3.5.1 Clarification of Grade 1 content

GRADE 1 TERM 1

1. NUMBERS, OPERATIONS AND RELATIONSHIPS

During the first term time is spent on developing pre-number concepts. Early skills developed in respect of patterns, shape and space, measurement and data form the basis of schooling skills in general and number skills in particular.

Matching

Matching leads to understanding the concept of one-to-one correspondence, which in turn is the basis of comparing the number of objects in a group.

When a learner is able to identify "the same", it becomes possible to match two sets. Sameness is a prerequisite for conservation. Conservation is an important skill in measurement, number and space and shape.

Sorting

When sorting, learners look for similarities and differences. Learners also develop the ability to describe and indentify. Describing means that learners can recognise and name things around them. Identifying means that learners can pick out an object when given a description. Learners identify according to certain attributes. Learners sort objects according to size, colour, shape, length, mass, capacity and volume. Sorting is done with

- everyday objects in data handling;
- geometric shapes and objects in shape and space; and
- the attributes of objects in measurement.

Comparing

When learners compare objects they focus on the difference between objects. Learners can focus on

- big or small;
- heavy or light;
- tall or short;
- hot or cold;
- empty or full;
- many or few; and
- first, last or middle.

Learning to compare is a focus area of

- early measurement activities;
- initial activities in shape and space (including work on position); and
- early activities in patterning.

In number activities, learners match objects in different groups. They learn to identify groups with the same number of objects in them, and to distinguish groups that may have more or fewer objects than other groups.

Ordering

Ordering is fundamental to the number system. Placing and counting objects in order help young learners to make sure that they only count each object once. Placing objects in order when counting lays the basis for understanding how to order numbers.

Early work with patterns involving shapes or objects helps to focus learners' attention on ordering. Later learners use this skill when working with number patterns.

Subitising

Subitising is the instant recognition of the number of objects in a collection without counting them.

Subitising helps learners to see small collections as one unit. This provides learners with an early perceptual basis for working with numbers.

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.1 Count objects	Count out objects reliably to 50. Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 10. Give a reasonable estimate of a number of objects that can be checked by counting.	Counting helps learners to develop an awareness of the size of numbers and lays the basis for calculating with whole numbers. During the first term learners develop the following skills: • Counting all • Counting on • The cardinality principle • Working with written texts Counting in Term 1 is focussed on developing learner's counting skills. The development of counting skills allows them to: • count grouped and ungrouped objects; • count forward and backwards; • count actions; • count in sequence on a number line; • develop an awareness of the size of numbers by ordering and comparing them; and • estimate and predict. Counting objects Before learners count objects they need opportunities to practise counting orally. Learners need to have an oral list of number names in order: one, two, and three until 20. Encourage learners to say number rhymes and play games that reinforce the oral counting. This ability to count orally or rote count is important to develop the knowledge of number names and also a sense of the rhythm/pattern within numbers. Learners then count each object and match number names to sets of objects. This involves touching and moving the object and saying the number name. It is important that learners understand that the last number named represents the last object counted in the group. They must know and understand that the last number named indicates the amount in the set or the cardinality of the set. Not all learners who can count orally and say the number names in sequence will attach meaning to their counts. They might skip numbers and say that there are four counters when there are actually five counters.	

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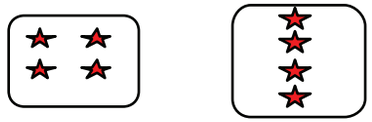
1.1 Count objects	Count out objects reliably to 50. Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 10. Give a reasonable estimate of a number of objects that can be checked by counting.	It is important that learners count the same number of different objects. Example: • Count six counters • Bring me six pencils • Count six buttons Conservation Learners will begin to realise when counting the number of objects, that the number is not affected by their size or position. One could ask: how many stars on each card?  The position or arrangement of the stars is different but the number of stars on each card is exactly the same. It is important that when counting concrete objects, learners recognise a small number of objects without counting. Example, recognising • five, as the number of fingers on one hand • three counters, arranged in any way • one to six, from the arrangement of dots on a die This is also known as subitising. Therefore: Fundamental number concepts are developed by counting real objects. Learners learn: • to associate number words with a collection of objects; • to build a mental picture of what a number means i.e. how big it is; and • that the number name of the last object counted represents the total number of objects in the group.	

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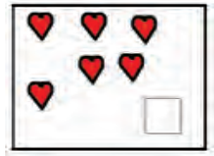
1.1 Count objects	Count out objects reliably to 50. Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 10. Give a reasonable estimate of a number of objects that can be checked by counting.	Instructions and questions to support the counting of objects • Count 10 counting sticks. Arrange them in a line. • Rearrange the sticks and count again. Is the number still the same? • Count these bottle tops without touching them. • Is there the same number of each? • How many crayons do you think there are? • Are there more or fewer than you thought? • How do you know that you have that number? • How do you know that you counted every crayon? • How could you check your answer? Moving to written texts Learners need to be given opportunities to count illustrations of objects. Example: How many?  **Counting on** Once learners can confidently count all the objects starting from one, they should count on from a collection they already have. Example: Ask learners to count out seven objects and then, starting from the seven objects, count out three more until they have 10 objects. Counting-on is a far more efficient counting strategy than counting all and learners will use counting on when they calculate. **Resources:** It is useful to build up a collection of different kinds of objects that learners can use as counters. **Example:** • Matchsticks • Ice cream sticks • Peach pips • Beans • Bottle tops	

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1.2 Count forwards and backwards	**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** Ones from any number between 1 and 20	**Counting forwards in ones** Counting orally or doing verbal counting (rote counting) is an important step in reciting the number names in order. If learners are able to do this, it does not mean that they have an understanding of the size of the numbers they are saying. There is no relationship between the number and the quantity or size of the numbers. In Term 1 it is expected that learners only count forwards and backwards in ones till 20. Counting forwards and backwards can be done with the whole class. Make sure that learners are not just chanting meaninglessly. In the focus groups and the independent work the following activities can be done to add meaning to the counting: • Start at two and count to eight • Count from four to 10 • Count from two to eight. How many numbers did you count? **Counting to ten** Initially learners will start counting to ten and practising the number names in sequence. Learners can get bored with verbal counting and they need to do it in different ways, otherwise they are simply chanting. Rote counting needs to be supported by reading number symbols and counting objects. Learners need to be presented with visual images of numbers in sequence. The following visual images can be used: • Counting beads • An abacus • A number line Initially a number line with all the numbers represented, and then a number line with some numbers not represented, can be used. This means that learners will have to know the numbers in sequence to fill in the gaps. Counting backwards Counting backwards is a difficult skill for learners and frequent practice is necessary. Start counting backwards from a number when learners are familiar with, 2, and build this up as you focus on each higher number. **Counting to 20** Counting beyond ten might require the learners to say the counting sequence after the teacher. It is also important to encourage learners to start counting at any number. Starting at 8 is far more demanding than starting at 1. Learners will use this skill when they count on in addition.	

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<tr><th>TOPICS</th><th>CONCEPTS AND SKILLS
REQUIREMENT BY YEAR END</th><th>CONCEPTS AND SKILLS
FOCUS FOR TERM 1</th><th>SOME CLARIFICATION NOTES OR TEACHING GUIDELINES</th><th>DURATION
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<tr><td>1.2
Count forwards and backwards</td><td>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</td><td>Count forwards and backwards in Ones from any number between 1 and 20</td><td>Resources
• Counting beads to 20
• Abacus
• Number grids help to develop learners’ ability to read information in a table. Because learners are counting to ten, the grid should only show the following information:
<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr></table>• A number line showing numbers to 20</td><td></td></tr>
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1.3 **Number symbols and number names**	Identify, recognise and read numbers • Identify, recognise and read number symbols 1 to 100 • Write number symbols 1 to 20 • Identify, recognise and read number names 1 to 10 • Write number names 1 to 10	Identify, recognise and read numbers • Identify, recognise and read number symbols 1 to 20 • Write number symbols 1 to 5 • Identify, recognise and read number names 1 to 5 • Write number names 1 to 5	Reading and writing number symbols and names Learners need to learn how to: • Write number symbols and names • Read number symbols • Say the numbers The reading and writing of number symbols and names should be linked with counting activities. Learners should be given opportunities to match the number symbols and number names to collections of objects that they count out. In this way learners link the number symbol, the number name, the representation of the number and the meaning of the number. Further activities Practising writing Learners can practise the writing of number symbols in different ways: • By tracing over numerals • Doing 'joining the dots' activities with outlines of number symbols • By writing in sand • By writing on chalk boards or on cement • By painting • Sewing numbers using wool. This activity is particularly useful in emphasising the starting point when writing numbers. • By tracing large numerals cut out of sandpaper or fabri Reading numbers This can be done by: • Pointing to numbers on the number line or on a number grid • Reading number cards Matching number symbols to a collection of objects This can be done by: • Matching the number of objects with numerals • Counting out a group of objects and selecting the appropriate number card for the number of objects • Counting objects in pictures and writing the number symbol.	

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1.4 **Describe, compare and order numbers**	Describe, compare and order up to 20 objects • Describe and compare collection of objects according to most, least, the same as • Describe and order collection of objects from most to least and least to most. • 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	Describe, compare and order objects up to **5**. • Describe and compare collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different • Describe and order collection of objects from most to least and least to most • Range up to five objects • Describe, compare and order numbers to 5. • Describe and compare whole numbers to 5 using language e.g. • according to, smaller than, greater than, more than, less than • Describe and order: - numbers from smallest to greatest and greatest to smallest - using language e.g. before, after, in the middle/ between	Comparing and ordering of numbers help learners to refine their sense of the relative size of numbers. It will help them develop an idea of how much greater or smaller a number is than other numbers. If learners have a good sense of the relative size of numbers, they will find basic operations much easier. In the Foundation Phase this is called numerosity. Counting skills are important for comparing and ordering numbers. The ordering of numbers includes: • Learning about cardinal numbers which tell the value of a number • Using, reading and writing number names and symbols • the language to compare numbers Comparing number of objects This is often done by using one-to-one correspondence. Learners count a collection of objects and match number names one-to-one with objects. Comparing a collection of objects depends on learners' counting experience. It is important to focus on the concepts of 'more and less' when comparing amounts. When comparing objects the language of comparing is developed. Example: As many as, the same number as, equal to, more than, less than, fewer than Ordering groups of objects From counting and comparing two sets of objects, learners discover and learn two important relationships: • Two collections are equal when they share the same number name although the collections might be arranged differently. • Counting numbers represents a sequence of consecutive numbers that increases by one every time, e.g. five comes after four, hence a collection of five objects is one more than a collection of four objects or a collection of four objects is one less than a collection of five objects Ordering and comparing numbers When learners order numbers, they might use the distance between numbers to know which number is bigger. For example, they will say that 5 is bigger than 2 because 5 comes after 2. Learners need to link the counting of objects and compare a group of nine objects to a group of two objects. By Grade 2 and 3 learners will be ordering and comparing numbers by explaining the value of the digits. Learners need to order numbers using a variety of images. Learners could also order numbers using the number line.	

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1.4 Describe, compare and order numbers	Describe, compare and order up to 20 objects • Describe and compare collection of objects according to most, least, the same as • Describe and order collection of objects from most to least and least to most. • 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	Describe, compare and order objects up to **5**. • Describe and compare collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different • Describe and order collection of objects from most to least and least to most • Range up to five objects • Describe, compare and order numbers to 5. • Describe and compare whole numbers to 5 using language e.g. • according to, smaller than, greater than, more than, less than • Describe and order: - numbers from smallest to greatest and greatest to smallest - using language e.g. before, after, in the middle/ between	**Example:** • Take the number 3 and place it on the number line • Choose the number after 4 and place it in its correct position on the number line • Choose the number between 3 and 5 and place it in its correct position on the number line • Choose the number before 2 and place it in its correct position on the number line • Choose the number before 3 and place it in its correct position on the number line Number cards **Example:** Learners could pack out cards in sequence.  Moving to written texts Learners can consolidate their knowledge by completing activities in workbooks. This can be done during independent time. **Cardinality and ordinality** Cardinality refers to the total number in a set or collection. Ordinality refers to the position of an object within a set of things. The links between cardinal and ordinal numbers need to be made. Learners will realise this when they count a group of objects and know that when they have touched the fifth object they have counted five things so far. Ordinal numbers are only dealt with in Term 4.	

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SOLVING PROBLEMS IN CONTEXT				
1.6 Problem-solving techniques	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	Use the following techniques when solving problems and explain solutions to problems: • concrete apparatus e.g. counters • pictures to draw the story sum • number lines supported by concrete apparatus e.g. counting beads	During this term learners will begin to solve word problems using the following techniques to solve these problems: • concrete apparatus • drawings • number lines **Drawings and concrete apparatus** Learners will draw pictures and use concrete apparatus to solve problems. By the end of the term learners can draw pictures which contain numbers to describe the operation and solution. It is important that the pictures or drawings contain numbers to describe the operation and the solution with: • unitary marks • numbers **Number lines** Using number lines in order to help them calculate will give learners a way to record their thinking and to keep track of it. It also allows learners to have a recording image that they can use to explain how they solved the problem. During this term learners will be introduced to number lines and will begin to use these as a calculating strategy. Initially when working with number lines a string of beads can be positioned above or below the number line to help learners count. Before learners can use the number line as a calculating strategy they need to use it for: • Counting forwards and backwards • Reading number symbols • Writing number symbols • Positioning numbers on the number line • Ordering and comparing numbers When using the number line as a calculating image, the concept of the ‘jumps’ can be learnt by using fingers or by constructing a line outdoors and physically jumping from one number to the next. These kinds of activities help learners to see where numbers are in relation to one another. They need to be able to say: “To get from 3 to 5 will take 2 jumps”. Learners should be given opportunities to predict the number of jumps, say from 2 to 5.	

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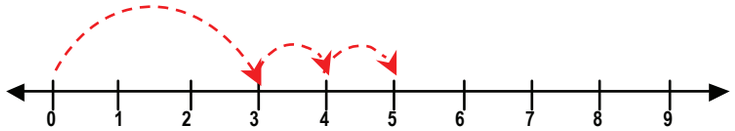
1.6 **Problem-solving techniques**	Use the following techniques when solving problems and explain solutions to problems: • concrete apparatus e.g. counters • pictures to draw the story sum • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when solving problems and explain solutions to problems: • concrete apparatus e.g. counters • pictures to draw the story sum • number lines supported by concrete apparatus e.g. counting beads	**Example** of how learners can use the number line during the term: There are three boys and two girls doing extra art lessons at a school. How many learners are there in the art class? Learners can use a number line in the following way to arrive at an answer.  See notes below under 'methods or strategies' for introducing the number line. Note that learners often solve a problem in a way that may not be what the teacher expects. For **example**, to solve the above problem, learners could choose to start counting with the number of girls, 2, and then add on 3. Learners' methods will change in the course of the year as their understanding of and familiarity with the problem types grow, and as their number concept develops.	

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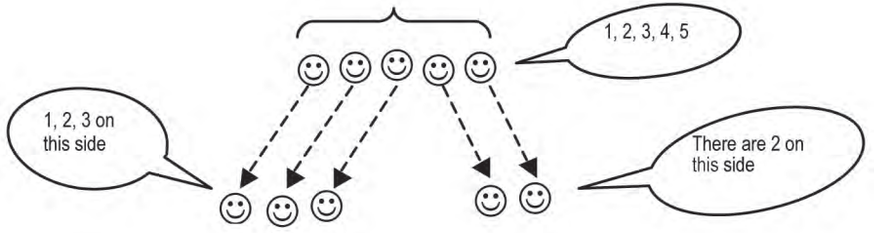
1.7 Addition and subtraction	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.	Practically solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to five.	Word sums are often used as the entry into operations. Learners start off with solving the problem by using concrete apparatus; which then develops into: • drawing pictures; • drawing pictures and writing numbers to describe the operation; and • only using numbers. **Example:** There are five children on the see-saw. Three of them are on one side. How many are on the other side? During the first term learners can record this word problem in the following way. **Calculating strategies** Using counting all to solve the see-saw problem  Here learners count each group and the whole collection, so they are counting at least three times. Using counting on to solve the see-saw problem Learners count on from three until they get to five. This is a far more efficient strategy to use. “I know that there are three children and then one child makes four, and another one child makes five children. There are two children on the other side”. *Doing addition and subtraction using apparatus* Learners use concrete apparatus in particular ways to arrive at an answer. Learners use the apparatus to construct a meaning of addition and subtraction using objects that they can touch, hold and move around. How learners use the apparatus is often determined by the structure of the word sum.	

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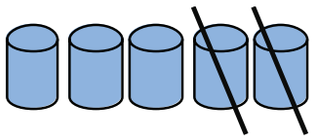
1.7 Addition and subtraction	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.	Practically solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to five.	**Recording images of addition and subtraction** • **Recording using concrete apparatus** Learners can use concrete apparatus to count all and count on. However learners can also use these strategies when drawing pictures to show their thinking, their calculation strategy and the solution. • **Recording in pictures only** **Example:**  **Recording in pictures and numbers** In order for learners to use numbers and pictures to describe their thinking they need to: • Be able to recognise numbers 1-5 • Count five objects and know that 5 represents the total number of objects counted. • Write numbers • Order and compare numbers **Addition and subtraction problem types** There are at least three basic types of addition and subtraction problems and each type can be posed in different ways. The basic types are: *Change* Noluthando had two apples. Silo gave her three apples. How many apples does she have now? Noluthando had five apples. She gave four apples to Silo. How many apples does she have now? *Combine* Nosisi has two green and two blue marbles. How many marbles does she have? Nosisi has four marbles. Three are green and the rest are blue. How many blue marbles does Nosisi have? *Compare* Nosisi has five bananas. Themba has one banana. How many more bananas does Nosisi have than Themba?	

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1.7 Addition and subtraction	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.	Practically solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to five.	**Resources:** Learners can use loose counters, to help them to see what happens when one puts amounts together or take them apart. Loose counters help learners to see what happens when they count all. **Examples** of loose counters are: • Counters • Counting sticks • Bottle tops • Peach pips • Stones • Unifix cubes • Working within the number range 1 to 5, learners can use their fingers to act as loose counters.	

