divide learners into ±5 groups Let the learners: - Tear three pages from an old telephone directory. - Crumple the three pages into three balls as tight as possible. To enhance laterality only use the dominant hand. Learner can sit on the non-dominant hand. - Open the balls and crumple them again. - Count the balls after all three have been crumpled. - While counting throw the three balls in a basket placed in the middle of the group. This activity could be integrated with Physical Education in Life Skills	Learners themselves. Counters Old telephone directories basket	

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects:** Let the learners: - Identify 3 objects in the classroom. - Hold up 3 fingers. - Place 3 objects on the table. Individual learners come to the table and count each object. The learner touches each object as he/she counts. Repeat with other objects. - Develop an awareness of number conservation by letting learners pack three counters or any objects in different ways e.g. . When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange3 buttons, 3 pencils, 3 hoops, 3 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up	Counters or objects	1 day
	Semi-concrete using 2-D shapes or pictures - Show a picture of a “three legged cast iron pot”. - Count the legs. - Let the learners think of anything else with three legs. - Show the picture card of 3 objects. The learners count out the corresponding number of counters. - Do the same with the dot cards. - The learners match the dot card with the picture cards.	Picture flash cards Dot flash cards Counters **Picture of 3 objects** 	

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Knows the number symbols and recognise the number names that involves the number 3** **Oral:** Count everyday objects up to number 3 Count forwards and backwards up to 3 **Reinforce concepts of "many" and "few".** Clap your hands many times ...STOP. Clap your hands fewer times. The teacher claps up to 3 times. **Concrete using 3-D Objects** - Give each learner 3 unifix cubes - Teacher shows a dot, picture, symbol or number name card that involves numbers 1 to 3. - Learners count the specified number and place the same number of unifix cubes on their fingers.	Unifix cubes Number card that involve number 1 to 3 	1 day
	Semi-concrete using 2-D shapes or pictures Let the learners: - Identify flash cards with different numbers of pictures on them. - Identify flash card with the number symbol 3. - Link the number symbol 3 with the number of objects and the number of dots. - Link the number name with the number symbol card and the number of dots cards - Give each learner a number card that involves numbers 1 to 3. The teacher holds up a dot or picture card. The learners hold up the matching number card.	Different flash cards with a different number of pictures on each. Flash card with the number symbol 3 Flash card marked with 3 dots 	

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems (story sums) with solutions up to 3** **Oral:** Count everyday objects up to number 3. Count forwards and backwards up to 3. **Kinaesthetic** **Examples:** 1. Teacher calls 2 learners to the front. Learners count them. Teacher calls another 1 and asks: How many learners altogether?" 2 and 1 → 3. (The teacher says: 2 and 1 makes 3) 2. Teacher packs out 3 chairs. She doesn't add any more. How many chairs are there now? 3 and 0 → 3. 3. Teacher calls 3 learners to the front. Count them .She sends 2 learners' back. How many learners are left? 3 take away 2 → 1 **Concrete using 3-D objects** Give each learner 3 counters. As the teacher "tells the story" the learners pack the counters. **Examples:** 1. Anne has 2 oranges and Peter gives her another 1. How many oranges does Anne have now? 2 and 1 → 3 (The teacher says: 2 and 1 gives you 3). 2. There is 1 branch on the tree and another 2 branches grow. How many branches are on the tree now? 1 and 2 → 3. **Examples:** 1. A monkey has 3 bananas and eats 1. How many bananas does he have left? 3 take away 2 → 1. 2. There are 2 juicy apples on an apple tree. 1 apple falls off. How many apples are left on the tree? 2 take away 1 is → 1.	Number songs and rhymes. Chairs 3 Counters for each learner	1 day

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Create own repeating patterns using 2 objects** **Kinaesthetic** Learners sit in a circle. Chant word patters Example: *Sun, sky, sun, sky* *Banana, apple, pear, banana, apple, pear.* *Susan, John, Abby, Susan, John, Abby* *red, blue, blue, red, blue, blue etc.* *Waka, waka, eh, eh, waka, waka, eh, eh* **Concrete using 3-D objects** Let the learners: - Collect 3 of the same objects in the classroom e.g. 3 crayons - Collect another 3 objects that are the same in the classroom e.g. 3 Lego blocks - Learners create their own patterns using two objects e.g. - One crayon, one Lego block, one crayon …. - Two crayons, one Lego block, two crayons, one Lego block ….. - Allow learners to create patterns in different ways. - Swop their objects with a friend and repeat exercise.	Crayons Adhesive Any other objects	1 day

Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom including pictures** - **Triangle** • **Reinforce the knowledge gained in week 4 to recognise, identify and name the triangle** **Kinaesthetic** Draw, or use a rope to create the outline of a large shape of a triangle Let the learners**:** - Walk around the shape observing the features of the triangle. While walking let the learners say: "I am walking along the triangle. One, two, three sides or one, two, three corners (angles) - The teacher points out that the triangle has 3 "corners" and three sides. - Draw a triangle in the air and/or sand - Form a triangle with clay **Concrete using 3-D objects** Let the learners: - Recognise and identify objects in the classroom that have a triangular shape. - Recognise and identify objects in nature that have a triangular shape. - Place a variety of different size circles and triangles in a "Feely bag". Identify the triangle amongst other shapes. 	Clay or play dough Triangular object in the classroom and environment Make your own cards with 5 different circles, triangles and squares on them	1 day

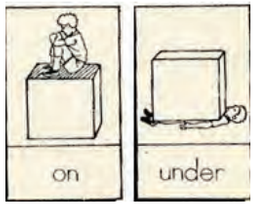
Week 13	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Sort 3-D objects and 2-D shapes** - Sort a variety of objects according to shape and colour.		1 day
	Semi-concrete using 2-D shapes or pictures Let the learners: - Identify the triangle shape in pictures. - Draw a triangle on a piece of paper. - Copy the triangle from a given card. - Draw a ring around all the circles on a worksheet. - Make pictures using triangles during visual art time. - Play card games that enhance the reinforcement of shapes.	Pictures in which a triangle can be identified. Card games that develop recognition of shapes such as “What’s in a square” Logi shapes etc.	

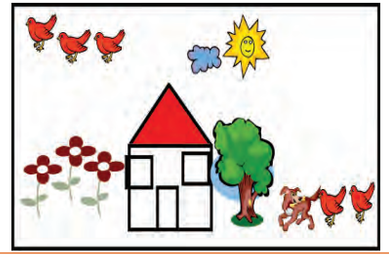
Week 14	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained that involves the numbers 3** **Oral:** Count everyday objects up to number 3. Count forwards and backwards up to 3. Rote counting 1-7 **Reinforce concepts of "many" and "few".** Clap your hands many times ...STOP. Clap your hands fewer times. The teacher claps up to 3 times	Number songs and rhymes.	1 day
	Concrete 3-D using objects Let the learners: - Find 3 objects in the class that are red. - Make a number 3 with clay. - Roll 3 big balls with clay. - Roll 3 small balls with clay - Find 3 learners in the class wearing the same colour.	Red objects. Clay	

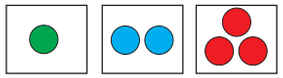
Week 14	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve and explain solutions to word problems (story sums) that involve the number 3** **Oral:** Count everyday objects up to number 3. Count forwards and backwards up to 3. **Kinaesthetic** **Examples:** 1. The teacher calls 2 learners to the carpet then calls one more learner. How many learners did teacher call to the carpet? Teacher says: 2 and 1 gives you 3. 2. There are three children. Each child wants his/her own crayon. How many crayons do we need? 3. Three children stand together. One leaves the room. How many are left? **Concrete using 3-D objects** **Examples:** 1. The teacher puts 3 counters on the table. She takes away 2 counters. How many counters are left on the table? Teacher says 3 take away 1 gives you 2. 2. Pat has 2 cats and gets another 1 cat from Busi. How many cats does Pat have altogether? 1 and 2 → 3. Teacher says 1 and 2 gives you 3. 3. If 1 cat has 1 tail, how many tails will three cats have altogether? 1 and 1 and 1 → 3	Learners Counters	1 day

Week 14	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Complete a given pattern with 2 objects** **Kinaesthetic** - Let the learners' copy an action pattern e.g. skip, skip, jump, jump, skip, skip, jump..... - Learners complete patterns using their bodies e.g. standing next to each other alternating hands on the head, hands on the hips, hands on the head ..... **Concrete using 3-D objects** - Let the learners copy an object pattern e.g. bead, bead, stick, bead, bead, stick	Any objects	1 day
	Semi - concrete using 2-D shapes or pictures - The teacher provides learners with a variety of already cut- out pictures of the same objects. (Cut pictures out during a Visual Arts activity) - The teacher starts a pattern and learners must copy the given pattern e.g. picture of coffee, tea, sugar… - Let the learners complete a pattern by drawing a: - Flower, leaf, flower..... - Blue circle, red circle, blue circle..... etc.	Pictures from advertisements. A4 Paper and crayons	

Week 14	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	• **Sorts and compares 3-D objects and 2-D shapes according to a certain attribute** **Concrete using 3-D shapes** Divide learners into 5 groups. - The teacher collects enough objects so that each group can sort them according to at least two attributes (It could be more). - Give each group objects of two attributes to sort. Let the learners: - Sort the objects according to things that are the same and different. **Semi-concrete using 2-D shapes or pictures** Keep learners in the same groups. - Compare and Sort different pictures collected by the teacher e.g. Pictures of a variety of clothing, food, furniture, transport etc. - Let learners complete a work sheet matching two pictures e.g. tooth paste and tooth brush, face cloth and soap.	Objects such as: Different clothing items Different fruit Different plastic farm animals Different geometric shapes Different building blocks Different Lego blocks Different objects from nature such as leaves, sticks, stones etc. Different buttons etc. Different colour of bottle tops Different crayons Collect pictures from magazines and flyers. Cut out and paste on cards.	1 day

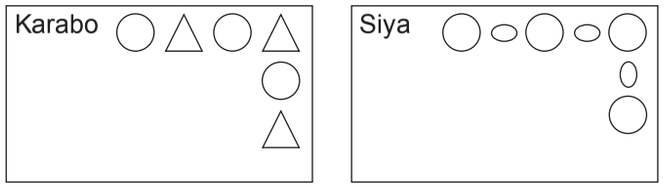
Week 14	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	• **The position of two or more 3-D objects in relation to the learner** - **Reinforce the concepts "on/ under" and "on top of"** **Kinaesthetic** Each learner sits on a chair. - Learners demonstrate on top and under by following the commands of the teacher e.g. sit on the box, lie under the box or table. - Sit under a table. Make yourself as small as you can under the table. - Stand on your chair and stretch as high as you can. - Get onto a table and swing your arms in big/small circles. Extend using bigger/ smaller. - Put a block on your head and climb on the table. - Choose five learners' using a number rhyme. - Whisper an instruction to each learner. o Sit with your hands under your legs o Stand with your hands on your hips o Stand with your hands behind your back o Sit with your hands on your shoulders o Stand with your hands crossed in front of you The learners stand in the front while the rest of the group is sitting on the carpet. Ask the learners: - What is the first learner doing? *(He/she is sitting)* - Where are his hands? *(His/her hands are under his/her legs)* - Repeat with the other learners using second, third fourth and last. - Select a new group to perform the same instructions - Take the learners outside and let them demonstrate the concepts of "on', "under", and "on top" by showing their own initiative.	Learners Box  	1 day

Week 15	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained involving the numbers 1, 2 and 3** **Oral:** Count everyday objects up to 3. Count forwards and backwards up to 3. Rote counting 1-7 **Reinforce concepts of "many" and "few"** Clap hands many times …… STOP Clap hands fewer times. Teacher claps up to 3 times.	Number songs and rhymes	1 day
	Kinaesthetic Encourage learners to discover: - 1 body part that can move up or down, to one side or the other side on its own e.g. the tongue. - 2 body parts that are used for jumping e.g. legs	Learners' bodies. Singing and acting out a song e.g. 'there were three in the bed and .....' Counting rhyme e.g. "One two, buckle my shoe".	
	Concrete using 3-D objects Let learners develop number sense by: - Using 3 blocks to build a tower. - Finding 3 objects in the classroom that are red. **Semi-concrete using 2-D shapes or pictures** Teacher draws a simple picture - The teacher poses questions related to the number of objects in the picture e.g. How many windows do you see etc.?	Blocks Red objects 	

Week 15	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.2 **Count forwards and backwards**	• **Use numbers 1, 2 and 3 in familiar contexts** **Oral:** Count everyday objects up to 3, Count forwards and backwards up to 3. **Reinforce concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 3 times. - Encourage learners to memorize their house number and street address **Semi-concrete using 2-D shapes or pictures** Let the learners: - Look for pictures of the number 1, 2 and 3 from magazines and flyers and paste them on paper.(Integrate with visual Arts) - Match the number of objects to the number of dots on a flash card. - Show a dot card. Learners throw the same number of bean bags into a box - Play the board game "Snakes and Ladders" and dominoes.	Number songs and rhymes Magazines, Adverts Flash cards with dots  Bean bags "Snakes and Ladders" board game Dominoes	1 day

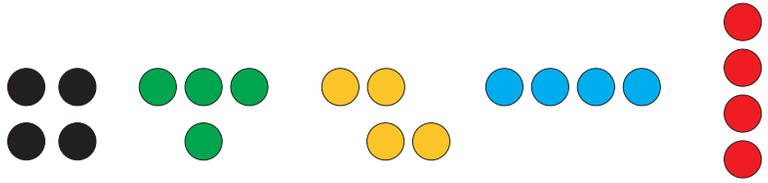
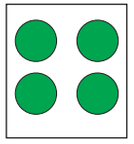
Notes:
Numbers are all around us:
- Each house has a number
- We all have different telephone numbers
- We see numbers in shop windows.
- We see numbers on different products when shopping
- We see numbers on motor cars

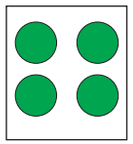
Week 15	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using ''more than, less than" and "equal to'' up to number 3** **Kinaesthetic** Call three learners to the front. Let them sit in a circle. - Let two learners stand. How many are sitting? Count them. How many are standing? Count them. Which number is more/most, which number is less/least? - Let three learners stand. Count them. Which number is most/least? Let one more stand. Count them. Are the learners sitting more than the learners standing? - Repeat with numbers 1 to 3. - Count the girls. Count the boys. Are there more boys than girls? **Concrete using 3-D objects** Divide learners into 5 groups Provide each group with a piece of string/wool and ±5 objects. Learners form a nest with the wool. - Teacher whispers to each group asking them to make a group of 3 or 2 or 1 object(s) in their "nests" - Learners must identify which group has more than 1 object. - Which group has less than 3 objects? - Which group has the same number of objects?	String 5 Objects per group	1 day

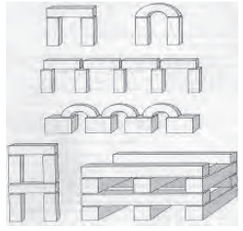
Week 15	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Copy and complete a given pattern according to the colours red, blue, yellow** **Kinaesthetic** - Teacher acts out a pattern. Repeats it and keeps the rhythm e.g. o Clap, snap (fingers), clap, snap o Snap, clap, stamp, snap, clap, stamp o Clap, snap, snap, clap, snap, snap **Concrete using 3-D objects** The teacher provides each learner with 3 red, 3 blue and 3 yellow counters or bottle tops Let the learners: - **Copy** a given pattern from the teachers pattern e.g. red, red, blue, yellow, yellow (Repeat several times with a different pattern) - **Comple**te a given pattern e.g. blue, yellow, red……..(Repeat several times with a different pattern) - Let the learners sort counters according to the three different colours.	Each learner receives 3 red, 3 blue and 3 yellow counters or bottle tops	1 day
	Semi-concrete using 2-D shapes or pictures - Give each learner a piece of paper - Let learners complete a 2-D shape pattern as a border. - Complete the picture during visual arts time by drawing a picture in the middle. 	A4 paper for each learner. Crayons	

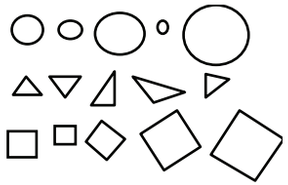
Week 15	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 Length	**Concretely compares and orders objects using appropriate vocabulary to describe length** - **long, short,** - **longer, shorter,** - **longest, shortest,** **Kinaesthetic** - Let one learner lie on the floor and the rest of the learner's place the blocks in a line alongside his/her body. - The teacher asks the rest of the class/group to build something that is shorter than their friend and longer than their friend.	Building blocks	1 day
	Let the learners determine: - Which structure is longer? - Which structure is the longest? - Which structure is shorter? - Which structure is the shortest?		
	Let learners arrange a variety of materials: - From longest to shortest - From shortest to longest - Let the learners compare the lengths of different objects. The teacher provides learners with pieces of wool or string. Encourage learners to estimate before measuring. Let the learners measure: - Each other's heads. - Each other's feet. - Their own ankles. - Their own wrists. - Let the learners compare the different lengths by seeing which piece of string is longer or shorter e.g. string measure around my head is longer than the string measure around my wrist. - Let the learners determine whether their estimations were correct.	String Rope Strips of material Crayons of different lengths Wool or string Learners	

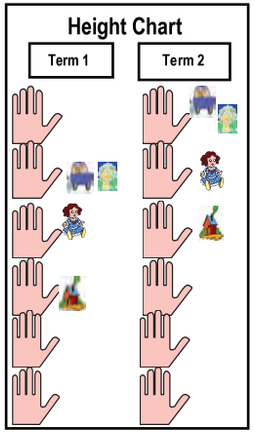
Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 4** **Oral:** Count everyday objects up to 4. Counts forwards and backwards up to 4. Rote counting 1-7	 Counting rhymes and songs Learners' bodies	1 day
	Reinforce concepts of "many" and "few". Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times. **Kinaesthetic** Let the learners: - Nod their heads 4 times. - Make the number 4 using their bodies. Learners determine how many children they would need. - Learners close their eyes. Teacher taps on the table 4 times. They open their eyes and say how many taps they have heard. Repeat with numbers 1 to 4.		

Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects** Let the learners: - Make a number 4 with play dough. - Find 4 friends who are wearing shoes. - Find 4 objects that are round. - Blindfold learners and let them identify the numbers 1 to 4 by feeling/tracing the tactile number cards. - Develop an awareness of number conservation by letting learners pack four counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 4 buttons, 4 pencils, 4 hoops, 4 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up **Semi-concrete using 2-D shapes or pictures** Let the learners: - Look for 4 pictures and paste the pictures on paper. - Match the number of objects to the number of dots on a flash card. - Identify the flash card with four dots.	Play dough Objects that are round Make a set of **tactile number cards** by cutting out numbers from sand paper and pasting them on separate pieces of card board. If you laminate these cards learners could also use them to form a clay number on the card. 4 Counters or 4 objects for each learners Magazines, flyers, advertisement A4 paper and glue **Picture of 4 objects** 	1 day

Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Use the number 4 in familiar context** - What does the number four make you think of? Car - four wheels Chair - four legs Dog - four paws Table - four legs - To develop memory, encourage learners to memorise their house number and address **Concrete using 3-D objects** - Give opportunity to play number card games available in your class **Semi-concrete using 2-D shapes or pictures** - Show the number symbol 4 card Play games such as: - If your house number has a 4 in it, clap 4 times. - Find a friend in the class who has the same house number as you. (Learners ask friends their house number) - Whose house number is more than 4? - Show learners a flash card with four dots. - Identify the flash card with four pictures on.	Learners' home addresses Learners **4** Any available number card games **Picture of 4 objects**  flash cards with 4 pictures and 4 dots	1 day

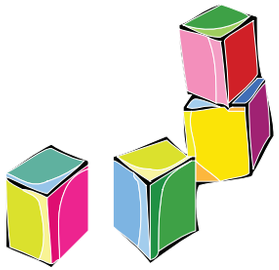
Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.2 **3-D objects**	• **Explore the possibilities of building blocks** Let the learners: - Use any four blocks to build a construction. - Build a structure that is 3 blocks high and 5 blocks across. - Use as many blocks as they need to build a train. - Identify who built the longest train. - Build a high tower (Vertical). - Build a flat construction e.g. a road or a house (horizontal) - Identify who built the highest tower. - Provide building blocks during free play indoors for learners to continue exploring building blocks.	Building blocks e.g. 	1 day
3.3 **2-D shapes**	• **Develop the ability to distinguish between shapes in our environment, regardless of their size or angle sizes** - **Shape conservation (form constancy)** **Kinaesthetic** Let the learners in groups of 3: - Lie on the floor and make a triangle with their bodies. Point out that although each group's triangle shape looks different, the shape still remains that of a triangle. - The teacher draws different triangles on the floor/ground e.g.  - Learners walk along the sides of the shapes and experience the different angles with their bodies **Concrete using 3-D objects** - Use 7 twigs and place them in a straight line 	Learners 7 Twigs for each learner	1 day Only select one kinaesthetic, concrete and semi-concrete activity

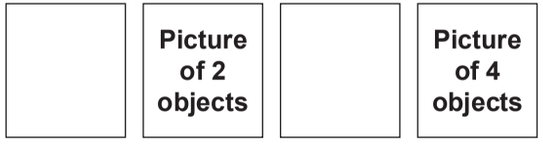
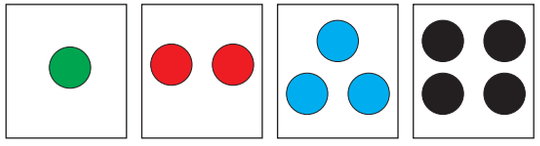
Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	- Use twigs to make a curved line.  - Use twigs to make a zigzag line.  - Use the twigs to make a triangle.  - Point out that each learner's triangles are not identical but the shapes are all still triangles.		
	Semi-concrete using 2-D shapes or pictures The teacher draws 5 different circles, triangles and squares on a flash card e.g.  The teacher divides the learners in groups. Let the learners: - Recognise the triangle flash cards from amongst the other shape	Cards with 5 different circles, triangle and squares on them	

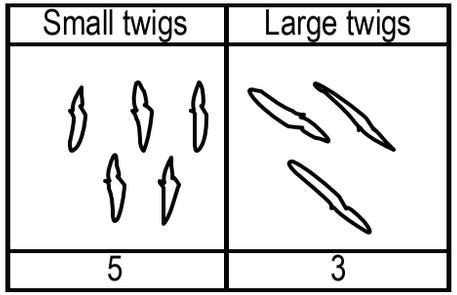
Week 16	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 **Length**	**Concretely compares and orders objects using appropriate vocabulary to describe length** - long, short, - longer, shorter, - longest, shortest, - short, shorter, shortest - tall, taller, tallest **Reinforce the concept of length** **Kinaesthetic** Let the learners: - Explore length by comparing objects with one another. - Identify which object is the longest and which object is the shortest. - Compare the height of two learners and identify which learner is short and which one is tall - Compare the height of more than two learners and ask questions such as "Which learner is shortest, and which learner is tallest. - Teacher measures learners again using the height chart from the first term. - The teacher leaves last term's recordings (hands with learners symbol/photo) so that they can compare the two measurements. - Learners discover whether they have grown since the last term. - Who did not grow at all? - Who grew the most since the first term? e.g. o Sipho grew one hand span taller. o Abby's height remained the same	Pencils, rope, string, pegs, etc. Hands-span height chart 	1 day

Week 17	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained of the meaning of the number** 4 **Oral:** Count everyday objects up to 4. Count forwards and backwards up to 4. **Reinforce concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times.	Number songs and rhymes	1 day
	Kinaesthetic Let the learners: - Trace the number 4 in the air using their finger. - Sing song e.g. 'Four green bottles hanging on the wall....' - Turn around 4 times.		
	Concrete using 3-D objects Let the learners develop number sense by: - Drawing the number 4 in sand. - Finding 4 3-D objects that can roll. - Building puzzles with 4 pieces. **Semi-concrete using 2-D shapes or pictures** - The teacher selects 4 name flash cards. The teacher flashes a name and then a picture of a toy or an animal. - The learner whose name was flashed reacts by making the noise the toy made. - Repeat until all four names were flashed. - Ask how many learners' names did I flash? How many toy/animal pictures did you see?	Flat baking tray/box with sand 3-D objects that can roll 4-Piece Puzzle Card with a picture of a toy Cards with a picture of an animal	

Week 17	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Knows the number symbol and recognises the number name of the number 4** **Oral:** Count everyday objects up to 4. Count forwards and backwards up to 4.	Number songs and rhymes	1 day
	Reinforce concepts of "many" and "few". Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times. **Kinaesthetic** - Write the number four in the air, on the floor and on your friends back - Hold up 4 fingers - Teacher plays a drum. When drum stops, learners form groups of four.		
	Semi-concrete using 2-D shapes or pictures - Show learners the flash card with the number symbol 4. - Identify the number name on number flash cards. - Link the number name to the same number of objects.	Flash card with number symbol Flash card with number name four 3-D objects 	

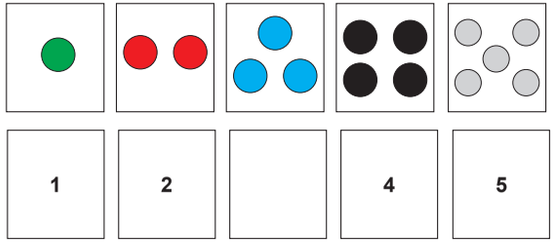
Week 17	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve and explain solutions to word problems (story sums) that involve the number 4** **Concrete using 3-D objects** **Examples:** 1. Teacher gives you 2 blocks and you already have 2 blocks. How many do you have altogether? 2. If you have 2 blue circles and 2 red circles, how many circles do you have all together? 3. Sipho has 4 crayons and Joy has 1 crayon. Who has more crayons? 4. If Jody has 4 dolls and she lost 1, how many dolls will she have left? Divide learners into groups. - Give each group a heap of objects e.g. pencils, crayons, cups, shapes. Let the learners share the objects received between each group member (one-to-one correspondence) - Ask questions such as: "Are there any objects left?" - (The teacher must ensure there are more objects than the number of learners in a group. Remove objects to demonstrate equal sharing as well)	 Blocks Crayons Blue and red circles Dolls Enough objects (one for each learner) such as pencils, crayons, cups, shapes	1 day

Week 17	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using ''more than, less than'' and "equal to'' up to number 4** Divide learners into groups - The teacher provides each group with 4 counters and two pieces of wool. Let the groups: - Form two circles (sets) with the wool. - On the teachers instruction they place counters in each set. - Group members identify which set has more counters than the other? (more than) - Which circle has fewer counters than the other? (less than) - Which circle has the same number of counters as the other? (equal) **Semi-concrete using 2-D shapes or pictures** Arrange a set of picture cards in the correct order e.g.  Arrange a set of dot cards in the correct order e.g.  - Ask questions such as "Which card has more objects/dots? - Which number is more than 2 etc?	Wool /string 4 counters	1 day

Week 17	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
5.1 **Collect and sort objects**	• **Develop the process of data handling** **Concrete using 3-D objects** - Let the learners collect 9 twigs. - Sort twigs according to small and large size.	Learners make own collection of twigs	1 day
5.2 **Represent sorted collection of objects**	**Draw graphs to display data** **Semi-concrete using 2-D shapes or pictures** - Make a pictograph with the twigs. - The learners pack the twigs on the pictograph according to size i.e. small and large.  	Worksheet pictograph. The teacher designs an A4 paper with the relevant columns for each learner	
5.3 **Discuss and report on sorted collection of objects**	**Read and interpret graphs** • Talk about the results by asking questions e.g. “How many small twigs are there? How Many large twigs? Which are most/least?		

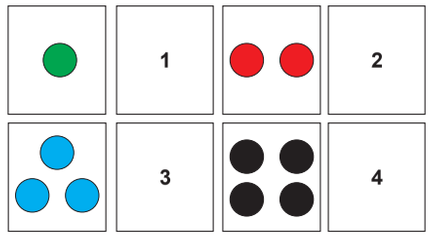
Week 18	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained involving the numbers 1, 2, 3 and 4.** **Oral:** Count everyday objects up to 4. Count forwards and backwards up to 4. Rote counting 1-7 **Reinforce concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times. **Kinaesthetic** Let the learners: - Trace the number 1 in the air using their finger. - Learners touch their head 2 times. - Shake hands with 4 different learners. - Blindfold learners and let them identify the numbers 1 to 4 by feeling/tracing the tactile number cards. **Concrete using 3-D objects** Let the learners: - Draw the number 1 in sand. - Find 3 of the same objects. - Jump on the spot 2 times.(twice) - Build puzzles with 4-pieces and more.	Number songs and rhymes Tray/box with sand A set of tactile number cards Objects Learners 4-Piece Puzzles	1 day
1.11 **Money**	• **Recognise and identify South African coins** **Concrete using 3-D objects** - Make the learners aware of the different animal and plant pictures on each coin. - The application of money can be applied in the Life Skills corner where learners can play shop. Through play learners are exposed to the different coins.	5c,10c,20c,50c,R1,00,R2,00 and R5,00 coins (play money or real money)	1 day

Week 18	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	**Solves orally stated addition and subtraction problems with solutions up to 4** **Oral:** Count everyday objects up to 4. Count forwards and backwards up to 4. Rote counting 1-7 **Reinforce concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times. **Kinaesthetic** **Examples:** 1. Teacher calls 1 learner to the front of the classroom. She then calls another 3 learners. How many learners has she called altogether? 2. Teacher packs out 3 counters. She adds another one. How many counters are on the table? 3. Learners stand in the front of the classroom. Teacher asks one learner to sit down. How many learners are in the front of the classroom now? 4. Busi has 4 pencils. He gives Justin 2 pencils. How many pencils does Busi have left?	Number songs and rhymes Learners Counters Pencils Make use of a variety of resources to give you ideas of how to apply different strategies.	1 day

Week 18	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using ''more than, less than" and "equal to" up to number 4** **Concrete using 3-D objects** - The teacher provides each member of the group with a certain number of crayons. - Group members must identify which learner has more crayons than the other learners. - Which learner has fewer crayons than the other learners? - Which learners have the same number of crayons? **Semi-concrete using 2-D shapes** - Arrange a set of number cards that involves the numbers 1 to 5 in the correct order e.g.  - Ask questions such as "Which card has more objects/dots? - Which number is more than 2? etc.	Crayons Dot and number symbol cards	1 day

Week 18	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric pattern**	• **Copy and complete a given pattern with coins** **Copy a given pattern** - Teacher sets up a pattern using " play money" e.g. 5c, 5c, 5c, 10c, 10c,10c,20c, 20c, 20c Let the learners: - Copy several patterns created by the teacher. **Complete a given pattern** Let the learners: - Complete several patterns created by the teacher e.g. o 5c, 5c, 10c, 10c,…… o 5c, 10c,…… o 10c, ,20c…….etc	Play money or real money (5c,10c,20c)	1 day

Week 19	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained that involves the numbers 1, 2, 3 and 4.** **Oral:** Count everyday objects up to 4. Count forwards and backwards up to 4. Rote counting 1-7 **Reinforce concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 4 times. **Kinaesthetic** The teacher holds up a number card with the number symbol 3 and says to learners: - I need so many boys. - Holding up the number 2 saying, I need so many girls. - Form groups of (holding up a number 2). - Repeat activity with cards that involve number 1-4	Number songs and rhymes Number symbol cards that involve numbers 1 to 4 e.g. 3	1 day
1.16 **Mental mathematics**	**Mental Mathematics** The teacher holds up the number card 3 and asks learners: - Which number is this? - Which number comes before the number 3? - Which number comes after the number 3? - Repeat with numbers 1 to 4 - Can you show me a picture card that has the same number as the number of dots on this card?	Set of picture and dot cards that involve numbers 1 to 4	

Week 19	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.16 **Mental mathematics**	**Concrete using 3-D objects** - Teacher claps rhythmically and slowly to represent a number. The learners have to take out so many beads and show them. E.g. 4 beads - Let the learners put 1, 2, 3 or 4 beads in front of them. - Ask learners to show how many beads they have by matching their number of beads with the same number flashcard e.g. 4 beads with number symbol 4. - Let them find a learner who has the same number of beads. **Semi – concrete using 2-D shapes or pictures** The teacher holds up the dot number card of the number 2 and asks learners: - How many dots are on this card? - Which number do these dots represent? - Which number comes after this number? - To draw the same number of dots on their papers	4 Beads per learner Flash card of numbers 1,2,3 and 4 Flash cards with dots 	

Week 19	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems (story sums) with solutions up to 4** **Kinaesthetic** - Call 3 learners to the front. Count them - Call 1 more learner.' How many altogether? 3 and 1 → 4 (three and one give 4) - Send 3 learners back to the carpet. How many learners are there now? 4 take away 3 → 1 Divide learners into groups. Ask questions like: - How many noses do you see in your group? - How many mouths? - How many bodies: - Between two learners, how many eyes are there? - Between two learners, how many legs are there? **Concrete using 3-D shapes** Examples: 1. Lindiwe's dad has a car. How many wheels does his car have? 2. If 1 wheel is flat and taken off the car, how many wheels are left? 3. A hen has 4 chicks. Two of the chicks get lost. How many chicks are still with the hen? 4. The mother hen finds her two lost chicks. How many chicks does she have now?	Counters Make use of a variety of resources to give you ideas of how to apply different strategies Counters	1 day

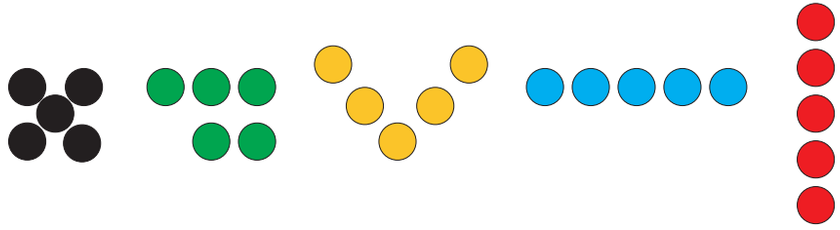
Week 19	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using ''more than, less than" and "equal to'' up to number 4** **Kinaesthetic** - Teacher places various objects on a table for example, 2 crayons, 4 of the same blocks, 3 tins, 2 books. Let the learners: - Count the number of crayons and the tins. Are there more crayons or more tins? - Count the number of blocks and the books. Are there fewer blocks than books? Are there more blocks than books? - Count the books and the crayons. Are there an equal number of objects or not?	Crayons, blocks, tins, books.	1 day
	Concrete using 3-D objects - Let the learners sit on the carpet and provide each learner with a number of counters. - Learners should each have a different number of counters. - Let the learners put the counters out in front of them. The teacher asks the learners: o Who has the most counters? o Who has the least counters? o Which learners have the same number of counters?	Counters Teacher gives each learner a different number of counters up to 4	
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom and in pictures** • **Make and complete own 4 piece puzzle** (Integrate with Visual Arts) Let the learners: - Draw a picture on an A4 paper. - The teacher draws the lines on the back of the learner's drawing. - The learner cuts his/her picture on the given lines. - The learner completes/builds his/her own puzzle.	Learners own drawings 	1 day

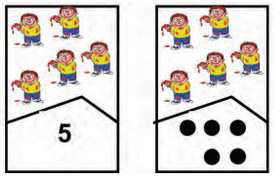
Week 19	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.1 **Time**	• **Develop an awareness of what happens between suppertime and bedtime** (Integrate with Beginning Knowledge topics in Life Skills) Let the learners: - Talk about what they do after they have had supper. - Talk about what happens at home after suppertime. The teacher asks: - ‘’Do you come to school in the morning or evening?” - If Peter gets to school after the bell has rung, is Peter late or early for school? - Where is the sun at night?”	Pictures that show what happens from suppertime to bedtime.  	1 day
	Semi-concrete using 2-D shapes or pictures - Learners draw a picture to show any event after supper. - Provide puzzles that reflect the sequencing of events and/or activities.	Paper and crayons	

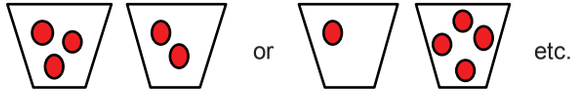
Week 20	Use Week 20 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Numbers, Operations and Relationships	**1.1** **Count objects**	Estimates and rote counts up to 7 (number songs and rhymes included to develop number concepts)
		Counts backwards and forwards (1-4)
		Understands the concepts “many and few” (clapping)
		Recognises numbers in familiar context - e.g. house number, address register
		Identifies number pictures and dot cards
		Knows the number symbols 1, 2, 3 ,4
		Recognizes the number names two, three and four
		Understands one-to-one correspondence (Helpers’ chart during refreshment time)
		Distinguish between more, less and equal, many and few up to 4
		Recognises the different South African coins
	1.6 **Problem solving techniques**	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects
	1.7 and 1.13 **Addition and subtraction**	Orally solves addition and subtraction problems up to number 4
Patterns, Functions and Algebra	**2.1** **Geometric patterns**	Copies, extends and creates own patterns (objects, shapes and coins)

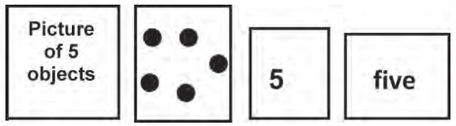
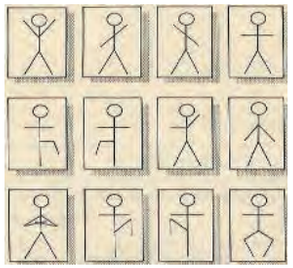
Week 20	Use Week 20 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Space and Shape (Geometry)	**3.1 Position, orientation and views**	Understands the position of two or more objects in relation to the learner On, under
	3.2 2-D shapes	Builds at least a 12 piece puzzle
		Shows the ability to distinguish between objects in the “foreground and background” (assess again)
		Recognise, identify and names the triangle
		Understands form constancy of triangle (Shape conservation)
	3.2 3-D objects	Compares which of two given collection of objects are long, longer; short/shortest
		Sorts objects in Size – long and short
		Colours - (red, yellow, blue and green)
		Shapes
		Explores with building blocks
	3.4 Symmetry	Recognises line of symmetry in self and own environment
		Able to cross the mid-line
Measurement	**4.1 Time**	Understands the days of the week, seasons and weather chart (Songs and rhymes - assess again)
		Knows own birthday (assess again)
	4.2 Length	Distinguish between longest, shortest, longer, shorter (Height chart)
Data Handling	**5.1 Collect and sort objects**	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute
	5.2 Represent sorted collection of objects	
	5.3 Discuss and report on sorted collection of objects	

TERM 3 MATHEMATICS GRADE R			
Week 21	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 5** **Oral:** Count everyday objects up to 5. Count forwards and backwards up to 5. Rote counting 1-10 **Reinforce ordinal counting**: Teacher packs 3 objects in a row. Point at each object while counting *first, second, third.* **Reinforce the concept of "many and few".** Clap hands many times …… STOP Clap hands fewer times. Teacher claps up to 5 times. Ask question which number of claps was most/least.	Number songs and rhymes Counting rhymes and songs e.g."Five little monkeys jumping on the bed". 3 objects	1 day
	Kinaesthetic Encourage learners to discover the number 5 by: - Clapping their hands 5 times. - Finding out how many learners in the class are already 5 years –old.		