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1.9 Grouping and sharing leading to division	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 5 and with answers that can include remainders.	In Grade 1 the concept of division is introduced through presenting learners with practical problems that involve sharing and grouping. It is only in Grade 3 that the division sign is introduced. Below are examples of types of word problems that can be done. **Grouping** *Grouping, discarding the remainder* Stella sells squash in bags of two squash each. She has five squash left. How many bags of two squash each can she make up? *Grouping, incorporating the remainder in the answer* There are four apples. How many bags of two apples can be filled? ***Sharing*** *Sharing, discarding the remainder* Share five sweets among three friends so that they all get the same number of sweets. **Recording image for grouping and sharing** When illustrating sharing word problems, learners will “share out” one item or object at a time. Grade 1 learners are likely to share out one item at a time and this will be reflected in their recordings.   As the year progresses learners will be able to record using pictures and numbers to show the number shared.	

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CONTEXT-FREE CALCULATIONS There are many ways of thinking about organising the teaching and learning of calculations. One way is to think about number ranges. The number range within which learners work will determine the kind of apparatus they use and how they record their solutions. So one way of thinking about the calculations in the Foundation Phase is the representation of calculations. This is done by: • using concrete apparatus; • drawing pictures; • using pictures and symbols; • using numbers and arrows; or • using number sentences. Learners move from using concrete apparatus to working abstractly with number symbols and number sentences. Calculations fall within the context of problem-solving situations. Learners develop problem-solving skills in order to operate with numbers. Learners need to do context-free calculations.				

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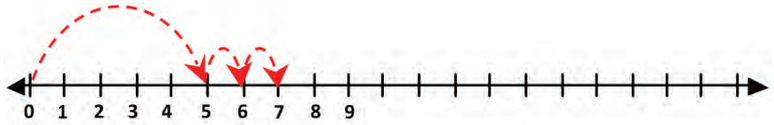
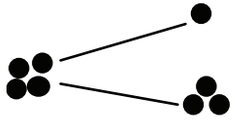
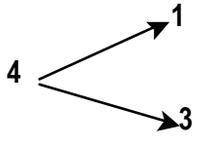
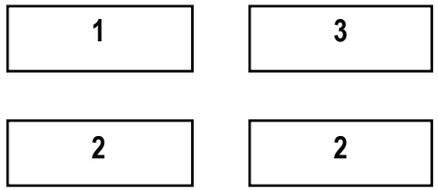
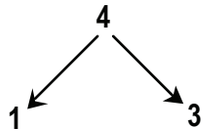
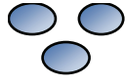
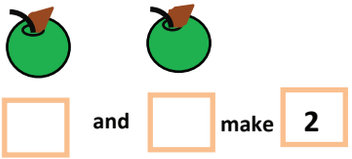
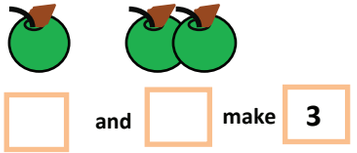
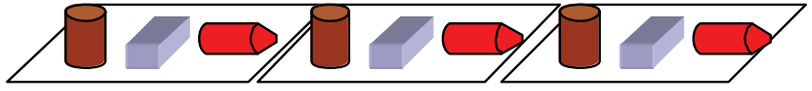
1.12 Techniques (methods or strategies)	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • draw pictures • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when solving problems and explain solutions to problems: • concrete apparatus e.g. counters • pictures to draw the story sum • number lines supported by concrete apparatus e.g. counting beads	In the first term learners will solve number problems using concrete apparatus. It is important that learners use a variety of apparatus that has been selected carefully to support the development of the concept being taught. As learners grow confident in using the apparatus, to show their thinking they can record their calculations by drawing. Expect that their drawings will reflect the concrete apparatus. There might be some learners who will immediately represent their calculations by drawing and not using any concrete apparatus. **Number lines supported by concrete apparatus** When using number lines as a technique in order to calculate learners first need to have used: • other 'line apparatus' e.g. counting beads, number tracks; • the number line to count forwards and backwards; and • the number line in order to position and order numbers. A structured number line must be used (and is best suited for) when learners are doing addition and subtraction. The structured number line must show all the numbers on it. • Introduce addition using a number line a) Teacher puts a number line from 0 to 10 on the board. She shows learners how to solve the problem 3 + 2 using a number line. She puts a picture of a rabbit at. **Example:** Rabbit jumps from 0 to 5 and then jumps another two jumps. How many jumps did it give altogether?  b) Learners use their fingers to jump on their own desk number lines, as the teacher gives number sentences with answers up to 10. Example: 1 + 2 = 3.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 **Addition and subtraction**	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1 5 • Addition up to 5 • Subtraction from 5 • Practise number bonds to 5	In Term 1 learners **understand addition as combining groups and as counting on**. They use their understanding that addition can be done in any order to choose how to calculate. They use a string of beads, draw pictures or a number line to work out calculations such as 3 + 2 or 1 + 4 by counting on. They also break up numbers in order to add. In Term 1 learners interpret subtraction as 'taking away'. They represent 'taking away' by using objects and drawing pictures and with number sentences. They recognise that the number of objects remaining is the answer in a calculation. They also record addition and subtraction using: • concrete apparatus; • pictures or drawings; or • pictures and numbers. **Working in the number range 1 - 5** When learners work or calculate within this number range they can build their understanding of addition and subtraction in the following way: • use concrete apparatus to represent the number and do calculations • record their calculations using pictures or models • record their calculations using a combination of pictures and numbers **Building up and breaking down of numbers** Adding and subtracting in Grade 1 focuses on getting learners to think about numbers as composed of other numbers. Most of the time learners are engaged in **part-part-whole activities.** These activities focus on a single number. For example, when working with the number 4 learners will: • break up 4 into different ways; • say or read the parts aloud; or • draw or write them down.  	

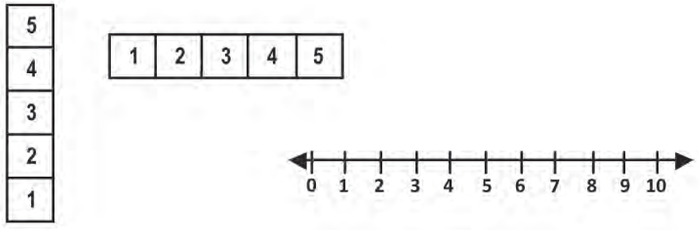
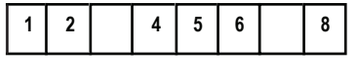
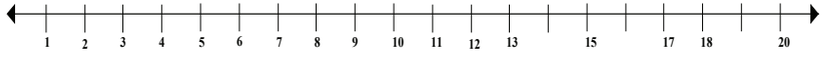
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1 5 • Addition up to 5 • Subtraction from 5 • Practise number bonds to 5	Learners can also use number cards to show the parts of numbers. So to show 4, some of the following cards can be used  These concepts can be supported by recording in class work books during independent time.  When doing subtraction learners are often engaged in story sums that develop the understanding of subtraction as ‘ take away’ or ‘count out’. Learners need to do **missing-part activities** as well. These activities support the understanding of subtraction and require a part to be hidden or to be unknown. **Example:** I have  I wish I had 5 The sign **is not** introduced during this term. Learners should be exposed to many ways of writing sentences that will help when the sign is introduced in Term 2. **Example 1**  **Example 2** 	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1 5 • Addition up to 5 • Subtraction from 5 • Practise number bonds to 5	**Number bonds** During this term learners practise number bonds to 5. This can be presented in pictures and number sentences using a variety of images. **Addition** **Example:** *Making 5 or finding friends of 5 using pictures and numbers* Colour in squares to make 5 **Example:**  _____ and _____ make 5  _____ and _____ make 5  _____ and _____ make 5  _____ and _____ make 5 **Language of addition and subtraction** Learners should also practise the language of addition and subtraction. **Addition:** Add, plus, and, increase by, combine, altogether, makes, sum **Subtraction:** Subtract, take away, minus, difference, between, less, reduced by In Term 2 learners will “translate” the language of addition and subtraction into symbols. Learners should be able to respond to the following type of instructions: • Make 3 more • Add 1 more • Take away 3 • Make 1 less • 3 and 2 more • 4 take away 2 • 3 add 1	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.16 Mental mathematics	**Number concept: range 20** • Order a given set of selected numbers • Compare numbers to 100 and say which is more or less • Know which number is 1 more or 1 less than a given number • Know which number is 2 more or 2 less than a given number • Know which number is 10 more or 10 less than a given number **Rapidly recall:** • Number bonds to 10 • Recall addition and subtraction facts to 10 **Mental 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	**Number concept: Range 5** • Order a given set of selected numbers • Compare numbers to 10 and say which is more or less • Know which number is 1 more or 1 less • Know which number is 2 more or 2 less	The mental mathematics sessions develop learners': • number sense; • language of Mathematics; • reasoning skills; and • listening skills. During the mental mathematics sessions learners should be given an opportunity to explain their methods. The mental mathematics sessions build an awareness of numbers (to have a 'feel' for numbers) and begin to teach learners how to work flexibly with numbers. The number 5 is no longer just a number. For example, for the number 4, learners must know that: • it comes after 5; • it comes before 6; • it can be associated with 5 objects; • they can write the symbol; and • they can write the number name. **Number concept** Examples of questions and activities that can be asked and done: • Learn line up and ask: Who is first, second, third or last? • Which is less, 3 or 5? • Which is more, 2 or 4? • Give me a number between 1 and 3, • Give me a number between 2 and 5. Is there only one number? • Put these number cards in order from the smallest to the biggest number. Questions on counting can also be asked: • Start with 3 and count forwards in ones to 10.	

GRADE 1 TERM 1 2. PATTERNS, FUNCTIONS AND ALGEBRA				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
2.1 **Geometric patterns**	**Copy, extend and describe** Copy, extend and describe in words • simple patterns made with concrete objects • simple patterns made with drawing of lines, shapes or objects **Create own patterns** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects **Patterns all around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage	**Copy and extend** Copy and extend simple patterns using • physical objects • drawings (e.g. using colours and shapes)	**Copying** the pattern helps learners to see the logic of how the pattern is made. **Extending** the pattern helps learners to check that they have properly understood the logic of the pattern. Learners can copy and extend patterns made with concrete objects even before they are comfortable with using a crayon or pencil to start copying and extending patterns by drawing. Patterns can be made with everyday objects that are commonly found in the classroom, such as counters, matches, matchboxes, geometric shapes, beads, cotton reels, boxes, balls, crayons, pencils etc. Learners can also make objects from clay or play dough and these can be used to make patterns. In Grade 1 learners can focus on patterns in which the shapes or objects (or groups of shapes or objects) are repeated in exactly the same way. **Example 1:** In some patterns the size of objects in a group alternates, but groups are repeated in exactly the same way  **Example 2:** Patterns can be made by using one object but having the colours of the object change in a regular way  **Example 3:** In some patterns different objects are used to make up a group, but the groups of objects are repeated in exactly the same way 	1 lesson

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
2.1 **Geometric patterns**	**Copy, extend and describe** Copy, extend and describe in words • simple patterns made with concrete objects • simple patterns made with drawing of lines, shapes or objects **Create own patterns** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects **Patterns all around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage	**Copy and extend** Copy and extend simple patterns using • physical objects • drawings (e.g. using colours and shapes)	To help Grade 1 learners to see what grouping is being repeated, it is useful in to place each group on a different piece of paper, or showing it within a block on the page. **Example 4:** Patterns can be made by repeating groups of objects. Groups can be made up of several identical objects which are positioned in different ways. Patterning in an important part of all early learning, and so it occurs in Language, Life Skills and Mathematics. For example, patterning is part of songs and other music, rhymes, dancing as well as many forms of visual arts. There are opportunities for learners to practise the visual patterning skills they use in Mathematics when they do Life Skills - especially threading beads or drawing patterns.	1 lesson

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
2.2 Number patterns	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100 **Create own patterns** Create own number patterns	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 20. Sequence should show counting forwards and backwards in: • ones from any number between 1 and 20	In the Foundation Phase, number patterns build learners' number concept development. Number patterns are linked with numbers operations and relationships. Number sequences can be linked with counting. Number sequences consolidate and develop learners' counting skills. As learners' counting skills change and develop, so will the number sequences. When learners do verbal counting they can be shown number sequences written down in different ways e.g.  Learners can then fill in missing numbers given in any of the forms of sequence above. Remember, however, that learners are writing numbers to 5. Learners can verbally "fill in" missing numbers and use number cards to complete a sequence. See notes on describing, comparing and ordering. **Example 1**: number track/number grid  **Example 2:** number sequence By the end of the term, the number range goes up to 20. Learners can work with the whole sequence 1 - 20 or parts of the sequence. **Example 3**: number line 	3 lessons

GRADE 1 TERM 1 3. SPACE AND SHAPE (GEOMETRY)				
TOPICS	**CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS: FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
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. **Position and views** Match different views of the same everyday object. **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 inside the box	**Language of position** Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. **Position and directions** • Apply the language of position learnt when following directions • Follow directions to move around the classroom • Follow instructions to place one object in relation to another e.g. put the pencil inside the box	**Language of position** Language of position should be introduced through practical activities that involve learners in physical movement including songs and rhymes with movement and games with movement words. This can be done during whole class teaching time or focus group teaching time. It is suggested that you spend two lessons on position activities during Term 1, but then continue to introduce and practice position words for short parts of whole class, focus group and independent work time. The language of position can also be practised during Language and Life Skills lessons. It is useful to introduce pairs of position words at the same time e.g. up and down; inside and outside. Useful position words include: • left, right; • front/back; • behind, in front of; • on top /under; • in/out; • under/ over; • under /above; • near/far; • between The language of position can be consolidated through written recording like drawing, colouring or matching drawings with words. **Position and directions** Learners can first learn some language of position and then use this knowledge to follow: • instructions to move or place objects in relation to each other e.g. “put the crayons next to the counters”; “put the number cards on top of the cupboard”. • directions to move themselves in the classroom e.g. “come to the front of the class”; “stand next to your chair”; “jump over the dirt bin” etc Teaching learners to follow directions should be done through practical activities in which learners move themselves or objects according to instructions.	2 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.2. 3-D objects	**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) **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour **Focussed activities** Observe and build given 3-D objects using concrete materials such as building blocks, recycling, construction kits.	Most of the work on three dimensional objects in grade 1 should be done with concrete/ physical objects. We experience the world in three dimensions, so starting with physical objects helps learners to build on the experience that they bring to school. Many young learners struggle to interpret three dimensional geometric objects from pictures. Working with the physical objects helps learners to interpret pictures of the geometric objects later. When you have a physical object you can turn it around and look at it from all sides. You can see what it looks like from behind and underneath. When you only have a picture, you have to imagine the parts that are not visible in the drawing. This is not always easy for young learners. If learners are only given a definition of an object without seeing it or holding it, it is very difficult to understand the features of the object completely. **Building with 3-D objects** Learners start with free play with various 3-D objects and building things of their own choice using building blocks or construction kits or recycling. This can be done in independent time. You can then use recycling (such as match boxes) or building blocks or other construction kits to make a model or construction e.g. a tower, a robot, train, taxi, castle etc. Learners can make a copy of the model. This can be done in independent time, but it is important to also discuss with learners why certain kinds of objects are used in the models. This helps to focus learners on the geometric features of the objects. For example, if a tower is built of boxes or blocks, you can ask learners “can you build a tower with only balls?” They should explain their answer. **Recognising and Naming balls (spheres) and boxes (prisms)** Learners identify and describe ball shapes (spheres) and box shapes (prisms) Learners should describe everyday objects by saying whether they are shaped like a ball or are shaped like a box, e.g. this brick is shaped like a box or this orange is shaped like a ball. It is important for learners to see and work with more than one example of objects shaped like balls and objects shaped like boxes. Learners should be **given** a range of spherical objects to work with e.g. balls of different sizes, marbles, oranges etc. Learners should also be **given** a range of objects shaped like prisms to work with e.g. blocks, bricks, and boxes of different sizes. Learners can **find** and **sort** objects shaped like a ball (sphere), or shaped like a box (prisms) when given a collection of objects. Learners can find, show and name objects shaped like boxes (prisms) in the classroom. Learners can be instructed to make ball shapes or box shapes from clay or play dough.	3 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.2. **3-D objects**	**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) **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour **Focussed activities** Observe and build given 3-D objects using concrete materials such as building blocks, recycling, construction kits.	**Comparing and describing 3-D objects: size** Learners compare the size of similar objects **Example:** • order balls according to size • use the language of size to compare objects "the box is bigger than the ball, because I can put the ball inside the box. **Describing 3-D objects: colour** Learners talk about the colours of objects and then sort objects according to colour. Identifying and naming objects and their colours, as well as comparing sizes of objects can be practised during work with patterns. **Written exercises** Although most of the work with 3-D objects is done practically, work must be consolidated through written exercises. **Language** It is important to develop learners ability to talk about 3-D objects • Language of size: big, bigger, biggest, small, smaller, smallest • Colours • Language of objects themselves: Boxes, balls **(learners are not expected to know the terms sphere and prisms)** • Language of position to describe construction **Example:** • on top of, under • behind, in front • next to, alongside • under, over • near, between • inside, outside The language of size and colour can be developed in the language or life skills lesson time and applied or practised in the maths lesson time. The language of position can be developed in the language or life skills lesson time and when during the time that learners focus specifically on position. It can be applied or practised when learners work with 3-D objects.	3 lessons