Week 21	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.16 **Mental Mathematics**	**Mental Maths** - The teacher claps her hands rhythmically and slowly to represent a number e.g. 5. The learners have to take out the same number of counters (5) and show them. - Learners pack 5 counters out in a row and count them. - Teacher asks: - What number comes before the number 5? - What comes after 4 etc? - If you have 5 apples and you give 2 apples away. How many apples will you have left? - Show me 5 fingers. - How many toes do you have on 1 foot? **Concrete using 3-D objects** Learners develop number sense by: - Making a number 5 with play dough. - Picking up 5 leaves. - Counting objects and linking them with counters. - Develop an awareness of number conservation by letting learners - Pack five counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 5 buttons, 5 pencils, 5 hoops, 5 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up	Counters in a container Clay or play dough Leaves	1 day

Week 21	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Develop memory and encourage learners to memorise their house number, address and telephone number** Play games such as: - The teacher says a house number, address or telephone number of a learner. The learner whose number or address it is must respond. - When completing the attendance register the teacher may ask questions such as: "Is the learner with the telephone number 435-6256 here today?" "Is the learner that lives in Mandela Drive 123 here today?" - Learners use number symbol flash cards to pack their house number or telephone number in sequence even if not successful. - Role-play conversations on a play telephone. Learners phone someone special. Integrate with Performing Arts (drama) in Life Skills	The telephone number should be the contact number of the parent or guardian and could be a cell phone number Attendance register Number symbol flash cards or large number symbols made from cardboard Play telephone	1 day
	Semi –concrete using 2-D shapes or pictures The teacher shows learners: - Different types of media where she can find a number 5 e.g. birthday cards, newspapers, magazines, flyers etc. - The flash card with 5 dots and the flash card with 5 pictures. - Let the learners link the picture flash cards with the dot cards and with the same number of counters or objects. - Make number puzzles that involve the number 5 e.g. 	Birthday cards Newspapers , magazines Flash card with 5 dots Flash card with 5 pictures Objects Counters 	

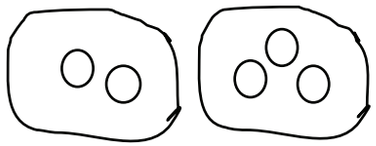
Week 21	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Know the number symbol and recognise the number name that involve the number 5** **Oral:** Count everyday objects up to 5 Count forwards and backwards up to 5 Rote counting 1-10 **Kinaesthetic** - Let the whole class sit in a circle. - Number the learners according to a pattern. 1, 2, 3, 4, 5. 1, 2, 3, 4, 5. 1, 2, 3, 4, 5. - Ask questions such as; "Who will be the next number 5? "Who will be the next number 4? - How did you solve the problem? - (Learners solve the problem in a practical way predicting the next number by counting on)	Number songs and rhymes	1 day
	Concrete using 3-D objects - Use the tactile number cards that involve numbers 1 to 5. - The learners close their eyes and feel the number five using their fingers amongst other number symbols. Give learners 5 counters each and two plastic cups or two egg containers. - Ask the learners: "How many different ways can you arrange the five counters into two baskets?  or etc.	Tactile number cards with number 5	

Week 21	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
	Semi-concrete using 2-D shapes or pictures Let the learners: - Identify the flash card with 5 pictures on it. - Identify the flash card with 5 dots on it. - Identify the number symbol 5 anywhere displayed the classroom. - Identify the number symbol on the flash card. Recognise the number name on a flash card. - Link the number of counter with the number name and number symbol by packing a counter on each picture and dot card.	Flash cards with pictures, dots , number symbol and number name 5 Counters 	
3.4 **Symmetry**	• **Reinforce the line of symmetry in self by performing actions that encourage the crossing of the mid-line** **Kinaesthetic** Let the learners: - Play follow-the leader where learners copy positions from the chart. - Play “follow the leader” where the teacher demonstrates a position and the learners copy him/her.(Include actions where learners cross the mid-line e.g. touch right knee with left hand) - Play “follow the leader” where a learner demonstrates a position and the rest copy him/her. - The teacher demonstrates “star jumps” and the learners are encouraged to perform the same actions **Concrete using 3-D objects** Let the learners: - Place a beanbag on the left, right, in front and behind his/her body. - Use his/her left hand and place a bean bag on the right side of his/her body. - Stretch to cross the mid-line. - Repeat action with right hand. Integrate this activity with Physical Education in Life Skills		1 day Thereafter on a continuous basis during free play and physical development activities

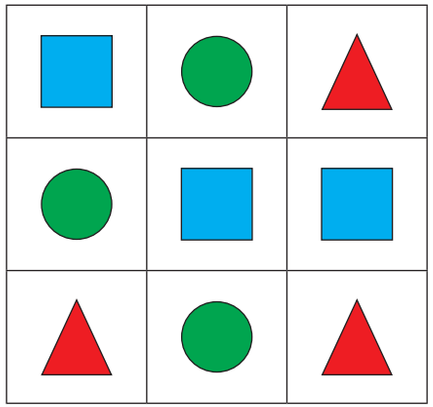
Week 21	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 **Length**	• **Estimate and measure the length of different objects using feet, hands, a piece of string, a stick etc.** **Kinaesthetic** Let the learners: - Compare the length of their feet and hands. - Learners estimate which object is long and which one is short by measuring them with their feet or hands e.g. the table or the broken piece of hose from home. - Estimate which object is the longest or shortest e.g. A footpath or a row of bricks. - Let learners guess which would be longer e.g. the classroom or the teachers' staff room? - Pose question such as: "Which is longer/longest, the pencil or the piece of string?" etc	Objects with different lengths which can be measured with a hand or a foot e.g. Ruler, table, door, a row of bricks, one pole of the soccer goal post, classroom, library etc.	1 day

Week 22	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained that involves the number 5** **Oral:** Count everyday objects up to 5 Count forwards and backwards up to 5 Rote counting 1-10 **Reinforce the concepts "many and few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 5 times Ask question:"Which number of claps was most/least.?" **Kinaesthetic** Encourage learners to discover the number 5 by: - Showing 5 fingers in the air. - Finding 5 objects that are red, blue yellow, green. - Finding 5 objects that look like a circle, square, triangle. **Concrete using 3-D objects** Let the learners develop number sense by: - Fetching 5 books in the book corner - Building a tower with 5 unifix cubes or building blocks.	Number songs and rhymes e.g. Counting rhymes and songs e.g. "1,2,3,4,5 once I caught a fish alive" Counters Books Building blocks or unifix cubes	1 day

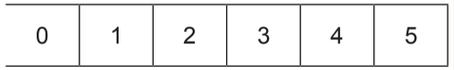
Week 22	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve word problems (story sums) and explain solutions to problems that involve the number 5** **Kinaesthetic:** - Call 5 learners to the front. Share 5 chairs equally between the five. - Take one chair away. Now share the chairs between the five. One learner remains without a chair. - Start at 5. Count backwards. Start at 3. Count to 5. Start at 1. Count to 4 etc. **Concrete using 3-D objects** **Examples:** 1. Show 1 finger on your one hand and 4 fingers on your other hand. How many fingers altogether? 2. Sam has 4 biscuits. Mpho gives him 1 more. How many biscuits does Sam have altogether? 3. One cat has two ears. How many ears do two cats have? 4. Tiny has 5 stones and gives all 5 stones to Mia. How many stones does Mia have? 5. Jan has 5 marbles and loses 2. How many marbles does he have left? 6. Song, “Five green bottles hanging on a wall, ending with zero” (Point out that the bottles become less).	Counters Marbles Song	1 day

Week 22	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Compares which of two given collection of objects are more than, less than, equal to, up to number 5** **Oral:** Count everyday objects up to 5 Count forwards and backwards up to 5 Rote counting 1-10 **Reinforce the concepts of "many" and" few".** Clap your hands many times……STOP Clap your hands fewer times. The teacher claps up to 5 times. Ask question: "Which number of claps was most/least? **Kinaesthetic** - Teacher places various objects on a table for example, 2 mugs, 5 of the same blocks, 4 tins, 2 books. Let the learners: - Count the number of mugs and tins. Are there more mugs or more tins? - Count the number of blocks and the books. Are there fewer blocks than books? Are there more blocks than books? - Count the books and the mugs. Are there an equal number of objects or not?	Number songs and rhymes 2 mugs, 5 of the same blocks, 4 tins, 2 books.	1 day
	Concrete using 3-D objects - Learners sit on the carpet and make two "nests" with the wool - The teacher gives an instruction e.g. the learners place 2 counters in one nest and 3 in the other nest. Which nest has more? Which nest has fewer? - The teacher calls 5 learners to the front. She puts a different number of beads in each of the learner's hands. - Which hand has more in it? - Which hand has less in it? **Semi-concrete using 2-D shapes or pictures** - The teacher shows two cards with a different number of dots and pictures on them. - Let the learners compare cards with pictures and dots on them and identify the "more than", "less/fewer than" and "equal to" concepts.	Two pieces of wool for each learner 6 counters for each learner  Beads Picture cards and dot cards involving numbers 1 to 5	

Week 22	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Reinforce the copying of a given pattern** **Kinaesthetic** - Work in groups and copy a given pattern e.g. learner, chair, learner, chair. - Two learners, one chair, two learners, one chair. - Stamp one foot, stamp other foot, hop forwards, hop backwards - Concrete using 3-D objects - The teacher creates a pattern using counters and bottle tops e.g. counter, counter, bottle top, counter, counter, bottle top. Learners copy the pattern. - Move slow, slow, quick, quick. (Teacher talks while moving) Learners copy the pattern. **Semi-concrete using 2-D shapes or pictures** - Divide learners into five groups. Give each group pictures to make patterns with. - The learners creates own picture pattern using the provided pictures e.g. o Orange, Apple, Apple, Orange. o Butterfly, Butterfly, Bee, Bee. This activity could be integrated with Visual Arts in Life Skills	Learners Chairs Counters Bottle tops Any available pictures e.g. advertisements from “Spar” / “Pick and Pay” etc.. Duplicate the pictures to ensure you have enough.	1 day

Week 22	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom and in pictures** • **Reinforce the knowledge gained in week 6 that involves a square** Integrate with Physical Education in Life Skills **Kinaesthetic** - Draw a square on the play ground and let the learners skip all along the square. Let learners say: "I am skipping along the square – one side, two sides, three sides, four sides – all the sides the same" - Let learners lay head-to- toe on the grass/floor/carpet to form one big square. - Let groups of learners lie down on the carpet and form smaller squares. **Concrete using 3-D objects** - **Game:** The teacher draws a grid on the play ground. - Place actual shapes e.g. Logi shapes, or shape pictures into each block. - The teacher calls a shape. - The learners throw a beanbag into the block that correlates with the called out shape. **Semi- concrete using 2-D shapes or pictures** Learners must differentiate between the different **sizes** and **colours** of squares the teacher has prepared. Let the learners: - Identify the squares according to the different sizes by saying which squares are the biggest, which are the smallest and which squares are medium sized. - Identify the colours of the different squares. **Sort objects according to shape, size and colour** • Sort a variety of objects according to colour and shapes	Square on the floor/ground  Beanbag 2 large cardboard squares one blue and one green 2 slightly smaller cardboard squares one blue and one green (medium) 2 cardboard squares that are the smallest, one blue and one green	1 day

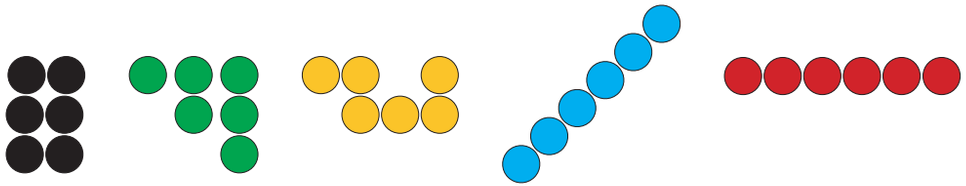
Week 23	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained involving the numbers 1 to 5** **Oral:** Count everyday objects up to 5. Count forwards and backwards up to 5. Rote counting 1-10 **Reinforce the concepts of " many and few"** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 5 times. Ask question which number of claps was most/least. **Kinaesthetic** Let's play a game: - The teacher plays an instrument e.g. a drum. - The learners move around. - When the drum stops beating, the teacher calls out a number between 1 and 5. - The learners arrange themselves into small groups e.g. the teacher calls out 3 and learners arrange themselves into groups of 3. • **Concrete using 3-D objects** - The teacher places objects in a pile on the table. Let learners estimate how many objects are in the pile. - Count them afterwards.	Number songs and rhymes A drum	1 day Select only a few activities

Week 23	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.6 **Problem solving techniques**	**Let's play a game:** The teacher creates a number ladder on the floor or ground. The number on the number ladder represents the number of the house the learner lives in. The teacher selects learners using a counting rhyme and gives instructions such as: - Always stand on the zero or start at the zero. Point out that zero means "nothing" and that counting actually starts at 1. - Always count while moving. - The teacher says to the learner: "You are at house number 2, which house comes after number 2?" - Further instructions could be: "Move to house number 3. Move back to house number 2. Move forward to house number 4." - The teacher says: "I am at number 3, which house comes after mine?" - Move to house number 4. Move 1 number forward. Move 2 numbers backward. - Stand between house number 3 and 5.	 Counting rhyme: 1, 2, 3, 4, 5, Once I caught a fish alive 6, 7, 8, 9, 10 Then I let it go again	
1.4 **Describe, compare and order numbers**	• **Use the number 5 in familiar context** In order to develop memory, encourage learners to: - Memorise their mothers' or fathers' telephone number. - Memorise their home address. - The telephone/cell phone numbers should be repeated during the control of the daily attendance register.	Mother's or father's telephone number and home address	1 day
3.2 **3-D objects**	• **Build 3-D objects using concrete materials** - Let learners build from the teacher's example. She gives the following instructions: - Build a tower that is the same height as mine. - Build a tower that is lower (shorter) than mine - Build a tower that is higher (taller) than mine. - Let learners build own construction by copying from a given construction example.	Building blocks/ Lego blocks Any other construction equipment.	1 day Then ongoing

Week 23	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and view**	**Follows directions** **to move or place self within a specific space (directionality)** • **Develop a sense of direction by introducing both the concepts of "forwards and backwards"** **Kinaesthetic** - As introduction, reinforce the knowledge gained in week 8.		1 day
	Concrete using 3-D objects - Draw a large circle, triangle, or square on a piece of paper and place it on the floor/carpet. - Let learners: - Push a toy car along the lines and let the learner tell you in which direction the car is moving (forwards and backwards, left and right using your arm to signal left and right)	Large drawn shapes on a piece of paper Toy car	
	Semi-concrete using 2-D shapes or pictures - Let learners experience the concept of forwards/backwards by indicating the direction in pictures e.g. the direction a car is travelling, the direction a person is walking.	Pictures that clearly show direction e.g. the direction a car is travelling, the direction a person is walking.	

Week 23	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 **Length**	**Concretely compares and orders objects using appropriate vocabulary to describe length** • **Estimate the length of different objects** **Kinaesthetic** - Learners arrange themselves from shortest to tallest. Compare their height with the heights of their friends. - Play "Follow the leader" games. The tallest performs an action while others behind him/her copy. Turn the whole row around so that the shortest is the leader now. - Let learners compare their hands and feet to see whose are the longest/shortest. Estimate and then measure: - Learners estimate which object is long and which one is short e.g. the length of the table or the piece of string. - Estimate which object is the longest or shortest e.g. the pencil or the wax crayon. - Let learners guess which objects would be longer e.g. 2 straws laid end-to-end or three paperclips laid end-to-end. - Pose questions such as: "Which is longer/longest, the pencil or the piece of string?" etc. - Which chair is the farthest away from the teacher's desk? - How many pencils can fit on the long side of the teacher's desk? - How many steps do you have to take to get to the door? - How many matchboxes, filled with sand, will fill this box? - How many egg-cups full of water will fill this glass? - Here are four learners and three chairs. - How many more chairs do we need?	Objects with different lengths such as: Pencils, wax crayon, pieces of string (of which one is curled up), table, books, straws, paperclips (folded open and curled up) etc.	2 days or Only select a few activities

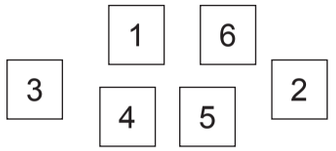
Week 24	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Counting objects**	• **Introduce the meaning of the number 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. Rote counting 1-10 **Reinforce ordinal counting**: Teachers packs 3 objects in a row. Point at each object while counting *first, second, third* **Reinforce the concepts of " many and few"** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 6 times Ask question which number of claps was most/least. **Kinaesthetic** Let the learners: - Count up to six while climbing the steps. - Count backwards while climbing down. - Draw number 6 in sand and walk/skip/jump with one leg along it. - Clap hands 6 times. - Recognise numbers 1 to 6 with the set of large number symbols. - Pack out his/her house number or telephone number with the large number symbol cards.	Number songs and rhymes. Make your own large set of number symbols, which children can handle. They can learn their personal age number, flat/ house number, telephone or parent's cell phone numbers and many more. The same number set can be used to recognise numbers and pack the sequence of numbers.	I day

Week 24	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
	Concrete using 3-D objects Count objects in the class. Let the learners: Ask questions such as: “ - Which number comes after three, which number comes after 5 etc?’” - The teacher places objects in a pile on the table. Let learners estimate how many objects are in the pile. Count them afterwards. - Develop an awareness of number conservation by letting learners pack six counters or any objects in different ways e.g. .  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 6 buttons, 6 pencils, 6 hoops, 6 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up Divide learners into six groups. Give each group 6 building blocks. Let the groups: - Count their blocks - Build a tower with their 6 building blocks. Encourage learners to count the “bricks” as they build the tower. - Teacher moves to each group and labels their towers with a number card. Learners count the number of towers. Repeat this several times. - Choose a learner to throw a dice. Make sure all the learners can see the dice. The learners count the number of dots and point to the matching tower.	Objects in classroom and environment. Make use of a variety of resources to give you ideas of how to apply different stategies. 6 building blocks per learner	

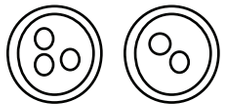
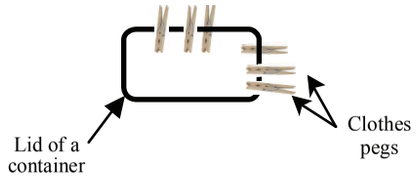
Week 24	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Know the number symbol and recognise the number name that involve the number 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of "many and few".** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least. **Kinaesthetic** - Draw the number 6 on the ground/floor and let the learners walk along the number. - Draw the number 6 in the sand, air. - Form the number 6 with clay. - Let learners predict how many learners will be needed to form the number 6 with their bodies. Form the number 6 with their bodies. **Concrete using 3-D objects** - Place a heap of objects on the table. Play around with numbers 1 to 6 e.g. - Let the learners' estimate how many objects there are. - Count the objects.	Number songs and rhymes 6 objects	1 day
	Semi- concrete using 2-D shapes or pictures - Identify from a mixture of flash cards those with 6 pictures on them and link them with the same number of counters. - Show the flash cards with 6 pictures and link them with the same number of dots and counters. - Show the flash cards with 6 dots and link them with the same number symbol and the same numbers of counters. - Identify from a variety of flash cards those with the number name six on them and link them with the number symbol and the same number of counters.	Picture and dot flash cards involving the number 6 e.g.  Counters or 3-D objects. 	

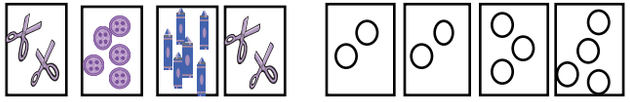
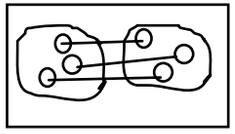
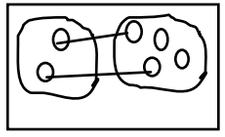
Week 24	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems with answers up to 6.** **Oral:** Count everyday objects up to 6. Count forward and backward up to 6. Ask question which number of claps was most/least. **Kinaesthetic** **Examples** 1. Teacher calls 3 learners to the front. Learners count them. Teacher calls another 2 and asks: How many learners altogether?" 3 and 2 → 5. (The teacher says: 3 and 2 gives 5) 2. Teacher packs out 2 chairs. Add 2 more. How many chairs are there now? 2 and 2 → 4. 3. Teacher holds up one hand. And says: "Count my fingers. If I hide my thumb, how many fingers can you see? 5 take away 1 → 4. 4. Let the learners count the fingers on one of their hands. Hide your thumb; how many fingers do you see? 5 take away 1 → 4	Number songs and rhymes. Learners Chairs	
	Concrete using 3-D objects Let learners pack out 6 counters and do the following: • The teacher gives each learner 6 counters. • The teacher gives instructions and learners respond e.g., pack out 2 counters, add another 3. • How many altogether? and 3 → 5. • Count 4 counters. Count 2 on from four. How many do you have now? 4 and 2 → 6. • Count all the beads you have. If you cover two beads with your hand, how many beads do you see? 6 take away 2 → 4.	Beads or counters.	