GRADE 1 TERM 1 4. MEASUREMENT				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
4.1 Time	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Name and sequence days of week • Name and sequence months of year • Place birthdays on a calendar	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Identify and sequence days of week • Name and sequence months of year • Place birthdays on a calendar	Learners should learn how to talk about: • the sequences of events' and • duration of time. Most of this work happens on a daily basis during whole class teaching time or focus group teaching time. Learners talk about and answer questions about when things happen, using language such as morning, afternoon, night, early and late. **Passing of time** Learners sequence events using language such as yesterday, today, tomorrow. Learners compare time lengths using language such as longer or shorter and faster or slower. Learner talk about the ordering of events from their own lives. They also order sequences of pictures such as • the steps to make a sandwich or a cup of tea,; • photographs showing a baby grown into an elderly person; • the life cycle of animals e.g. egg to chicken, or egg to frog or egg to a butterfly; and • regular events in the day (waking up, being at school, playing, eating supper, sleeping). **Telling the time** • Learners learn the days of the week through songs and rhymes. This is practised daily. • Birthdays are placed on the calendar on the relevant day. • Learners learn the months of the year through songs and rhymes.	2 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
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 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 etc • Describe the length of objects by counting and stating the length in informal units	**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 comparison e.g. longer, shorter, taller, wider	All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. It is recommended that mathematics lessons focus on length in at least two terms of the year (Term 1 and Term 3). The focus in Term 1 can be on direct comparisons and in Term 3 learners can work with informal units of measurement. Learners can also practise and consolidate these concepts during independent work time throughout the year. **Direct comparisons of the length of physical objects** Developing an understanding of length and the language to talk about it Learners begin to think and talk about length by comparing two objects (or drawings of two objects) with very noticeable differences in length. **Example**: • a long piece of string and a short piece of string • a tall tree and a short tree, • a wide river and a narrow river Learners can make or draw examples such as • use clay or play dough to make a long snake and a short snake • use blocks to make a tall tower and a short tower • draw a tall teacher and a short teacher Once learners can talk about lengths in terms of opposites, one can introduce them to the new language of comparison, for example, “I made a long train but Sihle made a longer train.” Comparing lengths by placing objects next to each other Once learners can talk about the extremes of length (tall, short etc), and compare the lengths of objects that are obviously different at first glance, they can move on to examples which are less obvious at first glance and need to be place next to each other to compare. For example, • find out which of two children are taller by standing back to back • placing two crayons alongside each other and aligning the bottom of the crayons to find which is shorter Learners should be given the opportunity to compare two examples of a wide variety of objects such as sticks, pencils, straws, lengths of string, ribbon, strips of paper etc. Drawings of two objects can also be compared if they are placed next to each other and aligned at the top or bottom.	2 lessons

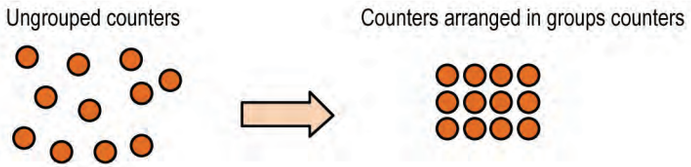
TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
4.2 Length	**Informal measuring** • Compare and order the length, height or width of two or more objects. by placing them next to each other • Use language to talk about 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 etc • Describe the length of objects by counting and stating the length in informal units	**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 comparison e.g. longer, shorter, taller, wider	Learners can then move on to comparing and ordering three or more objects. This is known as seriation. Examples include • groups of learners standing back to back pair by pair so that they can position themselves in a line from shortest to tallest; and • lining up groups of three or more objects from tallest/longest to shortest or widest to narrowest. Suitable objects include pencils, crayons, bottles, sticks, lengths of string or ribbon; strips of paper or material, shoes etc. Learners develop a sense of length at the same time as they develop the language to describe length. Since this does not require any numbers, it can be done early in Term 1 before learners consolidate their number and operation sense to 5. Although measuring is a practical skill, learners should also do written exercises, which can include drawing and colouring, both so that they practise using crayons or pencils and so that they practise recording when measuring.	2 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
4.3 **Mass**	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier • Describe the mass of objects by counting and stating the mass in informal units	**Informal measuring** • Estimate, measure, compare, order and record mass using a balance and non-standard measures and e.g. blocks, bricks etc • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	All measurement in Grade 1 is informal. No formal measurement of mass with standard units or instruments is done. It is recommended that Mathematics lessons focus on mass in at least two terms of the year (Term 1 and Term 4). The focus in Term 1 can be on direct comparisons and in Term 4 learners can work with informal units of measurement. Learners can also practise and consolidate these concepts during independent work time throughout the year. **Direct comparisons of the mass of physical objects** • Developing an understanding of mass and the language to talk about it Learners begin to think and talk about mass by comparing heavy and light objects. They pick up a very light object and then try to pick up a very heavy object. This can be consolidated by showing drawings in which very heavy and very light objects are compared. Once learners can talk about mass in terms of opposites, heavy and light, learners can compare two objects and say which is heavier and which is lighter. This can be by done holding an object in each hand and comparing which is heavier and which lighter. Learners should record all work either through drawing or matching exercises. • Comparing mass using a balancing scale Commercial mass balances can be used. If you don't have a commercial balance, you can make one by attaching a pair of one of the following to a coat hanger: a yoghurt cup, the cut-off base of a 2 litre bottle or the cut-off bottom of a 1 litre milk or cold drink box (identical containers are attached to either side of the coat hanger).	2 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
4.3 **Mass**	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier • Describe the mass of objects by counting and stating the mass in informal units	**Informal measuring** • Estimate, measure, compare, order and record mass using a balance and non-standard measures and e.g. blocks, bricks etc • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	• Learners can start by placing identical objects on either side of the balance, to see that the "bar" or base of the coat hanger it is horizontal when the two objects have the same mass. • Learners compare objects by placing one in each side of the balance, to see which is heavier or lighter. • Learners can then compare objects by placing more than one object on one or both sides of the balance to see how many of one object have the same mass as another e.g. 5 crayons has the same mass as 1 pair of scissors. • This can be extended to seriation, where learners test the relative mass of pairs of objects until they can sequence three or more objects from lightest to heaviest or heaviest to lightest. Items should be selected to include large light items and small heavy items, e.g. a 250 g packet of salt compared with a 400 g box of cornflakes. This helps learners to understand from the onset that mass is only related to size if the same substance is weighed. Learners develop a sense of mass at the same time as they develop the language to describe mass. Since this does not require any numbers, it can be done early in Term 1 before learners consolidate their number and operation sense to 5. **Recording** Although measuring is a practical skill, learners should also do written exercises, which can include drawing and colouring, both so that they practise using crayons or pencils and so that they practise recording when measuring.	2 lessons

TOPICS	CONCEPTS AND SKILLS: REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS: FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
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 the 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 • 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	**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 • Use language to talk about the comparison e.g. more than, less than, full, empty	What is capacity? What is volume? Capacity is the amount that an object can hold (all the amount of space inside an object). Volume is the amount of space that something takes up. A bottle can have a capacity of four full cups, but at a particular time it may have only one cup of liquid in it. Learners in grade 1 are not expected to know the difference between capacity and volume. All measurement in Grade 1 is informal. No formal measurement of capacity/volume with standard units is done. It is recommended that Mathematics lessons focus on capacity/volume in three terms of the year (Term 1, Term 2 and Term 4). The focus in Term 1 can be on developing language to talk about extremes and comparisons in volume, Term 2 can be on direct comparisons and in Term 3 learners can work with informal units of measurement. Learners can also practise and consolidate these concepts during independent work time throughout the year. **Direct comparisons of the volumes in containers** Developing an understanding of volume and the language to talk about it Learners begin to think and talk about volume by comparing how much is in identical two containers (or drawings of two identical containers) focus • full and empty • more than/less than • the same as Learners can fill and empty containers using either water or sand etc. Since this does not require any numbers, it can be done early in Term 1 before learners consolidate their number and operation sense to 5. **Recording** Although measuring is a practical skill, learners should also do written exercises, which can include drawing and colouring, so that they practise: • using crayons or pencils; and • recording when measuring.	1 lesson

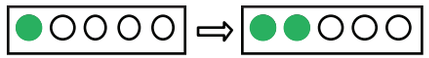
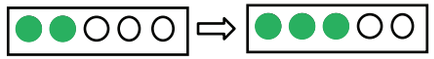
GRADE 1 TERM 1 5. DATA HANDLING				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
Working with collections of objects				
5.1 Collect and sort objects	**Collect and organise objects** Collect and sort everyday physical objects.	**Collect and organise objects** Collect and sort everyday physical objects.	Sorting, representing and describing the sorted collection are useful skills for learners to develop early on in schooling (see notes on pre-number skills at the start of clarification notes). The process also develops the skills learners will use when doing the data handling cycle. Learners can be given collections of objects and asked to sort them. For example, give groups of the same kinds of counters and ask learner to sort them into colours, give collections of different kinds of counters such as bread tags, peach pips, matches, bottles tops and ask learners to sort them into groups. Learners then draw a picture of the groups that they have made. In this way learners record what they have done. They answers questions about the groups **Example** "How did you group your counters?" " I made groups of colours." "The biggest group of counters was which colour?" "My biggest group was red." "How many different colours of counters did you have?" "I had five different colours." Learners could also find their own collections. For example, learners can collect leaves from the school grounds, or bring empty food containers from home.	2 lessons
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. **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		
5.3 Discuss and report on sorted collection of objects	**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			

GRADE 1 TERM 2 1. NUMBER, OPERATIONS AND RELATIONSHIPS				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (In lessons of 1 hour 24 minutes)
NUMBER CONCEPT DEVELOPMENT: Count with whole numbers				
1.1 Count objects	Count out objects reliably to 50. • Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 20 • Give a reasonable estimate of a number of objects that can be checked by counting • Counting by grouping is encouraged	**What is different from Term 1?** In Term 2, the counting number range is extended. There is still a focus on understanding that the last number named indicates the number of objects in a set. Learners are counting more objects and in Term 2 they should learn how to position the objects when counting so that when they check their count the arrangement helps them to count more easily. **Example:**  During this term learners continue extending their counting skills and practising: • counting all; • counting on;. • the cardinality principle of numbers; and • working with written texts. During the second term learners begin to: • Count objects they cannot touch or hold. **Example:** We ask learners: How many sections are there in the window pane? • **Count actions**	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.1 Count objects	Count out objects reliably to 50. • Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 20 • Give a reasonable estimate of a number of objects that can be checked by counting • Counting by grouping is encouraged	**Example:** Clap 15 times. Hold up 8 fingers. **Estimation** Estimating the number of objects in a group develops important skills of prediction. It helps learners to see whether they are realistic in their prediction. This is important when they are doing operations: they can check themselves to ensure that their answers are realistic. It is useful for learners to count illustrations of objects that are grouped and that are ungrouped. Try to contrast grouped and ungrouped objects by asking learners to estimate which has more objects. They can estimate the number of objects in each picture. They can write down this number. Then they can count. They should compare their estimation with their counts. Ask learners to talk about how they counted. Try to find out if some learners counted in groups. **Subitising** Learners increase their skill of recognising a small collection of objects. **Counting in groups** In order to help learners count in intervals of 2, 5 and 10 they need to group objects in 2s, 5s and 10s. Number cards should be displayed at each collection to show the number of objects counted. The counting in groups will prepare learners for understanding multiples in the intermediate phase. **Resources:** Careful consideration needs to be given to the kind of apparatus used. • Structured apparatus, such as a string of counting beads • The abacus to practice counting in groups of ten • Making bundles of 2, bundles of 5 and ten and then counting all	