Week 24	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	• **Orally solve word problems that involve the number 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of many and few.** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Concrete using 3-D objects **Examples:** 1. Mpho has 4 cookies. Peter gives him 2 more. How many cookies does Mpho have altogether? 2. Beauty has 3 dolls and Martha has 2 dolls. Who has the most dolls? How many more dolls does Beauty have than Martha? 3. There are 5 birds on the fence. 2 fly away. How many birds are left? 4. Patrick has 6 toy cars. Tiny has 4. How many toy cars does Tiny have less than Patrick? 5. One child has one nose. Three children have …… 6. One child has two feet. Three children have……. 7. One child has two arms. Two children have….. 8. One child has one mouth. Three children have…..	Counters Make use of a variety of resources to give you ideas of how to apply different stategies.	
3.2 **3-D objects**	• **Build a 3-D construction from a design or picture card** - Let the learners: - Build a construction from a design or picture. - Learners thread beads according to the sequence in a given picture.	"Logi Shapes" skill blocks Any construction equipment Beads, shoestring A variety of drawn card illustrating the sequence of the beads	

Week 25	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained in week 24 that involves the number 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. Rote counting 1-10 **Reinforce the concepts of "many" and few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Kinaesthetic Let's play a game: The teacher places the large cardboard number shapes or cards that involve numbers 1 to 6 **in sequential order** on the floor. The teacher gives the children instruction such as: - Sit on number 6. - Put your toe on number 3. - Run around number 2 three times. - Hop over number 1. - The teacher can later scatter the number symbol cards and give the same instructions as above.	A set of large cardboard number symbol cards. You can also paint them on pieces of thick plastic or cardboard 	
	Concrete using 3-D objects Let learners: - Count objects in the classroom involving numbers 1 to 6. - The teacher places objects in a pile on the table. Let learners estimate how many objects are in the pile. Count them afterwards.		

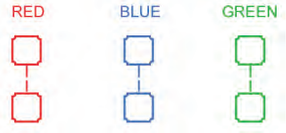
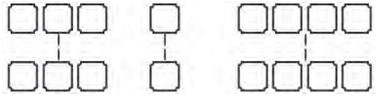
Week 25	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Recognise and identify the number symbol and the number name that involves the number 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of "many" and "few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Semi-concrete using 2-D shapes or pictures - Show learners the flash card with six dots and link it to the same number of counters. - Play games identifying a specific number symbol amongst others and link it with the same number of counters. - Play games identifying a specific number name amongst others and link it with the same number of counters. - Play games by linking the number of counters with the number name, the number symbol and the picture cards. - Trace the number 6 with a crayon.	Objects or counters Flash card with number symbol and number name e.g. 	

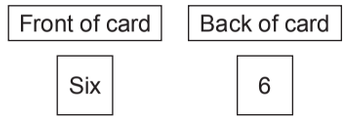
Week 25	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using "more than/less than" and "equal to" up to number 6** **Oral:** Count everyday objects up to 6 Count forwards and backwards up to 6 **Reinforce the concepts of "many" and "few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day Select only a few activities
	Kinaesthetic - The teacher places two hoops on the floor. - She calls 3 learners to stand in the one "nest" and 2 learners to stand in the other "nest". - Which "nest" has more learners in it?	2 hoops 	
	Concrete using 3-D objects - Learners sit on the carpet and make two "nests" with wool. - The teacher gives instruction e.g. the learners place 2 counters in one "nest" and 4 in the other "nest". Which "nest" has more counters? Which "nest "has less (fewer)?" "Which nest has more/most"?" - Repeat using numbers up to 6. - The teacher uses the lid of an ice-cream container. She pegs 3 clothes pegs on the top side of the lid and 3 clothes pegs on the right side of the lid. Which number of pegs are more than the other, or are they equal? The learners can perform this activity in groups each with their own lid and clothes pegs.	2 pieces of wool for each learner Counters  	

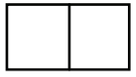
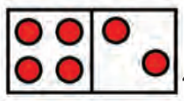
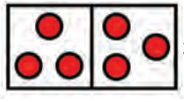
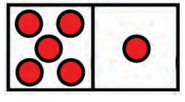
Week 25	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Semi-concrete using 2-D shapes or pictures** - The teacher shows cards with different number of dots and pictures on them.  - Let the learners compare cards with pictures and dots on them and identify the “more than”, “less than” and “equal to” concepts. The learners draw two nests on a piece of paper. On instruction they pack counters and link the counters in each nest with a crayon. Develop concepts such as equal sharing e.g.  Do grouping of whole numbers with answers that include remainders as well e.g. 	Picture and dot cards A4 Paper and wax crayons Counters	
3.3 **2-D shapes**	**Recognise, identifies and names two-dimensional shapes in the classroom and in pictures** • **Make and complete own 5 puzzle** Let the learners: • Draw a picture on an A4 paper. • The teacher draws the lines on the back of the learner’s drawing. • The learner cuts his/her picture on the given lines. • The learner completes his/her own puzzle.	Crayons A4 paper Crayons Scissors Envelope or self-made bag to place puzzle in (fold A4 paper and glue sides) 	1 day

Week 25	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
5.1 **Collect and sort** **5.2** **Represent sorted collection of objects** **5.3** **Discuss and report on sorted collection of objects**	• **Number of letters in learners names** **Problem solving: Pose a problem to the learners:** "Are names with six letters most popular? How can we find out? What information should we collect?" **Collect data** - Learners count the number of letters in their names from a name label teacher made. - Teacher holds up a number card corresponding to the number of letters in a learners name and ask: Who has 4 letters in his/her name holding up the number 4 symbol card? Repeat with all the numbers. **Draw a graph** - The teacher draws the following table as she hold up the numbers: **Read and interpret the table** - What is the most common number of letters in a name? - How many names have more than 5 letters? - How many names have fewer than 5 letters?		

3 letters	4 letters	5 letters	6 letters
Ann Sam	Kady Mark Maja	David Aidon Sarah Caleb Naila	Sophie Jessie
2	3	5	2

Week 26	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained involving the numbers 1 to 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of "many "and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least. **Kinaesthetic** Let the learners: - Form number symbols with their bodies. - Hold up the number of fingers on teacher's instruction. - Form number symbols with pieces of string or play dough. - Feel cardboard number shapes in a bag and identify each number. - Write the number symbols 1 to 6 on the ground or in the air etc.	Number rhymes and songs Two sets of cardboard number shapes in a "feely bag".	1 day
	Concrete using 3-D objects Let the learners: - Count objects in the classroom involving numbers 1 to 6 - Count counters up to number 6. - Place a few unifix cubes or coloured counters in a row on the table - The learners match the cubes by colour using other unifix cubes or counters. For example:  - Make groups of different lengths. The learners match according to quantity 	Objects in the classroom Coloured counters or unifix cubes	

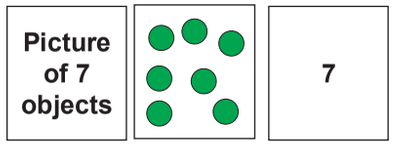
Week 26	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Knows the number symbols and recognise number names that involve the numbers 1 to 6** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of" many" and "few".** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 6 times. **Semi-concrete using 2-D shapes or pictures** Let's play a game: - The teacher writes the number name on one side of a card and writes the number symbol on the other side of the same card involving numbers 1 to 6 (make a few sets). - Learners "read" the number name and guess the number symbol. - They turn the card over and correct themselves.	 Cards that involve numbers 1-6 with the number name on one side and the number symbol on the other side. (Make a few sets so that each learner can have his/her own card).	1 day

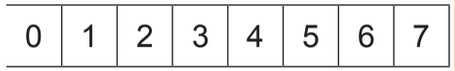
Week 26	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve word problems (story sums) in context and explain own solutions to problems that involve the number 6.** **Oral:** Count everyday objects up to 6. Count forwards and backwards up to 6. **Reinforce the concepts of "many" and "few"** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Concrete using 3- D objects 1. Give each learner a piece of A4 paper with a line drawn vertically on it and 6 counters e.g.  2. Let learners throw the counters carefully on the piece of paper and explain how they have fallen e.g.  4 and 2 → 6 (4 and 2 gives you 6)  3 and 3 → 6 3. Repeat with numbers 1 to 5 as well.  5 and 1 → 6 **4. Problem solving:** Explain own solutions to problems. 5. Do the same with subtraction problems	6 counters for each learner A4 Paper with vertical line in middle	

Week 26	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.4 **Capacity/Volume**	• **Introduce the measuring concept of capacity by comparing how much various containers hold e.g.** - **"empty/full"** - **"more than/less than"** - **a lot, a little** Introduce capacity to the learners by asking which container holds more. Learners often make the comparison on height rather than on capacity. For example, when asked which holds more, a tall container or a short container, most learners will choose the tall container even if the short container actually holds more liquid. **Kinaesthetic** "More than/less than" - Use one container as a standard measure e.g. a yoghurt cup. Provide the learners with a variety of containers. - Let learners: - Find out which containers hold "more" and which hold "less than" the standard measure i.e. the yoghurt cup. "Which container is a lot? Which container is only a little bit?" Give the learners a tablespoon and bucket with sand to spoon the sand into a mug. Let learners: - Count how many spoons of sand he/she needs to fill the mug. The experiment can be made more difficult by giving more than one container e.g. a cup, a plastic glass and a small jar. - Repeat the activity using cups.	Water (during water play) and sand (during sand play in the sandpit) are ideal areas to develop capacity. A variety of containers in different shapes and sizes. Yoghurt cup A bucket with sand Mug A Tablespoon	1 day Only select one or two activities

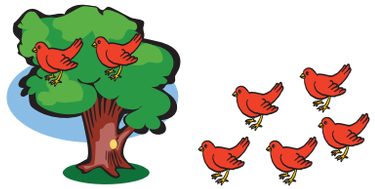
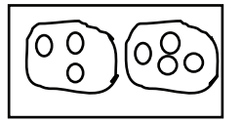
Week 26	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Describes one or more three-dimensional objects in relation to another** **• The position of two or more objects in relation to each other and to one another** **Concrete using 3-D objects** **Pegboard work:** Let the learner first use his right and then his left hand, then both hands together to place the pegs on the board. - Teacher tells the learners where to place the pegs e.g. In the top row In the bottom row On the left side On the right side In the middle Let the learners: - Make shapes on the pegboard with the coloured pegs - The teacher composes a simple pattern with the pegs on her pegboard and learners copy her pattern on his/her own pegboard. - Learners copy the pattern from a card which has a pattern drawn on it.	A pegboard for each learner or work in groups. Cards which have a pattern drawn on it.  A pegboard for each learner or work in groups Card which has a pattern drawn on it	1 day

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• Introduce the meaning of the number 7 **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. Rote counting 1-10 **Reinforce ordinal counting**: Teacher packs 3 objects in a row. Point at each object while counting *first, second, third, fourth*. **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 7 times. Ask question which number of claps was most/least. **Kinaesthetic** - Teacher divides learners into groups. Give each group 7 balls made out of newspaper. - Let learners throw the balls into a basket. Learners must count aloud while throwing the balls. - Count the number of times the teacher taps on the table and copy her. - Count in time to a regular beat while learners walk down steps, hop in and out of hoops. - Stamp feet in time to a regular beat.	Number rhymes and songs Newspaper balls Baskets	1 day

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects** The teacher places a pile of building blocks in the middle of the floor. She gives instruction such as: - Take 3 blocks from the pile. - Take 4 blocks from the pile and put two back etc. - The teacher places objects in a pile on the table. Let learners estimate how many objects are in the pile. Count them afterwards. - Develop an awareness of number conservation by letting learners pack seven counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 7 buttons, 7 pencils, 7 hoops, 7 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up	Building blocks or lego blocks	
	Semi-concrete using 2-D shapes or pictures Let's play a game: - The teacher draws or pastes pictures on one side of a card and draws the same number of dots on the other side of the card involving numbers 1 to 7 (make a few sets). - She hands out one card of the set to each learner. - Learners count the number of pictures on a card. - Turn the card around and count the number of dots. - The teacher holds up one of her cards with dots on it. - The learners match their card with her number of dots. - The teacher holds up her set of cards with the number symbol on. - The learners match their card with her number symbol. - The learner with the correct card may stand up and count the number of pictures out aloud.	**A few sets** of picture, dot and number symbol flash cards that involve numbers 1 to 7  	

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	• **Solve orally stated addition and subtraction problems that involve the number 7** **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 7 times Ask question which number of claps was most/least.	Number songs and rhymes	1 day
1.6 **Problem solving techniques**	**Kinaesthetic** - Use the number ladder lying flat (horizontally) - Always start at 0. Always count while moving. The teacher asks: - What number lies between 4 and 6? Learners experience using the number ladder. - What numbers lie between 2 and 5? - Make use of your own ideas to let learners experience the meaning of the number 7 kinaesthetically with their bodies. **Concrete using 3-D objects** Give each learner 7 beads or counters Ask questions such as: - Move 1 counter to the one side (left). If we add another counter to the counter on the left, how many do we have now? - 1 and 1 → 2 (The teacher says: 1 and 1 is 2) - Move 4 counters to the left. If we add another 2 more counters to the counters on the left, how many do we have? - and 2 → 6 - You have 5 counters and you take away 2, how many are left?	 Beads or counters Counters	

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.11 **Money**	• **Recognise and identify South African** **Banknotes** - Use banknotes e.g. R10, R20, R50, R100, R200 - Make the learners aware of the different animal pictures on the banknotes - Role-play with money in the house corner.	Real examples of a R10, R20 and R50 banknotes (or use play money)	1 day
1.9 **Grouping and sharing leading to division**	• **Orally solve and explain solutions to word problems in context (story sums) that involve:** - **equal sharing,** - **grouping with whole numbers and** - **solutions with remainders up to 7** **Oral:** Count everyday objects up to 7 Count forwards and backwards up to 7 **Reinforce the concepts of many and few** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day Select only one or two of the kinaesthetic Concrete and Semi-concrete activities.

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.9 **Grouping and sharing leading to division**	**Kinaesthetic** Form sets using the learners: **Examples:** 1. Let learners form groups of 2, 3, 4, 5 and 6. Count how many are in the group. 2. Draw large shapes on the concrete or in the sand. Learners make a group of e.g. 4 learners inside the shape. 3. During the refreshment routine the teacher says: "You can go in a group of four to wash your hands" instead of saying: "Four learners can go to wash their hands". 4. Choose 7 learners using a counting rhyme. 5. Let the 7 learners pretend to be birds and make a "pretend tree" using the climbing apparatus outside or chairs and tables inside. 6. The teacher sends 2 birds to the "pretend tree" (2 learners climb on the apparatus). One more bird goes to the tree each time. "How many 'birds' in the tree now, and how many birds on the ground?" 7. Repeat grouping learners using numbers 1 to 7 **Concrete using 3-D objects** **Examples:** 1. The teacher gives the learners counters. Let the learners make a set of 4 counters. Make another set of 3. "How many counters do you have in the new set?" 2. Let the learners draw two circles on a piece of paper. On instructions from the teacher, the learners pack counters in the two sets so that there are more counters in the one set than in the other. Ask questions such as "Which set has most/least counters?"	Make use of a variety of resources to give you ideas of how to apply different stategies. Climbing apparatus or tables and chairs.  Counters Piece of paper and a crayon for each learner counters 	

Week 27	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.4 **Capacity/Volume**	**Concretely compares and orders objects using appropriate vocabulary to describe:** a) capacity b) empty, full, less than, more than, a lot, a little • **Reinforce the knowledge gained in week 26 involving capacity** **Oral:** Count everyday objects up to 7 Count forwards and backwards up to 7. Rote counting 1-10 **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 6 times. Ask question which number of claps was most/least.	Water (during water play) and sand (during sand play in the sandpit) are ideal areas to develop capacity. Number song and rhymes A variety of containers in different shapes and sizes	2 days Or only select two or three activities
	Kinaesthetic Let the learners: - Arrange two to three different empty containers in order of capacity. In other words which container will take the most or least? The learners can test their guesses by pouring cups of water into the empty containers and counting which one takes the most cups. Increase the number of empty containers to make it more difficult. - The learners can use the same cup as a measure and determine how many cups of rice or beans or sand it would take to fill the same containers used above. - Order the similar kinds of containers (e.g. buckets in the sandpit) from small to big. - Give learners a variety of containers (different sizes and shapes) and ask questions such as: o "Which of these containers do you think holds the most sand/water? o If you pour water from one container to another, guess whether you will fill it?" - Let learners discover what happens to a partially filled container of water when small items are added e.g. add clean pebbles, Lego blocks, plastic blocks e.g. learners enjoy guessing games in which they guess which container holds more and then check the results to see who wins. (Teacher points out that items that float will not influence the height of the water).	Cup Cup Rice Beans Different size buckets from the sandpit A variety of containers in different shapes and sizes Water Sand Items such as clean pebbles, Lego blocks plastic blocks	

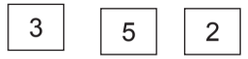
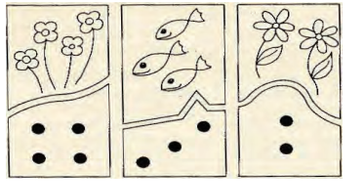
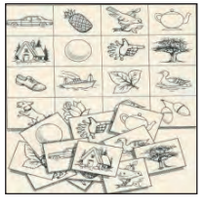
Week 28	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained involving the number 7** **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP. Clap your hands fewer times. The teacher claps her hands up to 7 times. Ask question, "Which number of claps was most/least?"	Number rhymes and songs	1 day
	Kinaesthetic - Two learners are called to the front. The other learners count them. The two learners in front hold up the corresponding number symbol. - Call one more learner to the front. The other learners count them. One learner in front holds up the corresponding number symbol namely 3. - Continue until there are 7 learners in front.	Number symbol cards that involve numbers 1 to 7	
	Concrete using 3-D objects - Put 7 tins in a row e.g.  - Let the learners put one seed/stone in the first tin, two seeds/stones in the second tin, three seeds in the third tin, and continue until the 7 tins have the number of seeds/stones in it as shown on the outside of the tin. - Take a handful of crayons (between 10 and 15) and place them in a mug. Ask the learners to guess how many are in the mug. Discuss their answer. - Demonstrate how to count them by taking one out at a time and laying them in a row.	7 tins with the number symbol pasted on them Seeds or stones Crayons and a mug	

Week 28	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Recognise the number symbol and the number name that involve the number 7** **Semi-concrete using 2-D shapes or pictures** Play a game: - The learners sit in a circle. Place a number card face down in front of each learner. (It could be a number symbol, number name, dot card or a picture card that involve the numbers 1 to 7) - Teach the learners to pass the card to the next learner by sliding them face down on the floor/carpet. - Learners chant: "Secret number, secret number, what could it be? Let me peep" - Learners peep at their cards. - The teacher holds up her number card. - The learners with the card that matches the teachers' card, hold his/her card up high and says: "I will hold my card up high, so everyone can see".		1 day
3.2 **3-D objects**	**Build 3-D objects using concrete material** • **Copy a construction from a designed or picture card** **Concrete using 3-D objects** - The learner builds the same construction from a design or picture. - Copy the same design from a picture using the pegboard. **Semi-concrete using 2-D shapes or pictures** Extend this activity to visual art. - Give each learner a sheet with a variety of big and small circles, triangles and squares. Let learners: - Cut out the shapes and build a 2-D construction on paper and paste it. - Decorate the picture with drawings.	"Logi shapes" skill blocks "Brainy Blocks" Any construction equipment. Pegboard A variety of big and small circles, triangles and squares on a sheet of paper Scissors, glue	1 day and Ongoing