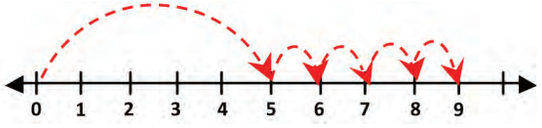
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.2 Count forwards and backwards	**Count forwards and backwards in** • ones from any number between **Count forwards in** • 10s from any multiple of 10 between 1 and 100 • 5s from any multiple of 5 between 1 and 100 • 2s from any multiple of 2 between 1 and 100	**Count forwards and backwards in** • Ones from any number between **Count forwards in** • 10s from any multiple of 10 between 1 and 50 • 5s from any multiple of 5 between 1 and 50 • 2s from any multiple of 2 between 1 and 20	**What is different from Term 1?** In Term, learners now count to in ones. They also count in intervals of and **Verbal skip counting** Skip counting is another name for counting in groups. It helps to develop an awareness of number patterns. Skip counting encourages learners to count and think in groups, which makes them more efficient. This also helps them develop their estimation skills. Counting in groups makes them aware of the relationships between non-consecutive numbers. It lays the basis for number patterning and for multiplication. **Further activities** Here are some suggestions for different ways of doing skip counting: • Start by counting consecutive numbers but emphasising every second one. For example learners can clap, and say every second number more loudly. Then ask the learners to count but to say every second number only in their heads. This can be extended to learners only saying the third, fourth or fifth number. • You can divide the class into groups, and each group can take turns to say the next number. If, for example, you divide the class into five groups, each group must count every fifth number. • Ask learners to make a physical pattern such as touching their heads on the first count, crossing over their arms and touching their shoulders on the second, and slapping their thighs as they shout out every third number. • Beating or clapping time to music can be used in combination with skip counting. **Counting objects can develop verbal counting skills.** In class, counting activities often develop several different skills. Skip counting is best introduced while practically grouping objects. **Further activities** **Number Grids** Ask learners to highlight the numbers they identify as they count in . Ask what they notice about the numbers. Vary the numbers that learners start from.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.2 Count forwards and backwards	**Count forwards and backwards in** • ones from any number between **Count forwards in** • 10s from any multiple of 10 between 1 and 100 • 5s from any multiple of 5 between1 and 100 • 2s from any multiple of 2 between1 and 100	**Count forwards and backwards in** • Ones from any number between **Count forwards in** • 10s from any multiple of 10 between 1 and 50 • 5s from any multiple of 5 between 1 and 50 • 2s from any multiple of 2 between 1 and 20	**Moving to written texts** • Number lines - Learners can show their skip counting using the number line. • Number sequences - Towards the end of the term learner can be completing simple number sequences (see notes on number patterns) **Example:** 2, 4, 6, 8, – 5, 10, 15, 20, – 10, 20, 30, 40, –	
1.3 Number symbols and number names	Recognise, identify and read **numbers** • 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 **numbers** • Recognise, identify and read number symbols 1 to 50 • Write number symbols 1to10 • Recognise, identify and read number names 1 to 10 • Write number names 1 to10	**What is different from Term 1?** In Term 2, the number range for knowing, reading and writing number symbols and names increases. Counting on number lines and number grids give learners practice in identifying, recognising, saying and reading number symbols. Provide learners with further practice by focusing their attention on number symbols in the environment and in print. **Example:** • looking at page numbers, and books • Identifying birthdays on a calendar **Further activities** • Teacher gives the following instruction to find a number, and learners use the flard cards to show the answers. - Find the number just before 12 - Find the number just after 12 - The number that is 3 more than 11 - The number that is 1 less than 14	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.4 **Describe, compare and order numbers**	**Describe, compare and order up to 20 objects** • **Describe and compare** a collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different • **Describe and order** a collection of objects from most to least and least to most **Describe, compare and order numbers to 20** • **Describe and compare** whole numbers according to smaller than, greater than, more than, less than, is equal to • **Describe and order** numbers: - from smallest to greatest and greatest to smallest - before, after, in the middle/between - using the number line 0 - 20 • **Describe and order** using language e.g. before, after, in the middle/between	**Describe, compare and order up to 10 objects** • **Describe and compare** collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different **Describe and order** collection of objects from most to least and least to most **Describe, compare and order numbers to 10** • **Describe and compare** whole numbers according to smaller than, greater than/more than, "less than, is equal to • **Describe and order** numbers: - from smallest to greatest and greatest to smallest - before, after, in the middle/between - using the number line 0 - 10 • **Describe and order** using language e.g. before, after, in the middle/between	**What is different from Term 1?** In Term 2, learners continue to: • order and compare objects; • order and compare numbers; and • use the language of ordering and comparing. During this term learners continue to order and compare objects. During this term learners can begin to form relationships between the numbers by focussing on one and two more, one and two less. • When comparing sets they should be able to describe these by saying, "I have two more counters than him" or, "She has one less than me". • When comparing numbers they should be able to say "one more than four is five' or seven is two more than five" **Building the awareness of " one more than " concept** The more than and less than concept is the beginning of informal addition and subtraction. It allows learners to understand the size of a number as well as the order of numbers. • Instruct learners to place 1 counter on the first empty space of their "5 frame" card. Tell the learners to place one more counter next to the first counter.  Ask: How many do you have now? How much is one more than one? • Instruct learners to place 1 more counter on their "5 frame" card.  Ask: How many do you have now? How much is one more than two?	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.4 Describe, compare and order numbers	**Describe, compare and order up to 20 objects** • **Describe and compare** a collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different • **Describe and order** a collection of objects from most to least and least to most **Describe, compare and order numbers to 20** • **Describe and compare** whole numbers according to smaller than, greater than, more than, less than, is equal to • **Describe and order** numbers: - from smallest to greatest and greatest to smallest - before, after, in the middle/between - using the number line 0 - 20 • **Describe and order** using language e.g. before, after, in the middle/between	**Describe, compare and order up to 10 objects** • **Describe and compare** collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different **Describe and order** collection of objects from most to least and least to most **Describe, compare and order numbers to 10** • **Describe and compare** whole numbers according to smaller than, greater than/more than, "less than, is equal to • **Describe and order** numbers: - from smallest to greatest and greatest to smallest - before, after, in the middle/between - using the number line 0 - 10 • **Describe and order** using language e.g. before, after, in the middle/between	• Instruct learners to place 1 more counter on their "5 frame" card.  Ask questions: How many do you have now? How much is one more than three? How many counters do you need to make five? Ask, " What can you tell me about number 4?(It's one less than 5.) What can you tell me about number 2? (It's 3 less than 5.) **Ordering numbers** Learners need to order numbers using a variety of images. • Grouping images Learners compare a group of 9 objects to a group of 2 objects. • Line images When learners order numbers they might use the distance between numbers to know which number is bigger. For example, they will say that 9 is bigger than 2 because 9 comes after 2. The ordering of numbers can often be done during independent time. **Further activities** *Ordering numbers* Learners order number cards 1 to 13 from smallest to greatest. Learners turn their number cards up-side down. They choose any 4 cards, order these from smallest to greatest and ask a friend to check whether it is correct. If they mastered 4 cards they may choose 5 cards. They place them in the correct order and copy the numbers from smallest to greatest. **Written tasks** Learners need to consolidate their understanding by completing written tasks. **Examples:** By the end of the term they should be able to complete similar type sentences: 1 more than 3 is_____ 1 more than 4 is _____ 1 less than 2 is _____ ____ is 1 more than 4 ____ is 1 less than 3	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.6 Problem-solving techniques	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	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 e.g. counting beads	**What is different from Term 1?** During this term learners are introduced to doubling and halving for the first time. See the notes under the calculation section. By the end of this term learners are beginning to solve the word problems using the following techniques: • drawings or concrete apparatus • building up or breaking down numbers • doubling and halving • number lines **Drawings or concrete apparatus** Learners will continue to draw pictures and use concrete apparatus to solve problems. It is important that the pictures or drawings contain numbers as well as number sentences. **Building up and breaking down** This is one of the most important techniques in the Foundation Phase. Using this technique allows learners to split (decompose) and recombine numbers to help make calculations easier. **Example** 6 + 4 → 5 + 1 + 4→ 5 + 5 → 10 This technique is also used frequently in the intermediate phase. **Doubling and halving** This technique is quite sophisticated and requires a strong number sense. Learners who are able to choose this as a technique are quite flexible in the strategies they use. During this term learners start doubling numbers because they are calculating to 10. Before doubling and halving can be used as a calculation strategy the concept needs to be taught. In Grade 2 learners are presented with a number sentence and asked: " How can we use near doubling to work out the answer to 5 + 6 = □?" Learners realise that 5 and 6 are close to each other. Concrete apparatus is used to show that: "I am going to make double 5 which is two groups of five. I add the two fives and get 10 and then I have one left which I must still add. The answer is 11. Using their own language or drawings, learners can still use the technique. By Grade 3 learners will be able to apply the technique when calculating with three-digit numbers. During this term learners will use doubling and halving in the following way:	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.6 Problem-solving techniques	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	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 e.g. counting beads	**Doubling:** • Two tricycles, how many wheels? • Jasmine and Noah have 4 marbles each. How many marbles altogether? Learners can draw pictures and use concrete apparatus to show the number is being doubled. **Halving:** • In Term 2 learners practise halving so that they can use it as a technique in Term 3. • Doubling and halving should be practised in context-free situations. **Number lines** Using number lines to help calculate will allow learners to: • record their thinking; • keep track of their thoughts; and. • have a recording image that they can use to explain how they solved the problem. Learners have been using number lines since Term 1 As learners progress through the Foundation Phase they should be encouraged to use number lines in increasingly sophisticated ways. In Term 1, learners counted on in ones. This is shown on the number line by hops in ones. **Example 1:** There are 5 boys and 4 girls doing extra art lessons at a school. How many learners are there in the art class?  In Term 2 learners can still do counting on in ones, but can also be encouraged to use the number line to show counting on in groups. **Example 2:** Learners can also break 4 into groups of 2. The number line will then show jumps of 2s from 5.  	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.7 **Addition and subtraction**	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 10.	**What is different from Term 1**? During this term learners practise doing word problems and work on becoming confident in using some of the techniques when solving problems. The focus during this term should be on recording. Learners should be writing down number sentences as a written record for problems up to 5. Learners will continue to use concrete apparatus and drawings to represent their calculations from 5 to 10. See Term 1 notes for the kind of problems that can be done during this term. Increase the number range to 10.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
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	Solve word problems in context and explains own solution to problems involving repeated addition with answers up to	The calculating number range during this term allows for learners to begin repeated addition. Calculating to 10 allows for recording. **Example:** • 1 + 1 + 1 • 2 + 2 + 2 + 2 • 3 + 3 + 3 Term 1 built the concept and the understanding of addition and learners should be able to add equal groups. During this term learners will work with word problems that allow for an image of repeated addition. Repeated addition is often introduced to learners as groups of equivalent numbers. Initially learners can be introduced to everyday equivalent groupings. Problems involving repeated addition are all of the form: • Groups of: hands, feet, socks, gloves, shoes, yes, ears, bicycle wheels • Groups of: tricycle wheels, edges to triangles • Groups of: car wheels, legs of chairs • Groups of: fingers, toes, The language of repeated addition is important. Learners must be given the opportunity to describe orally what they see. **Recording images for repeated addition** • Using concrete apparatus • Learners will show their calculation using apparatus that has been grouped. • In pictures only • Learners will draw pictures to show how they have grouped to add. • Recording in pictures and numbers • Pictures will show drawings supported by numbers. • Moving to written texts	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.11 Money	• Recognise and identify the South African currency - coins 5c, 10c, 20c, 50c, R1, R2 - notes. R10 and R20 • Solve money problems involving totals and change in cents up to 20c or rands up to R20.	• Recognise and identify the South African currency coins • Solve money problems involving totals and change to and in cents up to	Teaching learners about money, explaining the following concepts: • what money is • why money is important • how money is used in everyday life • how learners count money Learners learn about money before they come to school. Some learners might have a concept of the value of money and be able to recognise and name the coins and notes. During this term learners should learn the basic concept of using money through practical situations. This is done through practical situations such as playing shop. • Bring South African coins and the R20 and R10 bank notes to school. Learners feel the rims of the coins and discuss how they differ. They discuss the symbols that are on each coin and bank note. • Learners put coins under a thin piece of paper and use a soft writing medium to rub over them e.g. colouring pencils or pastels. They cut the copies out, paste them in their exercise books and name the coins. • They print and cut out more images of 5c, 10c and 20c coins. They paste all the combinations of coins that will make up 20c and 10c e.g. 20c = 10c and 5c and 5c 20c = 5c and 5c and 5c and 5c • Totals up to 20c - only coins - Learners already know how to count in 5s and 10s and will use this knowledge to find totals. - Teacher gives each learner paper copies of 5c, 10c and 20c coins. o She tells them which coins to take out, e.g. three 5c coins. o They count in 5s or do repeated addition, 5c+5c+5c. - Teacher asks learners to take out 20c using different coins. They should see that they each take out two 5c coins and one 10c coin. - Learners complete worksheets where they show which coins they need to make a total of 20 cents. **Example:** 20c = 10c + 10c or 5c + 5c + 5c + 5c = 20c or 5c + 5c + 10c = 20c	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.11 Money	• Recognise and identify the South African currency - coins: 5c, 10c, 20c, 50c, R1, R2 - notes: R10 and R20 • Solve money problems involving totals and change in cents up to 20c or rands up to R20.	• Recognise and identify the South African currency coins • Solve money problems involving totals and change to and in cents up to	• Give change using only coins - Teacher does subtraction of coins practically with learners e.g. they take out 5c coins to make up 20c. - Teacher asks: "If you pay a cashier 15c, how much money is left?" Learners who find it difficult to work with only coins use counters to support them. - Learners complete worksheets where they work out the change for items that they bought for 20c or less. **Example:** - 10c - 5c = 5c - 20c - 10c = 10c - whole tens - 20 - 5c - 5c - 5c = 5c: repeated subtraction	
CONTEXT-FREE CALCULATIONS				
1.12 Techniques (methods or strategies)	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • draw pictures • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus e.g. counting beads	**What is different from Term 1?** In Term 2, learners begin to calculate to 10. Working within this number range means that calculating techniques can be developed and practised. These strategies are also practised in the number problem section. **Building up and breaking down numbers** Building up and breaking down activities further develop learners' awareness of the relative size of numbers. These activities lay the basis for basic operations. Splitting up (decomposing) and recombining numbers can help to make calculations easier. Regular practice in this kind of activity encourages learners to use it as a mathematical strategy. **Doubling and halving** Before doubling and halving is used as a calculating strategy it needs to be understood and practised first. • Using concrete apparatus This can be done through direct instruction. Tell and show learners that there are five counting sticks and that you will be able to 'double' the amount by laying out five more counting sticks. • **Moving to written texts** using pictures. • **Learners** could be given images of doubling and they could then represent the image in pictures.	

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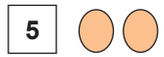
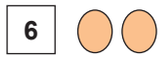
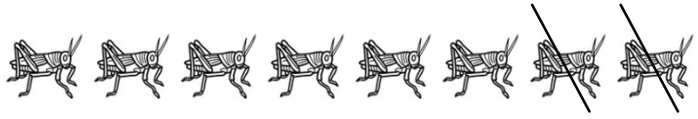
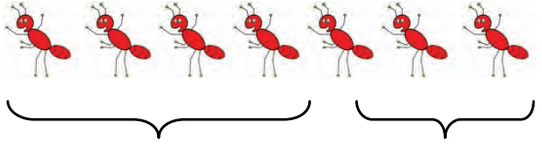
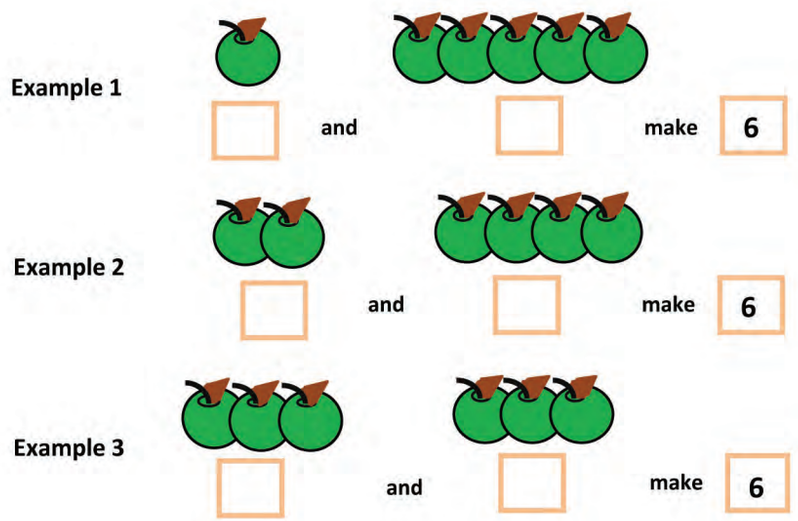
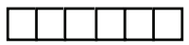
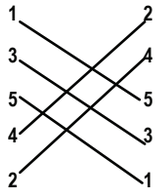
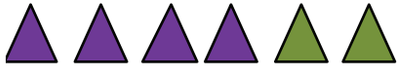
CONTEXT-FREE CALCULATIONS				
1.12 Techniques (methods or strategies)	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • draw pictures • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when performing calculations: • concrete apparatus e.g. counters • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus e.g. counting beads	• **Using numbers** Learners could start by completing sentences such as: Double 1 is... Double 2 is... Double 3 is... Double 4 is... **Number lines supported by concrete apparatus** When using number lines as a technique in order to calculate, learners first need to have used: • other 'line apparatus' e.g. counting beads, number tracks; • the number line to count forwards and backwards; and • the number line in order to position and order numbers. A structured number line must be used (and is best suited for) when learners are doing addition and subtraction. The structured number line must show all the numbers on it.	

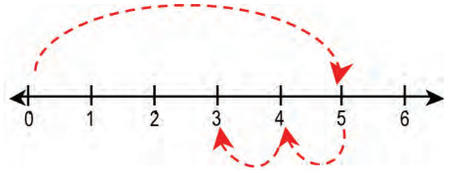
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	**What is different from Term 1?** In Term 2, the number range has increased from 5 to 10. During this term learners will begin to understand: • The commutative property of addition; and • the relationship between addition and subtraction Before learners are introduced to the symbols of addition and subtraction learners should have had sufficient experience in: • counting all; • counting on from the larger number; • using and understanding the language of addition and subtraction; and • ordering and comparing numbers. In this term, learners continue to build their understanding of addition and subtraction. Addition and subtraction are still strongly related to counting. The concept of 1 more or 2 less is still used because it is associated with the next number in the counting sequence. During this term learners will use symbols for writing number sentences more frequently and confidently. The progression towards using the symbols should be dealt with carefully. It is important that learners understand different meanings associated with the symbols. Learners should be able to understand and use words such as add, plus, altogether, together make, minus, difference between and subtract before the symbols are introduced. Learners should first be able to answer questions such as 3 and 2; 5 take away 3, before the sign is used.	

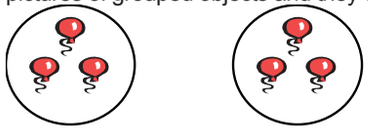
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	**Recording images** Calculating to 10 means that learners will still record their calculations using: • drawings or concrete apparatus; • pictures and numbers; or • numbers only. Towards the end of the term, within the number range 1 to 5, learners should be confident in using numbers only and not drawing pictures to represent their calculations. **Calculating strategies when doing addition and subtraction** *Doing addition by counting all.* Learners will start at 1 and count to 5 and then continue counting to 7.  *Doing addition by counting on.* Learners will count on from 5 to 7  This technique is far more efficient than counting on in ones. Learners will use this technique far more as the calculating number range increases. *Count on from the greater number*  Learners count on from the bigger number, which is 6, and count on to 8 *Doing subtraction by taking away* 7 - 3 =  7 - 3 = 4 When recording subtraction learners might cross out the images to show taking away.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	*Subtraction by counting on*  6 – 2 = □ Learners can count on from 2 to 6. They need to note how many numbers they counted from to *Subtraction by counting backward* 8 – 2 = □  Learners can also start from the bigger number, which is 8, and count back 2 steps to 6 **Building up and breaking down numbers** This may be done in a variety of ways.  7 = 4 + 3  7 = 4 + 3 **Number bonds** During this term learners practise number bonds to 7. This can be presented in pictures and number sentences using a variety of images.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	**Addition** **Examples:** *Making 6 or finding friends of 6 using pictures and numbers*  *Making 6 using pictures and numbers* Colour in to show 6 in different ways.  _____ and _____ make 6 *Using numbers only* Match pairs of numbers to make 6:  	

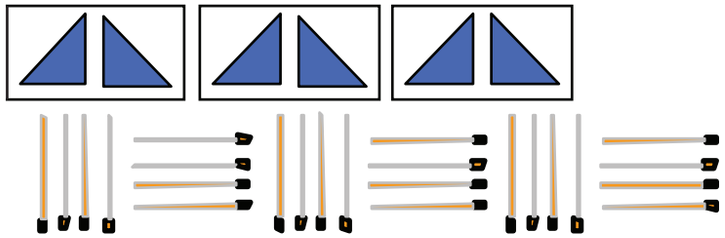
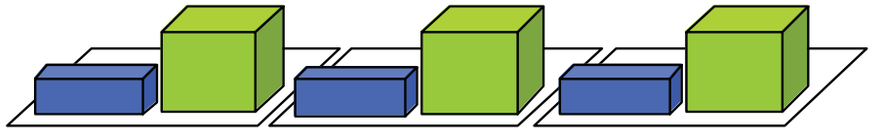
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 **Addition and subtraction**	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	**Commutativity** During this term learners begin to recognise the commutative property of addition without having to know the term. **Example:** Count the triangles  **6 + 2 = □**  **2 + 6 = □** Writing related to addition and subtraction number sentences – *understanding the relationship between addition and subtraction* During this term learners learn that they can write a subtraction number sentence for an addition number sentence. **Example:**  4 + 2 = 6 and 6 – 2 = 4 2 + 4 = 6 and 6 – 4 = 2 **The equal sign** The equal sign does not have to be introduced quickly. It might be useful to use the symbols in a more flexible way and give learners the opportunity to use arrows instead of the equal sign. **Example:** Together make **4 and 2 →** 6	

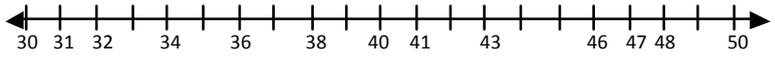
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.13 Addition and subtraction	Number range: 1-20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 10	Number range: 1-10 • Add up to 10 • Subtract from 10 • Use appropriate symbols (+, –, =, □) • Practise number bonds to 7	**Using number lines** Introduce subtraction up to 10 on a number line. Teacher uses the number line to subtract numbers up to 10 e.g. 5 – 2 = **Example:** The rabbit jumps to 5, then jumps 2 numbers back and stop at 3. So 5 – 2 = 3  **Written tasks** Learners should be presented with a wide variety of images to support the understanding of addition and subtraction. They also need written tasks that ask explicitly to: • count on; • add by counting on from the bigger number; or • subtract by crossing out the pictures to show taking away. **Concept of doubling** The number range learners are working with allows them to start doubling. This can be introduced in many ways and can also be done when learners are counting objects. **Example:** Learners can make groups of 2 counters, 4 counters, 6 counters, 8 counters and 10 counters. Number sentences should accompany the images.  **Double 1 is…….** **Double 2 is…….** **Double 3 is…….**  **Double 4 is…….** **Double 5 is…….**	

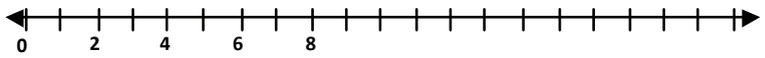
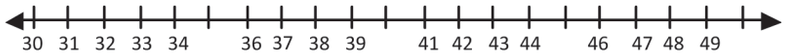
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.14 Repeated addition leading to multiplication	• Repeated addition(i.e. the same number) to 20 • Use appropriate symbols (+, =, □)	• Repeated addition(i.e. the same number) to 10 • Use appropriate symbols (+, =, □)	**What is different from Term 1?** In Term 2, learners start doing repeated addition to 10. Once learners have a really good concept of the numbers 1 to 5, repeated addition will make sense to them. Repeated addition should be introduced to learners as groups of equivalent numbers. Working with grouped objects is important for the understanding of multiplication. Learners should be able • to make equivalent groups of objects; • describe the arrangement; and • count the total number of objects. Initially learners will count in ones but as they become fluent in skip counting they need to count the objects arranged in twos, fives or tens. Learners should be exposed to many different images that will support the understanding of repeated addition It might be useful to introduce learners to pictures of everyday equivalent groupings, for example: Groups of 2 - hands, feet, socks, gloves, shoes, ears, bicycle wheels Groups of 3 - tricycle wheels, edges of triangles **Example:** How many wheels altogether?  How many fingers. Complete the number sentence below. □ + □ + □ = 15  **Recording images of repeated addition** The focus here is on the development of language to support the understanding of multiplication. Learners will record their understanding using pictures. Learners should be given pictures of grouped objects and they draw circles around these to show groups of objects.  The language that can be used is 2 lots of 3 or 2 groups of 3. When learners are confident in describing pictorial representations using language they can describe these in a number sentence. The number sentence: 3 + 3 = 6	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (In lessons of 1 hour 24 minutes)
1.16 Mental mathematics	**Number concept: range 20** • Order a given set of selected numbers • Compare numbers up to 20 and say which is and 10 more or less **Rapidly recall:** • Number bonds to 10 • Recall addition and subtraction facts to 10 **Mental 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	**Number Concept: Range 10** • Order a given set of selected numbers • Compare numbers up to 10 and say which is and more or less	**What is different from Term 1?** In Term 2, the number range increases from 5 to 10. Examples of questions and activities that can be asked and done: • Start with 3 and count forwards in ones to 10. • Which is less 8 or 5? • Which is more 8 or 4? • What is 2 less than 9? • What is 2 more than 3? • Give me a number between 1 and 3. • Give me a number between 6 and 10. Is there only one number? • Put these number cards in order from the smallest to the biggest number.	