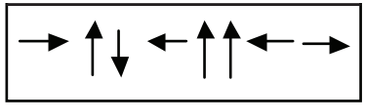
Week 28	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	• **Develop the ability to cross the midline** **Kinaesthetic** Let the learners: - Review previous knowledge gained; touch the different body parts on instruction. Play "Simple Simon says: Touch your...." - Give further instructions where learners need to cross their mid-line such as: "Touch your knee with your nose. Touch your shoulder with your ear. Touch your left knee with your right foot. Touch your elbow with your one hand etc.	Game: "Simple Simon says, touch your....."	Recognise line of symmetry in self and own environment • Crossing the mid-line
	Concrete using 3-D objects Let learners: - Draw big circles on the chalkboard. - Draw straight lines on the chalkboard. Ensure that learner crosses his/her midline. - On the chalkboard draw a line from one dot to the other dot that is far apart. - Draw a horizontal figure eight on the chalkboard. Use big movements to ensure that the learner crosses his/her midline. (The learner uses both left and right hands).	Learners draw on the chalkboard 	
	Semi-concrete using 2-D shapes or pictures Integrate with Visual Arts Let learners: - Paint on a double sheet of newspaper from left to right.	A double sheet of newspaper for each learner Paint and brush	

Week 28	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.3 **Mass**	**Concretely compares and orders objects using appropriate vocabulary to describe:** - **mass** e.g. **light, heavy, lighter, heavier** • **Introduce the concept mass** Measuring mass means finding how much something weighs. **Kinaesthetic** Let learners guess the masses of objects: - Hold the following objects, one in each hand to be able to guess which is heavier or lighter e.g. o A stone and a building block. o A plastic toy car and a metal toy car. o A coffee tin and a toilet roll. o A large rubber ball and a cricket ball. Learners usually judge the larger object to be heavier when asked to guess the mass of two objects. - Introduce the balancing scale e.g. weigh the objects to see which learners were correct. - Ask questions such as: "Which object is heavier/lighter? Let learners find an object in the classroom that they think is heavier/lighter than the objects that they weighed. - Make the balancing scale available during free play so that learners can continue with the weighing activity. - Provide a balancing scale in the "house corner" so that the learners can see how many Lego blocks weigh the same as, for example, an apple. 	3-D objects of different weights and sizes e.g. Lego blocks, toys, building blocks, tins, containers etc. **Balancing Scale** You can devise a simple scale: - You will need a plastic coat hanger, - Two small round margarine tubs or coke bottles and some string. - Punch two holes opposite each other in the margarine tubs/coke bottles. - Attach the tubs/bottles to the two ends of the hanger - you will have a scale. - Hang the hanger on a nail or a hook and the learners can start weighing – - Show the learners that the hanger must first be in balance each time they start weighing.	1 day Only select two or three activities

Week 29	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained that involve the numbers 1 to 7** **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. Rote counting 1-10 **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 7 times. Ask question which number of claps was most/least.	Number rhymes and songs	1 day
	Concrete using 3-D objects Let the learners: - Collect twigs. Keep them in the class to use again. - Use your twigs e.g. to write the number 5 symbol.  or or etc.	Twigs	
	Let the learners: • Make use of your set of flash cards that involve numbers 1 to 7. • Draw the number of objects on the teacher's instruction e.g. draw 2 circles. • Count on from a given number e.g. the teacher says the number three. The learner would count on... four, five, six. • During refreshment time the teacher would ask: "How many learners have brown bread sandwiches? How many have white bread sandwiches? Do more children have white bread sandwiches? Which is more/less?" • The teacher places objects in a pile on the table. Let learners estimate how many objects in the pile. Count them afterwards.	Picture and dot flash cards that involve number 1 to 7 Number symbol and number name flash cards that involve numbers 1 to 7 e.g.  Paper and Crayon	

Week 29	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Recognise the number symbol and the number name that involve the numbers 1 to 7** **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. **Reinforce the concepts of "many" and "few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 7 times. Ask question which number of claps was most/least. **Kinaesthetic** - Place large number symbol cards around the room or outdoor play area. - Call the area "Number Land' and the learners are "The Numeral King and/or Queen" Place a crown on each learner's head made from cardboard, with numbers clearly written on it. - Give the learners instructions such as: o All children wearing red skip to 2. o All children with long hair, tip-toe to 6.	Number songs and rhymes  Large number symbols cards Enough number crowns for each learner made of cardboard with numbers written over it.  	1 day
	Semi-concrete using 2-D shapes or pictures Let the learners: - Draw the number of dots on the teacher's instruction e.g. draw 2 dots. Repeat with numbers 1 to 7 - Have many sets of number symbol and number name cards available. Give each learner one card. The teacher holds up a card and those learners with the matching card hold theirs up. - *Suggestion:* Involve learners in making their own cards. - Play matching games with the number symbol and number name flash cards.  	Paper and crayon More than one **set of number cards** that involve numbers 1 to 7 e.g.  	

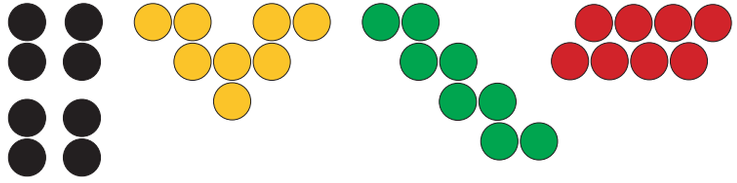
Week 29	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems with answers up to 7** **Oral:** Count everyday objects up to 7. Count forwards and backwards up to 7. **Reinforce the concepts of "many" and" few".** Clap your hands many times…STOP Clap your hands fewer times. The teacher claps her hands up to 7 times. Ask question which number of claps was most/least. **Kinaesthetic** - Refer to week 24 and 27 for ideas. - Make use of your own ideas to let learners experience the meaning of the number 7 kinaesthetically with their bodies. **Concrete using 3-D objects** - Refer to week 24 and 7 - Make use of your own ideas to let learners experience the meaning of number 7 concretely using 3-D objects.	Number songs and rhymes Counters	1 day

Week 29	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Follows directions to move or place self within a specific space (directionality)** • **Develop a sense of direction by using the arrow flash cards and the arrow chart** **Kinaesthetic** Let learners walk in different directions: - To the door, - To the window, - To the book corner etc. **Concrete using 3-D objects** Let the learners - Draw a horizontal figure eight on the chalkboard. Ensure that learners cross the midline e.g. 	Chalkboard	1 day
	Semi-concrete using 2-D shapes or pictures Let learners individually or in small groups: - Keep eyes on the flash card and move his/her arm in the direction indicated by the arrow and speak while doing it e.g. If learner puts his/her arm out, he/she must say “right”. - For up and down movements the learner may use either arm. - Indicate directions on the arrow chart. - Paste footprints in the direction of the door. **Terminology:** up/down; in/out; top/bottom ; front/back ; in front of/behind; on top or above/ under or below; the one side/the other side; next to ; left and right	Flash card with only one arrow. Turn flash card in different directions **Arrow Chart** (poster with arrows in different directions) 	

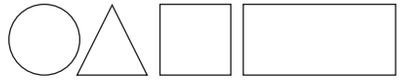
Week 29	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.3 **Mass**	• **Reinforce the knowledge gained in week 28 that involves mass : Lightest/heaviest** **Kinaesthetic** Let learners: - Compare the masses of three to five identical containers (e.g. 400g empty tins) containing different amounts of sand, so that their masses differ. - Put them in order from lightest to heaviest by feeling the masses. Afterwards a balancing scale may be used to determine whether or not the learners were correct - *Suggestion*: Experiment to see how many metal washers or nails can be balanced to have the same mass. Any other objects can be used. Teacher puts articles with different masses into identical closed containers e.g., two cottage cheese containers; one containing a block and one a tennis ball. Let learners: - Feel the difference between the masses of the two objects and guess which one is the lightest or the heaviest. - Use a balancing scale to get to the actual answer. - Challenge learners to find objects in the classroom that have the same mass. The sandpit and water play area are valuable areas which should be used to reinforce concepts such as light/heavy/heavier using different size containers a balancing scale, damp and dry sand. **NB: Sit with the learners while talking, discussing and explaining.**	Empty tins which are the same size A balancing scale Objects such as Lego blocks Objects with different masses such as metal washers or nails Two cottage cheese containers; one containing a block and one a tennis ball Sandpit Water play basin, container or trough	1 day

Week 30	Use Week 30 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Numbers, Operations and Relationships	**1.1 Count objects**	Estimates and rote counts up to 7 (number songs and rhymes included to develop number concept)
		Counts backwards and forwards (1-7)
		Knows which number of claps are more/less
		Recognises numbers in familiar context - e.g. age, register (assess again)
		Identifies number pictures and dot cards up to number 7
		Knows the number symbols 5, 6, 7
		Recognizes the number names five, six, seven
		Distinguishes between more, less and equal, many and few up to 7
		Recognises the colour as well as the different animals on South African notes
	1.6 Problem solving techniques	Uses concrete apparatus
		Explains own thinking in words and through drawings or concrete objects
	1.7 and 1.13 Addition and subtraction	Orally solves addition and subtraction problems up to 7
Patterns, Functions and Algebra	**2.1 Geometric patterns**	Copies, extends and creates own patterns using pictures
Space and Shape (Geometry)	**3.1 Position, orientation and views**	Knows the position of two or more objects in relation to each other - In front of, behind, on top of, on, under, bottom, below, next to, middle, left and right
		Executes instructions on pegboard
		Knows directions on the arrow chart
	3.2 3-D objects	Builds from a given construction example
		Copies a construction from a design or picture card
	3.3 2-D shapes	Builds at least an 18 piece puzzle
		Recognises, identifies and names the square
		Understands form constancy of shapes learnt up to date (Shape conservation)
Measurement	**4.2 Length**	Estimates and measures the length of different objects
	4.3 Mass	Understands the concepts “light, heavy; lighter, heavier; lightest, heaviest”
	4.4 Capacity/Volume	Understands the concepts “empty, full, more than, less than”
Data Handling	**5.1 Collect and sort objects**	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute
	5.2 Represent sorted collection of objects	
	2.3 Discuss and report on sorted collection of objects	

TERM 4 MATHEMATICS GRADE R			
Week 31	**Suggested Contact Time :** **One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)**		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 8** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. Rote counting 1-10 **Introduce counting in two's using a number rhyme** **Reinforce ordinal counting**: Teachers packs 4 objects in a row. Point at each object while counting *first, second, third fourth.* **Reinforce the concepts of "many and few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 8 times. Ask question which number of claps was most/least.	Number songs and rhymes. *Two, four, six, eight,* *One man at the gate.* *He says he is too late;* *Two, four, six, eight.*	1 day
	Kinaesthetic Let the learners: - Count eight steps while moving around in the classroom - Show eight fingers. Let the learners: - Use the number ladder lying flat (horizontally) - Ensure that learners always start on 0 (zero). - Identify the number symbols as they walk on the number line. - Walk on each segment while counting rhythmically	 A set of number symbol flash cards 1 to 8.	

Week 31	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Recognise the number symbols and the number names** **Concrete using 3-D objects** Let the learners: - Count objects in the classroom involving the numbers 1 to 8. - Count counters up to the number 8.	A set of 8 objects in the classroom Objects or counters.	1 day
	- Develop an awareness of number conservation by letting learners pack eight counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 8 buttons, 8 pencils, 8 hoops, 8 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up **Semi-concrete using 2-D shapes or pictures** Let the learners: - Play games by linking the number of counters with the number name, the number symbol, the dots and the picture cards that involves the number 8. - Trace the number 8 with a crayon.	8 counters or 8 objects Flash card with number symbol and number name, dots and pictures e.g.  Crayons Counters	

Week 31	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Use the number 8 in familiar context** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps 8 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Kinaesthetic Let the learners: - Make the number 8 with their fingers. - Form the number with pieces of string or play dough. - Write the number symbols in a tray with sand. - Place the large number symbol cards in consecutive order on the floor up to 8.	String/wool or play dough. A tray with sand Set of large number symbol cards	
	Concrete using 3-D objects The teacher gives each learner 8 beans and a flash card with 8 dots on it Let the learners: - Pack a bean on each dot of the flash card. - Count the beans. - Link the dot flash card to the number name flash card and the counters.	8 beans for each learner. The dot flash card, the name flash card and counters 	

Week 31	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom and in pictures** - **a rectangle** • **Introduce a rectangle** **Kinaesthetic** Let learners: - Form shapes with their bodies e.g. 6 learners form a rectangle with their bodies - Form a rectangle using their fingers. - Make/form a rectangle with pieces of wool or play dough. - Walk on the outline of a rectangular shape. While walking learners say: "I am walking along the rectangle – one long side, one short side, another long side, another short side." - Feel the shapes. Use giant size shapes or place different shapes in a "feely bag" Have a matching set of cards with shapes drawn on them. The learner "feels" the shape in the bag and matches it with the cards. - Draw the rectangle shape in the air, on the ground/floor (chalk) and eventually on paper.	Card games that develop the recognition of shapes. Wool or play dough. "Feely bag" with different geometric shapes. Matching set of cards with shapes drawn on them. A4 paper and crayon.	1 day
	Sort 3-D objects and 2-D shapes according to size, colour and shapes **Concrete using 3-D objects** Let learners look for rectangular objects in the classroom. **Semi-concrete using 2-D shapes or pictures** - Identify rectangular shapes in pictures. - Identify all the shapes introduced up to date in pictures **Sort 3-D objects and 2-D shapes according to size, colour and shapes** - Sort the collected objects according to size, colour and shapes	Rectangular objects in the classroom All the shapes learnt up to date: Variety of pictures with shapes in them 	

Week 31	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**

5.1

Collect and sort objects

5.2

Represent sorted collection of objects

5.3

Discuss and report on sorted collection of objects

- **Reinforce the concept of data handling by collecting objects in the class or environment according to stated features for example the learners' birthdays**

Concrete using 3-D objects

Collect and sort data

- Using the Birthday Chart, determine whose birthdays are in which month.
- The learners assist to make a graph to see in which month of the year the most birthdays appear.
- The teacher draws a graph of the 12 months of the year.
- With the assistance of the teacher the learners plot the graph according to the status of each learner's birthday month.

Jan	Feb	March	April	May	Jun	Jul
Sipho Martha Helen Dolly	David Bongi Claire		Nelson Jacob Tim	Kabelo Pat Thandi	Selina Liz Titus	Thabo Jane
4	**3**	**0**	**3**	**3**	**3**	**2**

- The learners count the names and write the total number of birthdays under each month.
- The learners compare the number of birthdays in the different months.

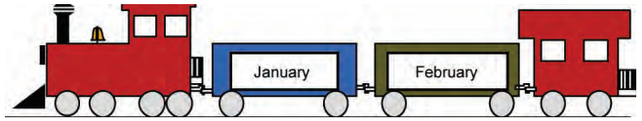
The teacher asks questions such as:

- "Which month has the most birthdays?"
- "Which month has the least birthdays?"
- "Which months have the same number of birthdays?
- "Which months have the most boys celebrating their birthdays"?
- "Which months have the most girls celebrating their birthdays"?

Learners discuss the following conclusions:

- January has the most birthdays. Four learners celebrate their birthdays in January.
- There are zero (none) birthdays during March. There is only 1 month when no learners have a birthday.
- Some months have equal numbers of birthdays etc. Which months are they?

The birthday chart



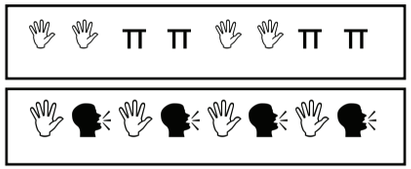
A card with learner's names on it.

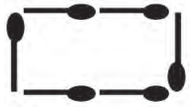
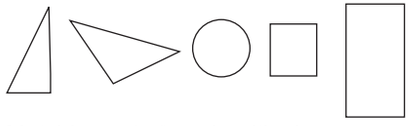
Draw 12 columns on a large strip of paper. Indicate with a name card in which months the learners have their birthdays .Use ± 3 sheets of A2 paper with 12 columns drawn on it.

Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained in week 31 that involves the number 8** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. Rote counting 1-10 **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 8 times. Ask question which number of claps was most/least. **Kinaesthetic** Let's play a game: - The teacher plays an instrument e.g. a drum. - The learners move around. - When the drum stops, the teacher calls out a number between 1 and 8 and learners arrange themselves in small groups e.g. the teacher calls out 8 and learners arrange themselves in groups of 8. - Show 8 fingers on your two hands. - Form sets with the learners. Draw large circles in the sand. Let learners form groups of 8 inside the circles. The groups of eight learners can perform certain tasks together during the day e.g. play in block corner; go to the art area etc.	Number songs and rhymes Drum	1 day

Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects** Let the learners: - Use counters to recognise which number comes before 8 and after 5? Which number is between 6 and 8? - Count objects in pairs (two's): o A pair of shoes, o A pair of socks o A pair of eyes, o A pair of earrings o A pair of ears, o A pair of legs **Semi-concrete using 2-D shapes or pictures** - When taking the attendance register the teacher asks: "Is the learner with the house number or address …… here?" The learner must respond by indicating that he /she is "here". - Repeat the next day with telephone or cell phone numbers.	Counters A pair of shoes, socks, earrings Cards with learner's telephone numbers and addresses on	

Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve word problems (story sums) that involve the number 8** **Kinaesthetic** - The teacher assists the learners to make a group of 6 learners and another group of 2 learners. - Combine the two groups to make one group. - Ask the learners how many learners are in the combined group? 6 and 2 → 8.(The teacher says: 6 and 2 gives 8) - Group 8 learners together. Take 3 learners away in a smaller group. How many learners remain in the large group? 8 take way 3 → 5. - Select two learners using a counting rhyme. - Place 4 twigs in the one learner's hands and 4 twigs in the other learner's hands. How many twigs altogether now? 4 and 4 → 8. **Concrete using 3- D objects** Give each learner 8 twigs. - Tshidi has 6 twigs and her friend has 2 twigs. How many twigs do they have altogether? 6 and 2 → 8. - Monica has 8 twigs. She lost 2 twigs. How many twigs does Monica have left? 8 take away 2 → 6. **Semi-concrete using 2-D objects or pictures** - The teacher puts 2 pictures on the flannel board. She adds another 5 pictures. How many pictures are there now? 2 and 5 → 7. - Place 8 shapes on the flannel board. Take away 5. How many are left. **8 take away 5 → 3.**	Groups of learners Twigs Counting rhyme: Twigs Rhyme: 1, 2, 3, 4, 5 Once I caught a fish alive 6, 7, 8, 9, 10 Then I let it go again Twigs Flannel board pictures / shapes.	1 day

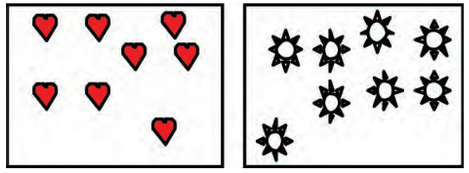
Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Copy and extend an auditory pattern** **Kinaesthetic** The learners move to the beat of the music with their whole body e.g. - Step, step, hop, hop ..... - Jump one leg, Jump one leg, Jump two legs, Jump two legs ..... **Concrete using 3-D objects** Integrate with Performing Arts (music) in Life Skills The learners move to the beat of the music with only their hands and touching their thighs e.g. - Clap, clap, tap, tap (clap hands and tap hands on thighs). - The teacher makes rhythm cards and learners repeat them by clapping the rhythm (using hands to clap and feet to stamp) e.g.  - clap, clap, stamp, stamp …… - clap shout, clap, shout…….	CD Player With music Body percussion	1 day

Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and describe 2-D shapes in the classroom** • **Reinforce the knowledge of a rectangle** **Kinaesthetic** Let the learners: - Make/form shapes with their bodies e.g. 4 learners form a rectangle with their bodies. - Form a rectangle using their fingers. - Form a rectangle using 6 match sticks.  - Make/form a rectangle with pieces of wool or play dough. - Walk on the outline of a rectangular shape. - Feel the shapes. Place different shapes in a “feely bag” Have a matching set of cards with shapes drawn on them. The learner “feels” the shape in the bag and matches it with the cards. - Draw the rectangle shape in the air, sand, on the floor/ground and eventually on paper.	Card games that develop the recognition of shapes. Matchsticks Wool or play dough. “Feely bag” with different geometric shapes.  Include big and small shapes and triangles of different angles in the “feely bag” e.g.  Matching set of cards with shapes drawn on them A4 paper and crayon	1 day

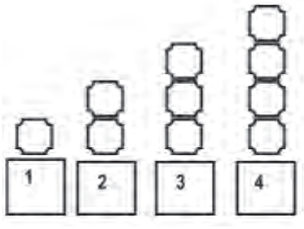
Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Concrete using 3-D objects** - Let learners look for rectangular objects in the classroom. **Semi-concrete using 2-D shapes** Play a game: "Which one is missing?" - Put a number of 2-D shapes (not more than 5 shapes) on a piece of paper in the middle of the carpet e.g. the shapes from the "Logi-Shapes" game. - Discuss each shape with the learners. - Give the learners opportunity to memorise the type of shapes on the piece of paper. - The learners close their eyes. - The teacher removes one of the shapes. - The learners must open their eyes and identify which shape is missing. - Repeat the process. - Promote the development of geometric shapes by providing a variety of card games such as "What's in a square?" or any other available games.	Rectangular objects in the classroom. Variety of shapes e.g. Logi-shapes.	

Week 32	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Describe the position of two or more 3-D objects in relation to one another** **Kinaesthetic** Let the learners: - Stand between two objects or two learners. - Stand next to the girl with the blue dress. - Stand next to the boy with the brown sandals. - Walk between the boxes. - Crawl round the table. - Crawl under the chair. - Put the chair in front of you. - Put the chair behind you. - Stand on your chair. - Sit on the floor. - Put the chair on top of you. - Put the chair next to you. - Put the chair on your left side/right side.	2 chairs	1 day
	Concrete using 3-D objects - Let the learner complete puzzles with pictures of people or animals. - Thread beads according to instructions of the teacher e.g. thread a red bead. Put a green bead next to the red bead etc. - Thread beads according to a given picture sequence. **Work in small groups.** The teacher gives each learner a pegboard and a handful of pegs. Give the following instructions: - Put two red pegs in the top left corner. - Put one green peg to the right of the red peg. - Put one blue peg below the green peg etc.	Puzzles Beads to thread Pegboards and pegs 	
	Semi-concrete with 2-D shapes or pictures - Draw people or animals without arms or legs and ask the learners to complete the drawing.	Worksheets with drawings	

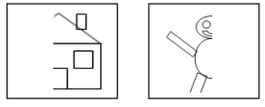
Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained in week 31 and 32 that involves the numbers 1 to 8** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. Rote counting 1-10 **Reinforce counting in two's using number rhymes** **Reinforce ordinal counting**: Teacher packs 8 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth*. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 8 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day
	Kinaesthetic - The learners use their bodies to form number symbols. - The teacher makes numbers from different materials that learners can feel e.g. sandpaper clay/ string. - Say number rhymes/songs.	Large number symbols made of sandpaper	
	Concrete using 3-D objects - Use concrete objects such as blocks and plastic animals. - Count them, sort them, place eight in a row etc. Divide learners into groups. Place a heap of plastic farm animals in the middle of each group. Let the learners: - Work in pairs within the groups and have a guess how many animals in the heap. - Each pair takes a number card to match their guess. - Count the actual number of animals. - The pairs may each receive a star on the forehead. - Repeat by placing a different number of animals in the middle of the carpet.	Blocks and plastic animals 9 plastic farm animals A few sets of number symbol cards. Reward stars	

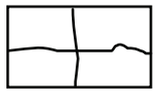
Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	**Recognise and identify number symbols and number names that involve numbers 1 to 8** **Semi-concrete using 2-D shapes or pictures** - Match the number symbols to the correct pictures. - The learner must understand that a group of objects can contain the same number of objects  - The learners must point to each object as they count. - Learners must be able to match ech object to each other e.g. One heart to one sun. - Match the picture flash cards, dot flash cards, the number symbol and the number name flash cards with the same number of counters.	Picture and number symbol flash cards Counters  A Set of number cards that involves numbers 1 to 8	

Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Order and compare collections of objects using "more than/less than" and "equal to" up to number 8** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 8 times. **Kinaesthetic** - The teacher places 8 blocks on a table. Without counting the learners must estimate (guess) the number of blocks. - The teacher asks: o "Are there more than 3 blocks?" o The learners check their answer by counting the blocks." o "How close was your guess? **Concrete using 3-D objects** - Form a group of four learners. Give each group 8 counters and a page with two large circles drawn on it. Call the circles nests. - On the teacher's instructions the learners put counters in each nest and say how many there are. - The learners compare the "nests" and determine which nest has "more than, ""less than", and the "same" or an "equal" number of counters.	Number songs and rhymes Blocks Counters A4 page with two" nests" drawn on it 	1 day

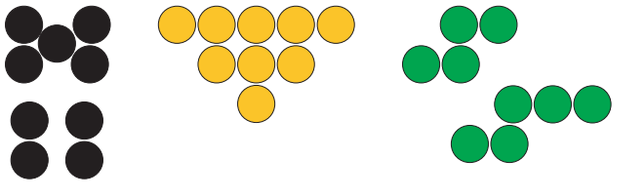
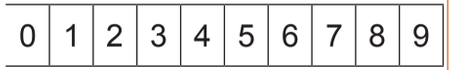
Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	Divide learners into groups - Give each group **many** unifix cubes and a set of number symbol cards that involve numbers 1 to 8 - Let the groups build towers and label each tower with the numbers of cubes used e.g  **Semi-concrete using 2-D shapes or pictures** - The teacher shows two cards with a different number of dots and pictures on them. - Let the learners compare cards with pictures and dots on them to identify the “more than”, “less than” and “equal to”.	Unifix cubes Number symbol cards 1-8 Dot and picture flash cards.  	
1.13 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems up to number 8** **Oral:** Count everyday objects up to 8. Count forwards and backwards up to 8. Reinforce counting in two’s using number rhymes **Reinforce the concepts of “many” and “few”.** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 8 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day

Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	**Kinaesthetic** Examples: 1. Teacher calls 3 learners to the front. Learners count them. Teacher calls another 2 and asks: How many learners altogether?" 3 and 2 → 5. (The teacher says: 3 and 2 makes 5) 2. Teacher packs out 2 chairs. Add 2 more. How many chairs are there now? 2 and 2 → 4. 3. Teacher holds up one hand. And says: "Count my fingers. If I hide my thumb, how many fingers can you see? 5 take away 1 → 4. 4. Let the learners count the fingers on one of their hands. Hide your thumb; how many fingers do you see? 5 take away 1 → 4. **Concrete using 3-D objects** Let learners pack out 6 counters and do the following: - The teacher gives each learner 6 counters. The teacher gives instructions and learners respond e.g., pack out 2 counters, add another 3. How many altogether. 2 and 3 → 5. - Count 4 counters. Count 2 on from four. How many do you have now? 4 and 2 → 6. - Count all the beads you have. If you cover two beads with your hand, how many beads do you see? 6 take away 2 → 4 **Semi-concrete using 2-D shapes or pictures** Make number puzzles and allow the learners to explore with the puzzles. 	Objects and /or counters Number puzzles	

Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and describe 2-D shapes in pictures** **Visual conceptualization** • **Identifies parts from the whole** **Kinaesthetic** The teacher describes and object and asks the learners what it is e.g. - 'I am thinking of something that is red, has four wheels, four doors and window that can open and makes the sound 'wroom'" This exercise can be done with groups and turned into a competition – one group has to describe, the other group has to guess what the object is. - Describe a person and ask the learners to identify the person. **Semi-concrete using 2-D shapes** - Show a learner a picture and let him/her look at it. Then take it away and ask the learner to describe as much detail as he/she can remember. - Take individual pictures and cut off parts of them. Put the pictures and the parts in a box and ask the learners to look for the missing parts of each picture they pick up. - Draw incomplete pictures on a piece of paper and ask the learners to complete the picture.	Any picture Pictures with parts cut off An incomplete drawing 	1 day

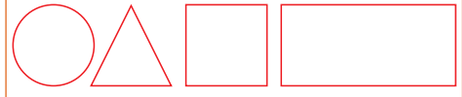
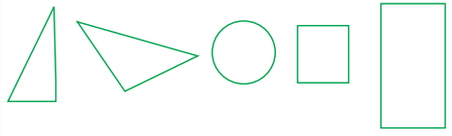
Week 33	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	• **Develop the awareness that one's body has a left and right side that can move independently** **Kinaesthetic** - Put an elastic band on each learner's right wrist. - Sing the action song: "I put my left foot in" Let learners: - Put their right hand on their heads. - Touch their left knee with their right elbow. - Touch their right shoulder with their left hand etc.	Action songs/rhymes e.g. "I put my left foot in"	1 day
	Concrete using 3-D objects Give each learner a building block Let the learners sit on the carpet and: - Put the block on their right side/ left side - On their left/right shoulder. - On their left/right knee. - On their left/right foot etc	Block for each learner	
3.1 **Position, orientation and views**	**Semi-concrete using 2-D shapes or pictures** - Each learner receives a sheet of paper and a crayon. - Let learners draw a line in the middle of the paper from the top to the bottom and another line in the middle from left to right - Teacher give instructions: o Put your finger in the middle of the cross. o Draw a circle in the top left block. o Draw a triangle in the right bottom block. o Draw a square in the right top block. o Draw a rectangle in the left bottom block - Discuss a picture poster. Learners respond to questions that enables them to explain (without showing) the position of items in the picture.	Sheet of paper 	

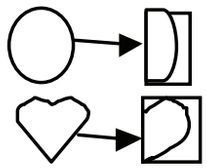
Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 9** **Oral:** Count everyday objects up to 9. Count forwards and backwards up to 9. Reinforce counting in two's using number rhymes **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP Clap hands fewer times. Teacher claps up to 9 times. Ask question which number of claps was most/least. **Kinaesthetic** Let the learners: - Count up to 9 while climbing the steps. - Draw number 9 in the sand/floor/ground and walk on it. - Clap hands 9 times. - Recognise numbers 1 to 9 with the set of large number symbols. - Make use of own ideas to let learners experience the meaning of number 9 with their bodies.	Number songs and rhymes Set of large number symbols	2 days

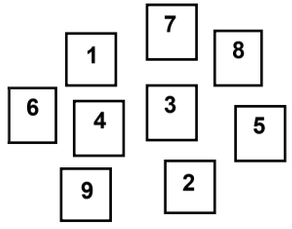
Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.6 **Problem-solving techniques**	**Concrete using 3-D objects** The teacher creates a number line or ladder on the floor or ground - The teacher gives instructions such as: - Always stand on the zero or start at the zero. - Always count while moving. - Move to number 5. Move back to number 2. Move forward to number 8. - Move to number 8. Move 1 number forward. Move 2 numbers backward. - What comes after 3? - What comes before 7 - Develop an awareness of number conservation by letting learners pack nine counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 9 buttons, 9 pencils, 9 hoops, 9 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up **Semi-concrete using 2-D shapes or pictures** Use the number 9 in familiar context Let the learners: - Match the picture flash card with the same number of dots. Pack the same number of counters.	Number ladder  	

Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.3 **Number symbols and number names**	• **Recognise the number symbols and the number name.** **Kinaesthetic** - Put 5 objects in a row. - Let the learners have a good look at them - Learners look away and the teacher remove one object. - The learners have to say which object has been removed. - Replace the objects and repeat several times and progress to removing 2 and more objects. Let the learners: - Select the number 9 symbol and number name amongst other flash cards. - Place the number symbol flash cards on the floor in the correct number order. - Place the number symbol flash cards in a scattered order. Divide the learners into smaller groups. The teacher gives each group a set of number symbol cards. Give the learners instructions e.g. - Touch number 4, put your elbow on number 8, sit on number 3, run around number 5 five times etc. - Play games by linking the number of counters with the number name, the number symbol, the dots and the picture cards. - Ensure that the number symbol and number name is always linked with the same number of objects.	5 objects (visual memory) Counters  A few sets of number cards that involves number 1 to 9  Flash cards with number symbol and number name, dots and pictures e.g.  Counters	

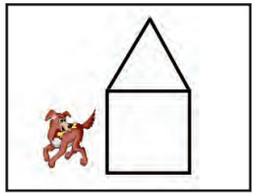
Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Follows directions to move or place self within a specific space** • **Develop a sense of direction** **Kinaesthetic** - Draw a large triangle, or square on the ground or the floor. - Learners walk along the shape indicating aloud whether they are turning left of right and showing it with their hands, **Concrete using 3-D objects** Draw a large triangle, or square on a sheet of paper and put it on the floor. Let one learner: - Push a toy car along the lines. - The rest of the learners stretch out their left or right hands in the corresponding direction and say *left or right.* Let the learners: - Describe objects from different perspectives e.g. a doll (front/back), a house (front/back), the front/back of the school, a car (front/back) depending on where you stand. - Learners describe what they see e.g. if there is a tree in front of the house they describe the position of the tree. **Semi-concrete using 2-D shapes or pictures** - Let learners experience the concept of forwards/backwards by indicating the direction in pictures.	Large drawn shapes on a sheet of paper Toy car Doll Actual house car Pictures that clearly show direction e.g. the direction a car is travelling, the direction a person is walking.	1 day

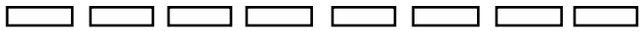
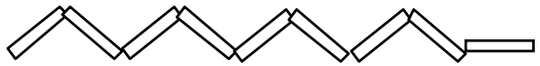
Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identify and name 2-D shapes in the classroom and in pictures and sort them** • **Reinforce the knowledge about the circle, triangle, square and rectangle** **Kinaesthetic** Let the learners form pairs. - Draw a shape on the friends back with his/her finger. The other learner must identify the shape. **Concrete using 3-D objects** Provide geometric shapes of different sizes and thickness. Let the learners: - Sort geometric shapes according to e.g. circles, triangles, squares and rectangles. - Sort geometric shapes according to size. - Sort geometric shapes according to colour. **Semi-concrete using 2-D shapes or pictures** Let the learners: - Cut out the abovementioned shapes from a sheet of paper. Include big and small shapes and triangles of different angles. - Sort the different shapes together. - Plan a picture with the cut-out shapes and use them during art activity.	A variety of shapes A sheet of paper with circles, triangles and squares and rectangles on it e.g.  Include big and small shapes and triangles of different angles e.g. 	1 day

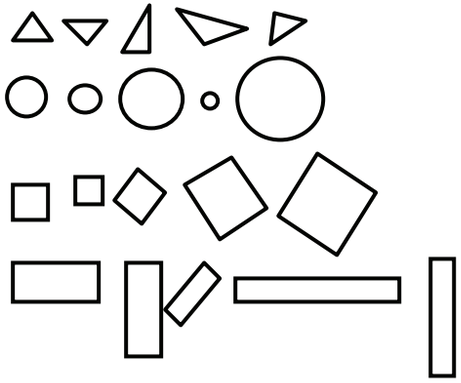
Week 34	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.4 **Symmetry**	• **Develop the awareness that there is symmetry in objects** **Concrete using 3-D objects** - Look for real objects that will illustrate symmetry. (The one side looks the same as the other side) e.g. butterfly, flower leaf etc. - The teacher and learners collect pictures of designs that are symmetrical .e.g. the designs painted on houses, designs on tiles, designs on vases and parachutes. **Semi-concrete using 2-D shapes or pictures** - The learners cut out the shape of a heart or flower vase from a paper folded in half and decorate it during visual art time.	  A piece of paper folded in half	**1 Day**

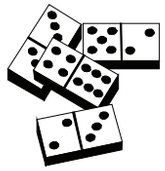
Week 35	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained in week 34 that involves the number 9** **Oral:** Count everyday objects up to 9. Count forwards and backwards up to 9. Rote counting 1-10 **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 9 times. Ask question which number of claps was most/least.	Number rhymes and songs	1 day
	Kinaesthetic Let's play a game: The teacher places the large cardboard number shapes or cards that involve numbers 1 to 9 in order on the floor. The teacher gives the children instruction such as**:** - Sit on number 6. - Put your toe on number 3. - Run around number 2 three times. - Hop over number 1. - The teacher can later scatter the number symbol cards.	A set of large cardboard number symbol cards. You can also paint them on pieces of thick plastic or hardboard 	
1.4 **Describe, compare and order numbers**	• **Use numbers in familiar context** **Concrete using 3-D objects** Let the learners: - Count objects in the classroom - Count with counters - The teacher places objects in a pile on the table. Let learners estimate how many objects in the pile. Count them afterwards	Counters Objects in the classroom	1 day

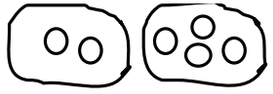
Week 35	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Semi-concrete using 2-D shapes or pictures** Let the learners: - Play games by linking the number of counters with the number name, the number symbol, the dots and the picture cards. - Ensure that the number symbol and the number name are always linked with the same number of objects - Trace the number 9 with a crayon.	Flash card with number symbol and number name, dots and pictures e.g.  Counters, Crayons	
1.7 **Addition and subtraction**	• **Orally solve word problems (story sums) in context that involve numbers 1 to 9** **Kinaesthetic** - Tell a story of about a tree with one bird in it. Another bird joins him. How many birds are there now? Learners act the story out with masks. 1 and 1 gives 2. Repeat the story till there are 9 birds.	Picture of a large tree	1 day
	Concrete using 3-D objects - One friend has 8 counters e.g. plastic animals and her friend has 1 more. How many plastic animals do they have together? 8 and 1 ® 9	9 counters	
	Semi-concrete using 2-D shapes or pictures - Give each learner a worksheet with a picture of a tree on it. Learners place one counter on the tree. Continue, adding one more counter to the tree at a time.	Worksheet with a tree and counters	

Week 35	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	• **Describes two objects in relation to one another** **Kinaesthetic** - A learner asks a friend to stand between two objects / learners. - A learner asks a friend to stand next to the girl with the blue dress - A learner asks a friend to stand next to the boy with the brown sandals **Concrete using 3-D objects** • Hang a line between two objects. • Learners hang actual clothes according to a specific command .e.g. - "Hang the shirt on the left side of the clothes line" - "Hang the dress on the right side of the shirt" " - Hang the handkerchief next to ..... etc." - "Hang the pants between the …. etc." **Semi-concrete using 2-D shapes or pictures** • Draw a picture of a house according to instructions e.g. - Draw the roof at the top of the page - Draw the walls of the house in the middle of the page etc. - Draw a dog on the left hand side of the house. The sheet of paper should not be too large to ensure that the different shapes touch one another to form a picture of a house. 	 Sheet of paper Crayons	1 day

Week 35	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Recognise, identifies and names 2-D shapes in the classroom and in pictures:** - **Shape conservation** • **Reinforce the knowledge gained about the rectangle** **Shape conservation is the ability to distinguish between shapes in our environment, regardless of their size or angle sizes** **Concrete using 3-D objects** Divide learners into groups. - Give each group 9 rectangular shaped building blocks of different sizes. Let the learners: - Sort the different rectangular-shaped building blocks into groups of the same size. - Count the number of building blocks. The teacher gives the following instructions: - Place the rectangular-shaped building blocks in a straight line.  - Place the rectangular-shaped building blocks in an upright position.  - Place the rectangular-shaped building blocks in a zigzag line  - The teacher gives each learner a piece of wool. The learners form a rectangular shape with the wool.  - The teacher points out that each learner's rectangle is not identical but the shape are all still rectangles.	Each group receives 9 rectangular shaped building blocks of different sizes Piece of wool	1 day Or select only some of the activities

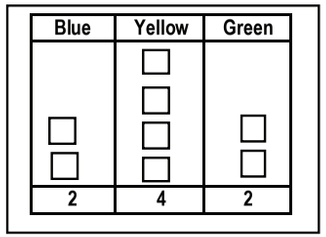
Week 35	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.3 **2-D shapes**	**Semi-concrete using 2-D shapes or pictures** - The teacher draws 20 different flash cards, each with one of five different triangles, circles, squares and rectangles on it e.g.  The teacher divides the learners into groups. Let the learners: - Select the rectangle flash cards from among the other shapes. Let the learners: - Select all the pictures with flowers among pictures of trees and leaves etc.	Cards with 20 different flash cards, each with one of five different triangles, circles, squares and rectangles on it.	