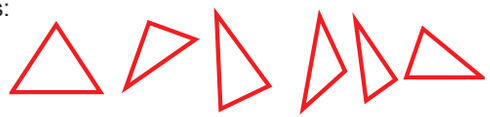
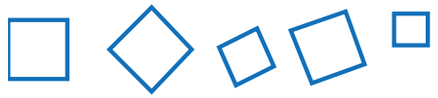
GRADE 1 TERM 2 2. PATTERNS, FUNCTIONS AND ALGEBRA				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 2**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
2.1 **Geometric patterns**	**Copy, extend and describe** 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** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects **Patterns all 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 • simple patterns made with drawings of lines, shapes or objects **Create own patterns** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects	**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 and speaking skills. It also helps you to see how learners have interpreted the pattern. In Grade 1 learners can focus on patterns in which objects or groups of objects are repeated in exactly the same way. By Term 2 most learners are comfortable with using a crayon or pencil to draw. Learners can progress to copying and extending patterns made with pictures instead of objects. They should also focus on describing patterns. It is not always easy for learners to describe a pattern. You can help them learn what they are expected to talk about by asking questions such as: “What shapes do you see in this pattern?” “Are they all the same colour?” “Do you see one or more shapes in the pattern?” “Do the objects all face the same way?” “Are there the same number of objects in each group?” “How many objects in each group?” “Are all the shapes the same size?” etc. In Term 2 some of the focus can be on using 2-D geometric shapes and 3-D geometric objects that learners have learned about in Term 1. Learners can make 2-D shapes by cutting out paper or card, or they can draw them. They can make patterns from box shapes and ball shapes that they have made from clay or play dough. Patterns can be made by using one shape but having the colours of the object change in a regular way e.g.  It is useful in Grade 1 to help learners to see what grouping is being repeated, by placing each group on a different piece of paper, or showing it within a block on the page	1 lesson

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
2.1 **Geometric patterns**	**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** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects **Patterns all 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 • simple patterns made with drawings of lines, shapes or objects **Create own patterns** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects	Patterns can be made from identical repeating groups, where each group has only one kind of object but the position of the objects in a group changes. Identical groups are repeated e.g.  In some patterns different objects are used to make up a group, but the groups of objects are repeated in exactly the same way e.g.  In some patterns the size of objects in a group alternates, but groups are repeated in exactly the same way  Learners can make patterns by threading beads. Patterning can also be done in the Life Skills lesson.	1 lesson

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
2.2 **Number patterns**	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100 **Create own patterns** Create own number patterns.	Sequences should show counting forwards and backwards in: • 1s from any number between 1 and 50 **Forwards in** • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20 **Create own patterns** • Create own number patterns	Number sequences can be linked with counting. As learners' counting skills change and develop, the kinds of number sequences learners work with can develop. Sequences should show counting forwards and backwards in: • ones from any number between 1 and 50; • tens from any multiple of 10 between 0 and 50; • fives from any multiple of 5 between 0 and 50; and • twos from any multiple of 2 between 0 and 20. When learners do verbal counting they can be shown number sequences written down in different ways. They can point to the number being counted **Example:** 1 **2** 3 **4** 5 **6** 7 **8** 9 **10** 11 **12** 13 **14** 15 **16** 17 **18** 19 **20** Learners can then fill in missing numbers given in any of the forms of sequences above. Remember learners are only writing numbers in symbols to 10. Learners can fill in the missing numbers in a sequence beyond 10 if: • it is done verbally; • numbers cards are provided to be inserted in the blank spaces; or • a list of number symbols are provided. Learners can then draw a line from the correctly chosen number to the position it should occupy. Some examples are given below: A number line with some numbers omitted  Sequences showing counting forwards or backwards in ones with some numbers left off. Learners match numbers from a list provided. They draw a line to show where the chosen number should be inserted. 40, 41, 42, __, 44; __, __, 47, ___, 49, 50. 50, 49, 48, __, __, 45, 44, ___, ____, 41, 40 Written in a sequence forwards in multiples stated above with some numbers left out	3 lessons

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
2.2 **Number patterns**	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100 **Create own patterns** Create own number patterns.	Sequences should show counting forwards and backwards in: • 1s from any number between 1 and 50 **Forwards in** • 10s from any multiple of 10 between 0 and 50 • 5s from any multiple of 5 between 0 and 50 • 2s from any multiple of 2 between 0 and 20 **Create own patterns** • Create own number patterns	A number line that shows the initial intervals, and learners fill in the others  A number grid with the counting sequence covered or omitted 1 | | 3 | | 5 | | 7 | | 9 | 11 | | 13 | | 15 | | 17 | | 19 |  Learners can also colour or cover numbers as they skip count. By the end of the term, the number range goes up to 50. Learners can work with the whole sequence 1 - 50 or parts of the sequence.	3 lessons

GRADE 1 TERM 2 3. SPACE AND SHAPE (GEOMETRY)				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 2**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
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. **Position and views** Match different views of the same everyday object. **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 inside the box.		The language of position developed during Term 1 should be practised regularly during Whole class teaching time and focus group teaching time throughout the term;: spend short amounts of time practising the language regularly. Work on the language of position can be consolidated through written recording such as drawing, colouring or matching drawings with words. This can be done during independent time. Some of the language of position can also be practised when learners work with 2-D shapes.	
3.2 3-D 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.		Learners can continue to build objects with recycling material or building blocks/ matchboxes or construction kits during independent time.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
3.3 **2-D shapes**	**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 • shape • straight sides • round sides	**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 • shape • straight sides • round sides	Most work with shapes in Grade 1 is done practically with concrete objects. All work should be consolidated through written exercises. Learners start with free play with various shapes, including making pictures with cut-out geometric shapes. This can be done in independent time. This can also be done during Life Skills lessons. Learners copy pictures made up of geometric shapes. These pictures can be provided by the textbook or the teacher. This enables learners to identify circles and squares of different sizes, squares and triangles in different positions and triangles with different shapes. This can be done in independent time. This can also be done during the Life Skills lessons. **Comparing and describing 2-D shapes: size** Learners compare the size of similar shapes e.g. • order circles from smallest to greatest; and • put all squares or the same size together. Use the language of size to compare different shapes e.g. “I drew a triangle inside the square, so the triangle is smaller than the square.” **Describing 2-D shapes: colour** Learners talk about the colours of shapes and then sort shapes according to colour. Identifying and naming objects and their colours, as well as comparing sizes of objects can be practised during work with patterns. **Recognising and naming circles, triangles and squares** Learners should work with circles and squares of different sizes, and triangles that are shaped differently. It is important that learners do not only see one example of each shape. Most commercial sets of shapes give only one example of triangles. Learners need to be able to recognise • Triangles that are shaped differently and place in different positions. These are some triangles:  • Squares of different sizes that are placed in different positions. These are some squares: 	3 lessons

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
3.3 **2-D shapes**	**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 • shape • straight sides • round sides	**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 • shape • straight sides • round sides	Circles of different sizes. These are some circles:  It is useful for learners to work with cut-out cardboard models of shapes. This allows learners to see different triangles and squares placed in different positions. Learners sort shapes according to whether they have straight or round sides. Learners sort and groups shapes according to whether they are triangles, squares, or circles. Work is consolidated through written exercises. These exercises can include colouring, matching names to shapes etc.	3 lessons

GRADE 1 TERM 2 4. MEASUREMENT				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 2**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
4.1 Time	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language, e.g. morning, afternoon, night, early, late • Knows days of week • Knows months of year • Place birthdays on a calendar		Learners should learn how to talk about • the sequences of events • duration of time Learners continue to consolidate ways of talking about time on a daily basis during whole class teaching time or focus group teaching time. Learners talk about and answer questions about when things happen, using language such as morning, afternoon, night, early and late. Learners sequence events using language such as yesterday, today, tomorrow; the days of the week and the months of the year. Learners compare time lengths using language such as longer or shorter and faster or slower. Learners talk about the ordering of events from their own lives. They also order sequences of pictures such as • the steps to make a sandwich or a cup of tea; • photographs showing a baby grown into an elderly person; • life cycle of animals e.g. egg to chicken, or egg to frog or egg to a butterfly; and • regular events in the day (waking up, being at school, playing, eating supper, sleeping). Continue to place birthdays on the calendar throughout the year.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
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 • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc		All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. In Term 1 it was recommended that learners focus on • direct comparison of the length of objects by placing them next to each other; • ordering and comparing the lengths or heights or widths of three or more objects, by placing pairs of objects next to each other, until all objects can be sequenced; and • developing the language to talk about differences in length, height, width etc. During independent work time throughout the term, learners can practise and consolidate ordering and comparing the lengths or heights or widths of three or more objects, by placing pairs of objects next to each other, until all objects can be sequenced. All work should be recorded.	
4.3 **Mass**	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc • Use language to talk about the comparison e.g. light, heavy, lighter, heavier		All measurement in Grade 1 is informal. No formal measurement of mass with standard units is done. In Term 1 it was recommended that learners focus on • directly comparing the mass of objects; and • ordering and comparing the masses of three or more objects, by placing pairs of objects on a balance, until all objects can be sequenced; and • developing the language to talk about differences in mass. During independent work time throughout the term, learners can practise and consolidate ordering and comparing the masses of three or more objects, by placing pairs of objects on a balance, until all objects can be sequenced All work should be recorded.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
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 the comparison e.g. more than, less than, full, empty • Estimate and measure, compare and order the capacity of containers by using non-standard measures e.g. spoons and cups	**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 the 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	All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. The recommended focus in Term 1 was on developing language to talk about extremes and comparisons in volume. The focus in Term 2 can be on direct comparisons. The focus in Term 4 can be learners working with informal units of measurement. Learners can also practise and consolidate these concepts during independent work time throughout the year. **Direct comparisons of the volumes in containers** • Developing an understanding of volume and the language to talk about it Learners begin to think and talk about volume by comparing how much is in identical two containers (or drawings of two identical containers). The focus is on - full and empty; - more than/less than; and - the same as. Learners fill and empty containers • Compare volumes of two or more, different-looking containers by pouring into a third container. Once learners can talk about the extremes of volume (empty and full etc.) and compare the volumes (that are obviously different at first glance) in two identical containers, they can move on to comparing the volumes in two different-looking containers. Focus especially on wide and narrow containers e.g. • fill to the same level a 2 litre bottle and 500 ml bottle; and • ask learners which bottle containers more. Learners can check by pouring the liquid into a third container and marking off the height. Young learners often do not consider how wide a container is when commenting on the volume; they tend only to look at how far up the container is filled. Learners should be given lots of experience in comparing the volumes in containers with different widths. **Recording** Learners should record all the work.	2 lessons

GRADE 1 TERM 2 5. DATA HANDLING				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 2**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
Working with collections of objects				
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.	See notes for Term 1. in term 2 learners continue to work with collections in the same way, but less guidance can be given. once learners have been guided through the process of sorting and representing collections during the focus group time, they can practise it during independent work time. Once learners have practised answering questions about their collections, you can begin to ask them to describe their collection, without guiding them with specific questions.	1 lesson
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** • 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	**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		
It is recommended that working the data handling cycle is the focus of Terms 3 and 4.				

GRADE 1 TERM 3 1. NUMBER, OPERATIONS AND RELATIONSHIPS				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
NUMBER CONCEPT DEVELOPMENT: Count with whole numbers				
1.1 Count objects	Count out objects reliably to 50. Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 40 Give a reasonable estimate of a number of objects that can be checked by counting.	**What is different from Term 2?** In Term 3, learners extend the counting range. There is still a focus on understanding the cardinality principle. During this term learners should learn how to position the objects systematically when counting so that when they check their count, the arrangement helps them to count more easily. For example, counters could be placed in rows.  During this term learners continue extending their counting skills and practising: • counting all; • counting on.; • the cardinality principle of numbers; and • working with written texts. **Subitising** Learners continue practising recognising a small collection of objects. **Counting in groups** In order to help learners count in intervals of two, five and 10, they need to group objects in twos, fives and tens in order to count a collection of objects. Number cards should be displayed at each collection to show the number of objects counted. The counting in groups will prepare learners for understanding multiples. **Resources:** Careful consideration needs to be given to the kind of apparatus used. • Structured apparatus, such as a string of counting beads, can be used. • The abacus can be used to practice counting in groups of ten. • They can make bundles of 2, bundles of 5 and ten with matchsticks or counting sticks and then count all.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.2 **Count forwards and backwards**	**Count forwards and backwards in** • 1s from any number between 0-100 **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 - 80 **Count forwards in** • 10s from any multiple of 10 between 0 and 80 • 5s from any multiple of 5 between 0 and 80 • 2s from any multiple of 2 between 0 and 80	**What is different from Term 1?** In Term 3, learners now count to 80 They continue to count in multiples of 2, 5 and 10. **Further activities:** **Whole class activities** Count forwards and backwards up to 80 • Learners count forwards and backwards. • Teacher points to the numbers on the number grid as learners count to 70. • Learners count in fives from 25 to 60. • Learners count in tens forwards from 0 to 80. Skip-count using 5s and 10s up to number 80 • Learners count in 10s up to 50 as teacher points to the number chart. • Teacher points to a multiple of 5 on a 100 chart and learners count. • Learners count forwards and backwards in 10s. Using the 100 chart, they should respond to similar type instructions: • Count on in tens from 20. • Count back in ones from 56. • 80, 70, 60: say the next three numbers using your 100 chart. **Independent work** The skip counting skills need to be applied to written activities. Example: Learner scan: • Complete simple number sequences; and • ill in missing numbers on a number track and number line Write the next two numbers 66, 65, 64,__, __,	

<table>
<tr><th>TOPICS</th><th>CONCEPTS AND SKILLS REQUIREMENT BY YEAR END</th><th>CONCEPTS AND SKILLS FOCUS FOR TERM 2</th><th>SOME CLARIFICATION NOTES OR TEACHING GUIDELINES</th><th>DURATION (in lessons of 1 hour 24 minutes)</th></tr>
<tr>
<td>1.3
Number symbols and number names</td>
<td>Recognise, identify and read numbers
• Recognise, identify and read number symbols 0 - 100
• Write number symbols 0 - 100.
• Recognise, identify and read number names 1 - 10
• Write number names 1 - 10</td>
<td>Recognise, identify and read numbers
• Recognise, identify and read number symbols 0 - 80
• Write number symbols 0 - 80
• Recognise, identify and read number names 1 - 10
• Write number names 1 - 10</td>
<td>What is different from Term 2?
In Term 3, the number range has increased to 80. It is now expected that learners write number symbols to 20. They need to be able to do this because they are calculating to 20 and therefore writing number sentences. Learners continue to practice reading and writing their number names. They should be able to match the symbol to the number name. Workbook activities and writing in the class-work book can be done during independent time.
Example of written work:
Match the words to the objects
<table>
<tr><td>One</td><td>✂</td></tr>
<tr><td>Two</td><td>✱ ✱ ✱ ✱</td></tr>
<tr><td>Three</td><td>✸✸</td></tr>
<tr><td>Four</td><td>✶✶✶✶✶✶</td></tr>
<tr><td>Five</td><td>✖✖✖✖✖✖✖✖✖✖</td></tr>
<tr><td>Six</td><td>✺✺✺</td></tr>
<tr><td>Seven</td><td>✷✷✷✷✷✷✷</td></tr>
<tr><td>Eight</td><td>※ ※ ※ ※ ※</td></tr>
<tr><td>Ten</td><td>✦✦✦✦✦✦✦✦✦✦</td></tr>
</table>
What is expected from learners?
• That they can read number symbols to 50
• That they can write number symbols to 20
• That they can read number names to 10
• That they can write number names to 10</td>
<td></td>
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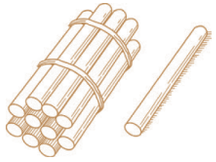
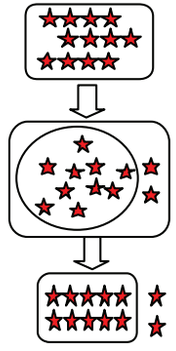
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.4 **Describe, compare, order numbers**	**Order and compare objects.** • Compare collection of objects according to many, few, most, least; more than, less than; the same as, just as many as, different • Order collection of objects from most to least and least to most • Range up to 100 objects **Order and compare numbers** • **Order** numbers - from smallest to greatest and greatest to smallest - before, after, in the middle/ between - using the number line 0 - 100 • Compare whole numbers according to smaller than, greater than, more than, less than, is equal to. • One-to-one correspondence • Number range up to 100 **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, last. (ordinal numbers) Ordinal aspect of numbers in the range first to tenth	**Order and compare 15 objects.** • Compare collection of objects according to many, few; most, least; more than, less than; the same as, just as many as, different • Order collection of objects from most to least and least to most • Range up to 15 objects **Order and compare numbers to 15** • **Order** numbers: - from smallest to greatest and greatest to smallest - before, after, in the middle/ between - using the number line 0 - 80 • Compare whole numbers according to smaller than, greater than, more than, “less than, is equal to • One-to-one correspondence • Number range up to 15 **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., last (ordinal numbers)	**What is different from Term 2?** In Term 3, learners continue to: • order and compare collection objects; • order and compare numbers; and • use the language of ordering and comparing. **Further activities:** Teacher says a number e.g. 12. Teacher asks questions: Where is the number on the number line? Which number comes before the number 12? Which number comes after the number 12? 12 is 1 more than _____ 12 is 1 less than _____	

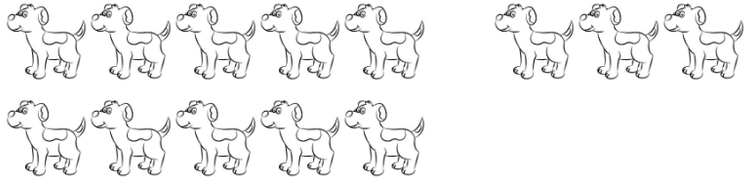
TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.5 Place value	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digits numbers into tens and ones to 20 e.g. 12 is 10 and 2	**Recognise the place value of at least 2-digit numbers to 15** • Partition two-digits numbers into tens and ones to 15 e.g. 12 is 10 and 2	**What is different from Term 2?** During this term learners begin to break up numbers into tens and ones/units using: • grouping of objects to tens; and • the written form 14 = 10 and 4. A complete understanding of place value develops across the Foundation and Intermediate Phase. During Grade 1 learners begin to think about groups of ten things or objects as a unit. They begin to make a transition from seeing ten as ten loose ones to now seeing 10 as a single unit or as 1 ten. To begin to understand place value in this term, learners need to: • know their number names and count in sequence confidently to at least 20; • write and read number symbols; • do simple addition and subtraction; • count physical objects by grouping; and • be able to represent the groups. **Breaking down numbers into tens and ones/units** The focus in Grade 1 is on making groups of tens and loose ones. Before breaking down numbers into tens and ones, learners should have had sufficient practice in breaking down numbers in different ways in Terms 1 and 2. This should have been done practically and in written form. **Using concrete apparatus** Concrete models are useful in building learners' number sense, representing numbers and the principle of place value. When counting in tens and grouping in tens, learners will begin to understand that multiples of 10 provide bridges when counting e.g. 26, 27, 28, 29, **30,** 31. They should begin to be aware that the word and symbol 10 represents a single unit. Working with concrete apparatus by grouping objects to form ten ones and understanding that 10 is one group of ten loose ones. Simply showing learners a group of ten and telling them that 14 is 1 ten and 4 loose ones will not construct the idea that 14 is 1 ten and 4 loose ones. Grouping loose objects to make a group of ten is more meaningful. Using an abacus, learners should be able to show: one ten; one ten and 2 ones; one ten and 3 ones; and one ten and 4 ones. 	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
1.5 Place value	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digits numbers into tens and ones to 20 e.g. 12 is 10 and 2	**Recognise the place value of at least 2-digit numbers to 15** • Partition two-digits numbers into tens and ones to 15 e.g. 12 is 10 and 2	Expect learners to count in ones to make the groups of tens. For many it will be the only way to name the number or say how many there are. Learners can make bundles of ten and loose ones to show that 11 can be broken up into one bundle of ten and one loose one.  Interlocking cubes can be stacked to form towers or columns of 10.  Place value cards can be used to show tens and ones. **Moving to written texts** **Pictorial representation of grouping into tens and ones** Learners can be presented with images that allow for grouping of tens and ones left over. **Example:** By the end of the term learners should be able to write: 13 = 1 ten and 3 loose ones 13 = 10 and 3 **Recommended resources** Objects that can be grouped: • Counting sticks • Counters that can be threaded • Matchsticks • Ice cream sticks • Interlocking cubes • Counting beads • An abacus 	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.6 Problem-solving techniques	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	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	**What is different from Term 2?** The calculating techniques continue to be practised. Doubling and halving can be used as a calculating technique this term. However, learners should continue to practise doubling and halving in word problems and context-free situations. By the end of this term learners are beginning to solve the word problems using the following techniques: • Drawings or concrete apparatus • Building up or breaking down numbers • Doubling and halving • Number lines See notes for Term 2.	
1.7 Addition, subtraction	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 15.	**What is different from Term 2?** See notes for Term 2 but work with numbers up to 15.	
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 involving repeated addition with answers up to 15.	See Term 2 for examples of problems but work with numbers up to 15.	
1.9 Grouping and sharing leading to division	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 15 and with answers that can include remainders.	See term 1 for examples of problems but work with numbers up to 15.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
1.11 Money	• Recognise and identify the South African currency - coins 5c, 10c, 20, 50c, R1, R2; R5 - notes. R10 and R20 • Solve money problems involving totals and change in cents up to 20c or rand to R20	• Recognise and identify the South African currency - coins 5c, 10c, 20c, 50c, R1, R2; R5 • Solve money problems involving totals and change to R20 and in cents up to 20c	**Totals - only rands** Learners work with R1, R2, R5, R10 and R20 banknotes. They add amounts up to R20 practically by using play money. Examples: R5 + R10 = R15 R10 + R10 + R10 = R30 - repeated addition R5 +R2 + R8 = R15 - filling up 10 **Change - only rand** Learners work with R1, R2, R5, R10 and R20 notes. They do subtraction practically by using paper notes. Learners complete worksheets where they work out the change for items they buy for R20 or less **Examples:** R10 - R8 = R2 R15 - R5 = R10	
CALCULATIONS				
1.12 Techniques (methods or strategies)	Use the following techniques when performing calculations: • concrete apparatus • building up and breaking down numbers • doubling and halving • number lines	Use the following techniques when performing calculations: • concrete apparatus • building up and breaking down numbers • doubling and halving • number lines supported by concrete apparatus e.g. counting beads.	Learners are expected to solve context-free calculations using the following techniques: • Building up or breaking down numbers • Doubling and halving • Number lines See notes for Term 2.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 **Addition and subtraction**	Number range: 0 - 20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 10	Number range: 0 - 15 • Add to 15 • Subtract from 15 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 9	**What is different from Term 3?** In Term 2, the calculating number range has increased from 10 to 15 In order to work with the symbols of addition and subtraction learners should have had sufficient experience to: • Use and understand the language of addition and subtraction • Count all • Count on from the larger number. • Order and compare numbers **Calculating strategies when doing addition and subtraction** During this term learners will continue to use the following strategies: • Doing addition by counting all. • Doing addition by counting on • Count on from the greater number • Doing subtraction by taking away • Subtraction by counting backwards During this term learners will: **Change a number to ten and then subtract or add ones.** This strategy can be taught with quite low number ranges and applied to higher numbers. Example: 9 + 6 = □ The learners can say to themselves: “I will take one away from the 6 and add it to the 9 to make 10.” Then 9 + 6 can be written as 10 + 5 = 15 Example: The learners can say to themselves: “I will take 2 away from the 5 and add it to the 8 to make 10.” Then 8 + 5 can be written as 10 + 3 = 13	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 **Addition and subtraction**	Number range: 0 - 20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 10	Number range: 0 - 15 • Add to 15 • Subtract from 15 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 9	When learning this strategy, learners will use concrete apparatus to understand the strategy. **Example:** Group the dogs to make  **9 + 4**  **10 + 3** 9 + 4 = 10 + 3 = 13 **Break down a number into smaller parts to make calculation easier** Learners will break up a number into different parts. They will break up a number into parts that are manageable for them. • Using arrows and numbers to show thinking 8 + 6 = □ 8 + 2 + 4 8 + 2 → 10 + 4 = 14 8 + 7 = □ 8 + 2 + 5 8 + 2 → 10 + 5 = 15 15 – 9 = □ 15 – (5+4) 15 – 5 → 10 – 4 = 6	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 **Addition and subtraction**	Number range: 0 - 20 • Add to 20 • Subtract from 20 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 10	Number range: 0 - 15 • Add to 15 • Subtract from 15 • Use appropriate symbols (+, -, =, □) • Practise number bonds to 9	**Using and applying previous knowledge as techniques** The techniques shown below allow learners to formalise their counting and number sense. Practising the techniques below will encourage learners to reflect upon the relationships between numbers and teach learners that they can actually use and apply their knowledge in order to calculate. **Put the greater number first in order to count on or back** 4 + 12 = □ Rearrange 4 + 12 as 12 + 2 and count on 4 from 12. **Identify near doubles** 7 + 6 The learner can explain that the sum can be written as 6 + 6 – 1 (double plus 1) or 7 + 7 – 1 (double 7 minus 1). Learners might record their strategies using arrows 6 + 6 → 12 + 1 = 13 **Use knowledge of the inverse relationship between addition and subtraction** 15 – 9 = □ The learner knows that the sum can be rewritten as an addition sum: "I know that 9 + □ = 15." The learner might use counting on in order to do the calculation. **Number bonds** In order to practise the number bonds learners must be given a variety of activities to do. This is ideally done during independent time. The number line can also be used to practise the bonds to 9. **Concept of doubling** Learners should be writing number sentences in this term. 1 + 1 = □ 2 – 1 = □ 2 + 2 = □ 4 – 2 = □ 3 + 3 = □ 6 – 3 = □ 4 + 4 = □ 8 – 4 = □ Learners should also be able to respond to the following questions: • Double 3. • What is two 3s? • I roll double six. What is my score? • How many socks are there in 5 pairs?	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
1.14 Repeated addition leading to multiplication	• Repeated addition (i.e. the same number) to • Use appropriate symbols (+, =, □)	• Repeated addition(i.e. the same number) to • Use appropriate symbols (+, =, □)	**What is different from Term 2?** In Term 3, learners continue to develop the language of repeated addition. Example: • lots of • groups of Learners also continue to write number sentences for pictorial representations. The skip counting should continue to help learners count the objects grouped in pictures. If pictures or objects are grouped in twos then learners should be counting in twos and no longer in ones to find the total number of objects.	
1.16 Mental mathematics	**Number concept: range 20** • Order a given set of selected numbers • Compare numbers to 20 and say which is more or less. • Know which number is 1 more or 1 less • Know which number is 2 more or 2 less. • Know which number is 10 more or 10 less. • Rapidly recall: • Number bonds to 10 • 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	**Number Concept: Range 15** • Order a given set of selected numbers. • Compare numbers to and say which is more or less • Know which number is 1 more or 1 less • Know which number is 2 more or 2 less **Rapidly recall:** • Number bonds to 5 • Recall addition and subtraction facts to 5 **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	**What is different from Term 2?** In Term 2, the number range increases from 10 to 15. Examples of questions and activities that can be asked and done: • Start with 3 and count forwards in ones to 10. • Learners line up and ask: Who is first, second, third or last? • Which is less 14 or 8? • Which is more 8 or 4? • What is 2 less than 13? • What is 2 more than 8? • Give me a number between 1 and 3. • Give me a number between 10 and 14. Is there only one number? • Put these number cards in order from the smallest to the biggest number. **Rapidly recall** Show me the number to add to make 5 (writing down or using the place value or Flard cards) • 1 • 2 • 3 • 4 Show me the number left when …. Is taken away from 5 (writing down or using the place value or Flard cards) • 1 • 2 • 3 • 4 1 + 2 = 3 What is 2 + 1? Is the answer the same? 3 + 1 = 4 what is 1 + 3? Is the answer the same?	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 2	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour and 24 minutes)
1.16 Mental mathematics	**Number concept: range 20** • Order a given set of selected numbers • Compare numbers to 20 and say which is more or less. • Know which number is 1 more or 1 less • Know which number is 2 more or 2 less. • Know which number is 10 more or 10 less. • Rapidly recall: • Number bonds to 10 • 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	**Number Concept: Range 15** • Order a given set of selected numbers. • Compare numbers to and say which is more or less • Know which number is 1 more or 1 less • Know which number is 2 more or 2 less **Rapidly recall:** • Number bonds to 5 • Recall addition and subtraction facts to 5 **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	**Calculation strategies:** Use calculation strategies to add and subtract efficiently. Add the following by putting the larger number first and count on: Double 1. What are 2 twos? What is half of 4? Using the number line How many jumps from 3 to 5? How many jumps back from 5 to 2?	

GRADE 1 TERM 3 2. PATTERNS, FUNCTIONS AND ALGEBRA				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 3**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
2.1 Geometric patterns	**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** Create own geometric patterns • with physical objects • by drawings 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 • simple patterns made with drawings of lines, shapes or objects **Create own patterns** Create own geometric patterns • with physical objects • by drawing lines, shapes or objects	In Grade 1 learners can focus on patterns in which the elements are repeated in a regular way. See notes Term 2.	1 lesson

<table>
<tr><th>TOPICS</th><th>CONCEPTS AND SKILLS
REQUIREMENT BY YEAR END</th><th>CONCEPTS AND SKILLS
FOCUS FOR TERM 3</th><th>SOME CLARIFICATION NOTES OR TEACHING GUIDELINES</th><th>DURATION
(in lessons of 1 hour 24 minutes)</th></tr>
<tr>
<td>2.2
Number patterns</td>
<td>Copy, extend and describe
Copy, extend and describe simple number sequences to at least 100.
Create own patterns
Create own number patterns.</td>
<td>Copy, extend and describe
Copy, extend and describe simple number sequences to at least 80.
Sequences should show
counting forwards and backwards in:
• 1s from any number between 1 and 80
counting forwards in:
• 10s from any multiple of 10 between 0 and 80
• 5s from any multiple of 5 between 0 and 80
• 2s from any multiple of 2 between 0 and 80
Create own patterns
Create own number patterns</td>
<td>Number sequences can be linked with counting. As learners counting skills change and develop so the kinds of number sequences learners work with can develop.
Sequences should show counting forwards and backwards in:
• 1s from any number between 1 and 80
• 10s from any multiple of 10 between 0 and 80
• 5s from any multiple of 5 between 0 and 80
• 2s from any multiple of 2 between 0 and 80
When learners do verbal counting they can be shown number sequences written down in different ways. They can point to the number being counted.
Example 1: Using a number chart
<table>
<tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr>
<tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr>
<tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr>
</table>
Example 2: Using a number line to identify a pattern
Counting in 10s from 50 to 80
Learners are reading numbers to 80, but only writing numbers 1 to 15. Number pattern with numbers beyond 15 can be done by:
• colouring in numbers in the pattern, on a number grid;
• circling numbers in the pattern, on a number grid or number line;
• using number cards to pack out the number sequence;
• using number cards to show the missing numbers in a written sequence provided; or
• using a list of number symbols that is provided to draw a line from the correctly chosen number to the position it should occupy.
Learners can also be given a written sequence of numbers with numbers missing. They should then be provided with a list of possible numbers, from which they can choose the correct answer.
Learners can then fill in missing numbers given in any of the forms of sequences above, as well as filling in missing numbers in a written number sequences e.g. .</td>
<td>3 lessons</td>
</tr>
</table>

GRADE 1 TERM 3 3. SPACE AND SHAPE (GEOMETRY)				
TOPICS	**CONCEPTS AND SKILLS** **REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS** **FOCUS FOR TERM 3**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
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. **Position and views** Match different views of the same everyday object. **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 inside the box.		The language of position developed during Term 1 should be practised regularly during whole class teaching time and focus group teaching time throughout the term: spend short amounts of time practising the language regularly. Some of the language of position can also be practised when learners work with 3-D objects. Work on position and direction can be consolidated through written recording such as drawing, colouring or matching drawings with words. This can be done during independent time.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.2 **3-D objects**	**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) **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour • objects that roll • objects that slide	**Focussing on features of 3-D objects** Learners work with balls and objects shaped like balls, and various boxes and other objects shaped like rectangular prisms or cubes. Learners can make a slide or incline by placing a box under one end of a large book. Learners investigate which of the objects can roll, which slide.  Learners can also investigate whether they can make stacks or towers using either only balls or only boxes. During independent time learners can continue to • sort objects according to size; • sort objects according to colour; • build with objects; and • make balls or boxes from clay or play dough. **Recognising and Naming balls (spheres) and boxes (prisms)** Learners continue to identify and describe geometric and everyday objects by saying whether they are shaped like a ball or like a box e.g. this brick is shaped like a box or this orange is shaped like a ball. **Written exercises** Practical work on 3-D objects must be consolidated through written exercises.	2 lessons

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.3 **2-D shapes**	**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 • shape • straight sides • round sides	No specific focus on 2-D shapes is recommended in Term 3. However, learners can continue to make pictures with cut-out 2-D shapes or do written exercises during independent work time either in Mathematics or Life Skills.		
3.4 **Symmetry**	**Symmetry** • Recognise symmetry in own body • Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes	**Symmetry** • Recognise symmetry in own body • Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes	Learners should look for lines of symmetry in concrete objects and pictures. Written exercises should not only be “draw in the other half”, but include examples where learners draw in the line of symmetry on both geometric shapes, e.g. triangles, and non-geometric shapes, e.g. a drawing of a person.	1 lesson

GRADE 1 TERM 3 4. MEASUREMENT				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 3**	**SOME CLARIFICATION NOTES or TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
4.1 Time	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Know days of week • Know months of year • Place birthdays on a calendar		Learners should learn how to talk about • the sequences of events; and • duration of time. Learners continue to consolidate ways of talking about time on a daily basis during whole class teaching time or focus group teaching time. Learners talk about and answer questions about when things happen, using language such as morning, afternoon, night, early and late. Learners sequence events using language such as yesterday, today, tomorrow; the days of the week and the months of the year. Learners compare time lengths using language such as longer or shorter and faster or slower. Learners talk about the ordering of events from their own lives. They also order sequences of pictures such as • the steps to make a sandwich or a cup of tea; • photographs showing a baby grown into an elderly person; • life cycle of animals e.g. egg to chicken, or egg to frog or egg to a butterfly; and • regular events in the day (waking up, being at school, playing, eating supper, sleeping) Continue to place birthdays on the calendar throughout the year.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES or TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
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 • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc.	**Informal measuring** • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc.	**What is different in Term 3?** All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. In Term 1 it was recommended that learners focus on • direct comparison of the length of objects by placing them next to each other; • ordering and comparing the lengths or heights or widths of three or more objects, by placing pairs of objects next to each other, until all objects can be sequenced; and • develop the language to talk about differences in length, height, width etc. During independent work time throughout the term, learners can practise and consolidate ordering and comparing the lengths or heights or widths of three or more objects, by placing pairs of objects next to each other, until all objects can be sequenced. All work should be recorded. In Term 3 learners can focus on doing informal measurement with non-standard units of length. **Informal measurement of length using non-standard units of length** Learners can learn all the principles and practices of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units. Measuring length with non-standard units involves counting how many of the chosen unit are the same length as the object being measured. For example the length of the desk is 8 hand spans. Learners should measure a variety of objects using a range of objects as informal units. There are three ways to use informal units • Pack out in a row across the object being measured a number of objects of the same length, such as matchboxes, identically shaped bottle tops or counters, new pencils etc. For example, to measure the width of a desk, new pencils can be packed out end to end across the desk. Here it is important that • All the objects are the same length. You cannot state that your book is as wide as 12 bottle tops if the bottle tops are of different sizes e.g. 2 litre milk bottle tops, plastic cool drink bottle tops, metal bottle tops etc.; and • No gaps are left between the objects: they need to be packed out so that they touch one another. • Use two identical objects as the non-standard units. Place the one next to the other, and then move the first to the other side of the second. This is done when measuring with hand spans, foot lengths or paces. • Using only one object as the non-standard measure and either flipping it over or marking its end point before sliding it along.	2 lessons

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES or TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
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 • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc.	**Informal measuring** • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc.	Learners should be taught always to state the unit, e.g. the book is 12 bottle tops wide, the classroom is 38 paces long. Once learners have measured with any unit a couple of times, they should estimate about how many of that unit long the object to be measured is. Estimation before measuring is important, but can only be done once learners have done some measuring with that unit. Learners need to be taught that in order to compare lengths, heights or widths the same unit needs to be used. For example, if the width of the doorway measured is 20 hand spans and the width of the desk is 8 pencil lengths, you cannot say whether the doorway is wider than the desk. Learners need to measure with a range of informal units, so that they can • begin to understand that the smaller the unit, the larger the number of times it will be used, e.g. the width of the classroom could be 20 paces but 48 foot lengths; and • begin to use units which are appropriate to what they are measuring, e.g. measuring the width of the classroom with bottle tops is a waste of time. **Recording measurements** Although measuring is a practical skill, learners should record their measurements at all times. **Measuring length as a context for solving problems and calculations** During time allocated to Numbers, Operations and Relationships learners can solve problems that use the context of informal measurement of length, e.g. The washing powder box has a height of 8 matches. The cereal box has a height of 13 matches. How much higher is the cereal box than the washing powder box? Take account of the number range appropriate for the term, as well as the range of problems types appropriate for the term.	2 lessons

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES or TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
4.3 Mass	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier		All measurement in Grade 1 is informal. No formal measurement of mass with standard units is done. In Term 1 it was recommended that learners focus on • directly comparing the mass of objects; • ordering and comparing the masses of three or more objects, by placing pairs of objects on a balance, until all objects can be sequenced; and • develop the language to talk about differences in mass. During Independent Work Time throughout the term, learners can practise and consolidate ordering and comparing the masses of 3 or more objects, by placing pairs of objects on a balance, until all objects can be sequenced All work should be recorded.	
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 the comparison e.g. more than, less than, full, empty • Estimate and measure, compare and order the capacity of containers by using non-standard measures e.g. spoons and cups		All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. So far during the year the focus in capacity/volume has been on • developing language to talk capacity/volume; • comparing volumes in two identical containers; and • comparing volumes in containers with different widths, by pouring into a third container. See notes for Term 2. Learners can also practise and consolidate these concepts during independent work time.	

GRADE 1 TERM 3 5. DATA HANDLING				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
Working with collections of objects				
5.1 Collect and sort objects	**Collect and organise objects** Collect and sort everyday physical object	Sorting collections of objects is no longer a specific focus in the second half of the year. However, it can be given as an occasional activity during independent work time. The recommended focus in Term 3 is the data handling cycle: see below.		
5.2 Represent sorted collection of objects	**Represent sorted collection of objects** Draw a picture of the collected objects			
5.3 Discuss and report on sorted collection of objects	**Discuss and report on sorted collection of objects** • Give reasons for how the 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	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 3	SOME CLARIFICATION NOTES or TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
Working with data				
5.4 Collect and organise data **5.5 Represent data** **5.6 Analyse and interpret data**	**Collect and organise data** • Collect data about the class or school to answer questions posed by the teacher **Represent data** Represent data in pictograph **Analyse and interpret data** • Answer questions about data in pictograph	**Collect and organise data** Collect data about the class or school to answer questions posed by the teacher. **Represent data** • Represent data in pictograph **Analyse and interpret data** • Answer questions about data in pictograph	**Recommended focus: The complete data handling cycle** In the data handling cycle • Learners collect information to answer a question. In the Foundation and Intermediate Phase this question is normally provided by the teacher or textbook; • Learners sort and represent the information in ways which make it easier to analyse. The form of representation that learners in Grade 1 practise is a pictograph; and • Learners analyse the information in the pictograph by answering questions posed by the teacher. A class pictograph In Grade 1 it is useful to start data handling by making a class picture graph. Working together as a class helps learners to be involved in all the stages of the process without getting lost in the detail of any stage. Making a allows the teacher to focus the learners on the key aspects of data handling and also on what they need to know about the important features of a pictograph • where and how to label the graph (graph title) • where and how to label the categories • the pictograph needs to have a key which explains what each picture means • the pictures or the spaces for pictures need to be the same size • how to place the pictures evenly in rows • how to read the graph Working through the whole data cycle can take several lessons. **Collect, organise and represent data** Teachers in the phase should ensure that different topics are chosen for data collection and analysis in each of the grades. Suitable examples include re-arranging the previous month's daily weather chart to form a pictograph or making a pictograph of learners' birthdays. **Analyse data** Learners answer questions such as: "What kind of weather was most common this month?" What kind of weather was least common this month?" "How many more sunny days than cloudy days did we have?" Working through the whole data cycle can take several lessons.	3 lessons

GRADE 1 TERM 4 1. NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 1**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
NUMBER CONCEPT DEVELOPMENT: Count with whole numbers				
1.1 Count objects	Count out objects reliably to 50 Give a reasonable estimate of a number of objects that can be checked by counting.	Count out objects reliably to 50 Give a reasonable estimate of a number of objects that can be checked by counting.	**What is different from Term 3?** In Term 4, learners extend the counting range. There is still focus on understanding the cardinality principle. During this term learners should learn how to position the objects systematically when counting so that when they check their count, the arrangement helps them to count more easily. **Example:** Counters could be placed in rows. During this term learners continue extending their counting skills and practising: • counting all; • counting on; • the cardinality principle of numbers; and • working with written texts. Learners need to make the link between ordinal and cardinal counting. This is achieved when they realise that stopping the count on reaching the 50th object means that they have counted 50 objects. At the same time they now know that the order in which one counts the objects does not affect the count. **Counting in groups** In order to help learners count in intervals of two, five and 10 they need to group objects in 2s, 5s and 10s. Number cards should be displayed at each collection to show the number of objects counted. Counting in groups will prepare learners for understanding multiples and calculating. By the end of the term learners should be able to recognise a collection by splitting up the number. Example: “I know that is 10 because I put 4 on one side and 6 on the other side”. **Resources:** Careful consideration needs to be given to the kind of apparatus used. • Structured apparatus, such as a string of counting beads, can be used. • The abacus can be used to practise counting in groups of ten. • Learners can make bundles of 2, bundles of 5 and ten and then count all.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.2 Count forwards and backwards	**Count forwards and backwards in** • 1s from any number between 0 and 100 • Count forwards in • 10s from any multiple of 10 between 0 and 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 100 • Count forwards in • 10s from any multiple of 10 between 0 and 100 • 5s from any multiple of between 0 and 100 • 2s from any multiple of 2 between 0 and 100	**What is different from Term 1?** In Term 4, learners now count in intervals of and to . The counting in intervals become an important skill that learners will use in Grade 2 and 3 and will help learners when doing their calculations. By the end of the term learners should be able to: Count verbally and respond to questions such as: • Start at 52 count on in ones to 72 • Start at 88 and count back in ones to 70 • Start at 38 and count in twos to 50 • Start at 45 and count in fives to 100 • Start at 10 and count in tens to 100 Learners should be able to apply their counting skills to written activities. Example: • Copy and extend simple number sequences to at least 100. See section on number patterns	

<table>
<tr><th>TOPICS</th><th>CONCEPTS AND SKILLS
REQUIREMENT BY YEAR END</th><th>CONCEPTS AND SKILLS
FOCUS FOR TERM 1</th><th>SOME CLARIFICATION NOTES OR TEACHING GUIDELINES</th><th>DURATION
(in lessons of 1 hour 24 minutes)</th></tr>
<tr>
<td>1.3
Number symbols and number names</td>
<td>Recognise, identify and read numbers
• Recognise, identify and read number symbols 0 to 100
• Write number symbols 0 to 20
• Recognise, identify and read number names 1 to10
• Write number name 1 to10</td>
<td>Recognise, identify and read numbers
• Recognise, identify and read number symbols 0 to 100
• Write number symbols 0 to 20
• Recognise, identify and read number names 1 to 10
• Write number name 1 to10</td>
<td>What is different from Term 3?
In Term 4, the number range has increased to 100. Writing number symbols and number names are consolidated during this term. No new knowledge is being learnt. It is important to be aware that subitising and counting rely heavily on careful application and use of number names. Learners need to be using, saying and writing number names in as many different contexts as possible.
By the end of the term they should be able to do the following type of activities:
Matching number names, number symbols, or pictures of objects
This card says 6 What does this card say?
6 11
Match the words to the objects
<table>
<tr><td>One</td><td>✕</td></tr>
<tr><td>Two</td><td>✱ ✱ ✱ ✱</td></tr>
<tr><td>Three</td><td>✱✱</td></tr>
<tr><td>Four</td><td>✶✶✶✶✶✶</td></tr>
<tr><td>Five</td><td>✖✖✖✖✖✖✖✖✖✖</td></tr>
<tr><td>Six</td><td>✺✺✺</td></tr>
<tr><td>Seven</td><td>✷✷✷✷✷✷✷</td></tr>
<tr><td>Eight</td><td>✕ ✕ ✕ ✕ ✕</td></tr>
<tr><td>Nine</td><td>✦✦✦✦✦✦✦✦✦</td></tr>
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TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.4 **Describe, compare, order numbers**	**Order and compare up to 20 objects.** • **Compare** collection of objects according to many, few, most, least; more than, less than; the same as, just as many as, different • **Order** collection of objects from most to least and least to most. • **Range** up to 20 objects **Order and compare numbers** • **Order** numbers - from smallest to greatest and greatest to smallest - before, after, in the middle/ between - using the number line 0 to 20 • **Compare** whole numbers according to smaller than, greater than, more than, less than, is equal to • One-to-one correspondence • **Number range** up to 20 **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, last. (ordinal numbers) **Ordinal aspect** of numbers in the range first to tenth		Through ordering and comparing objects and numbers learners have learnt that: • The cardinal aspect of a number is used to describe the number in a set. **What is different from Term 3?** Learners are introduced to ordinal numbers. By the end of the term and year learners must be able to use the language of ordering and comparing in the following kinds of ways: • First, second, third, fourth, fifth, sixth…….. • How many…… • As many as, the same number as… • Equal to, more than, less than, fewer than, greater than, smaller than, larger than…… • Order, first, last, before, after, next, between numbers • First, second, third, fourth, fifth, sixth…….. • How many…… • As many as, the same number as… • Equal to, more than, less than, fewer than, greater than, smaller than, larger than…… • Order, first, last, before, after, next, between  • Colour the fifth circle yellow. • Colour the first circle red. • Colour the eighth circle blue. Learners should respond to questions such as • Who is the first in the row? • Who is second in the queue? • Mthunzi has 5 pencil crayons. Cally has 8 pencil crayons. • Who has fewer pencil crayons? • Give me a number between 15 and 17? • Write down the numbers between 4 and 10 • 1, 2, 3, 4, _, _, _, _, _, 10 • Fill in the missing numbers	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.4 **Describe, compare, order numbers**				

Before	Numbers	After
	17	
	12	
	14	
	9	
	6	

Write these numbers in order from the biggest to the smallest.

Write these numbers from the smallest to the biggest.

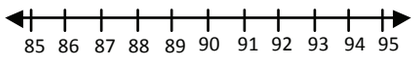
Copy and complete using the words **'less'** and '**more**':

- 35 is _____ than 38
- 79 is _____ 65

Knowing that the number before is one less and that the number after is one more

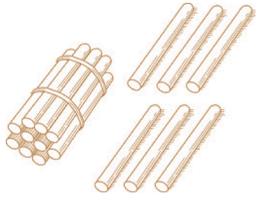
Learners should respond to questions such as:

- What number comes before 17?
- What number comes after 82?
- Fill in the missing numbers on the number line



Put the following number cards in order:

- Which numbers lie between 25 and 30?
- Give me the number that is 1 more than 76?
- Give me the number that is 2 more than 76?
- What number is 1 less than 45?
- What number is 2 less than 39?

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.5 Place value	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digit numbers into tens and ones e.g. 12 is 10 and 2		**What is different from Term 3?** During this term learners continue to build and develop place value concepts. In Term 4, learners work with a higher number range and continue to: • count and group to make a group of tens and loose ones; • write18 = 1 ten and 8 loose ones; and • then record 14 = 10 and 4. Learners should continue to manipulate concrete apparatus by grouping to form ten and ones to develop the understanding that 10 is one group of ten loose ones.  Using an abacus, learners should be able to show: • one ten; • one ten and 5 ones; • one ten and 6 ones, etc. Expect learners to still count in ones to make the groups of tens. For many it will be the only way to state the number or say how many there are. **Place value cards/Flard cards** Place value cards should be used during this term to show how the numbers are constructed. The place value cards can be shown alongside the bundles or groups of objects. 	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.5 **Place value**	**Recognise the place value of at least two-digit numbers to 20** • Partition two-digit numbers into tens and ones e.g. 12 is 10 and 2		**Resources** Objects that can be grouped: • Counting sticks • Counters that can be threaded • Matchsticks • Ice cream sticks • Interlocking cubes • Place value cards • Play money It is useful to have ready-made groups of tens that learners have grouped and stored in containers.	
1.6 **Problem-solving techniques**	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		**What is different from Term 3?** By the end of this term learners are beginning to solve word problems using the following techniques: • Drawings or concrete apparatus • Building up or breaking down numbers • Doubling and halving Number lines See notes for Term 2.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.7 Addition, subtraction	Solve word problems in context and explain own solution to problems involving addition, subtraction with answers up to 20.		By the end of the term learners should be able to do problems like the ones stated below. **Change** Noluthando had 5 apples. Silo gave her 8 apples. How many apples does she have now? Noluthando had 13 apples. She gave 5 apples to Silo. How many apples does she have now? **Combine** Nosisi has 5 green and 8 blue marbles. How many marbles does she have? Nosisi has 13 marbles. 5 are green and the rest are blue. How many blue marbles does Nosisi have? **Compare** Nosisi has 13 bananas. Themba has 5 bananas. How many more bananas does Nosisi have than Themba?	
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.		By the end of the term learners should able to do problems like the ones stated below. **Repeated addition** How many wheels do 4 bicycles have? **Rate** Thami drinks 2 cups of milk every day. How many cups of milk does he drink in a week? **Grids** Mr Khumalo plants 3 rows of cabbage plants. There are 5 plants in a row. How many cabbage plants are there altogether?	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.9 **Grouping and sharing leading to division**	Solve and explain solutions to practical problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.		By the end of the term learners should be able to do problems like the ones stated below. **Grouping** Grouping, discarding the remainder • Stella sells apples in bags of 3 apples each. She has 14 apples. How many bags of 3 apples each can she make up? Grouping, incorporating the remainder in the answer • Ben wants to take 15 eggs to his grandmother. How many egg boxes that can take 6 eggs each does he need to pack all the eggs? **Sharing** Sharing, discarding the remainder • Share 14 sweets among 3 friends so that they all get the same number of sweets. Sharing, leading to fractions • Share 4 chocolate bars among 3 friends so that they all get the same amount of chocolate bar and there is nothing left over. (Learners are not required to name the fraction part as one third. They can describe the fractional part as simply “a bit” i.e. fraction of a collection).	
1.11 **Money**	• 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 cents		By the end of the term learners should be able to do problems like the ones stated below. John bought bread for R8. He paid for it with a R10 note. How much change did he get? Rosy’s mum bought a scarf for R17.She paid with 2 ten rand notes. How much change did she get? Judy’s birthday was on Sunday. She received R5 from her sister, R2 from her brother and R10 from her cousin. How much money did she get altogether?	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
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		**What is different from Term 3?** Learners are expected to solve context-free calculations using the following techniques: • drawings or concrete apparatus - learners' drawings should start looking quite systematic and they should be able to describe their calculations based on their drawings • building up or breaking down numbers • doubling and halving • number lines See notes for Term 2.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and Subtraction	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, –, =, ☐) • Practice number bonds to 10		Doing addition and subtraction within the number range 0 - 20 means that learners will: • begin to develop place value concepts of tens and ones; • continue to count in groups; and • start realising that counting on in ones is not an efficient strategy. Learners will continue to: • count objects; • recognise, read and write numbers; and • compare and order numbers. In order to work with the symbols of addition and subtraction, learners should have had sufficient experience to: • count all; • count on from the larger number; • use and understand the language of addition and subtraction; and • order and compare numbers. Learners continue to build their understanding of addition and subtraction. By the end of the year learners should be able to: • use the vocabulary related to addition and subtraction and symbols to describe and record addition and subtraction number sentences; • use practical and informal written methods to do addition and subtraction; • solve addition and subtraction calculations and can record their answers in number sentence ands; • understand that subtraction is the inverse of addition and vice versa and use this to derive and record calculations.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and Subtraction	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, – =, ☐) • Practice number bonds to 10		To understand addition and subtraction learners should be able to: • know and use the fact that the order of addition does not matter; • use the +, - and = signs; • know that ☐ stands for an unknown number; • understand subtraction as 'taking away' and 'finding the difference between'; and • say and write corresponding number facts to a given addition fact and vice versa **Example:** 8 + 6 = 14 implies that 14 – 6 = 8. Recording images of addition and subtraction: While some learners may still want to record and count in 1s, they need to be assisted to start recording and counting in groups. They should be able to: Draw pictures and use numbers, especially showing groups. **Breaking down a number into smaller parts to make calculation easier** Learners will break up a number into different parts. They will break up a number into parts that are manageable for them. Learners will initially break up the seven into ones. However, once the number facts to 10 are intuitive and learners can work with the numbers at an abstract level, they should break up seven into different parts. Using arrows and numbers to show thinking 11 + 7 = ☐ 11 + 4 + 3 11 + 4 → 15 + 3 = 18 11 + 7 = ☐ 11 + 5 + 2 11 + 5 → 16 + 2 = 18 17 – 9 = ☐ 17 – (7 + 2) 17 – 7 → 10 – 2 = 8	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and Subtraction	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, – =, ☐) • Practice number bonds to 10		**Number bonds** In order to practise the number bonds, learners must be given a variety of activities to do. This is ideally done during independent time. The number line can also be used to practise the bonds to 10. **Using and applying previous knowledge as techniques** The techniques shown below allow learners to formalise their counting and number sense. Practising the techniques below will encourage learners to reflect upon the relationships between numbers and teach learners that they can actually use and apply their knowledge to help calculate. **Put the greater number first in order to count on or back.** 4 + 12 = ☐ Rearrange 4 + 12 as 12 + 4 and count on from 12 **Count on from the bigger number** Learners should be able to count on from the bigger number. This is a far more efficient strategy than counting in ones to 14 and then count in five more. 14 + 5 = ☐ Learners count from 14, then 15, 16, 17, 18, 19 **Identify near doubles** 8 + 7 The learner can explain that the sum can be written as 8 + 8 – 1 (double 8 minus 1) or 7 + 7 + 1 (double 7 plus 1). Learners might record their strategies using arrows: 8 + 8 → 16 - 1 = 15 **Change a number to ten and then subtract or add ones** This strategy can be taught with quite low number ranges and applied to higher numbers. 9 + 6 = ☐ The learners can say to themselves: “I will take one away from the 6 and add it to the 9 to make 10.” There 9 + 6 can be written as 10 + 5 = 15 8 + 5 = ☐ The learners can say to themselves: “I will take two away from the 5 and add it to the 8 to make 10.” There 8 + 5 can be written as 10 + 3 = 13	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.13 Addition and Subtraction	• Add to 20 • Subtract from 20 • Use appropriate symbols (+, – =, ☐) • Practice number bonds to 10		**Use knowledge of the inverse relationship between addition and subtraction** 15 - 9 = ☐ The learner knows that the sum can be rewritten as an addition sum: “I know that .” The learner might use counting on in order to do the calculation. **Number lines** They should be able to use number lines to support their own calculations. **Example:** 13 + 6 = ☐	
1.14 Repeated addition leading to multiplication	• Add the same number repeatedly to 20 • Use appropriate symbols (+, =, ☐)		**What is different from Term 3?** In Term 4, learners continue to develop the language of repeated addition. **Example:** • 2 lots of 3 • 4 groups of 2 Learners also continue to write number sentences for pictorial representations. Skip counting should continue to help learners count the objects grouped in pictures. If pictures or objects are grouped in twos then learners should be counting in twos and no longer in ones to find the total number of objects. By the end of the term learners should be able to: • understand repeated addition as making equal groups; • represent repeated addition using practical objects and drawings; • record matching number sentences to the practical work or drawings; and • use number lines to arrive at an answer.	

TOPICS	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 1	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
1.16 Mental mathematics	**Number concept: Range 20** • Name the number before and after a given number. Order a given set of selected numbers. • Compare numbers to 20 and say which is more or less • Know which number is 1 more or 1 less than numbers. • Know which number is 2 more or 2 less than numbers. **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		**What is different from Term 3?** In Term 4, the number range increases from 15 to 20. **Examples** of questions and activities that can be asked and done: • Start with 3 and count forwards in ones to 10. • Learners line up and ask: Who is first, second, third or last? • Which is smaller: 14 or 8? • Which is greater: 8 or 4?: • What is 2 less than 13? • What is 2 more than 8? • Give a number between 1 and 3. • Give a number between 10 and 14. Is there only one number? • Put these number cards in order from the smallest to the greatest number. **Rapidly recall** Show me the number to add to make 10 (writing down or using the place value or flard cards) • 1 • 2 • 3 • 4 Show me the number left when …. is taken away from 10 (writing down or using the place value or Flard cards) • 1 • 2 • 3 • 4 • 6 + 4 = 10 What is 4 + 6? Is the answer the same? • 5 + 2 = 7, what is 2 + 5? Is the answer the same? **Calculation strategies:** Use calculation strategies to add and subtract efficiently. • Add the following by putting the larger number first and count on: 1 + 9 2 + 6 1 + 4 • Double 1 What are 2 twos? What is half of 4? • Using the number line How many jumps from 3 to 5? How many jumps back from 5 to 2?	

GRADE 1 TERM 4 2. PATTERNS, FUNCTIONS AND ALGEBRA				
TOPIC	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 4**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
2.1 Geometric patterns	**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** Create own geometric patterns • with physical objects • by drawings 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	**Patterns around us** Identify, describe in words and copy geometric patterns • in nature • from modern everyday life • from our cultural heritage **Create own patterns** Create own geometric patterns with physical objects by drawing lines, shapes or objects	Learners will work with patterns from nature, modern everyday life and our cultural heritage from Grade 1 to Grade 6. This means that you do not need to spend a lot of time on this topic. You also need to choose activities and patterns that are appropriate to each grade. In Grade 1 learners can make rubbings of patterns. Usefully examples are patterns on leaves, bark on trees, the patterns on the soles of shoes, patterns on tyres, drain covers, paving etc. One kind of pattern learners can look for is symmetry, e.g. most leaves are symmetrical. Learners can also look at patterns on fences (wire, wooden or vibracrete); brickwork and floor tiles; clothes and material; plates, cups and saucers; soccer balls; animals such as cows, moths and butterflies, zebra, giraffe, leopards, birds, insects; flowers and leaves; traditional or modern beadwork; and traditional clay pots or woven baskets. There are different ways to describe the patterns we see around us. Most patterns around us are made up of lines, shapes or objects. The shapes or objects do not need to be linked to the geometrical 2-D shapes and 3-D objects worked with in Grade 1. Learners can look for and describe • what is repeated e.g. dots, lines, any kind of shape; and • how it is repeated e.g. do the lines cross each other (as in a dishcloth), are all the dots the same size, are they evenly spread, are all the shapes the same size, same colour, do they all face the same way, e.g. if you cut across an orange all the segments are narrower in the middle and wider at the outer edge.	1 lesson

TOPIC	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 4	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
2.2 Number patterns	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100. **Create own patterns** Create own number patterns.	**Copy, extend and describe** Copy, extend and describe simple number sequences to at least 100. Sequences should show • counting forwards and backwards in 1s from any number between 1 and 100 • counting 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 **Create own patterns** Create own number patterns.	Number sequences can be linked with counting. As learners' counting skills change and develop, the kinds of number sequences learners work with can develop. Sequences should show counting forwards and backwards in: • 1s from any number between 1 and 100 • 10s from any multiple of 10 between 0 and 100 • 5s from any multiple of 5 between 0 and 100 • 2s from any multiple of 2 between 0 and 100 Learners can point to numbers on a number line, a number grid, or written sequences as they count. Learners can cover (with counters) or colour or circle numbers on a number line, a number grid, or written sequences as they count Learners can fill in missing numbers in a written sequence, on a number line or on a number grid to practise counting. Remember learners are only writing to 20. See notes for Term 3 for how learners can work with number sequences beyond 20.	3 lessons

GRADE 1 TERM 4 3. SPACE AND SHAPE (GEOMETRY)				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 4**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
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 **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 inside the box **Position and views** Match different views of the same everyday object	**Language of position** Describe the position of one object in relation to another e.g. on top of, in front of, behind, left, right, up, down, next to. **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 inside the box. **Position and views** Match different views of the same everyday object	**Position and directions** See notes for Term 1. Any new language of position should be introduced through practical activities that involve learners in physical movement. This can be done during whole class teaching time or focus group time. Directions should be learnt through practical activities in which learners move themselves or objects according to instructions. This can be done during whole class teaching time or focus group time. Work on position and direction can be consolidated through written recording such as drawing, colouring or matching drawings with words. This can be done during independent time. **Position and views** Learners in the Foundation Phase need to understand that objects look different when one looks at them from different positions. Learners may take for granted that objects such as cars look small when they are far away. As learners work more with books and illustrations in books, they need to understand why something in the foreground is shown larger than something in the background. In focus group time learners can experiment with placing their hand in front of them, to block their view of larger objects that are further away. In Grade 1 learners should be given exercises in which they can match different views (views from the top, views from the side, views from the front) of different everyday objects. This will eventually help learners to interpret drawings of geometric objects done from different perspectives.	1 lesson

TOPIC	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 4	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.2 **3-D objects**	**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) **Features of objects** Describe, sort and compare 3-D objects in terms of: • size • colour • objects that roll • objects that slide	Work on 3-D can be consolidated through written exercises.	1 lesson

TOPIC	CONCEPTS AND SKILLS REQUIREMENT BY YEAR END	CONCEPTS AND SKILLS FOCUS FOR TERM 4	SOME CLARIFICATION NOTES OR TEACHING GUIDELINES	DURATION (in lessons of 1 hour 24 minutes)
3.3 **2-D shapes**	**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 **Features of shapes** Describe, sort and compare 2-D shapes in terms of: • size • colour • straight sides • round sides	See notes for Term 2 Learners work with circles and squares of different sizes and triangles with different shapes. They sort them according to whether they have straight or round sides. Learners sort and groups shapes according to whether they are triangles, squares or circles. Work is consolidated through written exercises.	3 lessons
3.4 **Symmetry**	**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	Learners should look for lines of symmetry in concrete objects and pictures. Written exercises • should not only be “draw in the other half”; but • should include examples where learners draw in the line of symmetry. The line of symmetry should not always be a vertical line	1 lesson

GRADE 1 TERM 4 4. MEASUREMENT				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 4**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
4.1 Time	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Know days of week • Know months of year • Place birthdays on a calendar	**Passing of time** Talk about 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 **Telling the time** • Describe when something happens using language e.g. morning, afternoon, night, early, late • Know days of week • Know months of year • Place birthdays on a calendar	Learners should learn how to talk about • the sequences of events; and • duration of time. Learners continue to consolidate ways of talking about time on a daily basis during whole class teaching time or focus group teaching time. Learners talk about and answer questions about when things happen, using language such as morning, afternoon, night, early and late. Learners sequence events using language such as yesterday, today, tomorrow; the days of the week and the months of the year. Learners compare time lengths using language such as longer or shorter and faster or slower Learners talk about the ordering of events from their own lives. They also order sequences of pictures such as • the steps to make a sandwich or a cup of tea; • photographs showing a baby grown into an elderly person; • life cycle of animals e.g. egg to chicken, or egg to frog or egg to a butterfly; and • regular events in the day (waking up, being at school, playing, eating supper, sleeping). Continue to place birthdays on the calendar throughout the year.	2 lessons

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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 • Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters etc.	All measurement in Grade 1 is informal. No formal measurement of length with standard units is done. During independent work time throughout the term, learners can practise and consolidate measuring lengths, widths and heights with informal units. All work should be recorded. See notes for Term 3		
4.3 Mass	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	All measurement in Grade 1 is informal. No formal measurement of mass with standard units is done. **What is different in Term 4?** In Term 1 it was recommended that learners focus on • directly comparing the mass of objects; • ordering and comparing the masses of three or more objects, by placing pairs of objects on a balance, until all objects can be sequenced; and • developing the language to talk about differences in mass. In Term 4 learners can focus on doing informal measurement with non-standard units of mass.	

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4.3 **Mass**	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	**Informal measuring** • Estimate, measure, compare, order and record mass using non-standard measures and a balance e.g. blocks, bricks etc. • Use language to talk about the comparison e.g. light, heavy, lighter, heavier	**Informal measurement of mass using non-standard units** Learners can learn all the principles and practises of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units. Measuring mass with non-standard units involves counting how many of the chosen unit have the same mass as the object being measured. For example a ruler has the same mass as 9 blocks. Learners should measure a variety of objects using a range of objects as informal units. Learners should be taught always to state the unit when giving the mass e.g. the book is has the same mass as 34 marbles. Once learners have measured with any unit a couple of times, they should estimate about how many of that unit will have the same mass as the object being measured. Estimation before measuring is important, but can only be done once learners have done some measuring with that unit. Learners need to be taught that in order to compare the mass of different objects, the same unit needs to be used. For example if a ruler has a mass of 20 blocks and a pair of scissors has the mass of 20 marbles, one cannot say whether they have the same mass or not, or which one is heavier. **Recording measurements** Although measuring is a practical skill. learners should record their measurements at all times. **Measuring mass as a context for solving problems and calculations** During time allocated to Numbers, Operations and Relationships learners can solve problems that use the context of informal measurement of mass. For example, the duster has a mass of 11 marbles. The box of crayons has a mass of 8 marbles. Together they will have a mass of how many marbles? Take account of the number range appropriate for the term, as well as the range of problems types appropriate for the term.	2 lessons

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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 the comparison e.g. more than, less than, full, empty • Estimate and measure, compare and order the capacity of containers by using non-standard measures e.g. spoons and cups	**Informal measuring** • Estimate and measure, compare, order and record the capacity of containers by using non-standard measures e.g. spoons and cups	All measurement in Grade 1 is informal. No formal measurement of capacity/volume with standard units is done. **What is different in Term 4?** In Term 1 it was recommended that learners focus on • developing the language to talk about differences in volume; • comparing the volumes in two identical containers; and • comparing the volumes in two different-looking containers, especially wider and narrower containers. In Term 4 learners can focus on doing informal measurement with non-standard units of volume. **What is capacity? What is volume?** A bottle can have a capacity of four cups, but it may not be filled to its full capacity, it could for example, only may only contain a volume of one cup of water at a particular time. Capacity is the total amount that an object can hold (or the amount of space inside the object). Volume is the amount of space that something takes up. Sometimes learners will be measuring how much liquid (or sand or other substances) are in a container. This is measuring the volume of the substance in the container. At other times learners will be measuring how much a container can hold if it is filled to its maximum capacity. **Informal measurement of length using non-standard units of length** Learners can learn all the principles and practices of measurement using non-standard units. Measuring with non-standard units should not be considered to be inferior to measuring with standard units. Learners should get the opportunity to measure volume/capacity using a range of objects as informal units e.g. cups (but not necessarily measuring cups), spoons (but not necessarily measuring teaspoons), bottle tops such as 2 litre milk bottle tops, small cans, small bottles etc. Measuring volume/capacity with non-standard units involves counting how many times one fills and pours from the chosen unit until one reaches the required capacity or volume. Learners should be taught always to state the unit, e.g. there are 48 spoonfuls of water in the bottle or there just less than a cup of water in the bottle.	1 lesson

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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 the comparison e.g. more than, less than, full, empty • Estimate and measure, compare and order the capacity of containers by using non-standard measures e.g. spoons and cups	**Informal measuring** • Estimate and measure, compare, order and record the capacity of containers by using non-standard measures e.g. spoons and cups	Once learners have measured with any unit a couple of times, they should estimate the capacity/volume using that unit. Estimation before measuring is important, but can only be done once learners have done some measuring with that unit. Learners need to be taught that in order to compare volumes or capacity the same unit needs to be used. For example if a glass holds 20 teaspoons of water and cup holds 10 tablespoons of water, one cannot say that the glass holds more water. Learners need to measure with a range of informal units, so that they can • begin to understand that the smaller the unit the more time one will need to use/fill it, e.g. the volume in a bottle could be 20 tablespoonfuls but also 1 cup; and • begin to use units which are appropriate to what they are measuring, e.g. measuring a full 2 litre bottle with teaspoons is a waste of time. **Recording measurements** Although measuring is a practical skill, learners should record their measurements at all times. **Measuring capacity as a context for solving problems and calculations** During time allocated to Numbers, Operations and Relationships learners can solve problems that use the context of informal measurement of capacity/volume. For example, Gogo uses 2 cups of milk to make a pudding. If she doubles the recipe, how much milk will she need? Take account of the number range appropriate for the term, as well as the range of problems types.	1 lesson

GRADE 1 TERM 4 5. DATA HANDLING				
TOPICS	**CONCEPTS AND SKILLS REQUIREMENT BY YEAR END**	**CONCEPTS AND SKILLS FOCUS FOR TERM 4**	**SOME CLARIFICATION NOTES OR TEACHING GUIDELINES**	**DURATION** (in lessons of 1 hour 24 minutes)
Working with collections of objects				
5.1 Collect and sort objects	**Collect and organise objects** Collect and sort everyday physical objects		Sorting collections of objects is no longer a specific focus in the second half of the year. However, it can be given as an occasional activity during independent work time. The recommended focus in Term 4 is on reading and analysing pictographs: see below.	
5.2 Represent sorted collection of 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** • Give reasons for how the 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			

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Working with data				
5.4 Collect and organise data	**Collect and organise data** Collect data about the class or school to answer questions posed by the teacher			
5.5 Represent data	**Represent data** Represent data in pictograph			
5.6 Analyse and Interpret data	**Analyse and interpret data** Answer questions about data in pictograph	Analyse data from representations provided.	Once learners have experienced the whole data cycle (recommended in Term 3), they can focus on analysing representations that are given to them. It is recommended that in Term 4 learners analyse (answer questions) on at least 2 pictographs.	2 lessons