Week 36	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Reinforce the knowledge gained that involve numbers 1 to 9** **Oral:** Count everyday objects up to 9. Count forwards and backwards up to 9. Reinforce counting in two's using number rhymes **Reinforce the concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 9 times. **Concrete using 3-D objects** - Place objects into groups that involve numbers 1 to 9 and count the objects aloud. - Play number dominoes	Number songs and rhymes  Objects in the classroom. Number dominoes	1 day
	Semi-concrete using 2-D shapes or pictures Give each learner a picture, dot, number symbol or number name card. Learners respond to teachers instructions - Learners sit in a circle. - The teacher calls a number e.g. 9. The learners with the picture, dot, number symbols and number name cards representing 9, walks around the circle, saying "I have a nine" - Repeat with the other numbers. - When everyone has had a turn to 'be' a number, call the numbers in order. - The learners stand up and hold their cards in the air if their number is called. - See if learners are able to arrange themselves in order from 1 to 9. - See if learners are able to arrange all the cards representing the number 1, 2, and 3 up to number 9 together.	Enough sets of number cards that involve numbers 1 to 9 for each learner in your class to receive a flash card	

Week 36	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Compare which of two given collections are:** - **more than** - **less than (fewer)** - **equal to (the same)** **Concrete using 3-D objects** - The teacher provides a variety of objects such as leaves, stones, bottle caps, crayons, blocks, etc. Let the learners: - Sort them into “groups” e.g. all the stones together. - Count the number of objects in each “group”. - Indicating which “group” is “more than”, “less than” and “equal to”. Sets that involve numbers up to 9: - Learners sit on the carpet and make two “nests” with the wool. - Teacher gives instruction to the learners to place 2 counters in one nest and 4 in the other nest. - Ask questions such as: “Which nest has “more than”, “less than” and the “same” number of counters?” e.g. the “nest” with 2 counters is less than the “nest” with 4 counters.  - Let the learners form “more than, less than” and ‘equal” sets with numbers up to 9.	Two pieces of wool for each learner 9 counters for each learner	1 day

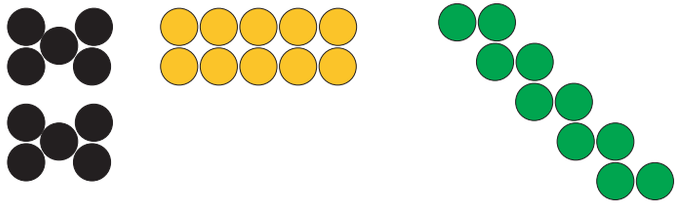
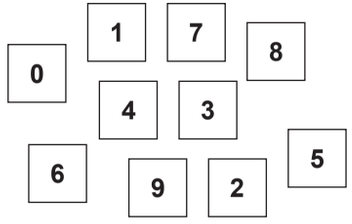
Week 36	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	• **Solves orally stated addition and subtraction problems that involve the numbers 1 to 9** **Oral:** Count everyday objects up to 9. Count forwards and backwards up to 9. Reinforce counting in two's using number rhymes **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 9 times. Ask question which number of claps was most/least.	Number song and rhymes	1 day
	Kinaesthetic - The teacher calls 1 learner to the front. - The teacher puts a different number of beads (up to 9) in each of the learner`s hands e.g. 4 in the one hand and 5 in the other - The teacher arranges the learners in groups of nine. - The learners sit on the floor. - The teacher asks 2 learners to stand up. - The teacher asks: "How many learners are sitting on the floor?"	Beads or counters	

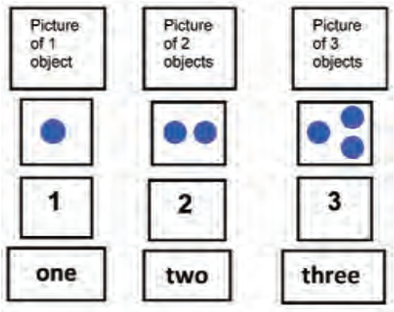
Week 36	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	**Concrete using 3-D objects** - The learners sit on the carpet. - Each learner receives 8 beads placed in a cup with a saucer. - Take 6 beads from the cup and put them into the saucer. Take another 2 beads and add to the beads in the saucer. How many beads are in the cup? 6 and 2 → 8. - Take 4 beads from the plastic cup and put them into the saucer. Take another 4 beads and add to the beads in the saucer. How many beads are in the cup? 8 take away 4 take away 4 → 0. - Move 4 beads from the cup to the saucer. How many are left in the plastic cup? 8 take away 4 → 4. - Move 4 beads from the saucer to the cup. How many are left in the saucer? 8 take away 4 → 4. **Semi-concrete with 2-D shapes or pictures** Divide learners into groups. Give each group a set of picture flash cards - Count the 6 pictures on the flash card. If you add a flash card with 2 pictures on it, how many will you have now? 6 and 2 → 8. - Count the 8 objects on the picture card. If you cover 3 of the pictures, how many can you see? 8 take away 3 → 5. - Pack the same number of counters.	Improvise if you don't have cups and saucers. A few sets of picture flash cards	
2.1 **Geometric patterns**	• **Copy a noise pattern** **Kinaesthetic** - The teacher divides the learners into three groups. Whisper and demonstrate to each group which vehicle's sound they will represent. - Each group makes their sound allocated to them as the teacher points to them e.g. - Woosh, brrrm, zonk / Woosh, brrrm, zonk.	Pictures of three different vehicles or machines.	1 day

Week 36	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
5.1 **Collect and sort objects**	• **Reinforce the concept of data handling** **Concrete using 3-D objects** Let's play a game: Classify and group the choice of the colour of the play dough for the following week e.g. - The problem to be solved is to determine what colour the play dough should be for the following week. **Collect data and sort** - Make use of real objects to make a graph such as blocks, stacking cubes, Lego or Duplo blocks representing the colours of dough you plan to make e.g. blue, yellow, and green. - Each child selects one block representing the colour of his/her choice of play dough for the week.	Blue, yellow and green Lego-, Duplo- or unifix blocks. (Only one kind to be used)	1 day
5.2 **Represent sorted collection of objects**	**Draw a graph** - The blocks are stacked according to colours on a poster.		
5.3 **Discuss and report on sorted collection of objects**	**Read and interpret table** - According to the choice of the learners the colour of the play dough for the week will be yellow.  		

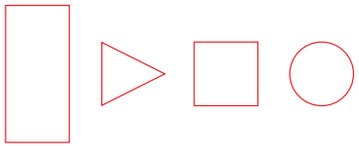
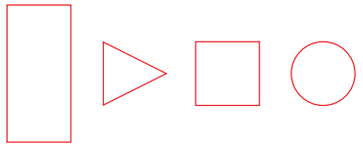
Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 0 (zero)** **Oral:** Count everyday objects up to 10 starting at zero. Count forwards and backwards up to 10 starting at zero. **Reinforce counting in two's using number rhymes** **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least The teacher points out that zero means "nothing" and that counting actually starts at 1. **Kinaesthetic** - The teacher shows the learners the number name zero. - Let the learners identify which body part can form a zero e.g. o The learners mouth o The learners fingers 	Number songs and rhymes	1 day
	Concrete using 3-D objects - The teacher puts one counter in her one hand and no counters in her other hand. - She opens her one hand and shows the learners the one counter, then she opens her other hand and shows the learners there is nothing. - This activity can be conducted using the learners as well. **Semi-concrete using 2-D shapes or pictures** - The teacher shows the learners the flash cards with no pictures and the number symbol 0.	Counters 	1 day

Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Introduce the meaning of the number 10** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10. Rote counting 0-10 **Reinforce counting in two's using number rhymes** **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least.	Number songs and rhymes	1 day Select only a few activities
	Kinaesthetic Let the learners: - In pairs form the number 10 with their bodies (4 learners). - Count up to 10 while moving to the beat of a drum. - Hold up 10 fingers. - Draw the number 10 in the sand/floor/ground and walk on it. - Jump 10 times. - Place cut-out cardboard numbers in a" feely bag". - Have a set of flash cards with pictures representing the number e.g. two balls on a card with number 2. The learner "feels" the numbers in the bag and matches them with the cards	Cut-out cardboard numbers Large number symbol flash cards.	

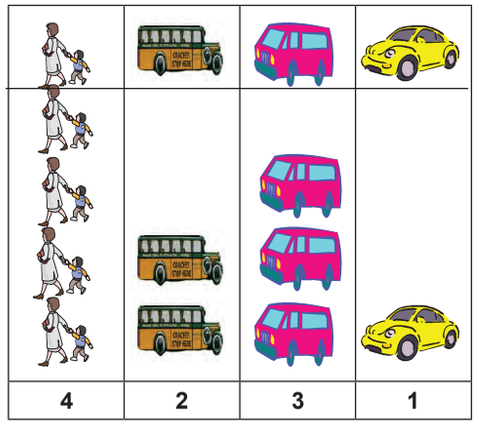
Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Concrete using 3-D objects** Let the learners: - Pack out their telephone numbers using the large number symbol cards. Make them aware of the zero which represents the number 10. - Develop an awareness of number conservation by letting learners pack five counters or any objects in different ways e.g.  When counting, the number of objects is not affected by their size, or position, or whether they are of the same type. For example: - Arrange 10 buttons, 10 pencils, 10 hoops, 10 learners etc. - Count them in a different order e.g. count them spread out, close together, in a line or stacked up	Cards with learner's telephone numbers on 	

Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Semi-concrete using 2-D shapes or pictures** Let the learners on the teacher's instructions: - Place objects into groups that involve numbers 1 to 10 and count the objects aloud. The teacher divides the learners into 5 groups. Let the learners: - Order and link the picture cards, the dot flash cards, the number symbols and the number names in the correct sequence up to the number 10 e.g.  - Pack the number of counters on each dot card	Objects in the classroom A set of picture cards up to the number 10 0 Counters	

Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	• **Play a pattern game – "Hop scotch"** Integrate with Physical Education in Life Skills **Kinaesthetic** - Move around the room. On a signal, or when the music stops, the teacher calls out the name of a shape. The learners form that shape with their fingers. They can also form groups and form the shape with their bodies. - Draw the pattern below on the floor/ ground or the veranda for the learners to move in a specific way.  Discuss the pattern e.g. - Ask questions such as: - "What shape comes after the first rectangle?" - "What shape comes before the first circle? Learners follow the pattern in the following way: - Teacher says: "John, you jump before Melissa" ,and Mary ,you can jump after Kabelo" - Jump with both feet on the rectangle. - Jump with left foot on the triangle. - Jump with right foot on the square. - Jump with both feet on circle and turn your body around while standing in the circle. - Complete the pattern.	The example of the given pattern drawn on the floor/ground/verandah	1 day

Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	**Concrete using 3-D objects** - Each learner receives the following shapes:  The teacher forms a pattern with her shapes Let the learners: - Copy the teacher's pattern using the above shapes. - Develop their own pattern with the given shapes.	Each learner receives the following shapes:Each learner receives the following shapes: 	
3.1 **Position, orientation and views**	**Follow directions to move or to place self within a specific space** • **Develop a sense of direction by executing instructions including left and right** **Kinaesthetic** Let the learners follow instruction of the teacher: - Look up /look down/look upwards. - Bend down / bend downwards. - Lift left leg / lift right leg. - Crawl around the table. - Walk forward/walk backward. - Put your hand in/out. - Stand on the right side of the chair / Stand on the left side of the chair. - Stand in front of your chair/behind your chair. - Stand between two chairs. - Look to the right/look to the left. - Turn on your left foot. Turn on your right foot	Instructions from the teacher. **Terminology:** Up/down In/out Top/bottom Front/back In front of/behind On top/above/under/below The one side/the other side Next to Left/right In between	1 day

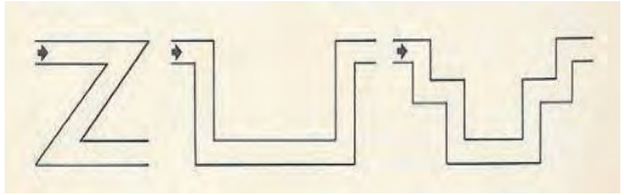
Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
	Concrete using 3-D objects Let the learners do the following on the chalkboard: - Draw circles and continue going around and around  - Draw straight lines from left to right  - Draw lines up and down.  - The teacher draws two dots and the learners draw a line to join them. 	Chalkboard	

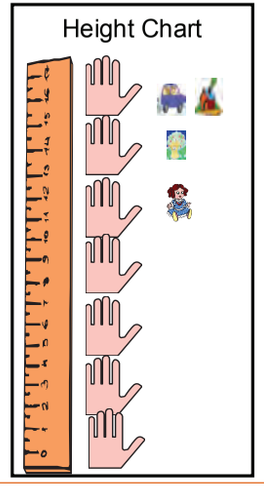
Week 37	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
5.1 **Collect and sort objects** **5.2** **Represent sorted collection of objects** **5.3** **Discuss and report on sorted collection of objects**	• **Reinforce the concept of data handling** **Concrete using 3-D objects** - The teacher discusses and finds out how each learner comes to school. - She compiles a pictograph representing the learners walking, coming by taxi, with a parent's car and arriving by bus e.g.  4 2 3 1 - Analyse the results through questions	Magazine pictures of a taxi, a bus, a car and a learner walking. If you don't have pictures improvise and draw your own	1 day

Week 38	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the knowledge gained in week 37 that involves the number 0 to 10** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10. Rote counting 0-10 **Reinforce counting in two's using number rhymes** **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*.		1 day or only select some of the activities
	Reinforce the concepts of "many" and "few". Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least.	Number rhymes and songs	
	Kinaesthetic - The teacher draws 11 (0 to 10) circles on the playground or use hoops. Write numbers 0 to 10 inside each circle. The teacher calls a number and a learner throws his bean bag into the circle called out. - Remind learners that 0 means nothing. If a learner throws a bean bag in the "zero circle" he/she will be out of the game. - The learner throws his/her bean bag into the circle corresponding with the dot and/or picture card shown by the teacher. - The learner throws his/her bean bag into the circle shown on the number symbol card shown by the teacher. - Proceed by using the number name cards the same way.	10 beanbags Drawn circles in the sand/ground or on the floor or use hoops	
1.3 **Number symbols and number names**	**Recognise and identify number symbols and number names** **Semi-concrete using 2-D shapes or pictures** Let's play a game: - The teacher writes the number name on one side of a card and writes. the number symbol on the other side of the card involving numbers - 0 to 10 (Use a few sets). - Learners "read" the number name and guess the number symbol. - They turn the card over and correct themselves.	A set of number cards that involve number 0-10 Cards that involve numbers 1-10 with the number name on one side and the number symbol on the other side. (Make a few sets so that each learner have his/her own card).	

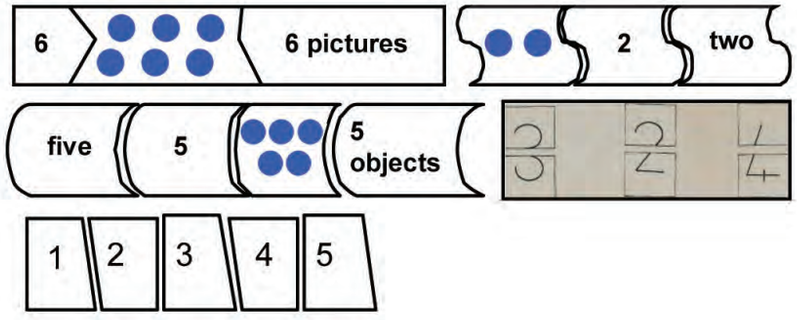
Week 38	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	• **Introduce ordinal numbers - first, second, third, up the sixth..... last** This concept is best developed over time and through the use and labelling of natural situations as they occur in the classroom e.g. lining up to go outside "Siya is first, Helen is second ....." **Kinaesthetic** - Let learners run a race. Who came first, who came second, and who came last? **Play a game – "Which one is it"?** - Ask five learners to sit in a row on five chairs. - The teacher says: "I`m thinking of one of these learners. The learner is wearing a red jersey." - Starting with the learner sitting in front, she moves along the row, touches each learner and asks: "Is it the first, the second, the third..... learner? Let 5 learners stand on the steps outside. The teacher places the correct number symbol card under each child on the steps. Show me which learner is standing on the: - First step. - Second step. - Third step etc. The learner on the first step holds up the number symbol card only after the answer has come from his/ her classmates. Proceed up to the number 6.	Five chairs A set of number symbol cards that involve the numbers 1 to 10 Improvise if there are no steps	1 day

Week 38	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.7 **Addition and subtraction**	• **Orally solve word problems (story sums) that involve the number 10** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10. **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least. **Examples:** 1. There were 5 girls in the room. 5 more girls entered. How many are there now? 5 and 5 → 10. 2. Count 7 counters. Count two on. Count one on. How many altogether? 7 and 2 and 1 → 10. 3. There were 10 counters on the table. There are only 4 left. How many have been removed? 10 take away 6 → 4. 4. You have 10 marbles. Take away 3. How many do you have left? 10 take away 3 → 7 5. You made 10 cakes. You sold 2 cakes. How many do you have left?	Counters	1 day
3.1 **Position, orientation and views**	• **Follows directions to move or place self within the classroom** **Kinaesthetic** - The teacher asks the learner's to stand at the back of the classroom (the door opening indicates the front of the class) - The teacher asks the learners to stand at the one side of the classroom / other side of the classroom. - The teacher asks the learner to stand in the front of the classroom.		1 day
	Concrete using 3-D objects **Sound has meaning.** Learners listen to**:** - A bell. - A whistle. - A musical instrument. - Bang two blocks against each other.	A bell A whistle Any musical instrument Two wooden blocks	

Week 38	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	The learners close their eyes and identify the sound of the bell, or the whistle or the musical instrument. - The learners close their eyes and identify where the sound comes from. They can first throw a bean bag in the direction of the noise and later communicate where the noise is e.g. in the front of the classroom, close to the book corner etc. - The teacher instructs 4 learners to stand against the side walls of the classroom. 4 learners in four sides of the classroom, each with a different instrument (bell, whistle, musical instrument and two blocks). - The teacher indicates with her hand to individual learners to make a noise with their instrument e.g. only the bell. - The rest of the class indicates where the sounds come from by pointing in the direction of, for example, the bell. - To reinforce the left and right concept, send the two learners standing in the front and at the back of the classroom back to the rest of the group. - Repeat the same activity focusing on sounds coming from the left and the right side of the classroom. - The learners say “left” when the sound comes from the left hand side and “right “when the sound comes from the right hand side.	A bell A whistle Any musical instrument Two wooden blocks	
	Concrete using 3-D objects - The leaners use a block e.g. Move the block in relation to the chair o Move backward / move foward. o Stand on the right side of the chair / Stand on the left side of the chair - Stand between two chairs - Sort shoes in left right shoes **Semi-concrete using 2-D shapes or pictures** Let the learners complete a worksheet using a crayon to draw a line between lines e.g. 	Worksheet and a colouring wax	

Week 38	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
4.2 **Length**	**Concretely compare and order objects using appropriate vocabulary to describe length** • **Measure the height of the learners with a tape measure** **Kinaesthetic** - Refer to the first and third terms when the learner's heights were measured using hands on the height chart. - Measure the height of the learners again. - The teacher puts a tape measure next to the pictures of hands on the height chart. - Learners' heights are measured once again. - Make learners aware that we are using a standard measuring tool and this is what mommy uses when making dresses. - Now they are not 10 hands tall but one meter 10 cm tall. - Learners can compare their height. Who is the tallest/ shortest in the class? **Concrete using 3-D shapes** - A learners lies on the floor, and the others place building blocks (same size) in a line alongside the learner's body. - Teacher gives an instruction: "Build something that is longer/shorter than your friend"	**A height chart** A tape measure 	

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	• **Reinforce the meaning of number 10** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10. Rote counting 0-10 **Reinforce ordinal counting**: Teacher packs 6 objects in a row. Point at each object while counting *first, second, third*, *fourth, fifth, sixth*.	Number songs and rhymes	**1 Day**
	Reinforce the concepts of "many" and "few" Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least.		
	Kinaesthetic Let the learners: - Say a number rhyme using ten fingers. - Count the number of times the teacher taps on the table and copy her. - Clap your hand ten times. - Count in time to a regular beat while learners walk down steps, hop in and out of hoops. - Stamp feet in time to a regular beat. - Ten learners stand in a circle with a basket in the centre each with a beanbag. Let the learners throw their beanbag into a basket and continue up to the number 10. Learners must count aloud while throwing. Repeat the activity until all the learners have had a turn.	Bean bags and a basket	

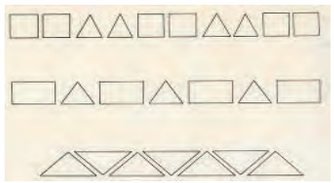
Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.1 **Count objects**	**Semi-concrete using 2-D shapes or pictures** Divide learners into smaller groups. - The teacher provides learners with number puzzles. - The learners discover and investigate all the possibilities. - Learners can throw a dice to determine which number puzzle to build. 	Make number puzzles that involve the number s 1 up to 10	

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	• **Reinforcing addition and subtraction with answers up to 10** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10. **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few"** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least. **Kinaesthetic** - The teacher calls 5 learners to the front and keeps on adding one more learner up to the number 10. - The learners count aloud. 5 and 1 → 6. (Say: Five and one gives six) 6 and 1 → 7. 7 and 1 → 8. 8 and 1 → 9. 9 and 1 → 10. - The teacher sends the learners back and the learners count backwards. 10 take away 1 → 9 9 take away 1 → 8 10 take away 2 → 8	Number songs and rhymes	
	Concrete using 3-D objects The learners sit on the carpet. Each learner has 10 counters and a plastic lid. Let the learners follow instructions: - Pack 4 counters on your lid. Add 4 more. How many altogether? 6 and 4 → 0 - Pack 10 counters. Take away 5. How many are left? etc.	10 counters for each learner Plastic lids e.g. lid of ice-cream containers	

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.13 **Addition and subtraction**	**Semi-concrete using 2-D shapes or pictures** - Count the 8 objects on the picture card. If you add the picture card with 2 objects on, how many will you have now? - 8 and 2 → 10. Pack the same number of counters. - Count the 10 objects on the pictures card. If you cover 3 of the objects, how many can you see? 10 take away 3 → 7. Pack the same number of counters.	Picture flash cards that involve the numbers 1 to 10 Counters	
1.4 **Describe, compare and order numbers**	• **Compare which of two given collections are:** - **more than** - **less than (fewer)** - **equal to (the same)** **Oral:** Count everyday objects up to 10. Count forwards and backwards up to 10 using number rhymes and songs. **Reinforce counting in two's using number rhymes** **Reinforce the concepts of "many" and "few".** Clap hands many times …… STOP. Clap hands fewer times. Teacher claps up to 10 times. Ask question which number of claps was most/least. **Kinaesthetic** - The teacher places 6 learners together in a hoop and 4 learners in another hoop. - The Teacher asks:" Are there more learners, less learners or the same number of learners in each hoop. - " The learners identify which hoop has "More than" " less than", and "same" number of learners.	2 Hoops	1 day

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
1.4 **Describe, compare and order numbers**	**Concrete using 3-D objects** - Place 10 counters, 6 counters and 4 counters on a table. - Without counting guess the number of counters/blocks on the table - Teacher asks: “Are there more than 7 counters?” “Is it about the same, just more than, just less than, just fewer than, enough, not enough?” - Teacher says: “Check your answer by counting the counters.” “How close was your guess?”	Counters	
	Semi-concrete using 2-D shapes or pictures - The teacher shows two cards with different number of dots and pictures on them. - Let the learners compare cards with pictures and dots on them and identify the “more than”, “less than” and “equal to” concepts.	Two cards with different number of dots and pictures on them	

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Describe two or more 3-D objects in relation to one another** • **Reinforce Left and Right** **Kinaesthetic** - The teacher places left and right footsteps all around the classroom.  - The learners crawl with the same arm and the same knee moving simultaneously - Walk on them for example on their way to the washbasin  The teacher ties a piece of red wool on each learner's right palm. The teacher gives instructions. - Lift your left leg. - Put your right foot on the chair. - Touch your left knee with your right elbow. - Pull your left ear with your right hand. - Put your right hand on your left shoulder and your left hand on your right shoulder simultaneously. - Hug yourself (crossing the midline).	Paper foot prints marked "left' and "right" A piece of red wool	1 day

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
3.1 **Position, orientation and views**	**Concrete using 3-D objects** - The teacher put 7 tins on the table. - Let the learners say which number is on the left of number 3, which number is on the right of number 6, which number is between 3 and 6. - Which number is first and which number is last.  - The teacher places 3 dolls/cars with clearly distinguishable clothing or colours on the table. - She asks questions such as: o Which doll/car one is on the left? o Which doll /car is on the right? o Which doll/car is in middle? Which doll/car is first/last? **Semi-concrete using 2-D shapes or pictures** - During **Visual Art s** the learners make paint prints using their left and right hands. - Cut out and paste on a sheet indicating the left and right foot.	Numbered tins. Three dolls or cars.	
2.1 **Geometric patterns**	• **Create own pattern** **Concrete using 3-D objects** - Learners initially copy patterns from given patterns. - Eventually learners create their own pattern and describe their own pattern. 	Shapes and pattern cards.	1 day

Week 39	Suggested Contact Time : One teacher-guided planned class activity (ring) of ± 30 minutes per day (± 5 Mathematics activities per week)		
Topic	**Clarification Notes**	**Recommended Resources**	**Approximate Duration**
2.1 **Geometric patterns**	**Pegboard work:** Let the learner use first his right and then his left hand, then both hands together to place the pegs on the pegboard. - The teacher tells the learners where to place the pegs e.g. o In the *top* row. o In the *bottom* row. o On the *left* side. o On the *right* side. o In the *middle*. Let the learners: - Make shapes on the pegboard with the coloured pegs. - The teacher composes a simple pattern with the pegs on her pegboard and learners copy her pattern on his/her own pegboard.	Pegboards and pegs. Patterns for learners to copy from.	

Week 40	Use Week 40 to attend to conceptual weaknesses and/or identified barriers to learning.	
Content Area	**Topic**	**Assessment Criteria**
Number and Number Operations	**1.1 Count objects**	Estimates and rote counts up to 10 (number songs and rhymes included to develop number concept)
		Counts backwards and forwards (0-10)
		Counts in two's (Number songs and rhymes)
		Understands the concepts of "many and few" (clapping)
		Understands which number of claps are more/less, most/least
		Identifies number pictures and dot cards from 0-10
		Knows the number symbols 8, 9, 10 and 0 and
		Recognizes the number names eight, nine and ten and zero
		Completes simple number sequences from the numbers 1-10
	1.4 Describe, compares and orders numbers	Recognises and identifies numbers in familiar context - e.g. age, register
		Distinguishes between more, less, equal, most and least up to the number 10
		Understands ordinal numbers – first, second, third, fourth, fifth and sixth
	1.6 Problem solving techniques	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects
	1.7 and 1.13 Addition and subtraction	Orally solves addition and subtraction problems that involves numbers up to the number 10
Patterns and Functions	**2.1 Geometric patterns**	Copies, extends and creates own auditory patterns
		Understands the game "hop scotch"
Space and Shape (Geometry)	**3.1 Position, orientation and views**	Knows the concepts next to, between and middle, left and right
		Understands the concepts: forwards and backwards, up and down, upwards and downwards, left and right
	3.2 3-D objects and 3.3 2-D shapes	Able to build at least a 24 piece puzzle
		Recognises and identifies the circle, triangle, square and rectangle
	3.4 Symmetry	Recognises the line of symmetry In objects
Measurement	**4.2 Length**	Understands that objects are also measured by using a tape measure
Data Handling	**5.1 Collect and sort objects**	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute
	5.2 Represent sorted collection of objects	
	5.3 Discuss and report on sorted collection of objects	

SECTION 4: ASSESSMENT

4.1. INTRODUCTION

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.

In the Foundation Phase, the main techniques of **formal** and **informal** assessment are observation by the teacher, oral discussions, practical demonstrations and written recording. Grade R assessment should be mainly oral and practical.

4.2. INFORMAL OR DAILY ASSESSMENT

Assessment for learning is the process of continuously collecting information on a learner's achievement. This is also called informal assessment. It is a daily monitoring of learners' progress. This is done through observations, discussions, practical demonstrations, informal classroom interactions, etc. It should not be seen as separate from learning activities taking place in the classroom. Informal assessment enables the teacher to monitor learner's progress and to make daily instructional decisions. Informal assessment is used:

- to provide feedback to the learners
- to inform planning for teaching

At times the teacher may keep a checklist or use an observation schedule as a way of recording learners' progress. At times learners or the teacher may mark an exercise. However, informal assessment does not become part of the learners' formal record. The results of informal daily assessment tasks are not taken into account for promotion and certification purposes.

4.3. 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. Formal assessment provides teachers with a systematic way of evaluating how well learners are progressing in a grade and in a particular subject.

The teacher can only observe about 10 learners at a time, therefore formal assessment tasks will happen mainly in small group focused sessions and it will take a few days to assess the whole class. All the materials and apparatus that learners normally use should be available as usual, (counters, number charts, etc.)

The forms of assessment used should be age and developmental level appropriate. Formal assessments must cater for a range of cognitive levels and abilities of learners. The design of these tasks should cover the content of the subject in a variety of ways.

A variety of forms of assessment (observation, oral, practical and written) should be used to give each learner the opportunity to demonstrate what he or she can do. This is because some learners are more easily able to show what they know in some forms of assessment. For example,

- Some learners who find it difficult to read are good at Mathematics.

- Other learners may not be at the required level of competence in the language of learning and teaching.

Assessment tasks in Mathematics need to include activities and exercises that are not language based, and not reading dependent, to reflect the real abilities of these learners.

However, cognisance should also be taken of what is being assessed. Certain knowledge and skills are best assessed with particular forms of assessment. Different kinds of assessments are appropriate to the skills and concepts necessary for different topics at different age groups. It is useful to use an observation checklist to assess learners measuring in the early grades. Rubrics can be used to evaluate learner's problem solving skills.

4.4. PROGRAMME OF FORMAL ASSESSMENT

Formal Mathematics Assessment Tasks include more than one topic in Mathematics. The Assessment Tasks over the year need to cover all Content Areas and Topics, but not everything in the curriculum needs to be formally assessed or formally reported upon. Numbers, Operations and Relationships make up 60% of Mathematics in Grade R. This means that 60% of the formal assessment each term and over the year should be focused on Numbers, Operations and Relationships.

Each formal assessment task should not be seen as a single event or test. Some of the criteria can be assessed at the same time, but others will be assessed at different times. For example if learners skip counting skills are being assessed, their ability to do the following could be assessed in the same exercise or event:

- Completes counting sequences
- Reads and write number symbols
- Counts

However, if an Assessment activity contains both solving problems by grouping / sharing, and assessing learners' ability to measure capacity; it is more likely that these aspects of mathematics will be assessed at different times and in different ways.

4.5. 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 as prescribed in the Curriculum and Assessment Policy Statements. Records of learner performance should provide evidence of the learner's conceptual progression within a grade and her / his readiness to progress or being promoted to the next grade. 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. Teachers in all grades report in percentages against the subject. The various achievement levels and their corresponding percentage bands are as shown in the Table below.

CODES AND PERCENTAGES FOR RECORDING AND REPORTING

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

4.6 GENERAL

This document should be read in conjunction with:

4.6.1 *National policy pertaining to the progrmme and promotion requirements of national Curriculam statement Grades R-12; and*

4.6.2 The policy document, *National Protocol for Assessment Grades R-12*

4.7 EXEMPLAR CHECKLISTS OF FORMAL ASSESSMENT FOR GRADE R

Exemplar assessment checklists are given for Grades R below. The aim is to assist teachers to plan and implement formal assessment in a continuous way.

GRADE R Checklist for Term 1 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Numbers, Operations and Relationships	Counting	Estimates and rote counts up to 5 (Number songs & rhymes included to develop number concept)		
	Number Recognition	Recognises numbers in familiar context- e.g. age, register		
		Understands ordinal numbers (e.g. during toilet routine)		
	Number sense	Understands one-to-one correspondence (Helpers' chart during refreshment time)		
	Identify and describe whole numbers	Identifies number pictures and dot cards that involve number one		
		Knows the number symbol 1		
		Recognizes the number name one		
	Solving problems	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects		

GRADE R Checklist for Term 1 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Patterns Functions and Algebra	Copy, extend and create own patterns	Identifies patterns in the environment		
		Copies, extends and creates own patterns		
Space and Shape (Geometry)	Recognise, identify and name 3-D objects	Recognises, identifies and names balls		
		Recognises, identifies and names boxes		
	Recognise, identify and name 2-D shapes/pictures	Recognises, identifies and names his/her own symbol, his/her peers symbol and the class name		
		Builds at least a 6 piece puzzle		
		Shows the ability to distinguish between objects in the "foreground and background"		
	Geometric shapes	Identifies and recognises the circle		
		Identifies and recognises the triangle		
		Identifies and recognises the square		
	Describe, sort and compare 3-D objects according to:	Compares which of two given collection of objects are bigger, smaller, biggest, smallest		
		Sorts objects in: Size - big and small,		
		Colour – Primary colours (red, yellow, blue)		
		Shape – circle ,triangle and square		
		Objects that roll		
		Objects that slide		
	Recognise line of symmetry in:	Recognises line of symmetry in Self		
	Spatial Relations: The position of two or more objects in relation to the learner	Knows in front of/behind,		
		Knows on top of, on, under, below,		
		Knows in, out,		
		Knows up, down		
	Directionality	Understands the concepts: forwards, backwards, front and back		
Measurement	Time	Uses words like day, night, light and dark, morning, afternoon tonight to describe time of the day		
		Orders recurring events in own daily life (Daily Programme)		
		Shows and awareness of days of the week, seasons and weather		
		Knows own birthday date		
	Length	Distinguishes between tall, taller, tallest, short, shorter, shortest (Height chart)		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING:

GRADE R Checklist for Term 2 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Numbers, Operations and Relationships	Counting	Estimates and rote counts up to 7 (number songs and rhymes included to develop number concepts)		
		Counts backwards and forwards (1-4)		
		Understands the concepts “many and few” (clapping)		
	Number Recognition	Recognises numbers in familiar context - e.g. house number, address register		
	Identify and describe whole numbers	Identifies number pictures and dot cards		
		Knows the number symbols 1, 2, 3 ,4		
		Recognizes the number names two, three and four		
	Number sense	Understands one-to-one correspondence (Helpers’ chart during refreshment time)		
		Distinguish between more, less and equal, many and few up to 4		
		Recognises the different South African coins		
	Solving problems	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects		
		Orally solves addition and subtraction problems up to number 4		
Patterns, Functions and Algebra	Copy, extend and create owns patterns	Copies, extends and creates own patterns (objects, shapes and coins)		
Space and Shape (Geometry)	Recognise, identify and name 2-D shapes	Builds at least a 12 piece puzzle		
		Shows the ability to distinguish between objects in the “foreground and background” (assess again)		
	Geometric shapes	Recognise, identify and names the triangle		
		Understands form constancy of triangle (Shape conservation)		
	Describe , sort and compare 3-D objects according to:	Compares which of two given collection of objects are long, longer; short/shortest		
		Sorts objects in Size – long and short		
		Colours - (red, yellow, blue and green)		
		Shapes		
	Build 3-D objects using concrete materials	Explores with building blocks		
	Recognise line of symmetry in:	Recognises line of symmetry in self and own environment		
		Able to cross the mid-line		
	Spatial Relations	Understands the position of two or more objects in relation to the learner - On, under		

GRADE R Checklist for Term 2 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Measurement	Time	Understands the days of the week, seasons and weather chart (Songs and rhymes - assess again)		
		Knows own birthday (assess again)		
	Length	Distinguish between longest, shortest, longer, shorter (Height chart)		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING:

GRADE R Checklist for Term 3 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Numbers, Operations and Relationships	Counting	Estimates and rote counts up to 7 (number songs and rhymes included to develop number concept)		
		Counts backwards and forwards (1-7)		
		Knows which number of claps are more/less		
	Number Recognition	Recognises numbers in familiar context - e.g. age, register (assess again)		
	Identify and describe whole numbers	Identifies number pictures and dot cards up to number 7		
		Knows the number symbols 5, 6, 7		
		Recognises the number names five, six, seven		
	Number sense	Distinguishes between more, less and equal, many and few up to 7		
		Recognises the colour as well as the different animals on South African notes		
	Solving problems	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects		
		Orally solves addition and subtraction problems up to 7		
Patterns, Functions and Algebra	Copy, extend and create owns patterns	Copies, extends and creates own patterns using pictures		

GRADE R Checklist for Term 3 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Space and Shape (Geometry)	Recognise, identify and name 2-D shapes/pictures	Builds at least an 18 piece puzzle		
	Geometric shapes	Recognises, identifies and names the square		
		Understands form constancy of shapes learnt up to date (Shape conservation)		
	Build 3-D objects using concrete materials	Builds from a given construction example		
		Copies a construction from a design or picture card		
	Spatial Relations	Knows the position of two or more objects in relation to each other - In front of, behind, on top of, on, under, bottom, below, next to, middle, left and right		
		Executes instructions on pegboard		
	Directionality	Knows directions on the arrow chart		
Measurement	Length	Estimates and measures the length of different objects		
	Mass	Understands the concepts “light, heavy; lighter, heavier; lightest, heaviest”		
	Capacity	Understands the concepts “empty, full, more than, less than”		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING:

GRADE R Checklist for Term 4 assessment				
Content Area	**Content**	**Criteria**	**√ or x**	**Comments**
Number and Number Operations	Counting	Estimates and rote counts up to 10 (number songs and rhymes included to develop number concept)		
		Counts backwards and forwards (0-10)		
		Counts in two's (Number songs and rhymes)		
		Understands the concepts of "many and few" (clapping)		
		Understands which number of claps are more/less, most/ least		
	Number Recognition	Recognises and identifies numbers in familiar context - e.g. age, register		
	Identify and describe whole numbers	Identifies number pictures and dot cards from 0-10		
		Knows the number symbols 8, 9, 10 and 0 and		
		Recognises the number names eight, nine and ten and zero		
		Completes simple number sequences from the numbers 1-10		
	Number sense	Distinguishes between more, less, equal, most and least up to the number 10		
		Understands ordinal numbers – first, second, third, forth, fifth and sixth		
	Solving problems	Uses concrete apparatus Explains own thinking in words and through drawings or concrete objects		
		Orally solves addition and subtraction problems that involves numbers up to the number 10		
Patterns, Functions and Algebra	Copy, extend and create owns patterns	Copies, extends and creates own auditory patterns		
		Understands the game "hop scotch"		
Space and Shape (Geometry)	Recognise, identify and name 2-D shapes	Able to build at least a 24 piece puzzle		
	Geometric shapes	Recognises and identifies the circle, triangle, square and rectangle		
	Recognise line of symmetry	Recognises the line of symmetry In objects		
	Spatial Relations	Knows the concepts next to, between and middle, left and right		
		Able to do more advanced pegboard work		
	Directionality	Understands the concepts: forwards and backwards, up and down, upwards and downwards, left and right		
Measurement	Length	Understands that objects are also measured by using a tape measure		
Data Handling	Collect, sort, draw, read and represent data	Able to collect, sort, draw, read and represent (analyse) objects according to one attribute		

FINAL RATING: