MATHEMATICS

Grade 1

2020 TERM 1

Lesson Plans

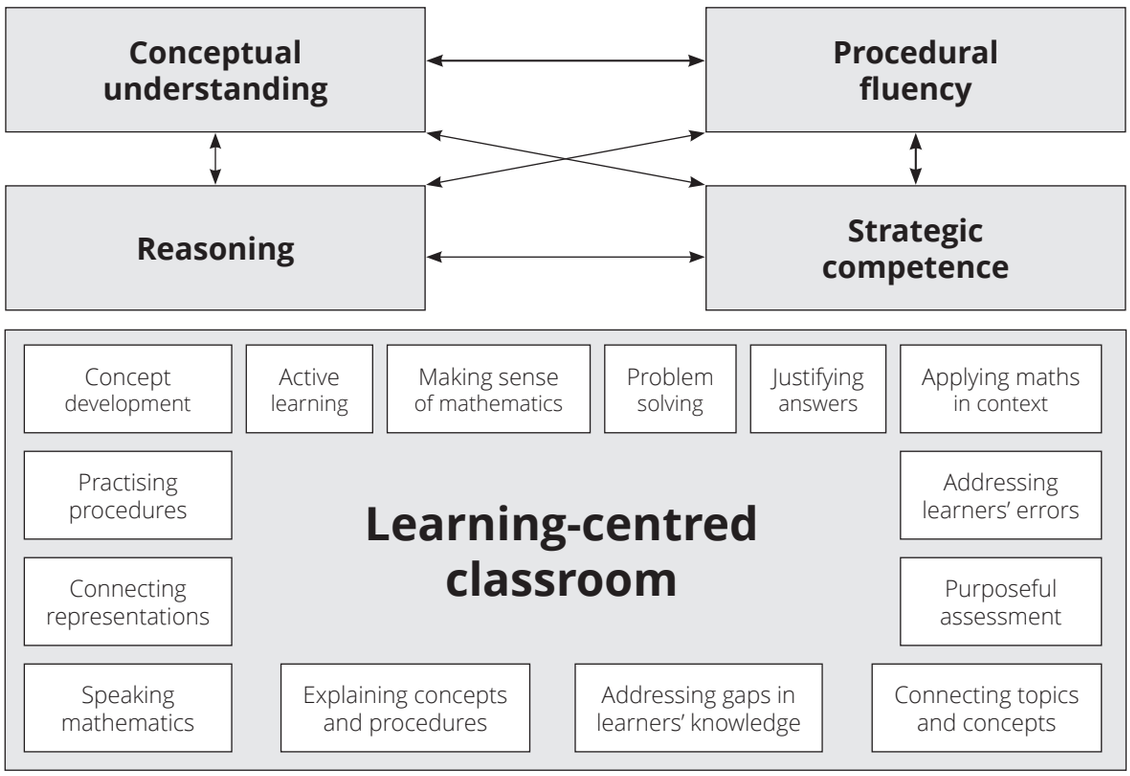
Acknowledgement:

These lesson plans have been developed based on previous sets of lesson plans (GPLMS and PILO) which have been adapted to align with the Mathematics Framework for South Africa: Teaching Mathematics for Understanding.

Contents

Teaching mathematics for Understanding (TMU)

You are participating in the pilot implementation of the Mathematic Framework – which calls for *Teaching Mathematics for Understanding*. Diagrammatically the framework is represented as shown below.



The Framework proposes that steps should be taken to bring about the transformation of mathematics teaching in South Africa. Mathematical examples of the dimensions can be found in the framework document. There are also examples of the four dimensions at the start of each new unit in the lesson plans. Teachers should strive to:

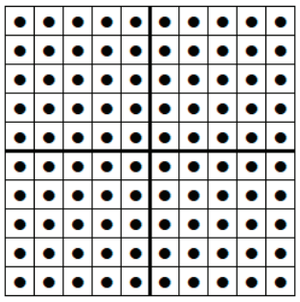
- teach mathematics for **conceptual understanding** to enable comprehension of mathematical concepts, operations, and relations;
- teach so that learners develop **procedural fluency** which involves skill in carrying out procedures flexibly, accurately, efficiently, and appropriately;
- develop learners' **strategic competence** – the ability to formulate, represent, and decide on appropriate strategies to solve mathematical problems;
- provide multiple and varied opportunities for learners to develop their mathematical **reasoning** skills – the capacity for logical thought, reflection, explanation and justification; and
- promote a **learning-centred classroom** which teachers support by engaging with learners in ways that foreground mathematical learning, thus enabling all of the above.

The lesson plans you will follow are designed to help you teach according to the framework dimensions.

TMU summary of maths teaching approaches

CPA APPROACH

The Concrete-Pictorial-Abstract (CPA) approach helps learners to develop the concepts of numbers. The CPA approach uses several different representations for the concepts of numbers 1, 10 and 100. For instance, the number '5' can be represented by 5 bottle tops (concrete objects), 5 circles (pictorial representations) and the number symbol '5' (abstract). The following table shows the materials used in the TMU lesson plans. It is important to connect each representation to the other representations.

Number Symbols	100	10	1
Number Nmaes	hundred	Ten	one
Base ten kit (manipulatives)			
Simplified pictorials (drawing)			

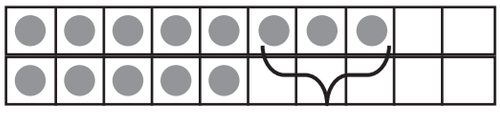
In the CPA approach, the following methods are of great importance.

a. Pre-number concepts using a ten frame (Grade 1)

Ten frames can make all critical activities easier and clearer. (CAPS P93 English version)

- Matching (one-to-one correspondence)
- Sorting

- Comparing

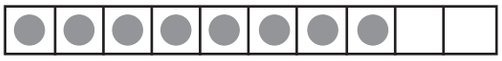


- Ordering

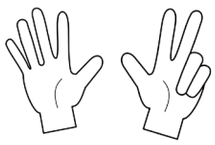
5

7

8

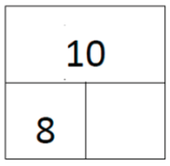


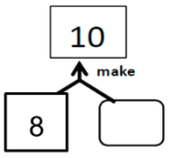
- Subitising



All the following problems are based on the same concept. Manipulating concrete objects in a ten frame helps learners to visualise the concept.

8 +❑= 10, 10 – 8 = ❑, 8 + 2 = ❑



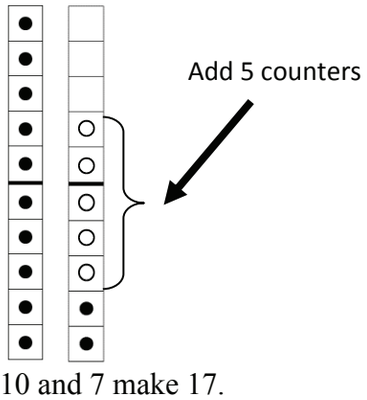


b. Make-a-ten method (Grade 1)

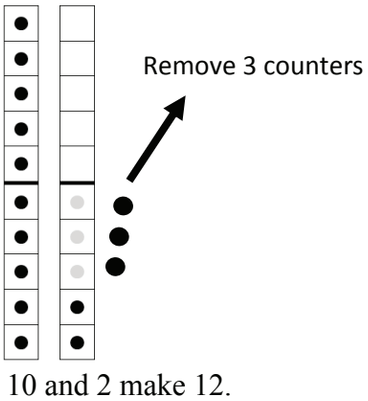
The 'Make-a-ten' method assists learners in shifting methods from counting to using the base-ten number system. The idea of number bonds 2 to 9 and subitising are critical for using the make-a-ten method. 'Make-a-ten' helps learners to develop the concept of place value.

- Addition without carrying and subtraction without borrowing. There is no change in the tens place.

1. 12 + 5 **2.** 15 – 3



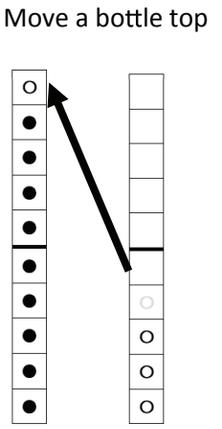
10 and 7 make 17.



10 and 2 make 12.

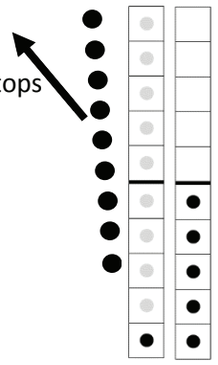
- Addition with carrying and subtraction with borrowing.

3) 9 + 4

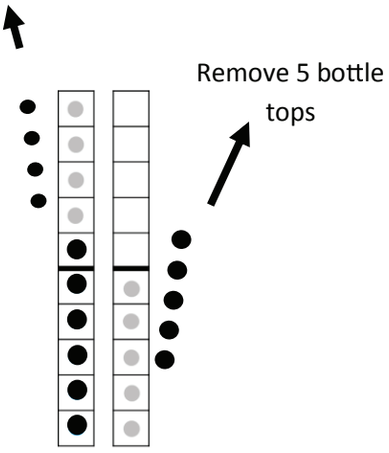


10 and 3 make 13.

4) 15 – 9



1 and 5 make 6.



5 and 1 is 6.

c. Column method using a base ten kit [concrete objects] (Grade 2, 3)

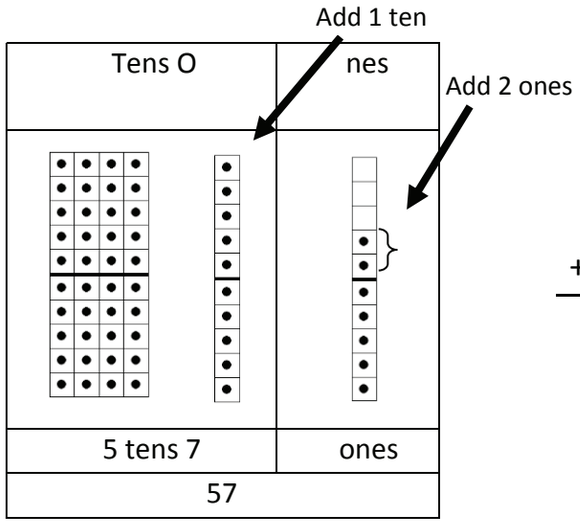
It is critical to show the connection between the place value table and the column method.

In Grades 2 and 3, learners use base ten kits on a place value table.

1) 45 + 12

Step 1. Add bottle tops in each place.

Use base ten kits →



	T	O
	4	5
+	1	2
	5	7

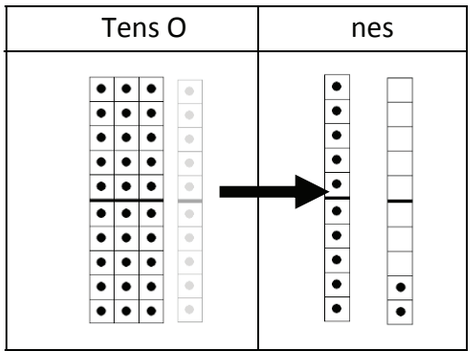
Step 2. Write numbers in each place.

Step 3. Write the answer.

2) 42 – 19

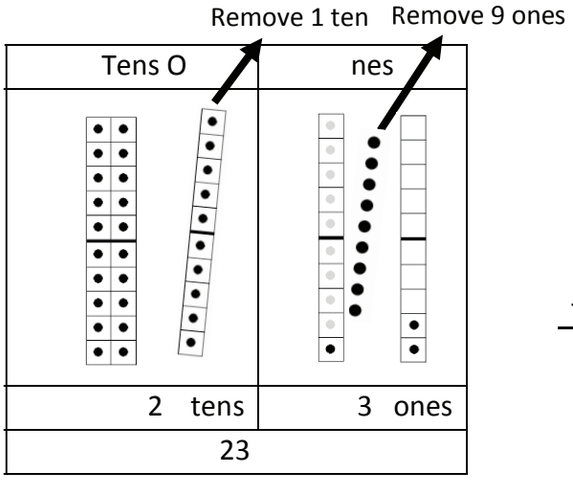
Step 1. Exchange 1 ten for 10 ones.

Use base ten kits →



Step 2. Remove bottle tops from each place.

Use base ten kits →



	T	O
	3	1
	4	2
–	1	9
	2	3

Step 3. Write numbers in each place.

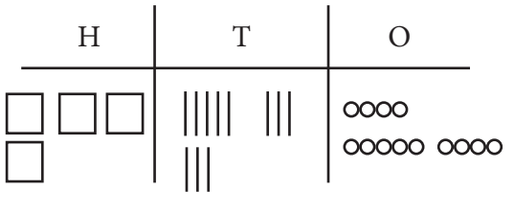
Step 4. Write the answer.

d. Column method using simplified pictorials [pictorial representation] (Grade 3)

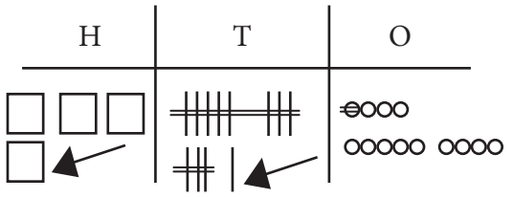
In Grade 3, learners use simplified pictorials. In the following diagrams, all the steps can be drawn in one diagram. Let learners make a group of five to show numbers 6 to 10 by organising pictorials as follows.

1) 384 + 139

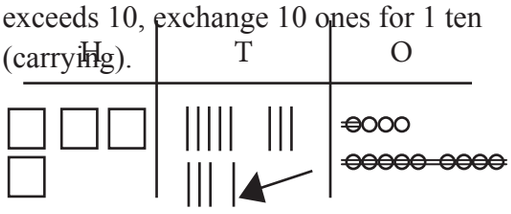
Step 1. Draw 384 and 139 vertically.



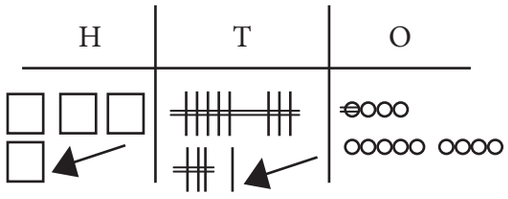
Step 3. Since 8 + 4 in the tens place exceeds 10, exchange 10 tens for 1 hundred (carrying).



Step 2. Since 4 + 9 in the ones place exceeds 10, exchange 10 ones for 1 ten (carrying).

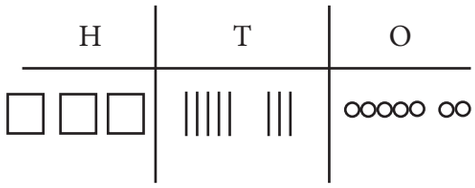
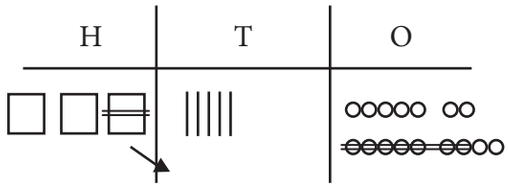
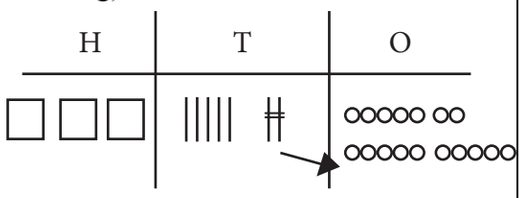
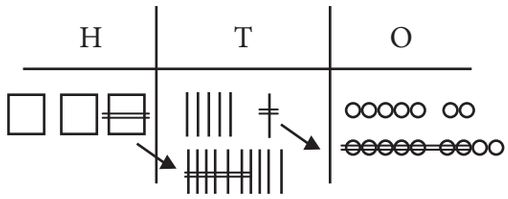
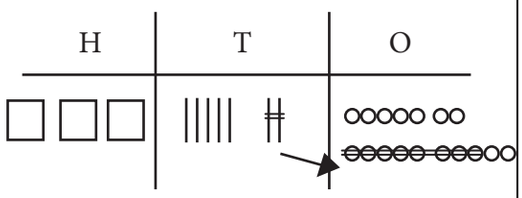
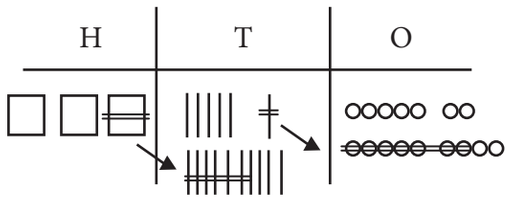


Step 4. Write the answer.



	H	T	O
	1	1	
	3	8	4
+	1	3	9
	5	2	3

2) 367 – 78

Step 1. Draw 367. 	Step 4. Since we can't do 5 – 7 in the tens place, exchange 1 hundred for 10 tens (borrowing). 
Step 2. Since we can't do 7 – 8 in the ones place, exchange 1 ten for 10 ones (borrowing). 	Step 5. 15 – 7 = 8 in the tens place. 
Step 3. 17 – 8 = 9 in the ones place. 	Step 6. Write the answer.  The answer is 289.

	H	T	O
	2	1	5 1
	3	6	7
–		7	8
	2	8	9

e. Column method [abstract representation] (Grade 2, 3)

In Grade 2, learners are shown how to write the column method using two rows as follows. Each row shows the number place of ones and tens. In Grade 3, learners can use one row.

Grade 2

1) 45 + 12

	T	O	
	4	5	
+	1	2	
		7	O: 5 + 2 = 7
	5	0	T: 40 + 10 = 50
	3	9	

2) 42 – 19

	T	O	
	3	1	
	4	2	
–	1	9	
		3	O: 12 – 9 = 3
	2	0	T: 30 – 10 = 20
	2	3	

Grade 3

3) 26 + 38

	T	O
	1	
	2	6
+	3	8
	6	4

4) 81 – 47

	T	O
	7	1
	8	1
–	4	7
	3	4

5) 384 + 139

	H	T	O
	1	1	
	3	8	4
+	1	3	9
	5	2	3

6) 367 – 78

	H	T	O
	2	1 5	1
	3	6	7
–		7	8
	2	8	9

PROBLEM SOLVING

a. Problem solving in general

1. Present a problem (e.g. a number sentence) to learners.
2. Let the learners work on it individually.
3. (Work in pairs or groups of less than 4). * This step can sometimes be skipped.
4. Ask several learners to give their answers.
5. Discuss the answers that are presented and find the correct one. Discuss errors as well.
6. Let the learners correct their work in their classwork books if necessary.

b. Word problem solving with manipulatives or diagrams
4 steps to solve word problems

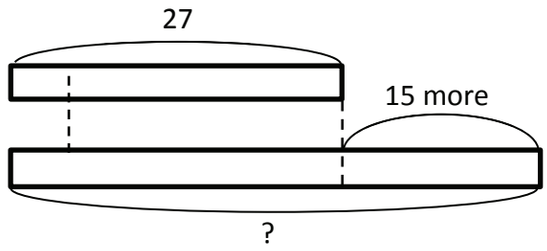
Step 1. Understand the problem.

1. Write the word problem on the chalkboard
2. Read the problem.
3. Let the learners read the problem until they read it fluently.
4. Underline the numbers.
5. Underline the question with a wavy line.
6. Let the learners reproduce the story with manipulatives or diagrams.

Thoko has 27 sweets.

Silo has 15 more than Thoko.

How many sweets does Silo have?



Step 2. Devise a plan.

1. Determine the operation.
2. Write a number sentence.

Step 3. Carry out the plan.

1. Find the answer to the number sentence.

Step 4. Look back.

1. Compare the learners' solutions.
2. Do the corrections.
3. Let the learners record all the work in their classwork books.

Glossary of important terms used in the TMU lesson plans

The following terminologies are used in the TMU lesson plan s for Grades 1 to 3. Some of them also appear in CAPS. This is a general glossary which has been prepared for Grades 1 to 3. Terms used in the TMU that expand on the CAPS repertoire are indicated.

Calculation

ADDITION WITH CARRYING (TMU)

The type of addition which occurs when we bridge ten, in single digit (or 2-digit or 3-digit) calculations. For example 9 + 4; 57 +26; 83 + 19. The term 'carrying' is used since the terminology is familiar to teachers. What happens when we 'carry' is that in order to bridge ten, 10 ones are 'exchanged' to make 1 ten.

SUBTRACTION WITH BORROWING (TMU)

The type of subtraction which occurs when the units involved in the subtraction create an impasse (a temporary hurdle). For example 14 – 5; 52 – 27; 102 – 19. The units do not allow for subtraction 'on their own'. The term 'borrowing' is used since the terminology is familiar to teachers. What is happens when we 'borrow' is that 1 ten is 'exchanged' for 10 ones and grouped with the other ones in the question, to overcome the impasse so that the subtraction can be done.

BASE-TEN NUMBER SYSTEM

The most commonly used number system across the world. Our number system uses a base of ten which means that it involves grouping in tens. There are ten units in one ten, ten tens in one hundred and so on. Each digit in a number has a value according to its position in the number. The only digits we need to represent a number of any size are the digits 0 to 9. One focus of the TMU framework is to move from mathematics based on counting methods to methods governed by the base-ten number system.

MAKE-A-TEN METHOD (TMU)

A calculation technique that learners can use to do addition with carrying and subtraction with borrowing. This method helps learners to progress beyond calculation by counting.

COLUMN METHOD (TMU)

A calculation technique used in addition and subtraction that helps to reinforce number concept or number sense. Also known as the vertical algorithm or vertical method. This

structured method consolidates learners' understanding of place value because it is structured using place value. This should help learners to understand the concept of place value and to work meaningfully with numbers (rather than making tallies and counting).

NUMBER BONDS

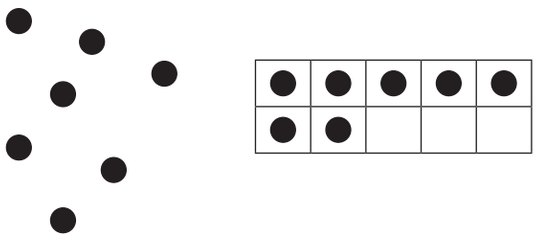
A calculation technique that consists of building up (composition) and breaking down (decomposition). For instance, 4 can be broken down into 1 and 3, 2 and 2 and 3 and 1. These are the number bonds of 4. The number bonds of 10 are the most important since they are used in all calculation strategies.

EXPANDED NOTATION

Representation of a number by writing it out using place value. In Grades 1 and 2, learners can use expanded notation to write out numbers. For example, 18 = 10 + 8. In Grade 3, 3-digit numbers are expanded. For example, 467 is expanded in the following way: 467 = 400 + 60 + 7. 'Expanded notation' and 'building up and breaking down of numbers' are used interchangeably in CAPS. In the lesson plans, building up and breaking down are used only with regard to number bonds. Flard card can help learners to acquire knowledge of expanded notation.

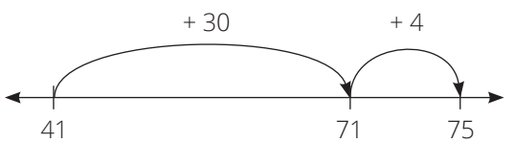
SUBITISING

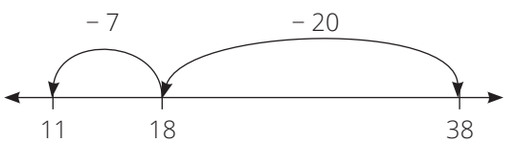
Subitising is 'an instant cognition of the number of objects'. This is one of the most important skills that learners should acquire in the Foundation Phase. A ten frame is a useful tool to help learners to subitise objects. In the example below, it is easier to recognise the number of dots by putting them in a ten frame.



JUMPING STRATEGIES ON A NUMBER LINE

When we solve addition or subtraction with number line, we use 'jump' strategies. This strategy builds on learners' knowledge of numbers and it can also help reinforce number concept or number sense. There are many ways in which 'jumps' can be made on number line, but efficient jumps (such as jumping to the next ten or jumping in tens) make the calculations easier. Choosing these 'efficient jumps' develops learners' number sense.





Representations

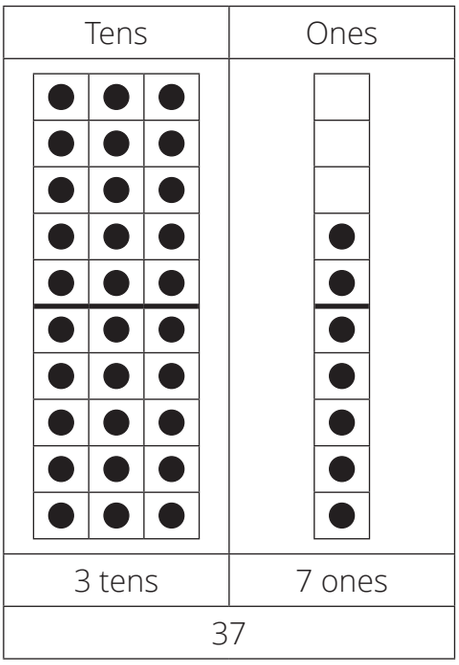
CPA APPROACH (ALSO KNOWN AS THE CRA APPROACH)

The Concrete-Pictorial-Abstract (CPA) approach helps learners develop the concepts of numbers. The CPA approach uses several different representations for the concept of numbers 1, 10 and 100.

- **Concrete** objects are any materials that can be touched. In TMU, bottle tops are recommended as concrete objects.
- **Pictorial** representations are drawings that represent concrete objects.
- **Abstract** representations consist of number symbols and symbols such as '+', '−', '×', '÷'.

SIMPLIFIED PICTORIALS (OF THE TMU BASE TEN KIT WHICH IS SIMILAR TO DIENES BLOCKS)

A simplified pictorial representation of hundreds, tens and ones is used to depict numbers on paper. The concept of the numbers represented by the pictorials is reinforced when the learners draw simplified pictorials. By using simplified pictorials, an enormous time of writing can be saved compared to drawing tallies, circles etc. Simplified pictorials are much more effective than tallies. Tallies should not be drawn beyond a maximum of 20 items and preferably not for more than ten items.



PLACE VALUE TABLE (GR 2, 3)

A diagram showing a number using a display of concrete/semi-concrete objects (bottle tops as units or base ten kit tens and hundreds) and abstract representations (numbers and number names). The following is an example of the number 37 shown in a place value table.

ARRAY DIAGRAM (GR 2, 3)

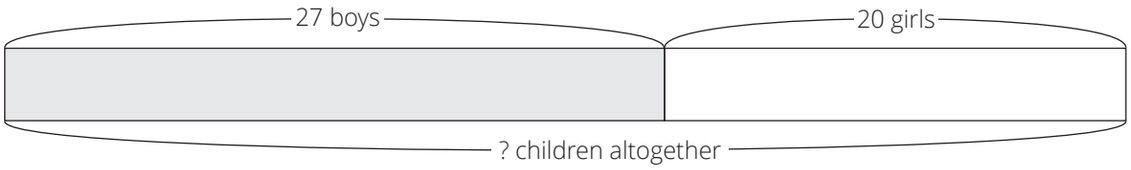
The following is the array diagram of 2 × 4. The order of multiplication is important and is consistent with CAPS.

MULTIPLICATION TABLE (GR 2, 3)

Multiplication tables show the multiples of numbers – the answers to the multiplication of several 1x1 digit multiplications, depending on the number of the multiplication table. For example, the 5 times table is ❑ × 5 and will show all the multiples of 5 by the numbers 1 to 10. Learners must memorise the multiplication tables, because once learners master the multiplication tables, they will be able to divide by applying their knowledge of multiplication.

BAR DIAGRAM

A diagram representing the relationships of numbers in word problems. The following is an example of a bar diagram showing addition (combine).



Resources

MANIPULATIVES

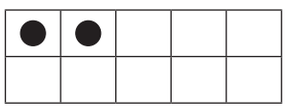
These are concrete apparatus such as counters, printed tens, printed hundreds, box and ball shapes, etc. that can be manipulated by learners.

COUNTERS

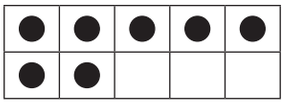
These are any (loose) concrete objects that learners can manipulate when counting. In the TMU, bottle tops are recommended since they are freely available but other counters can also be used such as interlocking cubes (e.g. Unifix cubes). Teachers are expected to use concrete counters such as bottle tops on a big ten frame to help learners to develop their number concept as they learn how to count and work with numbers, starting from the number 1. An abacus can be used for counting but since the numbers of the abacus are fixed onto the bars, learners cannot manipulate them as freely. In the lesson plans, all counters are referred to as bottle tops.

DOUBLE-DECKER TEN FRAME (GR1, TERM 1 AND 2)

A ten frame which is made of 2 × 5 frames. Double-decker ten frames are very helpful when working in the number range 0 to 10. The double-decker ten frame helps learners to understand the numbers 6 to 10 as 5 + 1, etc. (numbers 1 to 5) by subitising. Learners must put bottle tops onto ten frames themselves when they learn about numbers. The double-decker ten frame gives visual clues about the numbers shown on it. This is the number 2 represented on a double-decker ten frame:

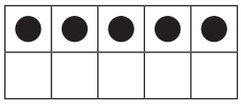


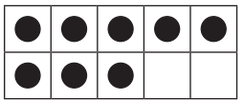
This is the number 7 represented on a double-decker ten frame (visually 5 plus 2):



TEN FRAME CARDS (GR 1)

Ten frames with counters already shown in the cards. The example of 5 and 8 are presented. These are also called number picture cards. Learners can start to recognise these cards after working with real ten frames and bottle tops themselves in class.





STRAIGHT TEN FRAME (GR 1 TERM 3 AND 4, GR 2, 3)

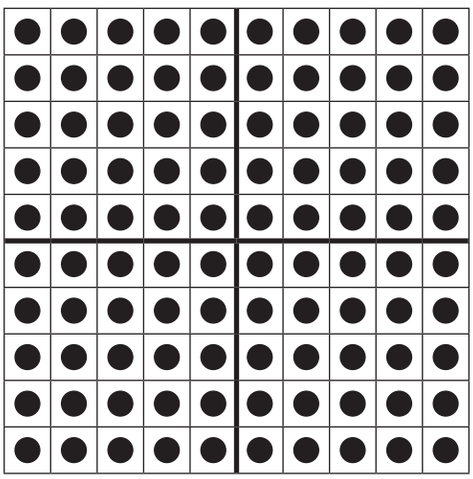
A ten frame which is straight. The thicker line in the middle shows the 5. This line is important because it helps learners to recognise the numbers 6 to 10 by using the building up skill of 5 and … (numbers 1 to 5). A straight ten frame is helpful to deal with numbers bigger than 10.

PRINTED TEN

Printed version of a group of 10 ones. You should call them 'ten(s)' when you use them in a lesson.

PRINTED HUNDRED (GR 3)

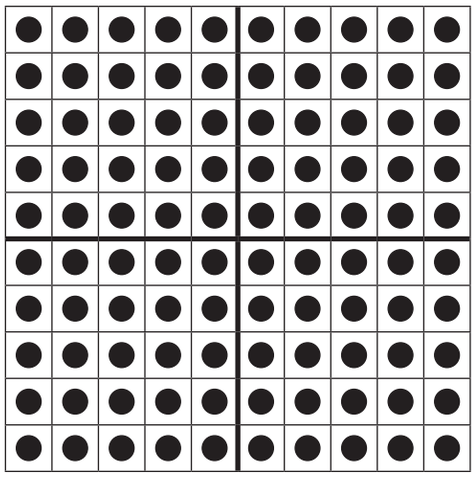
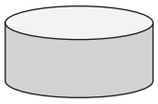
Printed version of a group of 100 ones. You should call them 'hundred(s)' when you use them in a lesson.



BASE TEN KITS (ALL)

The concrete number representations used in the TMU lesson plans as 'counters' for ones, tens and hundreds. Bottle tops are used as single counters (to count ones), printed tens are used to count tens and printed hundreds are used to count hundred places. Each learner needs 1 printed hundred, 20 printed tens and 20 or 30 bottle tops. Teachers need 10 big printed hundreds, 20 big printed tens and 20 big bottle tops.

(In the TMU bottle tops are used as counters. Throughout the lesson plans, counters are thus referred to as bottle tops. One bottle top represents one. The use of bottle tops with the base ten kit is carefully introduced and is used repeatedly throughout the TMU lesson plans. Teachers could of course use other counters should they have them.)

100	10	1
hundred	ten	one
		

Preparing to teach a lesson

The lesson plans provide a detailed lesson design for you to follow. However, to deliver the lessons successfully **you must do the necessary preparation yourself**.

Before you get started, study the contents page of the lesson plan document. This will give you an overview of the mathematics content you will cover during the term.

The information below outlines some key aspects of the preparation required before you teach are the lessons.

a **Prepare resources:** The resources needed for each lesson are listed in each lesson plan and in the tracker. It is very important that you check what is required for each lesson ahead of time, so that you have all your resources ready for use every day (e.g. bottle tops, number grids, paper cut-outs, examples of shapes, etc.).
- **Your lessons will not succeed if you have not prepared properly ahead of time.**
- If you do not have all the necessary resources readily available, see how best you can improvise, e.g. get learners to collect bottle tops or small stones to be used for counting, or make your own flard cards/number grids using pieces of cardboard and a marker pen.
- Collect empty cool drink cans, cereal boxes, washing powder boxes, plastic bottles etc. for the **shop activity** in the week long in advance, so that you have all the necessary goods to stock your shop.
- Use newspapers and magazines to cut out pictures that could be used in your teaching. If you have access to the internet, search for and print out pictures that you may need to use as illustrations in your lessons.

b **Prepare for the written classwork and homework activities:** When preparing your lessons, check the lesson activity requirements. In some instances, you will need to write information or draw some diagrams on the board that you will use while you do the interactive whole-class-teaching component of the lesson. Also, mark the homework activities as often as you can, so that you can give useful feedback to the learners each day, and become aware of any difficulties the learners are having as soon as they become apparent.

c **Prepare to teach the concepts and skills associated with the lesson topic:** Think carefully about what it is that you will teach your learners in the lesson. Prepare a short introduction to the topic, so that you can explain it in simple terms to your learners. Make sure you have prepared for the teaching of the concepts before you teach – you need to be able to explain new Mathematics content and skills to the learners. Be sure you have gone through the oral teaching activities provided in the lesson plans. Also make sure that you have thought about how to use the resources in the lesson effectively. This preparation needs to be done in advance, so that you do not waste time during the lesson. Be sure you are familiar with the sequence of activities in the lesson plan. Prepare yourself to assist learners with any questions they might have during the lesson. Also give some thought to how you will accommodate learners with barriers to learning.

Assessment for learning

Teaching is an engagement with learners that is ongoing. The engagement should be planned so that it can lead to the achievement of learning goals in a meaningful way. Particularly in the Foundation Phase, teaching and assessment should be closely aligned so that teachers draw on knowledge gained through assessment to inform and enrich their classroom activities. This is assessment for learning. The TMU pilot has planned assessment activities. You should use these activities to find out what has been learned in your class and what you need to do to take this learning further. The planned lesson activities also provide opportunities for you to listen to your learners (while you teach) and to think diagnostically about learners' responses in discussions. You can then build on what you have learned through this activity to deepen the learning that takes place in your class. The teachers' notes in the TMU lesson plans indicate daily objectives. Another way of thinking about the lesson objectives is to think about the Learning Intentions and Success Criteria for a lesson. This provides teachers a cognitive and conceptual reference for the lesson.

Definition of learning objectives and success criteria

'… we must help students develop a deep understanding of what they are supposed to learn, help them understand what success will look like, how the lesson's tasks relate to the lesson objectives, and at the end of the lesson, how much closer they have come to achieving the success criteria."
"Success criteria let students know when they have achieved the learning goal."

SOURCE: (HATTIE, 2012)

One of the most important things you can do as a teacher is focus on classroom activities; in other words on discussions that make a difference to learning in the classroom.

Your task is to make sense of the TMU lesson plans so that you can strive to enact better quality teaching and learning in your classroom. Lesson plans provide useful information, but you need to make good sense of the lesson plans in order to use them well and extend their possibilities.

Below is an instructional framework that you can use as a tool to understand classroom work. The instructional framework is made up of the following components, which align to the components of the TMU lesson plans.

Lesson Topic
Learning Objectives
Success Criteria
Dialogue Oral
Written
Homework
Assessment

We suggest that you write up the lesson objectives and success criteria for at least one lesson in every unit of the TMU lesson plans. Take time to do this, in your own words and in relation to your own classroom context, as this will help you to develop as a professional teacher. After teaching the lesson using the instructional framework, reflect on its successes and gaps to adjust your teaching for future lessons.

Lesson objectives	Lesson 36. Ordinal numbers.
Success criteria	The learner can the position of a number or shape shown in an ordered sequence. The learner can sit in the correct position according to a given ordinal number. The learner can understand the meaning of first, second, third … The learner can draw a shape in a given position (using ordinal numbers). The learner can distinguish between left and right. The learner can name shapes or objects. The learner can draw shapes or objects.

The table below gives you a framework to use as you draw up lesson objectives and Success Criteria when you work through the TMU lesson plans. Each time:

- Go back to the Maths lesson plan you are considering.
- Align the contents of the lesson plan to the instructional framework.
- Do this by filling in the table below with sections from the lesson plan.
- Answer the questions that follow.

Grade	
subject	Maths
Week	
Lesson	
1 Learning Objectives	
2 Success Criteria	a) The learner can b) The learner can c) The learner can
3. Oral Dialogue / Activity	
4. Written Activity / Task	
5. Homework	
6. Assessment Questions	

Further reading:
Black, P., & Wiliam, D. 1998. Inside the black box : raising standards through classroom assessment. London: King's College London School of Education 1998.
CITY, E. A., ELMORE, R. F., FIARMAN, S. E. & TEITEL, L. 2010. Instructional Rounds in Education, Cambridge, Massachusetts, Harvard Education Press.
HATTIE, J. 2012. Visible Learning for Teachers, USA, Routledge

About the Lesson Plans and Resources

The lesson plans and resources in this book are part of the Grade 1 Term 1 Teacher Toolkit for the pilot implementation of the mathematics framework.

The other documents in the toolkit are:

- a Lesson and Assessment Planner and Tracker
- a bilingual Learner Mathematics Activity Book
- a set of teacher printable resources
- a bilingual Dictionary of Mathematical Terms

A ABOUT THE LESSON PLANS

The lesson plans give detailed information about how to teach a CAPS-aligned lesson every day. By following the lesson plans, you will ensure that you cover the content and assessment tasks specified in the curriculum and give your learners the best possible chance of developing the knowledge and skills required for Mathematics in this grade.

1 CURRICULUM ALIGNMENT

The lessons are sequenced according to a reorganised CAPS unit planner. The content is CAPS aligned (all topics are covered and the CAPS weighting has been adhered to) but it covers a slightly different sequence to the regular CAPS. Your school has been given permission by the Minister to follow this special reorganised curriculum. Lessons plans do show each lesson's links to the CAPS content and skills being focussed on in the lesson.

2 DBE WORKBOOKS

Pilot implementation schools have been given permission not to use the DBE workbooks. You will use your CAPS- and lesson plan-aligned Learner Activity Books (LAB) instead. The LAB has been designed to include activities from the DBE workbook wherever possible. Bilingual LAB material is provided in English and the LoLT of the school in accordance with the Foundation Phase language policy. The DBE workbook could be used for extension or additional activities if the teacher has time and wishes to do so.

3 BROAD OVERVIEW OF THE CONTENT OF THE LESSON PLANS

Each lesson plan provides a set of steps to guide you in delivering the lesson. In addition, it contains learner activities that will help learners develop the concepts and skills set for the lesson. There are mental maths activities, whole class activities led by the teacher, classwork and homework activities. The answers for the classwork and homework are included in the lesson plans. The classwork and homework activities form the content of the LAB which is provided in a bilingual workbook format.

4 ASSESSMENT

Assessment is provided for in the sequence of lessons. There is also a recommended mark record sheet in the tracker. You can first record your marks in the tracker and then transfer the marks to the SA SAMS marksheets.

In the Learner Activity Book, there is a blank page on the day that an assessment is done. This provides the teacher with a space for learners to write corrections or do additional problems that the teacher may want them to solve after going over the written test with the class.

The programme of assessment suggested in the lesson plans complies with revised CAPS Section 4. Written, oral and practical assessments are provided. Rubrics and checklists with criteria for the oral and practical assessments are also included.

The checklists that are provided enable teachers to allocate a mark that can be entered onto SA SAMS. Each criterion in the checklist is allocated a mark (1 = achieved and a 0 = not achieved). Teachers could vary this system should they wish to.

The rubrics that are provided have 7 levels which can be used to allocate a mark from 1 to 7 that can also be used to enter marks into the SA SAMS marksheets.

5 MANAGING YOUR TEACHING USING THE LESSON PLAN

A set of revision activities on eight different topics aligned with the CAPS baseline assessment requirements is provided for the start of the first term. You should use all or a selection of these activities in the first week of term before the formal teaching of the numbered lesson plans begins. The formal curriculum for Term 1 of Grade 1 is covered in a set of 50 numbered lesson plans, paced to cover a 50-day teaching term. This includes 32 fully planned lessons, 8 assessment lessons and 10 consolidation lessons.

Each of the 32 fully planned lessons is designed to last 90 minutes. If your school's timetable has different period lengths, you will have to adjust the amount of work done in each lesson to accommodate this. However, each school should allow seven hours for Mathematics each week so it should be possible to fit in all the work for the week, even if the lengths of periods are not the same as in the lesson plans.

6 SEQUENCE ADHERENCE AND PACING

Each of the fully planned lessons and its contents has been carefully sequenced. You should not skip any of these lessons. Should you miss a school day for any reason, rather skip a consolidation lesson near to the lesson that you are busy teaching. You might choose to speed up the pace of delivery to catch up a missed lesson by covering the lesson concept contents of two consecutive days in one day. To do this, you could cut out or cut back on some of the routine activities like mental mathematics or homework reflection to save time until you are back on track with the expected delivery of the plans.

7. UNIT OVERVIEW

Each unit is introduced with a description of the unit content. Links to the four framework dimensions are included in the introduction to the unit. The introduction is followed by a unit overview which gives a tabulated summary of the lessons contained in the unit. The lesson objectives and resources required for each lesson are included in the table. There is also a column provided for you to use to keep a record of your teaching progress.

It is a good idea to reflect on your teaching. You could write about what went well, or not so well, when you taught the lessons and how you would teach the lessons again the next time. Use the space provided at the end of each unit overview to record your thoughts. Some questions are provided to guide your reflection.

Reflect on this as you prepare lessons that follow the CPA approach.

Learners need to make the move from concrete to abstract, but this does not happen suddenly or in one move. They may need to go backwards and forwards between representations in the CPA method many times until they have fully achieved abstraction. That is why in your lessons you will continue to provide concrete and pictorial representations – but as soon as a learner shows he/she can work abstractly, you should not hold them back, allow them to do so. When they need the support of concrete/pictorial material, offer it to them again.

d **Lesson pace:** Think about how much time you will spend on each activity. It is important to plan how you will manage the pace of the lesson carefully; otherwise you will not manage to cover all the lesson content. Not all learners work at the same pace. You need to determine the pace – be guided by the average learner and the recommendations in the lesson plans. Be careful not to slow down to the pace of the slowest learners as this will disadvantage the other learners.

e **Organisation of learners:** Think about how you will organise learners when they do the classwork activities. Will they work alone, in pairs or in small groups? How will you organise the pairs or groups if you choose to use them? You need to organise the learners quickly at the beginning of the lesson, so that you do not waste too much time on this.

f **Inclusive education:** Consider the needs of any learners with barriers to learning in your class, and how best you can support them. The DBE has published some excellent materials to support you in working with learners with learning barriers. Two such publications are:

- Directorate Inclusive Education, Department of Basic Education (2011) *Guidelines for Responding to Learner Diversity in the Classroom Through Curriculum and Assessment Policy Statements.* Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.
- Directorate Inclusive Education, Department of Basic Education (2010) *Guidelines for Inclusive Teaching and Learning. Education White Paper 6. Special needs education: Building an inclusive education and training system.* Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.

You can make the learning and teaching of maths more effective by remembering a few simple DOs and DON'Ts

DO	DON'T
Teach with a SMILE	
Give learners enough time to think/struggle and discover something on their own and to keep quiet while they are thinking/working individually.	Explain everything.
Plan the lesson with enough time to let learners deepen their own thinking. Be patient!	Rush learners into saying/ doing something by saying 'quick, quick, quick'.
Share a variety of answers/thinking with all the learners and let them compare, think and explain which ones are OK/not OK and why. Discuss important errors so that everyone can learn from them.	Erase/remove incorrect answers. Say 'No', 'Wrong', 'Next', 'Right', 'Yes',
Ask the learners 'why did you think so', regardless of whether their answer is correct or incorrect.	'Correct', etc. immediately after learners give you their answers.
Assist learners to discover where and why they made mistakes. Use other learners as well to explain why something is not correct.	Answer the phone.

It is important to note that:

There is **one week** of planned baseline assessment activities and **10 weeks** of teaching planned in this set of lesson plans.

The first term is not always the same length. If the term in which you are using the lesson plans and tracker is longer or shorter than 11 weeks, you will need to adjust the pace at which you work to complete the work in the time available, or make another plan to stay on track.

Lesson Plan Outline

Each lesson plan has several components. Information about each one is given in the table below. This information tells you how to use each of the components of the lesson plans and how they fit together to create a well-paced and properly scaffolded Mathematics lesson each day. You should read this outline as you prepare each lesson until you are fully familiar with the general lesson plan components, pace and structure.

Teacher's notes

These notes include information for the teacher about the CAPS content to be covered in the lesson and the learning objective for the lesson.

A list of the lesson vocabulary is included in the teacher's notes. This is a list of the important mathematical vocabulary used in the lesson. The vocabulary, with explanations and diagrams, is also provided in the bilingual dictionary that is part of your Toolkit. You should go through the lesson vocabulary each day as you prepare for the lesson. These terms are important as they are the language of Mathematics that each learner needs to learn and understand in order to build a solid foundation and understanding of this subject. It is important to explain these words to your learners and encourage learners to use them as well. If you have learners in your class who are not yet comfortable in the Language of Learning and Teaching (LoLT), try to explain the word in a language they understand. Use gestures, pictures or enlist the help of another learner who is familiar with the home language of the learner who is struggling with a language barrier.

Finally, the resources that you should prepare for the days lesson are listed. You need to check which resources you need in advance for each lesson so that you are ready to teach the lesson each day.

Mental mathematics (10 minutes)

This is the first active component of the lesson. We recommend that you take at most 10 minutes to do the mental mathematics activity. The mental mathematics activity consists of a set of questions to drill number facts and basic mathematical strategies that are linked to the day's lesson.

Mental mathematics is not a concrete activity (as the title suggests). Remember that a concrete activity uses actual material to scaffold learning. However, if there are learners who need concrete aids to complete the mental mathematics activities, we suggest that you allow them to count on their fingers.

- Observe which learners struggle with mental activities, and make sure that you spend time later to help them reach the required level of competence by offering remediation activities using concrete aids.

- The answers to the mental mathematics questions are given in the answer column in the lesson plans.
- You should try to complete all of each day's mental mathematics questions, but if you find that your learners struggle to finish these in ten minutes, do a minimum of five questions.

Lesson content – concept development (45 minutes)

This is the second component of the lesson. It is the body of the lesson, in which learners are introduced to the new work planned for the day. We recommend that you actively teach your class for 45 minutes, going through the activities interactively with your learners.

- Activities on the content that you will teach with worked examples and suggested explanations are given. These activities have been carefully sequenced and scaffolded so that they support the teaching of the concepts for that day. You should work through each of these with your class.
- It is important to manage the pace of the lesson carefully otherwise you will not manage to cover all the lesson content. Once you have introduced the new concept, work through Activity 1 of the lesson with the whole class (or with learners in groups). Then immediately move on to the next activity, and provide a reasonable time for the learners to complete Activity 2, but do not wait for the last learner to finish before proceeding. If there are further activities, continue pacing yourself in this way, so that you work through all of the activities in each lesson. A few activities are marked as *optional* – these need only be done if you have sufficient time.

Classwork activity and correction of homework (25 minutes)

This is the third component of the lesson. We recommend that you allocate 25 minutes to going over the previous day's homework and giving time to the learners to do the classwork.

First, take a minute or two to reflect on the homework. You might read out answers to all of the homework questions, allowing learners/peers to mark the work. Try to check the homework yourself as often as you can. If you notice a question that many learners struggled with, especially if it is important for today's lesson, you could work through it in full with the whole class. Allow learners the opportunity to write corrections as needed.

When you assign the classwork, you could go over one or two of the classwork activities orally with the whole class before allowing the class to complete the activities independently (individually or in groups).

- Learners should do their classwork in their mathematics exercise books.
- Learners should work individually, in pairs and in groups so that they experience working alone as well as with their peers.
- Individual work is so important. Sometimes, in group work, only one or very few learners lead the group: they do all the work and present it to the class for the group.

Group work does not guarantee every learner's learning and understanding. Some of the group members may have been left behind without knowing exactly what has been has done. Learners should first work individually and then discuss what they have done with the rest of the group, based on what they have in their classwork books or worksheets.

- Wrap up the classwork activity each day by giving the learners the answers to the classwork and allow time for corrections to be written when necessary. You should reflect on questions that learners have struggled with if necessary.

The bilingual learner resources contain all of the daily classwork activities.

Homework activity (5 minutes)

This is the fourth component of the lesson. We have allocated five minutes to give you time to tell the learners about the homework each day.

Homework consolidates the content that you have taught each day. Homework also promotes learner writing and development of their mathematical knowledge.

The bilingual learner resources contain all of the daily homework activities.

Reflection (5 minutes)

This is the fifth component of the lesson. You should wrap up each day's lesson by focussing the learners on the content covered and the concepts they should have learned.

Week 1 Revision Lesson Activities

The lesson activities given below are for you to use on the first few days of school when the learners are still settling down and you are not quite ready to start the formal CAPS lesson plans that follow. These revision lesson activities will help you to keep learners occupied in a meaningful way at the beginning of the term and to make observation notes on their mathematical knowledge development. The observation notes that you make will inform your intervention strategies. It will also help you get to know the learners.

Activities are provided relating to eight CAPS topics. You do not need to use all of these activities.

- Choose the activities that you think would be best for your learners to work on in order to revise/recap work done in the previous year.
- You can do them in the order of your choice.
- For some of the activities you will need to work with your learners interactively. Others learners can do independently or in groups.

Keep a notebook where you write your observations on learners' knowledge.

The checklist below lists the baseline skills that need to be tested according to the CAPS. The simple checklist can be used by teachers (or expanded as they wish) in order to make notes on the baseline activities learners are able to carry out. The activities that follow (Topics 1-8 on the following pages) provide opportunities to observe all of the skills listed below.

CAPS baseline framework

Criteria: Can the learner	Yes	No
Count up to 10 objects		
Recognise, identify and read the number symbols from 1 to 10		
Compare up to 10 objects using **more** and **less**		
Sort objects according to one attribute		
Copy a pattern		
Describe position		
Follow directions		
Use ordinal numbers to show order, place and position		
Describe 3-dimensional objects according to size		
Use appropriate language to talk about length		
Use appropriate language to talk about mass		
Compare numbers up to 10 using **equal to**		
Orally add objects up to 10		

Topic 1: Number concept

CONCEPTS AND SKILLS FOR TODAY

- Count objects up to **5**.
- Compare up to **10** objects using **more, less, equal to.**
- Read the number symbol 1.

WARM-UP ACTIVITY

Give the learners the opportunity to familiarise themselves with the Mathematics teaching and learning resources in your classroom by letting them play with some of them for about ten minutes in their groups. The resources may include:

- Counting manipulatives such as bottle tops, stones, etc.
- Space and shape manipulatives such as shapes, blocks, cubes, etc.

After the learners have played with the manipulatives in their groups, call them to attention as a class to revise number names and number concept: try to call on individual learners to answer your questions – although at times more than one might answer.

- Hold up your empty hands – empty. Ask, *How many bottle tops do I have in my hand?* (0, or none, or no bottle tops)
- Hold up 1 bottle top. Ask, *How many bottle tops do I have in my hand?* (1)
- Hold up 2 bottle tops. Ask, *How many bottle tops do I have in my hand?* (2)
- Continue in order up to 5 bottle tops.
- Now hold up different numbers of bottle tops (between 0, and 5), asking each time how many bottle tops you have in your hand.

Spend five minutes with your learners packing away the learning resources. Ask the learners why they think we should pack the learning resources away neatly and look after them well. Discuss. It is important to develop the learners' sense of responsibility from an early age.

ACTIVITIES

Give the learners the following activities using bottle tops that you give to them and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Let learners count out real objects up to **5** e.g. stones, flowers, bottle tops, etc.	• Count objects up to **5**?	
2 Ask one learner to show you **4** bottle tops. Ask another learner to show you **4** bottle tops. Ask: **Who has more bottle tops?** **Who has less bottle tops?** **Do you have the same number of bottle tops?**	• Compare objects up to **10** using **more**, **less**, **equal to**?	

Activity	Can the learners	Observation
Yes. The number I have is equal to the number s/he has. (Repeat with different learners and different numbers of bottle tops.)		
3 Show the learners the number **1** picture card. Ask: **What is the number symbol on the card?**	• Read the number symbol **1**?	

Topic 2: Sorting shapes and patterns

CONCEPTS AND SKILLS FOR TODAY

- Count objects up to 5.
- Read the number symbol 2.
- Sort objects according to one attribute. Note that they do not have to give you the shape names.
- Copy a pattern.

WARM-UP ACTIVITY

First, give the learners ten minutes to cut pictures from old magazines and newspapers with a pair of scissors. Help learners to hold the scissors and to cut in a straight line. After that, let them cut up the paper freely in any way. Second, spend five minutes with your learners showing them how to hold a pair of scissors when giving them to another person (pass scissors from person to person). (If you do not have enough pairs of scissors for this classwork activity you could prepare some cut-outs from old magazines for the groups to use in the following activity.)

In groups, allow the learners to sort the pictures that they have cut into categories of their choice. They might choose types of shape, colour, number, etc. Once they have finished their sorting, ask questions such as:

- *What did you choose to guide your sorting?* (Answers will vary)
- *How many (cars) did you find?* (cars/other categories chosen for sorting – learners give the give numbers they found)
- *Is there another way you could sort your group's cut-outs? If so, how?*
- *Be sure to ask each group at least one question and try to allow as many individual learners as possible to respond.*

ACTIVITIES

Give learners the following activities using bottle tops that you give to them and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Ask the learners to count groups of **bottle tops** that you give them (groups of between 1 and 5 objects).	• Count objects up to **5**?	
2 Ask the learners to look at the cut-out **pictures** from the warm up activity. They should sort them again – this time according to shape.	• Sort objects according to one attribute (shape)?	
3 Draw a pattern: **circle, square, circle, square** on the board and ask **the** learners to use the shapes **from** the above activity to copy the pattern.	• Copy a pattern?	
4 Show the learners the number **2** picture card. Ask: **What is the number symbol on the card?**	• Read the number symbol **2**?	

Topic 3: More or less

CONCEPTS AND SKILLS FOR TODAY

- Count objects up to **10**.
- Compare given objects using words such as **more** and **less**, **less than** and **more than**.
- Read the number symbol **3**.

WARM-UP ACTIVITY

Give each group of learners 10 bottle tops. Allow learners to help you count out the correct number – while they are doing this, they demonstrate their ability to count to ten. Once each group has 10 bottle tops, call on pairs of groups to count out different numbers of bottle tops in order to compare the numbers they counted. Then introduce the following activities and questions:

- Ask one group to count out 4 bottle tops and put them forward on their desk. Ask another group to count out 3 bottle tops. Ask:
- *Which group has more bottle tops?*
- *Which group has less bottle tops?*
- *Did group X count out more than group Y?*
- *Did group X count out fewer than group Y?*
- Repeat these questions, referring to different numbers in the range 0-5 and allowing different groups to count out the numbers. Extend the number range if you think you can challenge the learners without going beyond their general capacity.

ACTIVITIES

Give learners the following activities using bottle tops that you give to them and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Give learners groups of (between 1 and 10) bottle tops. Ask the learners to count the bottle tops.	• Count objects up to **10**?	
2 Give pairs of learners each a differing numbers of bottle tops (between 1 and 10). Ask: **How many bottle tops do you have?** Ask: **Who has more? Who has less? How do you know?** Do the same, comparing different groups of bottle tops.	• Compare numbers of objects using the words **more** or **less**?	
3 Show the learners the number **3** picture card. Ask: **What is the number symbol on the card?**	• Read the number symbol **3**?	

Topic 4: Sort colours

CONCEPTS AND SKILLS FOR TODAY

- Count objects up to **10**.
- Compare given objects using words such as **more** and **less**.
- Sort objects according to one attribute (colour).
- Read the number symbol **4**.

WARM-UP ACTIVITY

Revise the primary colours (red, blue and yellow) with your learners. Ask the learners to point out some red objects in the class, then some objects that are blue and finally some yellow objects. Count the numbers of red, blue and yellow objects that you can see in the class. (If necessary, prepare the classroom before this activity by putting some differently coloured objects in clearly visible positions.)

Write the number of objects in each category on the board. (e.g. Red = 3; Blue = 4; Yellow = 5). Ask the class questions such as the following:

- *Are there more red object than yellow objects?*
- *Are there less red objects than yellow objects?*
- *(repeat similar questions using other colour combinations)*

ACTIVITIES

Give learners the following activities using bottle tops that you give to them and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Give learners groups of (between 1 and 10) bottle tops. Ask the learners to count the bottle tops that they have been given.	• Count objects up to **10**?	
2. Look again at the coloured objects around the class. Ask: How many red objects do you see? How many blue objects do you see? How many yellow objects do you see? Ask: **3.** Which are more? Which are less? How do you know?	• Compare coloured objects using the words **more** or **less**?	
4. Show the learners the number 4 picture card. Ask: What is the number symbol on the card?	• Read the number symbol **4**?	

Topic 5: Position and direction

CONCEPTS AND SKILLS FOR TODAY

- Describe position.
- Use ordinal numbers to show order, place or position.
- Follow directions.
- Read the number symbol **5**.

WARM-UP ACTIVITY

Ask the learners if they like playing games. Discuss. Tell learners that they are going to play a game outside. Explain to the learners that there are rules that must be followed when they go outside to play games.

Explain to the learners how to play *Simon Says*. Take the class outside to an open space. Play *Simon Says* using words such as *on top of, in front of, behind, left, right, up, down* and *next to*. Give instructions such as:

- *Jabu please go and stand next to Busi. (Call on various learners from the class.)*
- *… please go and walk down those steps.*
- *… stand on top of this pile of sand.*
- *… stand to the left of … .*
- *… stand to the right of … .*
- *Etc.*

ACTIVITIES

Give learners the following activities using concrete resources, and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Talk about the *Simon Says* game that you played at the beginning of the lesson. What were the learners doing?	• Follow directions?	
2 Put learners in groups. Give each group five different objects (e.g. pencil, sharpener, book, eraser, pencil box). Ask them to place the objects in a row or line. **3** Learners must look at the line of shapes they have made. Ask: **Which object is first in the line? Which one is second?** and so on. Rearrange the shapes if there is time to try a different arrangement.	• Describe position? • Use ordinal numbers?	
4 Show the learners the number **5** picture card. Ask: **What is the number symbol on the card?**	• Read the number symbol **5**?	

Topic 6: Shape and sizes

CONCEPTS AND SKILLS FOR TODAY

- Count objects up to **10**.
- Describe, sort and compare three-dimensional objects according to size e.g. **big** and **small**.
- Use appropriate language to talk about length e.g. **short**, **long** and **tall**.
- Use appropriate language to talk about mass e.g. **heavy** and **light**.

WARM-UP ACTIVITY

Tell the learners that they are going to talk about different objects today. Ask them what we should do when we want to say something in the class (put up your hand). Tell learners that we should always take turns to speak and respect each other when we speak.

Prepare a collection of objects of different sizes that you can show to the class.

- Give each group of learners three or four objects.
- Ask them to discuss the objects – they should think about things such as the different objects size, mass etc.
- After they have had time to discuss the objects in groups, allow different groups to report back to the class about their objects.
- Allow each group to report on at least one object or pair of objects and encourage them to use the vocabulary of length and mass given above.

ACTIVITIES

Give learners the following activities using concrete resources (page of pictures from an old newspaper advert for groceries), and ask the learners to give you oral explanations of what they did in each activity.

Activity	Can the learners:	Observation
1 Give each group of learners a selection of items (from home/the classroom) that are packaged in either bottles or boxes. **2** Ask: **Which containers are big? Which are small? Etc.**	• Describe three-dimensional objects according to size?	
3 Look at the boxes. Compare their length/height. Point out short and long. Look at the bottles. Point out tall and short. Etc.	• Use language to talk about length e.g. **short**, **long** and **tall**?	
4 Look at the different boxes. Compare their masses. Point out *heavy* and *light*. Etc.	• Use language to talk about mass e.g. **heavy** and **light**?	

Topic 7: Count, compare and add

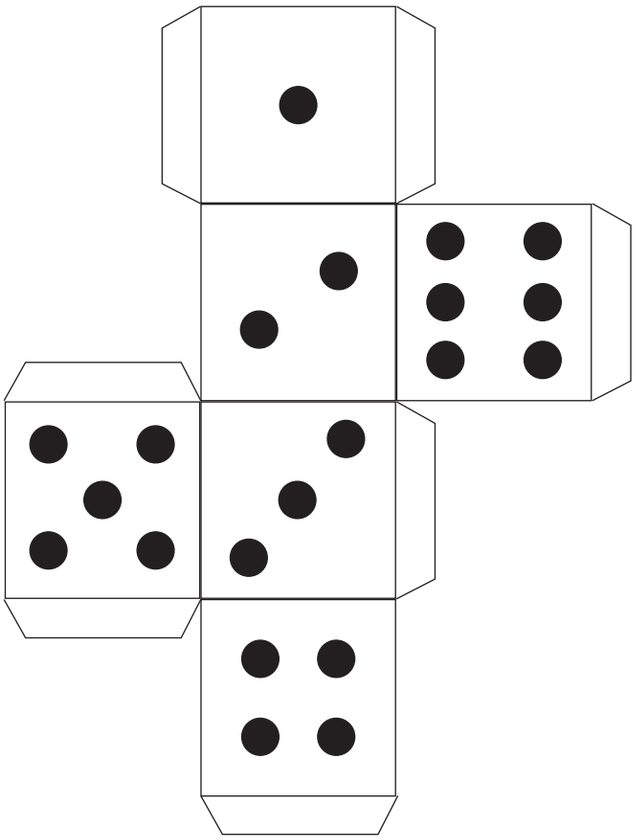
CONCEPTS AND SKILLS FOR TODAY

- Count objects up to **10**.
- Compare given objects using words such as **more**, **less** and **equal to**.
- Recognise, identify and read numbers.
- Solve verbally-stated addition problems.

WARM-UP ACTIVITY

Allow the learners some time to make the dice using the printable in the teachers' resource pack. Each learner should make their own dice. Put the learners into groups, and make sure that each group has completed the task of making their dice. Before starting the activity talk to learners about appropriate behaviour when working in groups. Share the basic rules of group work with your learners.

PRINTABLE DICE:



ACTIVITIES

Give learners the following activities using the sheet from the printable resources, and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 In groups, the learners should throw a pair of dice. They then count the total number of dots that comes up on each throw. Next, they should compare the numbers on the two dice using the words *more than, less than* or *equal to*. Every learner in the group should have a turn to throw the die, count the dots and compare the numbers they have counted.	• Count up to **10**? • Compare amounts using the words **more than**, **less than** and **equal to**?	
2 Ask the learners to add the dots they see on the two dice when they land. Note that if the answer goes beyond 10 ,you may need to assist them with it or allow them to leave it out. It could be a challenge for some learners. Use the dots to make up story sums. Assist them as needed.	• Add amounts up to **10**?	

Topic 8: Patterns

CONCEPTS AND SKILLS FOR TODAY

- Write the number symbols 1, 2, 3, 4 and 5 in the air.
- Match colours.
- Match shapes.
- Trace patterns.

WARM-UP ACTIVITIES

Tell the learners that today they need to listen carefully. You will call out a number between **1** and **5** and then they will have to write it in the air. Ask the learners what they should do to ensure that they are able to hear everything that you say. Also ask the learners what they should do if they didn't hear you.

Draw a few patterns on the board using coloured chalk – such as the following:

Ask learners to:

- Say what shape (and in what colour) will come next in the pattern.
- Come to the board and draw in the next shape.
- Make up a new pattern using shapes and colours and draw it on the board.
- Ask as many different learners as possible to be involved in the activity.

ACTIVITIES

Give the learners the following activities using the sheet from the printable resources, and ask the learners to give you oral explanations of what they did.

Activity	Can the learners	Observation
1 Ask the learners to look at the patterns on the sheet. Here, they need to copy the shapes to extend the patterns. Ask questions to see if they can identify the shapes correctly. Ask the learners to explain their patterns if necessary.	• Match shapes?	
2 Ask the learners to trace over patterns given on the pattern sheet in the teacher's printable resources.	• Trace a pattern?	

Week 1

Unit 1 Introduction

This unit focuses on developing mathematical concepts and vocabulary related to position and one-to-one correspondence. It is important to allow learners the opportunity to use the language themselves as they develop their understanding. Learners need to be actively engaged in working with one-to-one correspondence as they prepare for the new learning of numbers.

In this unit, you will be able to focus on the four framework dimensions in the following way:

- **Conceptual understanding:** In this unit, the concept of one-to-one correspondence will be developed. This is the basis for an understanding of number.
- **Procedural fluency**: Learners will develop procedural fluency through repeated opportunities to engage actively with one-to-one correspondence in different ways.
- **Strategies**: Learners will discover that matching one thing to one other thing in a systematic way is an efficient strategy.
- **Reasoning**: Learners should be encouraged to verbalise their actions while they match items, explaining why they are doing what they are doing.

Building a **learning centred classroom** in this unit will involve (amongst other things) attention to:

- **Concept development**: Learners need opportunities to construct their own understanding of concepts (such as one-to-one correspondence) through thinking and reasoning. For example, when the teacher asks '**How are the shirts and the shorts connected in the picture?**' learners need to reason and create a connection between the shorts and the shirts.
- **Speaking mathematics**: Learners are encouraged to use the new vocabulary themselves, rather than just listening to the teacher use the language.
- **Making sense of mathematics**: In this unit, learners are making sense of mathematics as they are able to relate what they are doing in class to real-life situations. Matching, comparing and talking about position are all part of what they do every day, which helps learners to see Mathematics as an important part of life, rather than just a school subject.

Unit 1 overview

DAY	LP	Lesson objective	Lesson Resources	Date completed
Mon	1	Representation of position of objects	Bottle tops, path printable (see Printable Resources).	
Tue	2	Representation of position of objects	Arrow cards (see Printable Resources), classroom items.	
Wed	3	Representation of position of objects	Bottle tops, position vocabulary cards (above/ below/in front of/behind/ to the left of/to the right of/next to) (see Printable Resources).	
Thur	4	Introduction of numbers, developing an awareness of cardinal number	Ten frame (see Printable Resources), matching clothes (see Printable Resources), star cards (see Printable Resources), bottle tops, pegs.	
Fri	5	Consolidation of work done this week.	Learner resource activities	
Mon	6	Cardinal numbers – counting, sorting and matching	Ten frame (see Printable Resources), bottle tops, number cards 1 to 5 (see Printable Resources), farm scene picture (see Printable Resources).	
Tues	7	Assessment	Assessment activity in teacher's resources	

Assessment for learning

Use the templates provided at the front of this guide to think deeply about at least one of the lessons in this unit.

Reflection

Think about and make a note of: *What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for this unit? If not, how will you get back on track?*

What will you change next time? Why?

Lesson 1: Position of objects

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 3.1 Position, orientation and views		
Lesson Objective: Representation of position of objects		
Lesson Vocabulary: Move forwards and backwards, right and left, up and down, above and below.		
Resources: Bottle tops		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Sing a song that gets the learners moving. For example *The Hokey Pokey*:

You put your right hand in,
You put your right hand out,
You put your right hand in
And you shake it all about,
You do the Hokey Pokey
and you turn yourself around
That's what it's all about.

2 left hand
3 right foot
4 left foot
5 head
6 butt
7 whole self

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson is focussed on helping learners to represent the position of objects using the correct vocabulary. Many learners will start Grade 1 with some understanding of position, but will often not be able to explain the position of an object to someone else as they don't have the correct vocabulary with which to do so. As a teacher, you need to model the use of the correct vocabulary and encourage learners to use the words themselves as they represent the position of objects. You also need to mirror the learners' movements so that you don't confuse them. When teaching the class, stand facing them and show them the movements by mirroring what you want them to do. Remember that some learners will have a better understanding of mathematical vocabulary and position than others, so you may be able to ask some learners to verbalise their understanding in order to help other learners. Also, use this verbalisation as an opportunity to address learners' errors.

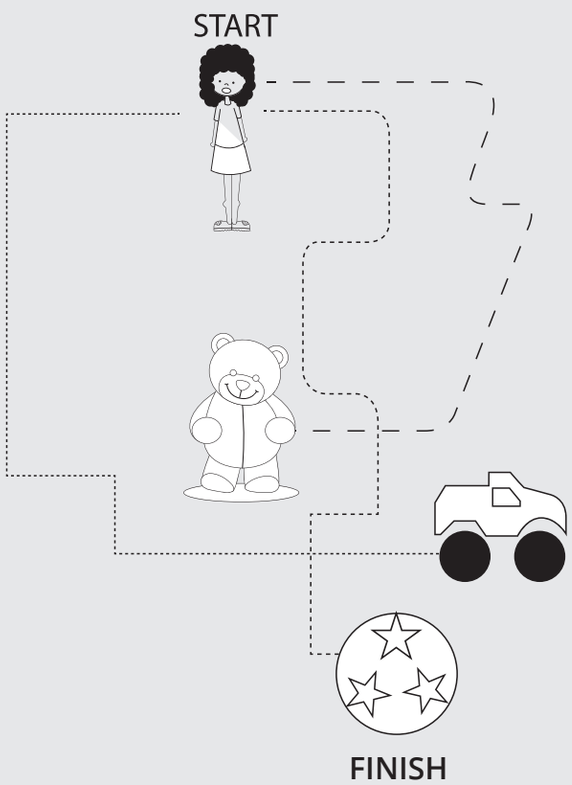
We are learning to represent the position of objects.

Activity 1: Whole class activity

- Ask the learners to place a bottle top on the desk in front of them.
- Give the learners instructions on how to move their bottle top around. For example:
- **Move your bottle top forwards.**
- **Move your bottle top to the right.**
- **Hold your bottle top up in the air.**
- **Put your bottle top down by your feet.**
- Continue giving instructions like this to the class, using all of the vocabulary listed: move forwards and backwards, left and right, up and down.
- Allow learners to give instructions to the rest of the class to make moves in the same way.

Activity 2: Learners work in pairs

- Ask the learners to work in pairs for the following tasks.
- Give each pair of learners the path printable.
- Ask the learners to study the path printable.



- You can model the use of the vocabulary as you direct their movements along the lines by saying:
- **Let's help the girl find her ball.**

- **Move your pencil to the right along the line. Now go quickly down the line. Go to the left along the line, but go slowly this time. Go down the line again. Now go slowly to the right. Go down the line quickly. Move along the line to the left. Go down the line again. Lastly go to the right to the ball.**
- Let the learners complete the rest of the activity in pairs, taking turns to verbalise their movements as they follow the lines.
- Move around the classroom helping learners to verbalise what they are doing by modelling the correct use of the vocabulary.

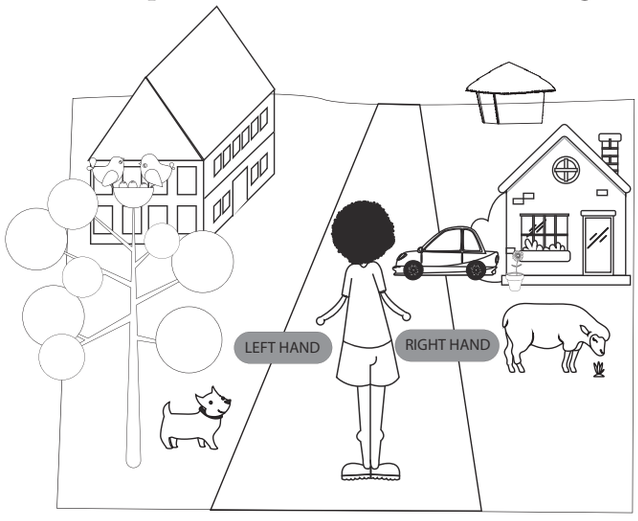
Activity 3: Whole class activity

- Move the learners away from their desk to somewhere they can move around easily (a carpet area if there is enough space, otherwise a corridor or the playground).
- Ask the learners to move around, using the new vocabulary (move forwards and backwards, left and right, up and down, above and below).
- **Keep instructions short and simple, for example:**
- **Put your hands above your head.**
- **Tiptoe backwards.**
- **Hop to your left.**

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

(**Note:** There is no homework to correct for today.)

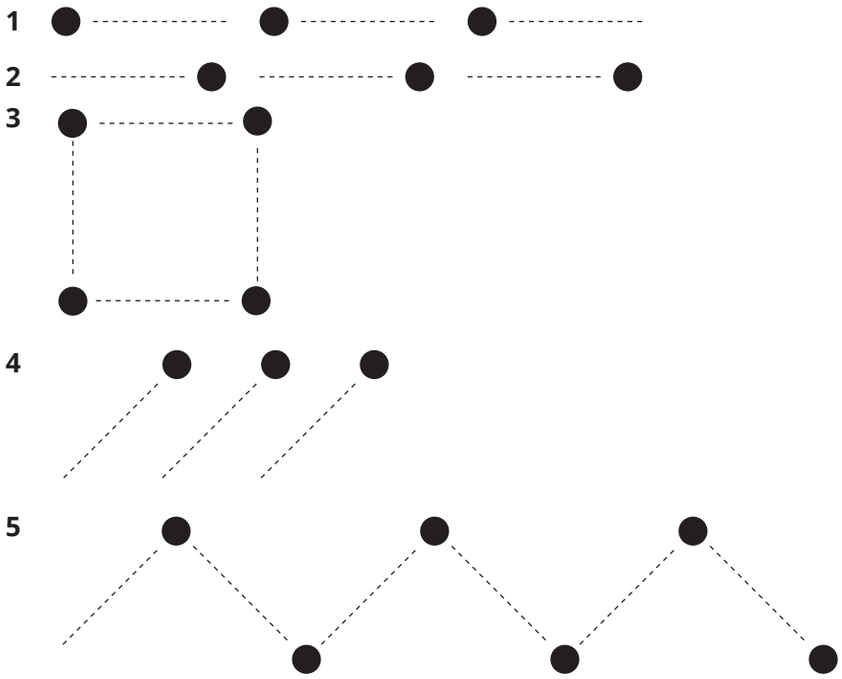
Look at the picture and write the word left or right.



a	The tree is on his	left	right
b	The car is on his		
c	The house is on his		
d	The bird is on his		
e	The nest is on his		
f	The dog is on his		
g	The sheep is on his		
h	The hut is on his		
i	The school is on his		
j	The flower is on his ...a.		

4 HOMEWORK ACTIVITY (5 MINUTES)

Start at the and trace the lines.



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to represent the position of objects.

- Ask the learners what vocabulary we used in today's lesson.
- Ask individual learners to come up to the front of the class to demonstrate specific words (move forwards and backwards, left and right, up and down).
- Ask lthe earners if there were any parts of the lesson that they found challenging.

Lesson 2: Position of objects

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 3.1 Position, orientation and views.
Lesson Objective: Representation of position of objects.
Lesson Vocabulary: Move forwards and backwards, right and left, up and down, quick and slow, above and below, in front of and behind, between, inside and outside, over, under, on top of.
Resources: Arrow cards (see *Printable Resources*), classroom items.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Give learners instructions to reinforce the vocabulary of position.

- **Put the crayons inside your pencil bag.**
- **Put the number cards on top of the cupboard.**
- **Come to the front of the class.**
- **Stand next to your chair.**
- **Jump over the dustbin.**
- Ask other questions/instructions that consolidate the vocabulary of position.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson is focussed on helping the learners to represent the position of objects using the correct vocabulary. Yesterday, you introduced some new vocabulary to the learners. Today you will reinforce those same words as well as introducing some new words. As a teacher, you need to model the use of the correct vocabulary and encourage the learners to use the words themselves as they represent the position of objects. You also need to mirror the learners' movements so that you don't confuse them. When teaching the class, stand facing them and show them the movements by mirroring what you want them to do.

We are learning to represent the position of objects.

Activity 1: Whole class activity

- Ask the learners to tell you what they learned yesterday.
- Revise the vocabulary: move forwards and backwards, left and right, up and down, above and below, over, under, on top of.
- Give learners the tracing card.
- Ask the learners to trace along the lines as you model the use of the vocabulary. For example:For example:

- **Start on the left-hand side of the line**
- **Move forwards.**
- **Keep your hand below the line.**
- **Be as creative as you like in your use of the vocabulary. For example:**
- **The rabbit goes up the mountain. He goes right on top of the mountain. Then the rabbit goes down the mountain below the trees. He goes right through the valley. The rabbit goes up the mountain...**

- Repeat the tracing activity but with different instructions e.g.
- **Start on the right-hand side of the curve. Move backwards.**

Activity 2: Whole class activity

- In this lesson, you will need cards with the following arrows on them: ↑ ↓ → ←
- Show the learners the direction arrows and explain them.
  ↑ going up ↓ going down → going right ← going left
- Show the learners a card.
- Ask the learners to make a body movement that will go with that card.
- Repeat with all the cards.
- Allow many different learners to participate.

Activity 3: Whole class activity

- Get learners to use the vocabulary by asking questions like:
- **Where is the dustbin?** (The dustbin is on the left-hand side of my table.)
- **Where do you see a book?** (There could be different answers – The book is on top of my desk. The book is inside the cupboard. The book is on the right-hand side of my table. Etc.)
- **Where is the poster?** (There could be different answers – The poster is below the window. The poster is next to the blackboard. Etc.)
- **Where do you see a tree?** (There could be different answers – The tree is outside the classroom. Etc.)
- **Where is Palesa sitting?** (This is just an example. Use the names of learners in your class. Palesa sits in between Simon and Busi.)
- Ask other questions/instructions that allow learners to practice the vocabulary of position.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Circle the word that matches the direction of the arrow.

↑	up	left	down	right
↓	up	left	down	right
→	up	left	down	right
←	up	left	down	right

2 Circle the arrow that matches the first arrow in the row.

↑	→	←	↓	↑
↓	↑	↓	→	←
→	←	↓	→	↑
←	↑	←	↓	→

4 HOMEWORK ACTIVITY (5 MINUTES)

Complete the sentences below using these words.

above *inside* *below* *in between*

1  The flower is _(inside)_ the box.

2  The bicycle is _(in between)_ the box and the flower.

3  The bicycle is _(above)_ the flower.

4  The bicycle is _(below)_ the flower.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

We have learned to represent the position of objects.

- Ask the learners what vocabulary we used in today's lesson.
- Ask individual learners to come up to the front of the class to demonstrate specific words (*move forwards* and *backwards*, *left* and *right*, *up* and *down*, *quick* and *slow*, *above* and *below*, *in front of* and *behind*, *between*, *inside* and *outside, over, under and on top of*).
- Ask the learners if there were any parts of the lesson that they found challenging.

Lesson 3: Position of objects

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 3.1 Position, orientation and views.
Lesson Objective: Representation of position of objects.
Lesson Vocabulary: in front of and behind, between, inside and outside, near and far, straight line and curve.
Resources: Bottle tops, position vocabulary cards (above/below/in front of/behind/to the left of/to the right of/next to) (see Printable Resources).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Revise the vocabulary linked to position by giving learners instructions to follow:

- Tell the learners to stand *on top of/under/in front of/behind/to the left of/to the right of/next to* their chairs and tables.
- Ask them to tell you where they are standing using the appropriate vocabulary.
- You should use all of the vocabulary in this activity in connection with learners and where they are standing in relation to their desks/chairs.

3 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson is focussed on helping learners to represent the position of objects using the correct vocabulary. Yesterday, you introduced some new vocabulary to the learners. Today you will reinforce those same words, as well as introducing some new words. As a teacher you need to model the use of the correct vocabulary, and encourage learners to use the words themselves as they represent the position of objects. You also need to mirror the learner's movements so that you don't confuse them. When teaching the class, stand facing them and show them the movements by mirroring what you want them to do.

We are learning to represent the position of objects.

Activity 1: Whole class activity

- Ask the learners to tell you what they learned yesterday.
- Revise the vocabulary: move *forwards* and *backwards, left* and *right, up* and *down, above* and *below, in front of* and *behind, in between*, *inside* and *outside*.

Activity 2: Whole class activity

- Ask the learners to show you any two objects in the class that are *near* to each other.
- Ask the learners to tell you about any two objects that are *far* from each other.
- Ask the learners whether the one object is *above/below/in front of/behind/next to/to the left of/to the right of* the other object.
- You should use all of the vocabulary in this activity, this time with respect to the position of the objects identified by the learners in relation to one anther.
- Draw a row of shapes on the board.

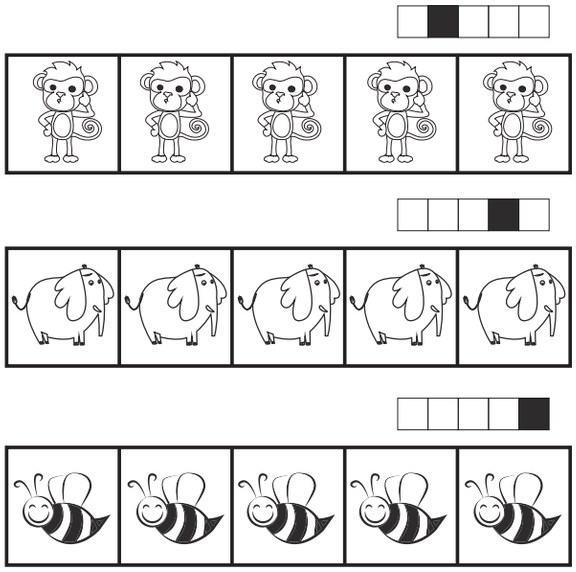
- Ask the learners to look at the row of shapes and answer the questions.
- **Which shape is next to the arrow?** (♡ or ☼)
- **Which shape is between the star and the smiley face?** (△)
- **Which shape is last in line?** (☺)
- **Which shape is first in line?** (♡)
- **Which shapes have only straight lines?** (⇩ and ☆ and △ v)
- **Which shapes have only curved lines?** (☺)
- **Which shapes have both straight lines and curves?** (♡ and ☼)
- Draw a row of shapes.
- **Draw a shape with a curved edge at the front of the row.**
- **Draw a square at the back of the row.**
- **Include a circle in your row**
- **Draw a shape with three straight lines after the circle.**
- **Draw an oval before the square.**
- **Draw a rectangle in between the triangle and the oval.**
- (♡ ○ △ ▭ ◇ □)

Activity 3: Whole class activity

- Give the learners some bottle tops.
- Point to the position card *above* and tell the learners to place a bottle top *above* another object.
- Get the learners to use the correct vocabulary, e.g. to say, **The bottle top is above the chair/the chair is below the bottle top.**
- Do the same with all the other position words. Once again, you should use all of the vocabulary in this activity, this time in respect to with the position of the bottle top and other objects.

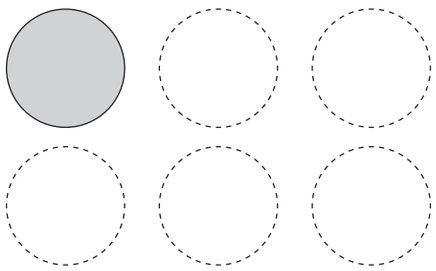
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Circle the animal that is in the same position as the shaded block.



2 Colour the rest of the shapes.

a



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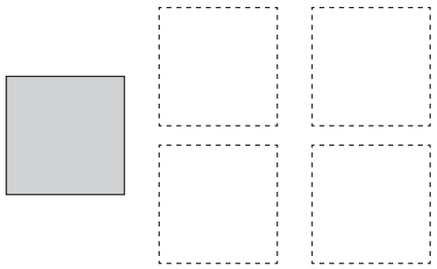

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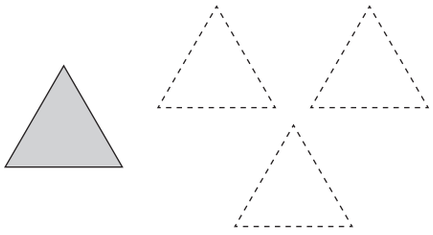

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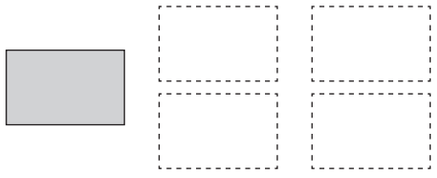


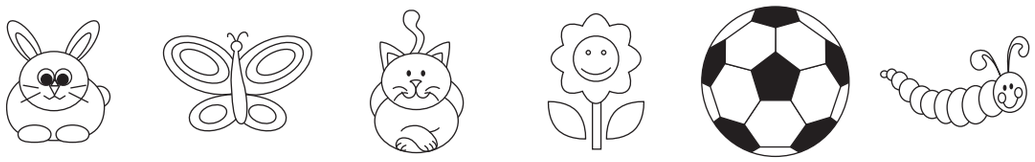
4 HOMEWORK ACTIVITY (5 MINUTES)

1 Draw a picture of a cat on top of a table in the box below.

(Learners will draw the picture to match the instructions.)

2 Complete the sentences below using these words.

in between *next to* *after* *before*



a The butterfly is _(in between)_ the bunny and the cat.
b The caterpillar is _(after)_ the ball.
c The bunny is _(before/next to)_ the butterfly.
d The flower is _(before/next to)_ the ball.
e The cat is _(before/next to)_ the flower.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to represent the position of objects.

- Ask the learners what vocabulary we used in today's lesson.
- Ask individual learners to come up to the front of the class to demonstrate specific words (*in front of* and *behind, between, inside* and *outside, near* and *far, straight line* and *curve*).
- Ask the learners if there were any parts of the lesson that they found challenging.

Lesson 4: Matching things

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects.
Lesson Objective: Introduction of numbers, developing an awareness of cardinal number through one to one correspondence.
Lesson Vocabulary: match.
Resources: Ten frame (see *Printable Resources*), matching clothes (see *Printable Resources*), star cards (see *Printable Resources*), bottle tops, pegs.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Play 'I Spy' with learners, using colours.

For example: 'I spy with my little eye something that is yellow' (the dustbin).

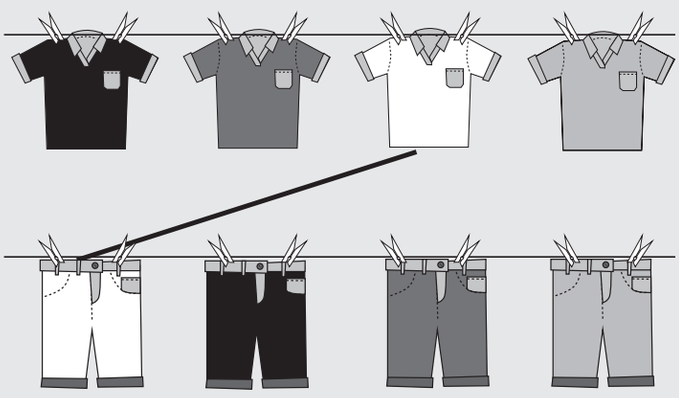
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson will focus on one-to-one correspondence in preparation for the formal introduction of numbers in the coming lessons. One-to-one correspondence is an important early maths skill which helps learners to develop an awareness of cardinal numbers. Learners need to be able to match one object to another object or person. It is a good idea to give learners concrete resources so that they can be physically involved in the matching process.

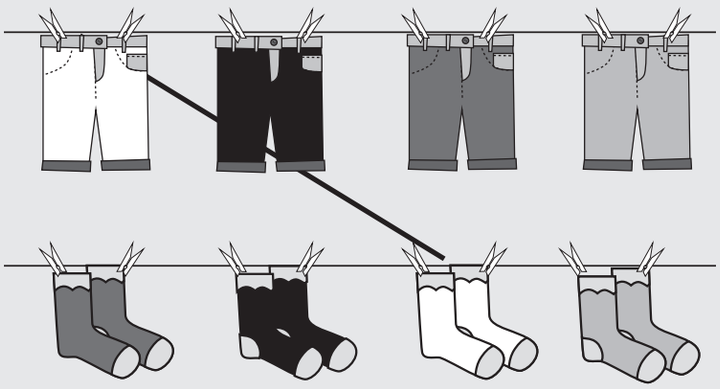
Today we are learning about numbers, and developing an awareness of cardinal numbers.

Activity 1: Whole class activity

- Refer to the picture of shorts and t-shirts (oryou can draw four t-shirts and four pairs of shorts in the class, using different colours of chalk as shown below).



- Ask the learners to look at the shirts and the shorts in the picture.
- **How are the shirts and the shorts connected in the picture?** *(There are matching colours/shades of colours).*
- Ask the learners to match the dark grey shirt to the dark grey shorts by drawing a line.
- Ask the learners to repeat the same process with the other shirts and shorts.
- Now, refer to the picture of shorts and socks or draw four pairs of socks, using the same colours, below the shorts, as shown below.



- Ask the learners to look at the shorts and the socks in the picture.
- **How are the shorts and the socks connected in the picture?** *(There are matching colours/shades of colours.)*
- Ask the learners to then match the light grey shorts to the light grey socks by drawing a line.
- Ask the learners to repeat the same process with the other shorts and socks.
- Give the learners a copy of the matching clothes printable (in LAB).
- Ask the learners to place a bottle top on each shirt.
- Learners should then remove the bottle tops from the shorts and place them on a ten frame.
- Ask: **How many bottle tops did you put down?**
- **So, how many shirts are there?**
- Repeat the same process with the shorts.
- Repeat the same process with the socks.
- Remember that there are four pairs of socks, but eight individual socks.
- Make sure you get the learners to verbalise whether they matched the bottle tops to the pairs of socks or to the individual socks.

Activity 2: Learners work in pairs

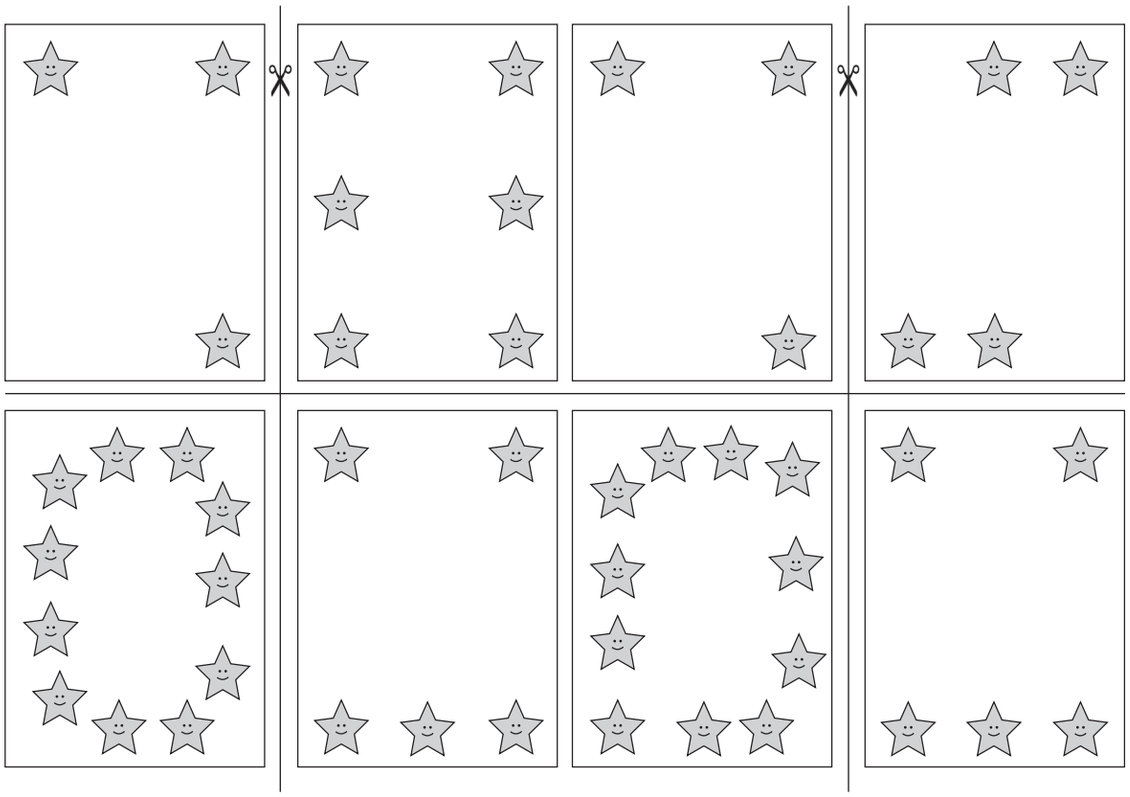
- Ask the learners to work in pairs.
- Put five bottle tops and five pegs in between each pair of learners.
- Each learner should take some of the bottle tops, and tell their partner how many bottle tops they have in front of them.
- The learners must then put a peg on each bottle top until all their bottle tops have a matching peg.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

For the first part of this activity you need to provide learners with individual star cards (as shown below – prepared from the *printable resources*) and pegs or bottle tops. Learners will select one card at a time and then place a peg or bottle top on each star. The focus of this activity is one-to-one correspondence so it is important that learners are aware that they are matching one object to one star each time. When learners have completed one card, they should take everything off that card and take another card to repeat the process.

Note: In question 2 of this activity and in the homework, learners should be allowed to do any drawings they choose – they must just draw the correct number of pictures each time.

1 Match one peg or bottle top to each star



2 Draw pictures to match the number of the dots.

●●●●● ()

●●● ()

4 HOMEWORK ACTIVITY (5 MINUTES)

Draw pictures to match the number of the dots.

●● ()

●●●● ()

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learnt to count objects.

- **We did this by matching one object to one other object.**
- Ask the learners if there were any parts of the lesson that they found challenging

Lesson 5: Consolidation: Position and one-to-one correspondence

Teacher's notes
This lesson allows for consolidation of the previous days' lesson content
CAPS topics: 1.1 Count objects; 3.1 Position, orientation and views
Lesson Objective Consolidate work covered this week relating to position and one-to-one correspondence.
Lesson Vocabulary: in front of and behind, between, inside and outside, near and far, straight line and curve.
Resources: N/A
Date: Week Day

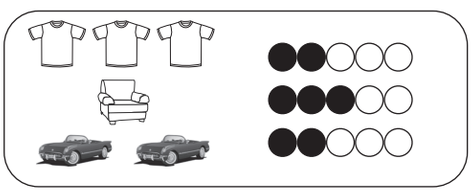
1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week has focused on developing learners' vocabulary and understanding of position. This is important as they begin to learn about one-to-one correspondence. It is important to allow learners to practice these skills, so encourage learners to talk about what they are doing to the person sitting next to them as they work. Remind children that they need to use quiet voices (whisper) and that they need to think about the words that they have learnt (for example the diamond is next to the star).

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

When tracing, it is important to tracing the dotted lines with one stroke rather than trace them exactly on the lines. The purpose of the tracing activities is to help learners to understand and use the position words. Therefore, it is important to model the use of the vocabulary as you explain the activities to learners, as well as allowing learners to talk quietly amongst themselves. In this way, learners will be able to verbalise the position words as they complete the tracing activities.

Learners may struggle with some position words. Consider working with a few learners at a time in order to check their understanding of these words. It is important to help learners who are struggling to understand the words by taking their hand and moving together or standing in front of them and acting as a mirror.



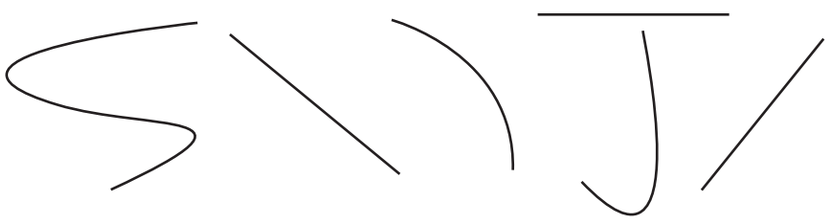
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

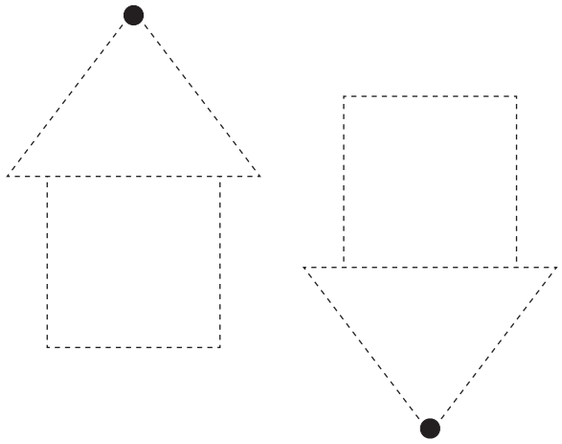
We are going over what we learned this week. We are learning more about position, matching, curved/straight lines and one-to-one correspondence.

1 Circle all the straight lines.

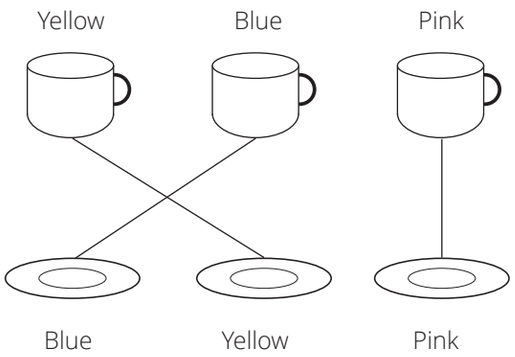
2 Circle all the curves.



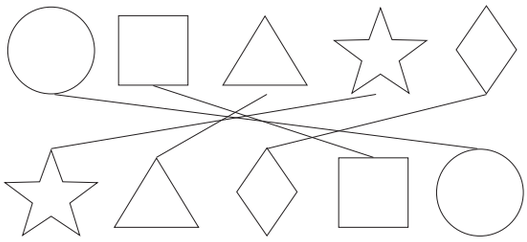
3 Trace on the lines



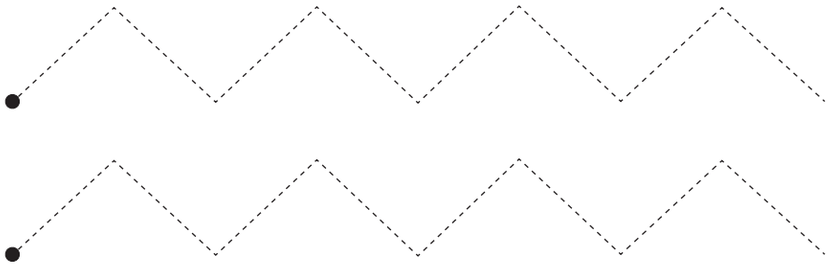
5 Draw lines to match the colours



6 Draw lines to match the position of the shapes.



7 Trace the lines



8 On the lines:

a Draw a circle on the left.

b Draw a triangle on the right.

c Draw a star next to the circle.

d Draw a square in between the star and the triangle.

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

We have revised how to represent the position of objects and one-to-one correspondence

- Revise the vocabulary covered this week.
- Practice matching one object to one other object.
- Many activities in this unit suggest the use of numbers 1–5 that are learned in the next unit. That means learners have been exposed to the number concept 1~5 without knowing the number names or how to write them.

Week 2

Lesson 6: Numbers

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 5.1 Collect and sort objects; 5.5 Represent data.		
Lesson Objective: Cardinal numbers – counting, sorting and matching.		
Lesson Vocabulary: more than, less than, the same as.		
Resources: Ten frame *(see Printable Resources)*, bottle tops, number cards 1 to 5 *(see Printable Resources)*		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Play a game with the learners to develop their knowledge of one-to-one correspondence. You can perform actions or create sounds and learners need to match what you do. For example:

You: Clap once
Learners: Clap once

You: Hop twice
Learners: Hop twice

You: Clap then click your fingers
Learners: Clap then click fingers

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson is focused on matching, sorting and comparing the number of objects by using bottle tops and a ten frame. Learners will be encouraged to verbalise what they see so that they can practice using the correct vocabulary. This lesson will also introduce the number symbols 1 to 5. One-to-one correspondence is an important early maths skill which helps learners to develop an awareness of cardinal number. Learners need to be able to match one object to another object or person. It is a good idea to give learners concrete resources so that they can be physically involved in the matching process. In this lesson you also need to focus on sorting and comparing the number of objects or pictures. Remember to get learners to verbalise what they are doing so that they use the new vocabulary themselves. In this lesson we use different colour bottle tops. The lesson plan suggests blue and yellow, but any colours can be used.

We are learning about cardinal numbers and the matching, sorting and comparing of numbers.

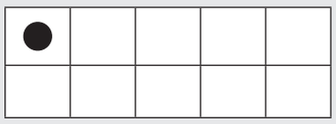
Activity 1: Whole class activity

- Ask the learners to point out and discuss objects in the classroom by talking about:
  - **a** what it is;
  - **b** where it is; and
  - **c** what colour it is
- Put some bottle tops on a big ten frame from the left- hand side and let the learners copy the arrangement on their own ten frame with bottle tops.

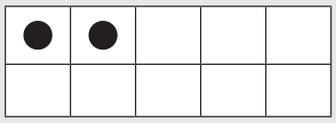
Activity 2: Whole class activity

- Make sure that each learner has a ten frame and some bottle tops.
- Give the learners a copy of the picture of a scene on a farm
- Place the number symbol cards on the board.
- Ask the learners to look at the picture (shown below).

- Ask the learners to talk to the person sitting next to them about what they see.
- Ask: **What do you notice in the picture?**
- **Put a bottle top on top of each bakkie that you can see in the picture.**
- **Now take the bottle top from the picture and put it onto your ten frame.**



- **How many bottle tops are on the ten frame?** (*1*)
- Point to the number 1 card on the board.
- **Now take some bottle tops and put them over all the pigs in the farm scene picture.**
- **Put the bottle tops onto the ten frame, after the blue bottle top.**



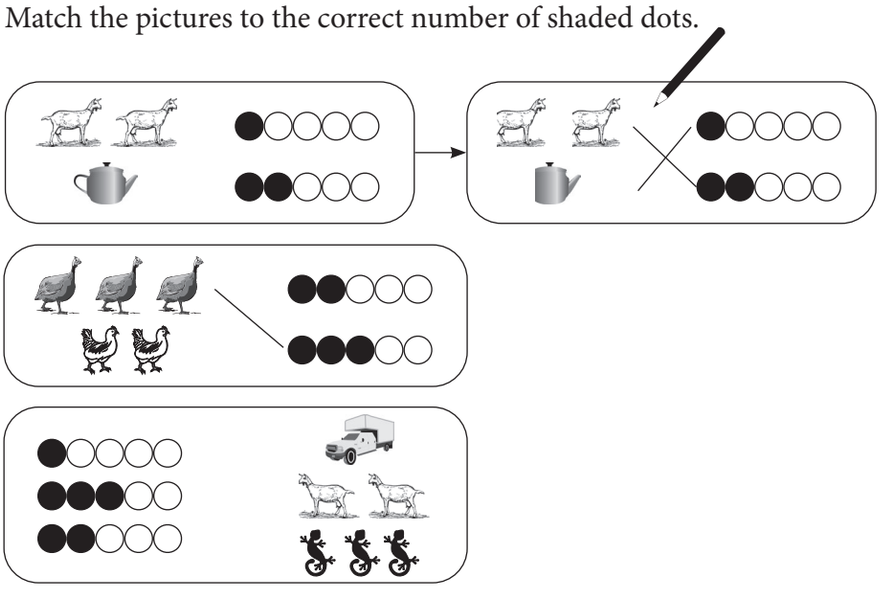
- **How many bottle tops do you have?** (*2*)
- Point to the number 2 card on the board.
- Ask the learners to remove all the bottle tops from their ten frame.
- Repeat the steps above, getting learners to look for the chickens and then the dogs. *(There are 3 dogs and 4 chickens. Ask the learners to match the bottle tops to the animals, move the bottle tops to a ten frame and speak about the bottle tops and empty spaces each time, using the language of number, more and less each time.)*

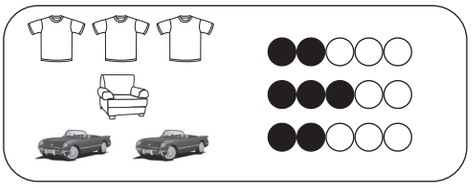
Activity 3: Whole class activity

- Take learners outside and play a game with them.
- You need to have a whistle and the number symbol cards 1–5 for this activity.
- Ask the learners to move around freely.
- Tell learners that when you blow the whistle they must look at you to see which number symbol you are holding up.
- The learners need to then get into groups of the same number.
- When you blow the whistle again, the learners can move freely.
- Continue in this way, showing different number symbol cards and allowing learners time to get into groups to represent the numbers.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES

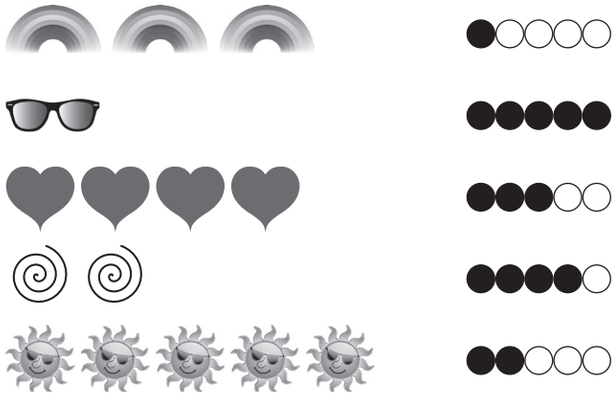
Match the pictures to the correct number of shaded dots.





4 HOMEWORK ACTIVITY (5 MINUTES)

Draw a line to match the pictures to the correct number of shaded dots.



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

We have learned to collect and sort objects, and to represent data.

- **We did this by matching, sorting and comparing the number of objects by using bottle tops and a ten frame.**
- **We also looked at the number symbols for the numbers 1, 2, 3, 4 and 5.**
- Ask the learners what vocabulary we used in today's lesson.
- Ask the learners if there were any parts of the lesson that they found challenging.

Lesson 7: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.1 Count objects.		
Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date. Note that this is the first assessment task of the year, so the written assessment intentionally has been kept simple and easy for learners to follow.

You will find the printable version of the assessment in the teacher's resource pack.

Take some time to do the *practical assessment* (see checklist below).

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

There should be time for you to discuss a few of the items with the class:

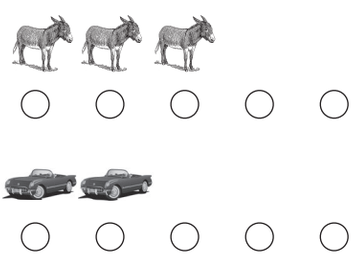
- use this opportunity to reflect on different methods used by learners (allow some learners to write their solutions on the board.
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

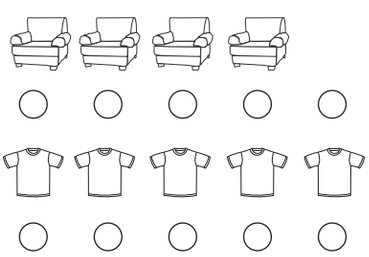
3 ASSESSMENT

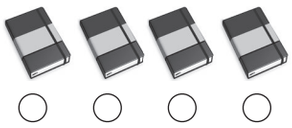
Written Assessment Lesson 7 (10)

Colour as many ○ as the number of pictures

(Answers: Learners must shade the correct number of circles each time.)







PRACTICAL (7)

CAPS: Space and Shape – Position and direction **Activity: Observe learners' ability to identify position and follow directions.**		**Mark: 7**
Mark	**Criteria – Checklist: (1 mark for each criterion achieved)**	
1	Able to follow directions to move to the left and right	
1	Able to follow directions to show movement up and down	
1	Able to identify positions above and below	
1	Able to identify positions next to, in front of and behind	
1	Able to identify positions between, inside and outside	
1	Able to identify positions near and far	
1	Able to identify a straight line and a curve	

Unit 2 Introduction

Unit 2 introduces the numbers 1 to 10, by providing learners with opportunities to write number names and symbols. Learners will also begin to investigate number combinations as they look at the number bonds for the numbers 3 to 5. The lessons in this unit may seem quite repetitive but this is intentional in order to help learners to see the links between numbers and to develop a sense of familiarity with the numbers. As you work through these lessons, remember to refer back to previous lessons in order help the learners to make connections between numbers.

In this unit, you will be able to focus on the four framework dimensions in the following way:

- **Conceptual understanding**: Learners will develop an understanding of numbers in this unit.
- **Procedural fluency**: Learners will use a ten frame to help them to make sense of the 'how manyness' or 'muchness' of a number.
- **Strategies**: Learners will discover that they understand a number better when they consider it in relation to the number 5. For example, 6 is five and 1, 7 is five and 2.
- **Reasoning**: Learners will have an opportunity to reason mathematically when they verbalise their understanding while they demonstrate number combinations using bottle tops and ten frames

Building a **learning centred classroom** in this unit will involve (amongst other things) attention to:

- **Practising procedures**: Learners practice procedures through the repetitive nature of the lessons in this unit. This helps them to create connections between numbers.
- **Purposeful assessment**: In this unit, learners are purposefully assessed to ensure that they have a strong number sense by knowing the 'how manyness' or 'muchness' of numbers and how they relate to other numbers.
- **Justifying answers**: Learners justify their answers by using ten frames to represent their understanding, or by showing number combinations with bottle tops.

Unit 2 overview

DAY	LP	Lesson objective	Lesson Resources	Date completed
Wed	8	Learn about number symbols and number names (1 to 5).	Ten frame card (see Printable Resources), bottle tops, number name and number symbol cards (see Printable Resources), farm scene picture (see Printable Resources).	
Thur	9	Learn about 1 and 2: write the number the symbol and name for 1 and 2.	Ten frame (see Printable Resources); bottle tops, number name and number symbol cards (see Printable Resources).	
Fri	10	Consolidation of work done this week.	Learner resource activities.	
Mon	11	Learn about 3 and 4: write the number the symbol and name for 3 and 4.	Ten frame (see Printable Resources); bottle tops.	
Tue	12	Learn about 5: write the number the symbol and name for 5.	Ten frame (see Printable Resources), bottle tops.	
Wed	13	Compare and order numbers 1 to .5	Number name and number symbol cards per pair of learners (see Printable Resources), bottle tops.	
Thur	14	Learn about numbers 6 to 10.	Ten frame (see Printable Resources), bottle tops (two colours), number symbol and number name cards (see Printable Resources).	
Fri	15	Consolidation of work done this week.	Learner resource activities.	
Mon	16	Assessment.	Assessment activity in teacher's resources.	
Tue	17	Learn about 6 and 7: write the number the symbol and name for 6 and 7.	Ten frame (see Printable Resources), bottle tops, number symbol cards (see Printable Resources).	
Wed	18	Learn about 8 and 9: write the number the symbol and name for 8 and 9.	Ten frame (see Printable Resources), bottle tops.	
Thur	19	Learn about 10: write the number the symbol and name for 10.	Ten frame (see Printable Resources), bottle tops.	
Fri	20	Consolidation of work done this week.	Learner resource activities.	
Mon	21	Assessment.	Assessment activity in teacher's resources.	

Assessment for learning

Use the templates provided at the front of this guide to think deeply about at least one of the lessons in this unit.

Reflection

Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for this unit? If not, how will you get back on track?

What will you change next time? Why?

Lesson 8: Numbers 1 to 5

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.
Lesson Objective: Learn about number symbols and number names (1 to 5).
Lesson Vocabulary: more than, less than, the same as
Resources: Ten frame card (see Printable Resources), bottle tops, number name and number symbol cards (see Printable Resources).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Note: In order to increase the active involvement of learners, you could allow learners to hold up the correct number of fingers to answer the questions, rather than just verbalising the answer. This way, you will be able to easily see which learners need more assistance, and you will also be able to use learners' errors to redirect or rephrase your questions.

Ask the learners the following questions:
- **What number comes before 5?**
- **What number comes after 3?**
- **What number comes in between 1 and 3?**

You can ask other similar questions (within the number range 1 – 5) if you have enough time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson will introduce numbers 1 to 5, and will start to develop learners' understanding of these numbers. Numeration means the process of numbering, counting or calculating, so in this lesson learners will count objects, and will also learn about the number names and symbols for the numbers 1 to 5. In this activity, you will use the same picture as you used in Lesson 6, however, this time you will focus more on the number names and number symbols. In this lesson, the learners will collect objects and copy sounds (clapping hands, knocking doors, slapping tables etc.) in order to represent numbers while doing counting activities that will teach them about numbers.

We are learning about the concept of numbers 1 to 5 and numeration.

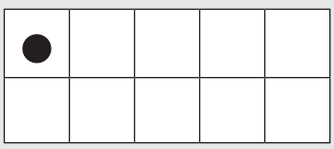
Activity 1: Whole class activity

- Ask the learners to copy the sounds you make.
  - **a** Clap your hands twice.
  - **b** Stamp your feet four times.
  - **c** Slap your knees three times.
  - **d** Knock on your desk five times.
- Repeat with other sounds.

Activity 2: Whole class activity

- Give learners a copy of the farm scene picture (from the printable resources).
- Ask t he learners to look at the picture of the farm scene (shown below).

- Ask the learners to cover the small bird on the swing that they see with a bottle top.
- Ask the learners to then move their bottle top onto their ten frame.



- **What do you notice about the bottle top on the ten frame?** *(there is only 1 bottle top there are less bottle tops than empty spaces on the ten frame.)*
- **That's right, there is only 1 bottle top.**

- **This is what a 1 looks like** (show the number symbol card) **and this is how we write the word** (show the number name card)**.**
- **How many empty spaces are there on the top row of the ten frame?** *(there are 4 empty spaces)*
- Put the number symbol and number name cards on the board for the learners to see, before moving on to the next picture.
- Repeat the steps above, getting learners to look for the pigs (2), rabbits (3), chickens (4) and ducks (5).

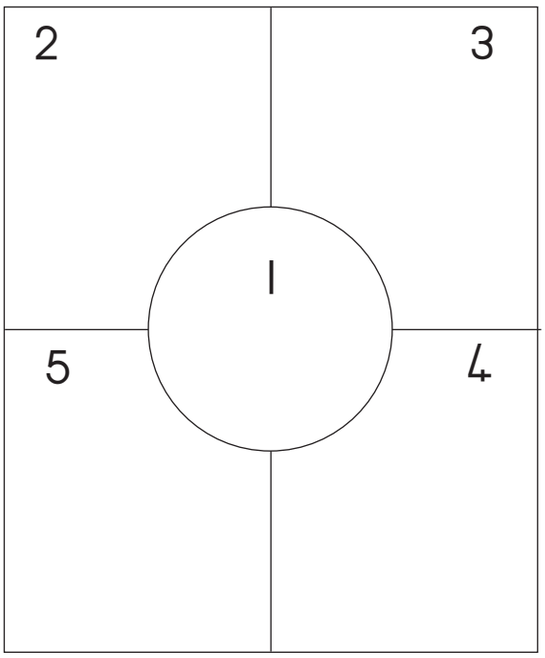
Activity 3: Learners work in pairs

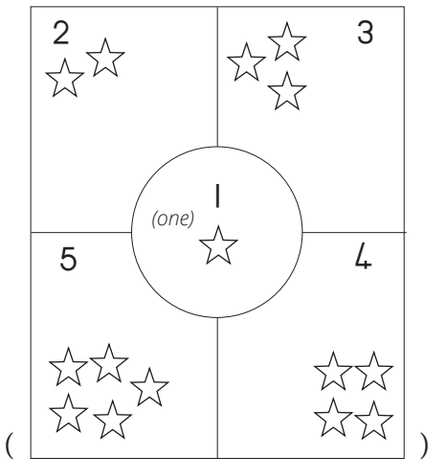
- Point to a number symbol or number name on the board, and call it out for the learners.
- For example: point to the 2, and say: **Two**.
- Learners then need to count out 2 objects and place them on their desk. Learners can use objects such as pencils (or other stationery) or bottle tops.
- Then point to a different number symbol or number name and repeat the process.
- Consolidate the learning of the number symbols and number names up to 5 in this way, repeating the questions many times.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: In this classwork activity, learners need to fill in the blocks on the page with everything that they can think of about the numbers. Learners can draw pictures to represent different examples of each number. For example: one dog, one cat, one pencil, one nose, one hat. However, some learners may also choose to include words or symbols (if they are already at this level of understanding) or even concrete objects placed on the page. Please remember learners are not expected to be able to write the words at this stage of Grade 1, so don't worry if the spelling is incorrect. This activity is to help you see what learners know about the numbers 1 to 5, so allow them to fill the page as they see fit.

What do you know about these numbers?





4 HOMEWORK ACTIVITY (5 MINUTES)

Draw 1 flower	( )
Draw 2 stars	( )
Draw 3 triangles	( )
Draw 4 hearts	( )
Draw 5 faces	( )

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

We have learned about numbers and numeration

This lesson focuses on the introduction of number and getting learners to think about 'how many' a number is.

- Ask the learners what they have learnt about numbers.
- Ask the learners what they found difficult to understand.

Lesson 9: Numbers 1 and 2

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.
Lesson Objective: Learn about 1 and 2: write the number the symbol and name for 1 and 2.
Lesson Vocabulary: more than, less than, one, two.
Resources: Ten frame (see *Printable Resources*); bottle tops, number name and number symbol cards (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Ask the learners to say the following rhyme:
The ants go marching one by one, hurrah! hurrah!
The ants go marching one by one, hurrah! hurrah!
The ants go marching one by one
Then they stop and play their drums.
Oh, we're oh so glad that the ants could come today!

Ask the learners:

- **Show me 1 finger.**
- **What is 1 more than 1? (2)**

Then continue with second verse – The ants go marching two by two...

Ask the learners:

- **Show me 2 fingers.**
- **What is 1 less than 2? (1)**

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the numbers 1 and 2. Learners need to see the number names and the symbols. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand numbers through the use of concrete objects. This is why you will use bottle tops and ten frames to show learners how many spaces a number takes up on the ten frame. It is important to allow learners time to trace the number symbols, as they have not fully developed their fine motor skills. Learners will copy sounds (clapping hands, knocking doors, slapping tables etc.) in order to represent numbers, as well as collect objects for the numbers 1 to 5 and match pictorial representations and number symbols/names.

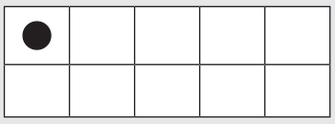
We are learning to read and write the numbers 1 and 2.

Activity 1: Learners work in pairs

- Ask the learners to work in pairs.
- One learner must make a sound or perform an action a certain number of times (1 to 5).
- For example: Hop three times
- The other learner must copy the action (or sound).
- The learners must take turns presenting and copying sounds and actions.

Activity 2: Whole class activity

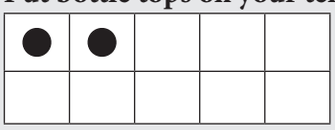
- Ask the learners to put a pencil on their desk in front of them.
- **You have one pencil in front of you.**
- **Put a bottle top on your ten frame to show how many pencils you have.**



- Point to the number symbol and explain to the learners how we write the number symbol for one. Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number one number name card on the board.

one

- Point to the number word (*one*) and read it to the class.
- Ask the class to read the number word with you. Ask a few learners to read the number word for you.
- Learners will begin learning to recognise and read the number word and symbol *one* and *1*. They should know how to write these words by the **end of Term 1**.
- Ask the learners to put another pencil on their desks (next to the first pencil). (Learners can work together and share pencils for this activity.)
- Ask: **How many pencils are there in front of you now?** (*There are 2 pencils there is one more pencil than we had just now*).
- **Put bottle tops on your ten frame to show how many pencils you have.**



- Put the number two symbol card on the board.

- Point to the number symbol, and explain to the learners how we write the number symbol for two. Stress the starting point and direction when writing the symbol.

2

- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on the number tracing card.
- Put the number two number name card on the board.

two

- Point to the number word (*two*) and read it to the class.
- Ask the class to read the number word with you. Ask a few learners to read the number word for you.
- Learners will begin learning to recognise and read the number word *two*. They should know how to write this word **by the end of Term 1**.

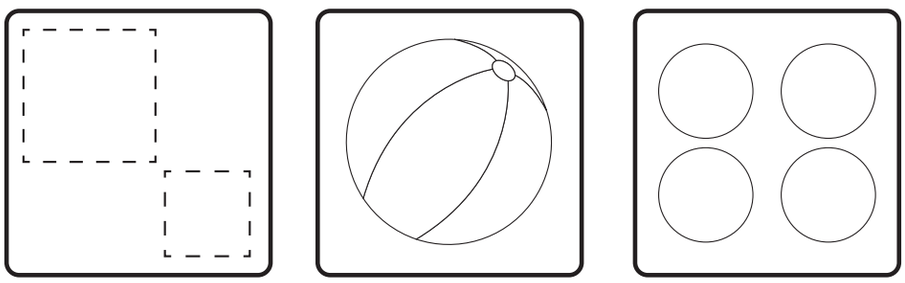
Activity 3: Learners work in pairs

- Ask the learners to work with the person sitting next to them.
- One learner begins by calling out a number (for example 2).
- The other learner then has to:
  - **a** Find two objects to put on their desk:
  - **b** Put two bottle tops on their ten frame
  - **c** Trace the number symbol 2 on the desk with their finger
- The learners take turns calling out numbers (focusing on the numbers 1 and 2)

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

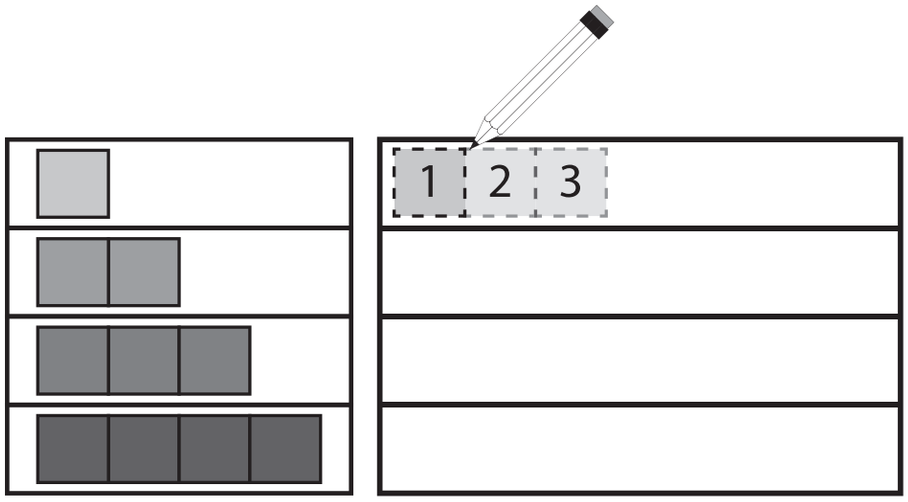
Note: For this activity, you have to give each learner a copy of the printable number tracing card.

1. Trace the number symbols and number names on the tracing card.
2. Colour in 1 shape in each block.



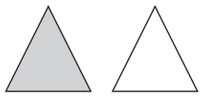
(any one shape can be coloured in in each block)

3. Copy and draw 2 more.



4 HOMEWORK ACTIVITY (5 MINUTES)

Colour the shapes:

Colour 1 shape	Colour 1 shape	Colour 2 shapes	Colour 2 shapes
			

(Any shapes (of the correct number) can be coloured, not necessarily as shaded above.)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:
Today we have learned to read and write the numbers 1 and 2.

- **Remind learners of the number names and number symbols that they have learned.**
- **Use a big ten frame to show the learners the 'how manyness' of the numbers 1 and 2.**

Lesson 10: Consolidation: Concept of numbers 1 to 5

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.		
Lesson Objective: Know number symbols and number names; Collect objects as numbers given; Copy sounds (clapping hands, knocking doors, slapping tables etc.).		
Lesson Vocabulary: more than, less than, the same as.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This lesson will consolidate the concept of the numbers 1 to 5, and will continue to develop the learners' understanding of these numbers. In this lesson, learners will count objects and will also learn about the number names and symbols for the numbers 1 to 5.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

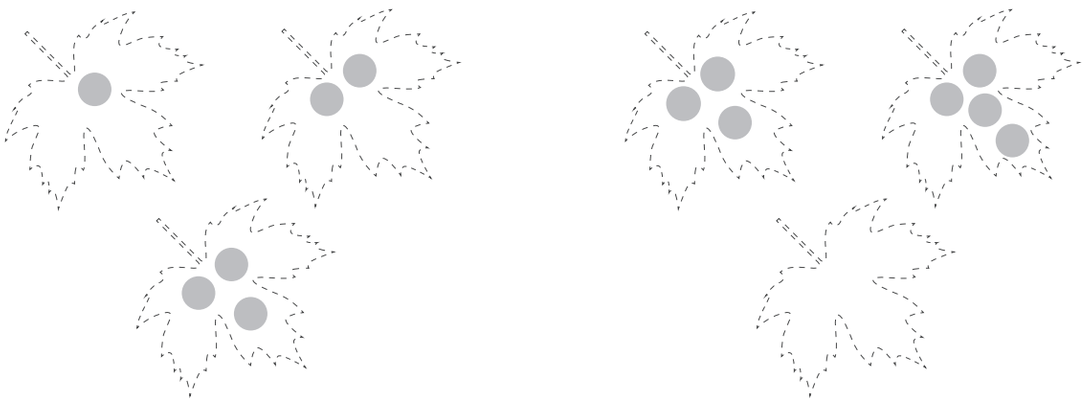
Learners may find the vocabulary of 'more than' and 'less than' difficult. It is important to allow learners to use concrete apparatus and physically work with the numbers in order for them to develop an understanding of number.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

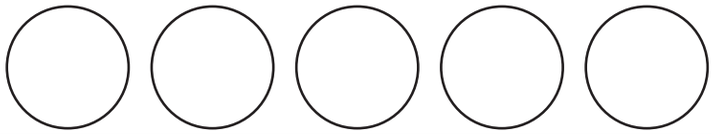
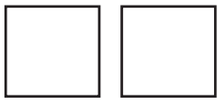
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about the numbers 1 to 5.

1 Draw one more dot on each leaf



2 Draw one less shape each time

	(○○○○)
	(○)
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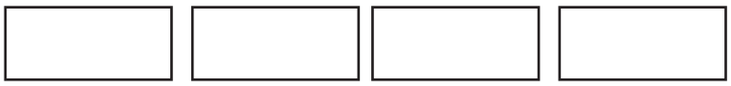
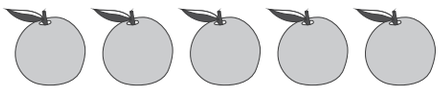
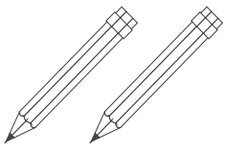
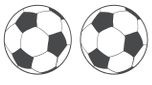
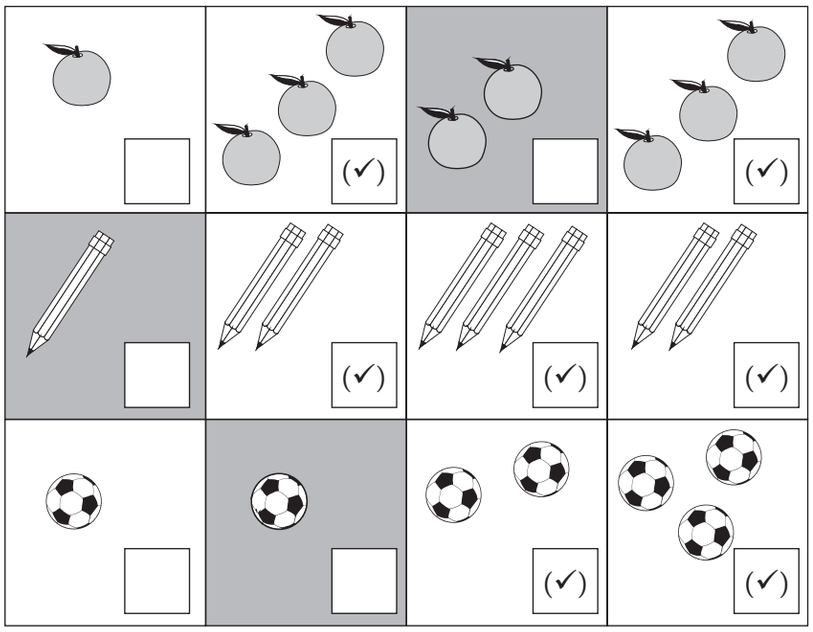
	(○○○)

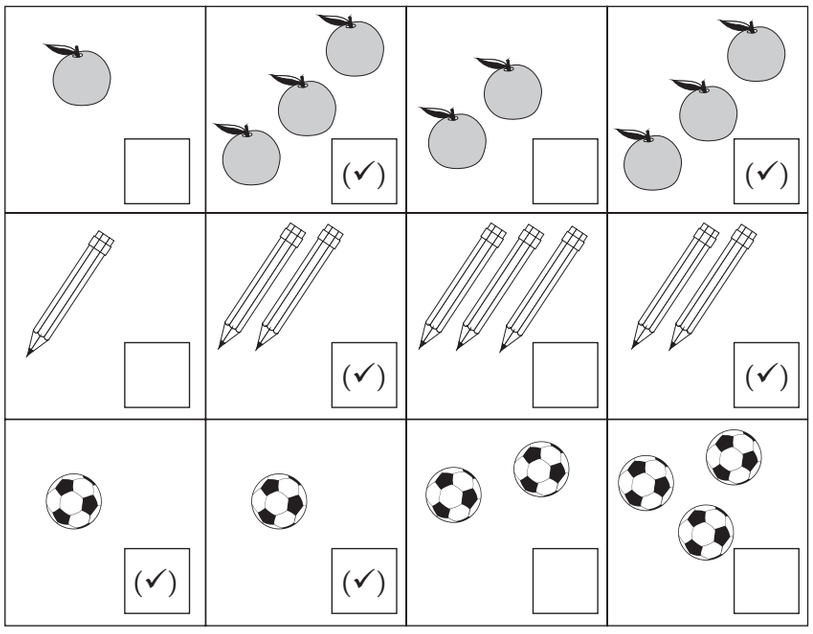
3 Draw dots on the ten frame to match the number of pictures.

	(●)
	(●) (●) (●)
	(●) (●) (●) (●) (●)
	(●) (●)
	(●) (●)

4 Tick the blocks that have **more** than the shaded block.



5 Tick the blocks that have the same amount.



5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the numbers 1 to 5.

This lesson looked at the concept of the numbers 1 to 5 and encouraged learners to:

- Count objects;
- Think about 'how many' a number is;
- Use the vocabulary (more than, less than).

Week 3

Lesson 11: Numbers 3 and 4

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Learn about 3 and 4: write the number the symbol and name for 3 and 4.		
Lesson Vocabulary: more than, less than, the same as, number names.		
Resources: Ten frame (see Printable Resources); bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Ask the learners to say the following rhyme:

One, two, three, four, five;

Once I caught a fish alive;

Six, seven, eight, nine, ten;

Then I let it go again

Ask the learners to:

- Count forwards from 1 – 10
- Count backwards from 10 – 1

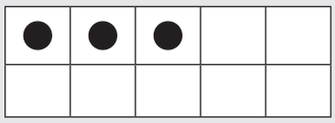
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the numbers 3 and 4. Learners need to see the number names and the symbols. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand number through the use of concrete objects. This is why you will use bottle tops and ten frames to show learners how many spaces a number takes up on the ten frame. It is important to allow learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. In this lesson, write the number symbol and name for 3 and 4; practice number bonds of 3 and 4 through play with concrete objects and match pictorial representations with number symbols/names.

Today we are learning to read and write numbers 3 and 4.

Activity 1: Learners work in pairs

- You need a handful of objects per pair for this activity.
- Place a number of objects on the learners' tables.
- Ask the learners to put out **three** objects, e.g. **Put three pencils on your table**.
- Ask, **What can you tell me about the pencils**? (There are three pencils/there is one and one and one pencils/there are two pencils on the left and one on the right/There are three pencils on the left and zero on the right. Etc.)
- Ask, **What can you tell me about the number three?** (It is **1** more than **2**, it is **2** more than **1**, it is **3** more than **zero**.)
- Do this with a few different examples.
- **Put bottle tops on your ten frame to show how many pencils you have.**



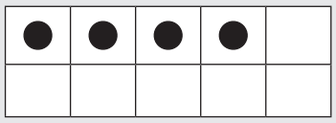
3

- Point to the number symbol and explain to the learners how we write the number symbol for three. Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number three number name card on the board.

three

- Point to the number name (*three*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name and symbol *three* and *3*. They should know how to write these words by the **end of Term 1**.
- Ask the learners to put out four objects, e.g. **Put out four pencils**.
- Ask, **What can you tell me about the pencils?** (There are four pencils/there is one and one and one and one/there are two pencils on the left and two on the right/there are three pencils on the left and one on the right/there are four pencils on the left and zero on the right.)
- Ask, **What can you tell me about the number four?** (It is **1** *more than* **3**, it is **2** *more than* **2**, it is **3** *more than* **1**, it is **4** *more than* **zero**, it is **1** *less than* **5**.)
- Do this with a few examples.

- **Put bottle tops on your ten frame to show how many pencils you have.**



- Put the number four symbol card on the board.
- Point to the number symbol, and explain to the learners how we write the number 4 symbol. Stress the starting point and direction when writing the symbol for four.

4

- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number four number name card on the board.

four

- Point to the number name (*four*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name *four*. They should know how to write this word **by the end of Term 1**.

Activity 2: Whole class activity

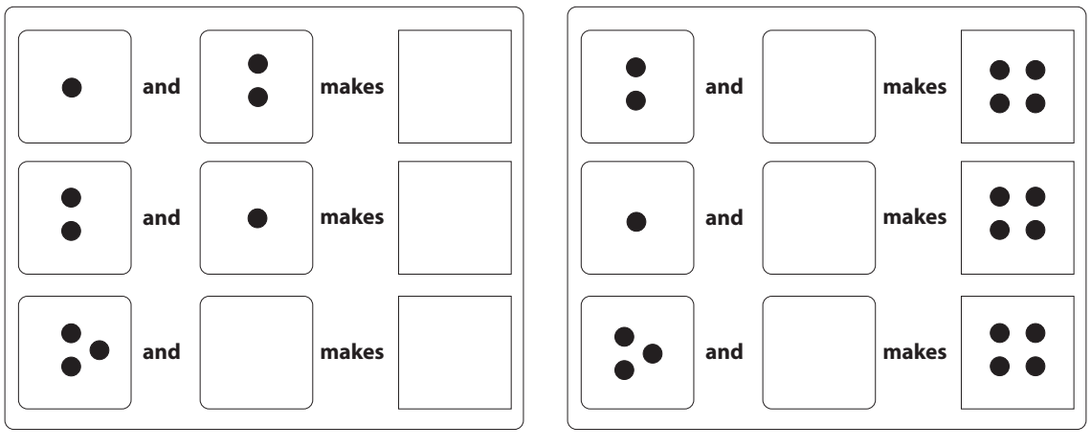
- Make sure that each learner has 4 bottle tops.
- Ask the learners to put one bottle top to the side for the moment.
- Ask the learners: **What can you tell me about the bottle tops left in front of you?** *(There are 3 bottle tops)*
- **Move one of the 3 bottle tops slightly to one side.** (● ●●)
- **Now what can you tell me about the bottle tops?** *(There are 1 and 2 bottle tops/there are still 3 bottle tops)*
- **Move another bottle top to the side where there is only one bottle top.** (●● ●)
- **What can you tell me about the bottle tops?** *(There are 2 and 1 bottle tops/there are still 3 bottle tops.)*
- **Put all the bottle tops together.** (●●●)
- **How many more bottle tops do you need to make 3?** *(None.)*
- Repeat the same types of questions but use 4 bottle tops, and work with the bonds of 4.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

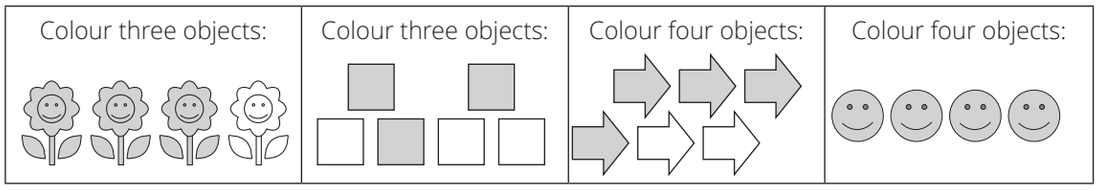
Note: For this activity, you have to give each learner a copy of the printable number tracing card.

1. Trace the number symbols and number names on the tracing card.

2. Complete the following by making a drawing:



3 Colour the objects:



(Any objects can be coloured (as long as the correct number are shaded), not necessarily the ones that are shaded above.)

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Write the number 3.
2 Write the number 4.
3 Write the word three.
4 Write the word four.
5. Draw 3 balls in the block.

6. Draw 1 more ball in the block.
7. How many balls are there in the block now? (4)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to read and write the numbers 3 and 4.

- Remind the learners of the number names and number symbols they have learned.
- Use a big ten frame to show the learners the 'how manyness' of the numbers 3 and 4.
- Remember to revise the bonds of 3 and 4.

Lesson 12: Number 5

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum..		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction		
Lesson Objective: Learn about 5: write the number the symbol and name for 5.		
Lesson Vocabulary: number names.		
Resources: Ten frame (see *Printable Resources*), bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Say a number and allow time for the learners to hold up the corresponding number of fingers.
For example:
Say: 3 *(Learners hold up 3 fingers.)*
Repeat with other numbers in the number range 1 – 5.

You can ask other questions involving 'more than' and 'less than' (within the number range 1 – 5) if you have enough time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the number 5. Learners need to see the number name and the symbol. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand number through the use of concrete objects. This is why you will use bottle tops and ten frames to show learners how many spaces a number takes up on the ten frame. It is important to allow the learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. In this lesson learners will write the number symbol and name for 5; Practice number bonds of 5 through play with concrete objects; and match pictorial representation and number symbols/names.

Today we are learning to read and write the number 5.

Activity 1: Learners work in pairs

- You need a handful of objects per pair for this activity.
- Place a number of objects on the learners' tables.
- Ask the learners to put out **five** objects, e.g. **Put out five pencils**.

- Ask, **What can you tell me about the pencils?** (There are five pencils/there is one and one and one and one and one/there are five pencils on the left and none on the right/ there are three pencils on the left and two on the right etc.)
- Ask, **What can you tell me about the number five?** (It is **1** *more than* **4**, it is **2** *more than* **3**, it is **3** *more than* **2**, it is **4** *more than* **1**, it is **5** *more than* **zero**.)
- Do this with a few different examples.
- **Put bottle tops on your ten frame to show how many pencils you have.**

5

- Point to the number symbol and explain to the learners how we write the number 5 symbol forfive.
- Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number five number name card on the board.

five

- Point to the number name (*five*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you
- Learners will begin learning to recognise and read the number name and symbol *five* and *5.* They should know how to write these words by the **end of Term 1**.

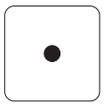
Activity 2: Whole class activity

- Ask the learners to put 3 bottle tops on their ten frame (on the top row).
- **What can you tell me about the bottle tops?** *(There are 3 bottle tops / there are more bottle tops than empty spaces on the top row.)*
- **How many more bottle tops do we need to fill up the top row of the ten frame?** *(2)*
- **How many bottle tops would we have on the top row then?** *(5)*
- **Empty the ten frames.**
- **Now put 4 bottle tops on the top row of the ten frame.**
- **How many more bottle tops do we need to fill up the top row of the ten frame?** *(1)*
- **How do you know this?** *(There is only one empty space on the top row of the ten frame.)*
- Repeat with other bonds of 5.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

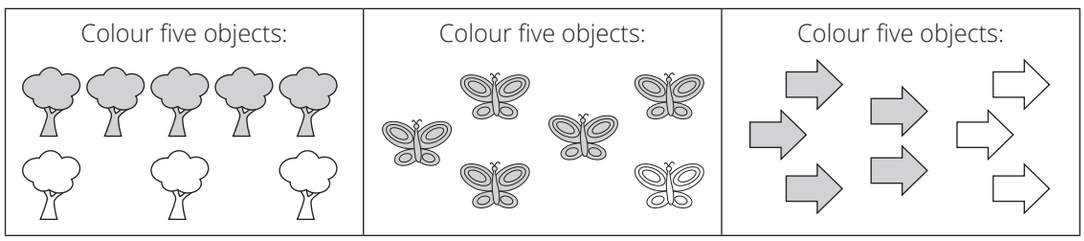
Note: For this activity, you have to give each learner a copy of the printable number tracing card.

1 Trace the number symbols and number names on the tracing cards.
2 Draw the answer and then write a sum

 3	and	 2	make	 5
 2	and		make	
 1	and		make	

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Write the number 5.
2 Write the word five.
3 Colour five objects each time:



(Any five objects can be coloured, not necessarily the ones that are shaded above.)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to read and write the number 5.

- Remind learners of the number names and number symbols they have learned.
- Use a big ten frame to show learners the 'how manyness' of the number 5.
- Remember to revise the bonds of 1–5.

Lesson 13: Compare and order numbers 1 to 5

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.4 Describe, compare and order numbers.
Lesson Objective: Compare and order numbers 1 to 5.
Lesson Vocabulary: more than, less than, before, after, in between.
Resources: Number name and number symbol cards per pair of learners *(see Printable Resources)*, bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Hold up 4 fingers and ask:

How many fingers am I holding up? (4)

Hold up 3 fingers and ask:

How many fingers am I holding up? (3)

Hold up 1 finger and ask:

How many fingers am I holding up? (1)

You can ask other questions involving 'more than' and 'less than' (within the number range 1 – 5) if you have enough time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson will focus on comparing and ordering the numbers 1 to 5, and will further develop learners' understanding of these numbers. In this activity you will need to get learners thinking about 'how many' a number is, and using the vocabulary to describe the numbers. In this lesson learners will compare numbers using objects (more and less); Order number cards 1 to 5; Compare and order numbers 1 to 5 using ten frames.

Today we are learning about comparing and ordering numbers 1 to 5.

Activity 1: Learners work in groups

- Ask the learners to work in groups of 5.
- The first learner must make a sound or perform an action once only.
- For example: Hop once.
- The next learner must copy the action (or sound), and then perform an action or sound twice.
- For example: Hop once; clap twice.
- The next learner will perform 3 actions or sounds, and so on.

Activity 2: Learners work in pairs

- You need a handful of objects per pair for this activity.
- Give each learner five bottle tops.
- Ask one of the learners in each pair to move one bottle top away.
- Ask questions such as: **What can you tell me about your bottle tops?** (I have five bottle tops/She has four bottle tops/I have more bottle tops than her/She has less bottle tops than me.)
- Ask questions like: **How many more bottle tops do you have?** (I have one more.)
- **How many less bottle tops do you have?** (I have one less.)
- Point to the flash cards to encourage learners to use the new language (*more than/ less than*).
- Vary the number of bottle tops each learner has (up to 5 each), and repeat the above steps a few times. Get the learners to tell you to which flashcard you must point to.
- Give each pair of learners the number symbol cards 1 to 5.
- Each learner selects a card and places it on their desk in front of them.
- Each pair of learners compares their cards, using the appropriate terminology (e.g. **3** is *more than* **2 or 4** is *less than* **5** etc.).
- Learners must order the cards from most to least and then least to most.
- Ask questions like, **What can you tell me about your cards?** to encourage learners to use the appropriate terminology (*most, least, more than, less than*).

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Tick the boxes that have the same number of bottle tops.

●	● ● ● (✓)	● ●	● ● ● (✓)

2 Tick the boxes that have more bottle tops than the first box.

● ●	● ● ● (✓)	●	● ● ● (✓)

3 Tick the boxes that have less bottle tops than the first box.

● ● ●	● ● ●	● ● (✓)	● (✓)

4 Draw one more shape on the right-hand side.

△ △	(△ △ △)

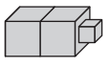
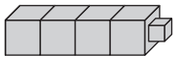
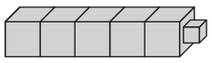
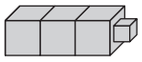
5 Draw one less shape on the right-hand side.

△ △	(△)

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

2	1	3	(1)	(2)	(3)

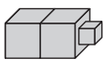
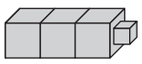
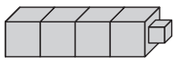
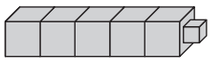
2 How many blocks are there:

	(2)
	(4)
	(1)
	(5)
	(3)

3 Write the number of blocks from the smallest number to the biggest number:

(1)	(2)	(3)	(4)	(5)

4 Show the numbers on the ten frames by drawing dots.

	(●)
	(●) (●)
	(●) (●) (●)
	(●) (●) (●) (●)
	(●) (●) (●) (●) (●)

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Rewrite these numbers from biggest to smallest and draw bottle tops to show the number.

1	4	2	5	3

(5) (●●●●●)	(4) (●●●●)	(3) (●●●)	(2) (●●)	(1) (●)

2 Rewrite these numbers from smallest to biggest and draw bottle tops to show the number.

2	5	3	1	4

(1) (●)	(2) (●●)	(3) (●●●)	(4) (●●●●)	(5) (●●●●●)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to compare and order the numbers 1 to 5.

- Remind learners of the number names and number symbols they have learned.
- Use a big ten frame to show learners the 'how manyness' of the number 5.
- Remember to revise the vocabulary of 'more than' and 'less than'.

Lesson 14: Numbers 6 to 10

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.		
Lesson Objective: Learn about numbers 6 to 10.		
Lesson Vocabulary: more than, less than, number name, number symbol, match, how many.		
Resources: Ten frame *(see Printable Resources)*, bottle tops (two colours), number symbol and number name cards *(see Printable Resources).*		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Place the number symbol card 1 on the board and ask:

What number is this? (1)

What number is 1 more than 1? (2)

Place the number symbol card 2 on the board and ask:

What number comes after 2? (3)

Continue placing number symbol cards on the board in order, as you ask questions to encourage the ordering and comparing of numbers (within the number range 1 – 5). Use the learners' responses and errors to re-direct or re-phrase your questions.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson will introduce the numbers 6 to 10, and will start to develop learners' understanding of these numbers. Numeration means the process of numbering, counting or calculating, so in this lesson learners will count objects, and will also learn about the number names and symbols for the numbers 6 – 10. In this activity you will develop the learners' understanding of numbers 6 to 10 by using what they know about 5 as a starting point. It is necessary to use two different colour bottle tops in this activity to help learners build on their existing knowledge of number. This lesson will refer to blue and yellow bottle tops but you may use any other colours. In this lesson learners will again count sounds (clapping hands, knocking doors, slapping tables etc.) and they will learn more about number symbols and number names; they will also learn to recognise the numbers 6 to 10 as 5+1, 5+2, 5+3, 5+4, 5+5 using a ten frame and to match a number of objects with the numbers given.

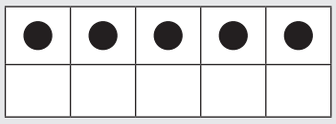
Today we are learning about the concept of numbers from 6 to 10 and numeration.

Activity 1: Learners work in pairs

- One learner must make a sound or perform an action a certain number of times.
- For example: Hop three times
- The other learner must copy the action (or sound).
- The learners must take turns presenting and copying sounds and actions.

Activity 2: Learners work in pairs

- Make sure that each pair has a ten frame and at least 10 bottle tops (5 in one colour and 5 in a different colour).
- Ask the learners to put 5 bottle tops (of one colour) on their ten frame.
- **What can you tell me about your ten frame?** *(There are 5 bottle tops/there are 5 empty spaces)*
- **Put another bottle top (of a different colour) on the ten frame.**



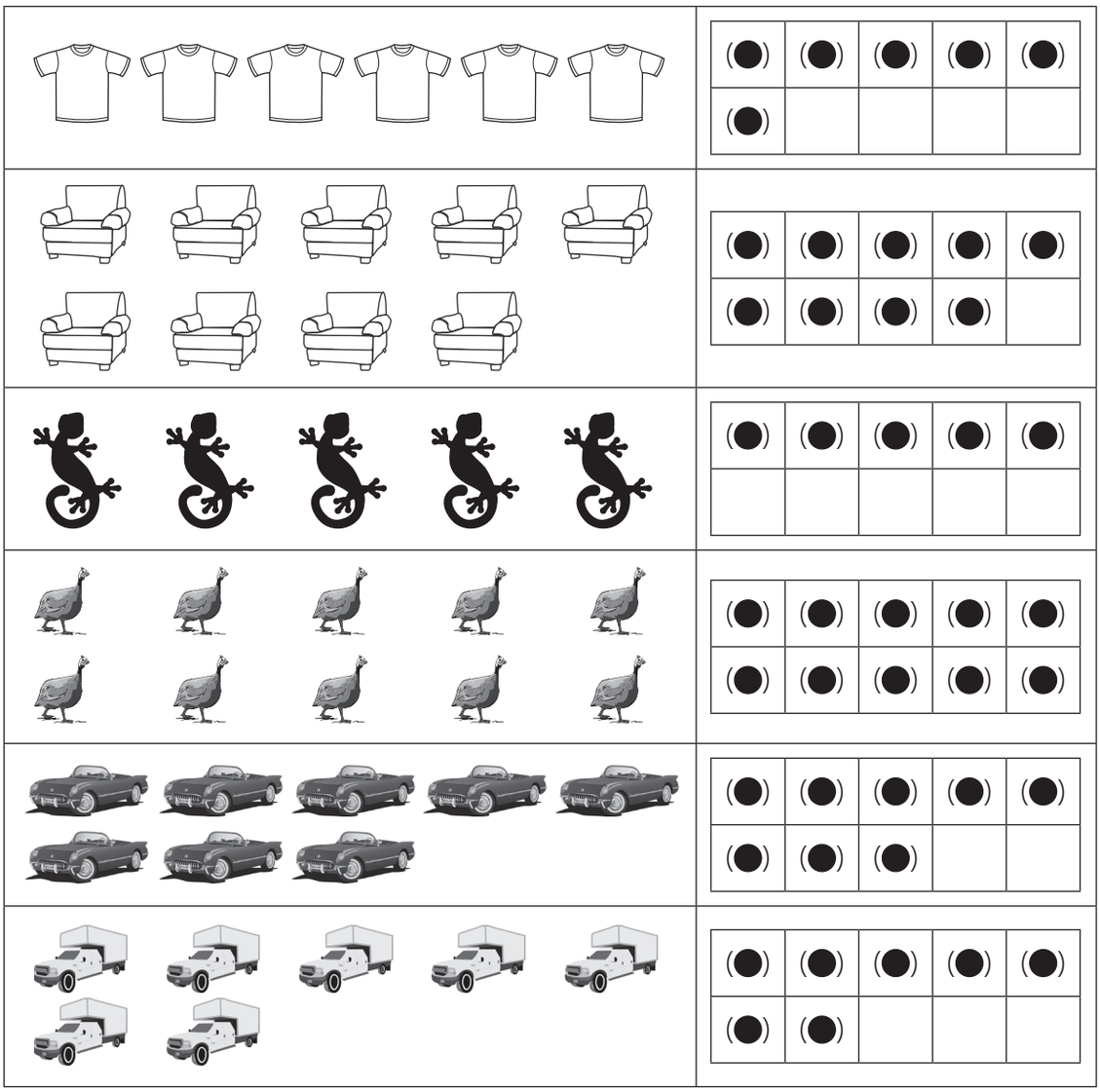
- **What can you tell me now?** *(There are 5 blue bottle tops on the top row and one bottle top on the bottom row/there are 4 empty spaces on the bottom row).*
- **How many more than 5 do you have now?** *(1)*
- **So we can say that 6 is made up of 5 and 1.**
- Repeat with the numbers 7 to 10, working through the number bonds.

Activity 3: Whole class activity

- You need to hold up the number name and symbol cards (1 to 10) for this activity, or paste them on the board with Prestik.
- Point to a number symbol or number name on the board, and call it out for the learners.
- For example: point to the 2, and say: **Two**.
- The learners then need to count out 2 objects and place them on their desk. Learners can use objects such as pencils (or other stationery) or bottle tops.
- Then point to a different number symbol or number name and repeat the process

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Draw bottle tops on the ten frame to match the pictures.



4 HOMEWORK ACTIVITY (5 MINUTES)

(Learners draw the correct number of pictures asked for.)

1 Draw 6 bananas.
2 Draw 7 trees.
3 Draw 8 rainbows.
4 Draw 9 suns.
5 Draw 10 clouds.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the numbers 6 – 10.

- Remind learners of the number names and number symbols that they have learned.
- Use a big ten frame to show learners the 'how manyness' of the numbers.
- Discuss the size of the numbers 6–10 in relation to the number 5.
- Remember to revise the vocabulary of 'more than' and 'less than'.

Lesson 15: Consolidation: Numbers 1 to 5

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Consolidate understanding of numbers 1–5.		
Lesson Vocabulary: more than, less than, and, make.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week's lessons have focused on developing learners' understanding of the numbers 1 to 5. The learners have learned the number symbols and number names for the numbers 3 – 5, with the numbers 1 and 2 being done last week. The learners need to consolidate their understanding of 'how many' a number is by looking at how it is made up (number bonds).

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

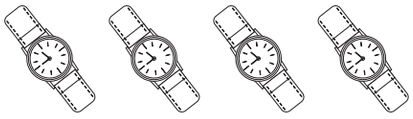
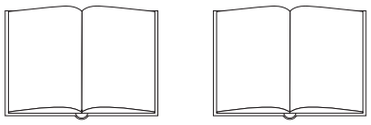
Number bonds should not only be learnt off by heart. Learners need to develop their number sense, and so need to understand as much as possible about a number. For example, in order to really understand the number 4, you need to know about 3 and 5 as well. So it is necessary for learners to use the vocabulary of 'more than' and 'less than' themselves, rather than just hearing the words from the teacher.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

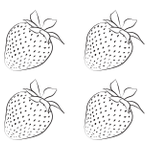
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about numbers 1 to 5.

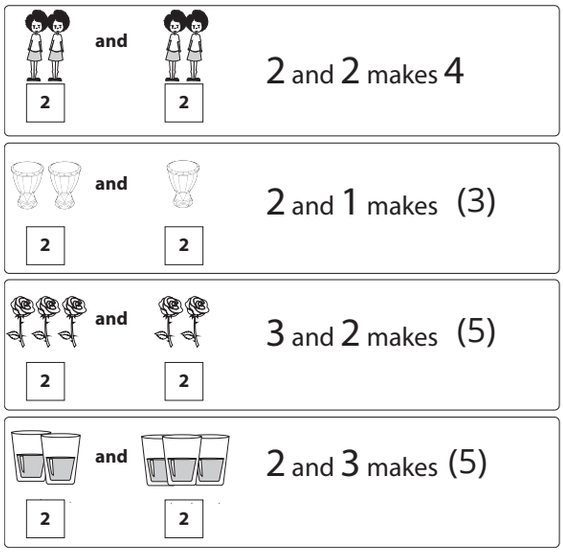
1. Count the pictures and circle the correct number symbol.

	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7

2. Trace the word for each of the numbers.

	**1**	one
	**2**	two
	**3**	three
	**4**	four
	**5**	five

3. Count the pictures and fill in the missing numbers.



4. Draw the total number of dots each time.

●●●	and	●●	make	(5)
●	and	●	make	(2)
●●●●	and	●	make	(5)
●	and	●●	make	(3)
●●●	and	●	make	(4)
●	and	●●●●	make	(5)
●●	and	●●	make	(4)

5. Write the numbers from smallest to biggest.

3, 1, 2	(1, 2, 3)
5, 1, 4	(1, 4, 5)
4, 1, 2	(1, 2, 4)
3, 2, 5	(2, 3, 5)
1, 4, 3	(1, 3, 4)

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned more about the numbers 1 to 5.

- We matched pictures and symbols.
- We traced the number names.
- We practised our number bonds.

Week 4

Lesson 16: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

Take some time to do the *oral assessment* (see the rubric below).

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

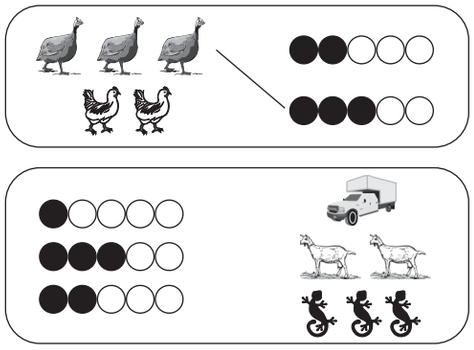
There should be time for you to discuss a few of the items with the class:

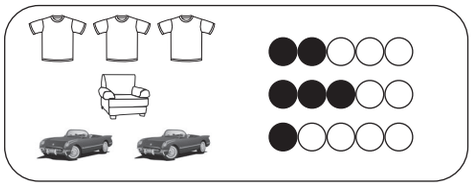
- use this opportunity to reflect on the different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

3 ASSESSMENT

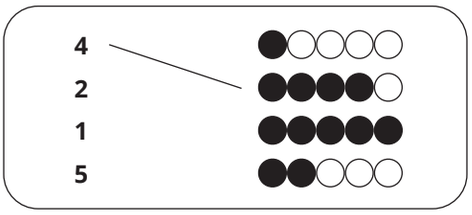
WRITTEN ASSESSMENT (19)

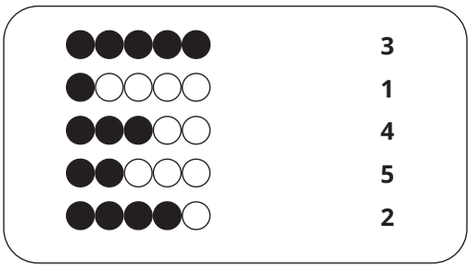
1. Match the pictures to the number of shaded dots by drawing a line.
(Answers: Learners must draw the lines to match the correct picture for each given number of coloured dots.)





2. Match the number symbols to the number of shaded dots by drawing a line.
(Answers: Learners must draw the lines to match the correct number of shaded dots for each given number symbol and number name.)





3 Write the numbers from smallest to biggest.

5, 3, 4	(3, 4, 5)
3, 1, 2	(1, 2, 3)
4, 3, 2	(2, 3, 4)
5, 1, 3	(1, 3, 5)
4, 1, 2	(1, 2, 4)

ORAL – PRACTICAL

CAPS: Number, operations and relationships: Counting **Activity: Observe learners to assess their ability to count objects up to 5.**							**Mark: 7**
	Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**	**Level 7**
Criterion	**Unable to count objects.**	**Able to count two objects correctly, saying the number names in sequence correctly. objects correctly, saying the number names in sequence correctly**	**Able to count three objects correctly, saying the number names in sequence correctly.**	**Able to count four objects correctly, saying the number names in sequence correctly.**	**Able to count five objects correctly, saying the number names in sequence correctly.**	**Counts out more than 5 objects reliably, saying the number names in sequence correctly.**	Counts out more than 5 objects reliably, saying the number names in sequence correctly and confidently.

Lesson 17: Numbers 6 and 7

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.
Lesson Objective: Learn about 6 and 7: write the number the symbol and name for 6 and 7.
Lesson Vocabulary: more than, less than, the same as, number name, how many, number symbol, triangle.
Resources: Ten frame (see *Printable Resources*), bottle tops, number symbol cards (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Place the number symbol cards 1 2 3 4 5 on the board (or write the numbers on the board).

Point to the number 3. Ask: **What number is this?** (3)

What number is 2 less than 3? (1). Point to the 1.

What number is 3 more than 1? (4). Point to the 4.

Ask more questions to encourage the ordering and comparing of numbers (within the number range 1 – 5) if you have time. Use the learners' responses and errors to redirect or rephrase your questions.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the numbers 6 and 7. Learners need to see the number names and the symbols. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand number through the use of concrete objects. That is why you will use bottle tops and ten frames to show learners how many spaces a number takes up on a ten frame. It is important to allow learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. In this lesson learners, will learn to write the number symbols and number names of 6 and 7, count concrete objects, set up bottle tops to represent 6 and 7 in ten frames and match pictorial representations with number symbols/ names.

Today we are learning to read and write the numbers 6 and 7.

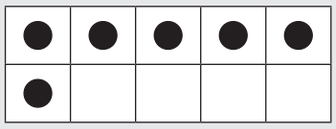
Activity 1: Whole class activity

- Make sure that learners have a pile of bottle tops with which to work.
- Hold up a number symbol card (1 to 5).

- Learners quickly need to put out the same number of bottle tops as the number symbol being held up.

Activity 2: Learners work in pairs

- Give each pair of learners a handful of bottle tops (at least 7 each).
- Ask the learners to put out 6 bottle tops in front of them.
- **Now, put the bottle tops on your ten frame to show how many bottle tops you have.**

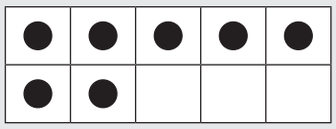


- Ask, **What can you tell me about the number six?** (*It is **1** more than **5**, it is **2** more than **4**, it is **3** more than **3**, it is **6** more than **zero**.)*

- Point to the number symbol and explain to the learners how we write the number 6 symbol for six. Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number six number name card on the board.

- Point to the number name (*six*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name and symbol *six* and *6*.

- Ask the learners to put out seven bottle tops in front of them.
- **Now, put the bottle tops on your ten frame to show how many bottle tops you have.**



- Ask, **What can you tell me about the number seven?** (It is **1** *more than* 6, it is **2** *more than* **5**, it is **3** *more than* **4**, it is **4** *more than* **3**, it is **1** *less than* **8**.)
- Put the number symbol card for seven on the board.
- Point to the number symbol, and explain to the learners how we write the number 7 symbol for seven. Stress the starting point and direction when writing the symbol.

7

- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number seven number name card on the board.

seven

- Point to the number name (*seven*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name *seven*.

Activity 3: Whole class activity

- Make sure that each learner has 7 bottle tops.
- Ask the learners to put one bottle top to the side for the moment.
- Ask the learners: **What can you tell me about the bottle tops left in front of you?** *(There are 6 bottle tops.)*
- **Move one of the 6 bottle tops slightly to one side.** (● ●●●●●)
- **Now what can you tell me about the bottle tops?** *(There are 1 and 5 bottle tops/there are still 6 bottle tops.)*
- **Move another bottle top to the side where there is only bottle top.** (●● ●●●●)
- **What can you tell me about the bottle tops?** *(There are 2 and 4 bottle tops/there are still 6 bottle tops)*
- **Put all the bottle tops together.** (●●●●●●)
- **How many more bottle tops do you need to make 6?** *(None)*
- Repeat the same types of questions but use 7 bottle tops and work with the bonds of 7.

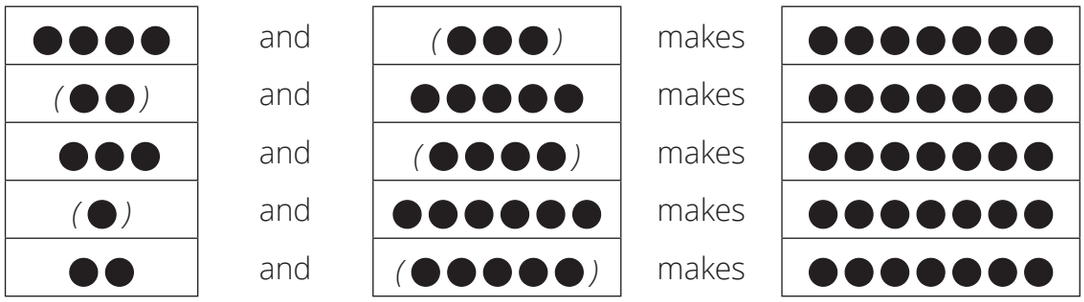
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: For this activity, you have to give each learner a copy of the printable number tracing card.

1. Trace the number symbols and number names on the tracing card.
2. Make 6 by drawing:

●	and	(●●●●●)	makes	●●●●●●
(●●●)	and	●●●	makes	●●●●●●
●●	and	(●●●●)	makes	●●●●●●

3. Make 7 by drawing:



4 HOMEWORK ACTIVITY (5 MINUTES)

1. Write the number 6.
2. Write the number 7.
3. Write the word six.
4. Write the word seven.
5. Draw six more triangles.

6 Draw seven more triangles.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to read and write the numbers 6 and 7.

- Remind the learners of the number names and number symbols they have learned.
- Use a ten frame to show learners the 'how manyness' of the numbers.
- Remember to revise the bonds of 6 and 7.

Lesson 18: Numbers 8 and 9

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.
Lesson Objective: Learn about 8 and 9: write the number the symbol and name for 8 and 9.
Lesson Vocabulary: more than, less than, the same as, number name, how many, number symbol, match, shape.
Resources: Number symbol cards (see Printable Resources), ten frame (see Printable Resources), bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Place the number symbol cards 1 2 3 4 5 6 7 on the board (or write the numbers on the board).

- Say: **Hold up the correct number of fingers to show me which number is between 5 and 7.** (6)
- Say: **Hold up the correct number of fingers to show me which number is 2 more than 3.** (5)
- Say: **Hold up the correct number of fingers to show me which number is 5 less than 7.** (2)

You can point to the number symbol cards to help learners to work out more than and less than. Ask more questions to encourage the ordering and comparing of numbers (within the number range 1 – 7) if you have time. Use the learners' responses and errors to redirect or rephrase your questions.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the numbers 8 and 9. Learners need to see the number names and symbols. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand number through the use of concrete objects. This is why you will use bottle tops and ten frames to show learners how many spaces a number takes up on the ten frame. It is important to allow learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. In this lesson, learners will write the number symbols and number names of 8 and 9, count concrete objects, set up bottle tops for 8 and 9 in ten frames and match pictorial representations with number symbols/names.

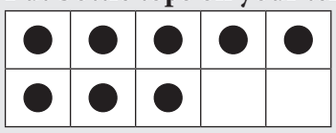
Today we are learning to read and write the numbers 8 and 9.

Activity 1: Whole class activity

- Learners work in their classwork books for this activity.
- Hold up a number symbol card (1 to 5).
- Learners quickly need to draw the same number of dots as the number symbol being held up.
- Before holding up the next card, get the learners thinking by asking questions such as:
- **How many more dots would you need to draw to get to 6?**
- **How many dots would you need to erase to get to 3?**

Activity 2: Learners work in pairs

- Give each pair of learners a handful of bottle tops (at least 9 each).
- Ask the learners to put out 8 bottle tops in front of them.
- **Put bottle tops on your ten frame to show how many bottle tops you have.**



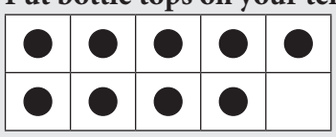
- Ask, **What can you tell me about the number eight?** (*It is **1** more than 7, it is **2** more than **6**, it is **3** more than **5**, it is **8** more than **zero**.*)

8

- Point to the number symbol and explain to the learners how we write the number 8 symbol for eight. Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number eight number name card on the board.

eight

- Point to the number name (*eight*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name and symbol *eight* and *8*.
- Ask the learners to put out 9 bottle tops in front of them.
- **Put bottle tops on your ten frame to show how many bottle tops you have.**



- Ask, **What can you tell me about the number nine?** (It is **1** *more than* **8**, it is **2** *more than* **7**, it is **3** *more than* **6**, it is **4** *more than* **5**, it is **1** *less than* **10**.)
- Put the number nine symbol card on the board.
- Point to the number symbol, and explain to the learners how we write the number 9 symbol for nine. Stress the starting point and direction when writing the symbol.

- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number nine number name card on the board.

nine

- Point to the number name (*nine*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name *nine*.

Activity 3: Learners work in pairs

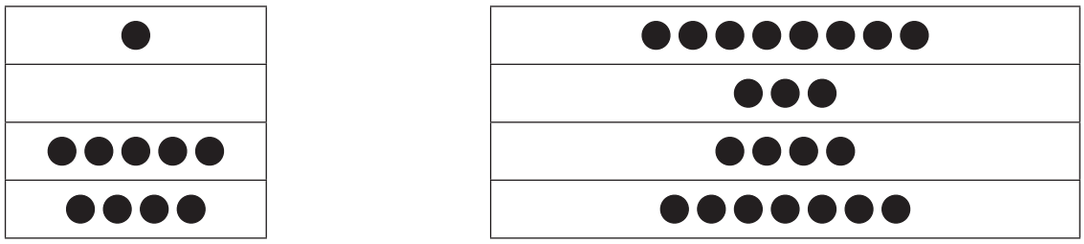
- Make sure that each learner has 9 bottle tops.
- Ask the learners to put one bottle top to the side for the moment.
- Ask the learners: **What can you tell me about the bottle tops left in front of you?** *(There are 8 bottle tops.)*
- **Move one of the 8 bottle tops slightly to one side.** (● ●●●●●●●)
- **Now what can you tell me about the bottle tops?** *(There are 1 and 7 bottle tops/there are still 8 bottle tops.)*
- **Move 4 bottle tops to one side.** (●●●● ●●●●)
- **What can you tell me about the bottle tops?** *(There are 4 and 4 bottle tops/there are still 8 bottle tops.)*
- **Put all the bottle tops together.** (●●●●●●●●●)
- **How many more bottle tops do you need to make 8?** *(None)*
- Repeat the same types of questions but use 9 bottle tops and work with the bonds of 9

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

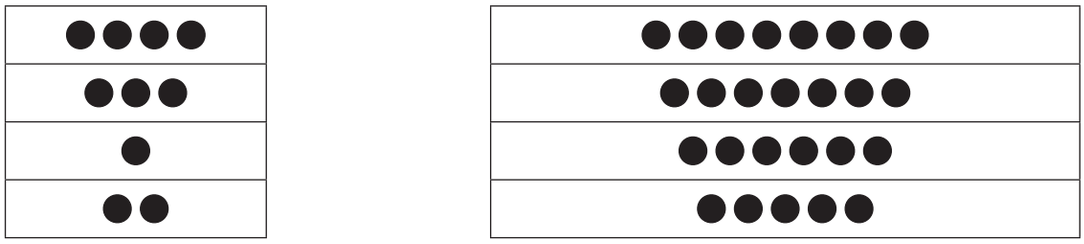
Note: For this activity, you have to give each learner a copy of the printable number tracing card.

1. Trace the number symbols and number names on the tracing card.

2. Make 8 by matching (draw a line):

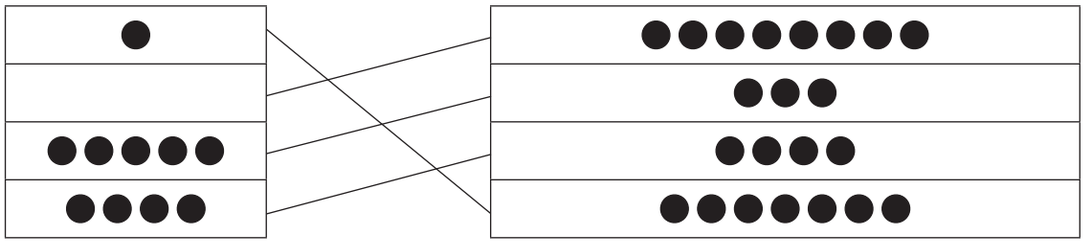


3. Make 9 by matching (draw a line):

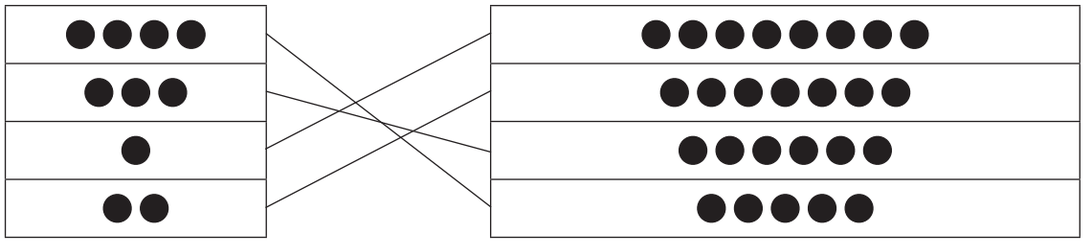


(Answer.)

4. Make 8 by matching (draw a line):



5. Make 9 by matching (draw a line):



4 HOMEWORK ACTIVITY (5 MINUTES)

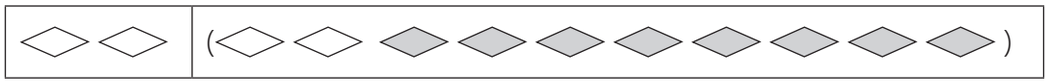
1 Write the number 8.

2 Write the number 9.

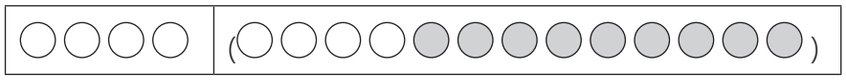
3 Write the word eight.

4 Write the word nine.

5 Draw eight more shapes.



6 Draw nine more shapes.



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to read and write numbers 8 and 9.

- Remind learners of the number names and number symbols they have learned.
- Use a big ten frame to show learners the 'how manyness' of the numbers.
- Remember to revise the bonds of 8 and 9.

Lesson 19: Number 10

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.		
Lesson Objective: Learn about 10: write the number the symbol and name for 10.		
Lesson Vocabulary: more than, less than, the same as, number name, how many, number symbol.		
Resources: Ten frame (see Printable Resources), bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Learners will work in pairs in this Mental Maths activity.

- One learner must hold up some (between 1 and 9) fingers, for example 5.
- The other learner then holds up some fingers (for example 3) and says "3 more than 5 is 8".
- The learners take turns holding up fingers and suggesting numbers that are 'more than' or 'less than'.

Walk around the classroom and observe the learners, assisting where needed.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

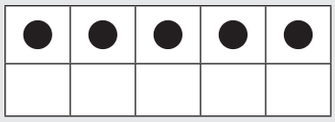
In this lesson, you will introduce the number 10 and consolidate the numbers 1 to 9. Learners need to see the number names and symbols. Learners also need to develop an understanding of 'how many' a number is. At this stage, learners need to understand number through the use of concrete objects. This is why you will use bottle tops and ten frames to show the learners how many spaces a number takes up on a ten frame. It is important to allow the learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. In this lesson you will also introduce the number line. This links well to the ten frame, which learners should be quite comfortable with by now. In this lesson, learners will write the number symbol and number name of 10 and review the numbers 1 to 9, count concrete objects, set up bottle tops for 1 - 10 in ten frames, match pictorial representations with number symbols/names and be introduced to number lines.

Note: When you are providing opportunities for learners to explore 'how many' ten is, other resources (such as interlocking cubes and Diene's blocks) could also be used. The TMU lessons focus on the use of the ten frame so that learners' understanding of number, operations and relationships is systematically developed throughout the year, but you can also add to this by including other resources if you so choose.

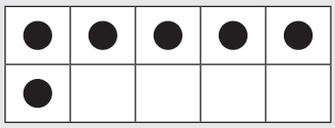
Today we are learning to read and write the number 10.

Activity 1: Learners work in pairs

- Give each pair of learners 10 bottle tops.
- Ask the learners to put 5 bottle tops on their ten frame and to put the rest to one side for later.



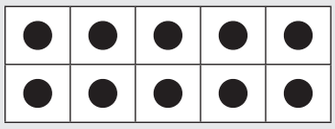
- **What do you notice?** *(There are five bottle tops and 5 empty spaces)*
- **Add one more bottle top.**
- **What can you tell me now?** *(There are 6 bottle tops/there are 5 and 1.)*
- **What can you tell me about the empty spaces?** *(There are 4 empty spaces/there are less empty spaces than bottle tops.)*



- Repeat this with other numbers (1 to 9).

Activity 2: Learners work in pairs

- Ask the learners to put out 10 bottle tops in front of them.
- **Put bottle tops on your ten frame to show how many bottle tops you have.**



- Ask, **What can you tell me about the number ten?** (*It is **1** more than **9**, it is **2** more than **8**, it is **3** more than **7**, it is **10** more than **zero**.)*

10

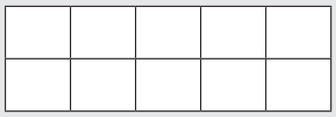
- Point to the number symbol and explain to the learners how we write the number 10 symbol for ten. Stress the starting point and direction when writing the symbol.
- Have the learners write the number symbol in the air and on their desk with their fingers and then let them trace the number symbol and then write it on their number tracing card.
- Put the number ten number name card on the board.

ten

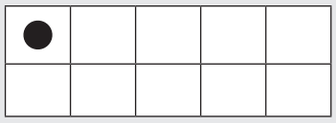
- Point to the number name (*ten*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name and symbol *ten* and *10*.

Activity 3: Whole class activity

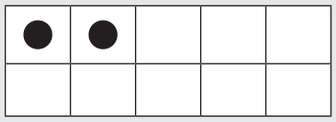
- Give each learner a blank ten frame.



- Ask the learners to put a bottle top into the first block.



- **How many bottle tops do you have?** *(1)*
- **Take the bottle top off the ten frame.**
- **Write a 1 in your maths classwork book.**
- **Now put 2 bottle tops onto the ten frame.**
- **How many bottle tops do you have?** *(2)*



- **Take the bottle tops off the ten frame.**
- **Write a 2 in your maths classwork book.**
- **Lift up the bottle tops and write a 2 in the next block.**
- Repeat until the ten frame is complete.
- Learners will have written the sequence of numbers from 1 to 10 in their classwork books.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: For this activity you have to give each learner a copy of the printable number tracing card.

Trace the number symbols and number names on the tracing card.

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the missing number symbols, number names and pictures.

a	1	(one)	()
b	(2)	(two)	
c	(3)	three	()
d	4	(four)	()
e	(5)	five	
f	6	(six)	()
g	(7)	(seven)	
h	(8)	eight	()
i	9	(nine)	
j	(10)	ten	

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to read and write the number 10.

- Remind the learners of the number names and number symbols that they have learned.
- Use a big ten frame to show the learners the 'how manyness' of the numbers.
- Remember to revise the bonds of 1–10.

Lesson 20: Consolidation: Numbers 6 to 10

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Consolidation of numbers 6 to 10.		
Lesson Vocabulary: more than, less than, and, make.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week's lessons have focused on developing learners' understanding of numbers 6 to 10. The learners have learned the number symbols and number names for these numbers. The learners need to consolidate their understanding of 'how many' a number is, through counting and using ten frames. The ordering of numbers along a ten frame will help learners to develop an understanding of a number line.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

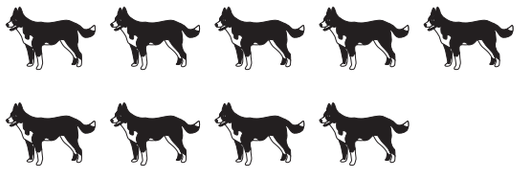
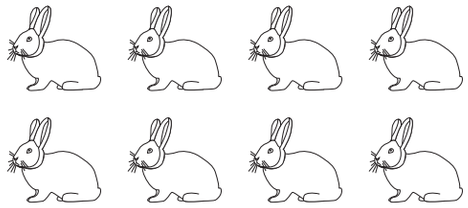
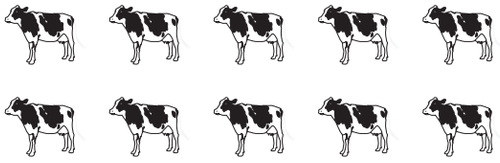
Learners need to develop their number sense and so need to understand as much as possible about a number. For example, in order to understand the number 9 fully, you need to know about 8 and 10 as well, so it is necessary for learners to use the vocabulary of 'more than' and 'less than' themselves, rather than just hearing the words from the teacher.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about the numbers 1 to 10.

1 Count the pictures and circle the correct number symbol.

	5	(6)	7	8	9	10
	5	6	7	8	(9)	10
	5	6	(7)	8	9	10
	5	6	7	(8)	9	10
	5	6	7	8	9	(10)

2 Trace the word for each of the numbers.

6	six six six
7	seven seven seven
8	eight eight eight
9	nine nine nine
10	ten ten ten

3 Draw dots on the ten frame to match the numbers.

6

(●)	(●)	(●)	(●)	(●)
(●)				

9

(●)	(●)	(●)	(●)	(●)
(●)	(●)	(●)	(●)	

7

(●)	(●)	(●)	(●)	(●)
(●)	(●)			

10

(●)	(●)	(●)	(●)	(●)
(●)	(●)	(●)	(●)	(●)

4 Count the black dots and write the number.

●●●●● ●●●●●	(10)
●●●●● ○○○○○	(5)
●●●●● ●●●○○	(8)
●●●●● ●○○○○	(6)
●●●●● ●●●●○	(9)
●●●●● ●●○○○	(7)

5 Write the numbers from smallest to biggest.

3	**5**	**8**	**1**	**7**	**4**	**10**	**6**	**2**	**9**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

6 Write the numbers from biggest to smallest.

6	**1**	**10**	**8**	**3**	**5**	**7**	**2**	**9**	**4**
(10)	(9)	(8)	(7)	(6)	(5)	(4)	(3)	(2)	(1)

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned more about numbers 6 – 10.

- We matched pictures and symbols.
- We traced number names.

Week 5

Lesson 21: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.
You will find the printable version of the assessment in the teacher's resource pack.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

There should be time for you to discuss a few of the items with the class:

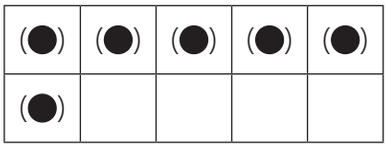
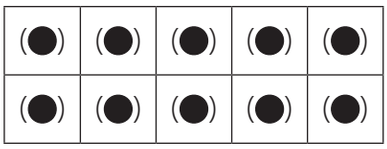
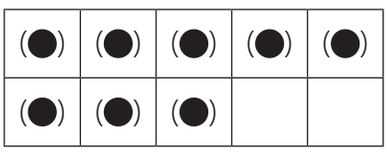
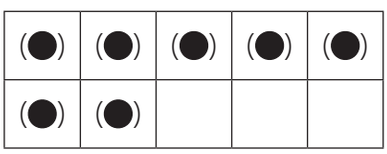
- use this opportunity to reflect on the different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

3 ASSESSMENT

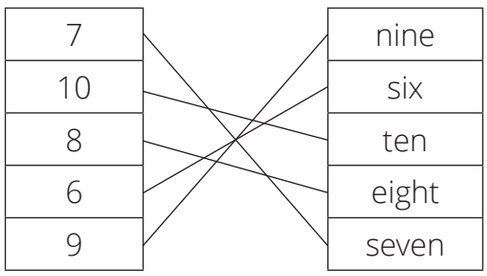
WRITTEN ASSESSMENT (15)

1 Draw dots in the ten frame to show the number.

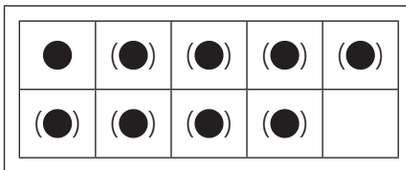
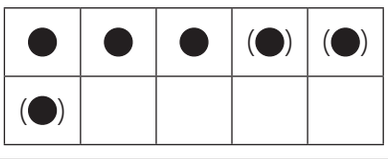
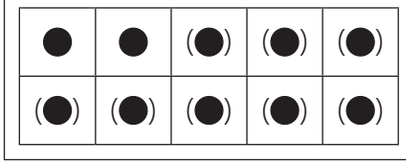
9	(●) (●) (●) (●) (●) (●) (●) (●) (●)

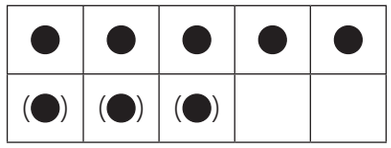
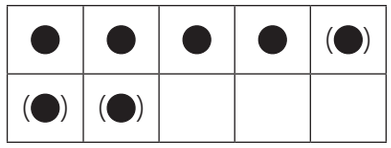
6	
10	
8	
7	

2 Match the number name and the number symbol by drawing a line.



3 Draw more dots in the ten frame to match the number and complete the number sentence.

	1	and	(8)	make	9
	3	and	(3)	make	6
	2	and	(8)	make	10

	5	and	(3)	make	8
	4	and	(3)	make	7

Unit 3 Introduction

Unit 3 focuses on developing an understanding of the 'how manyness' of the numbers 0 to 10. This is an important unit as it lays the foundation for learners' understanding of number. The lessons in this unit may seem quite repetitive but this is intentional in order to help the learners to see the links between numbers and to develop a sense of familiarity. As you work through these lessons, remember to refer back to previous lessons in order help the learners to make connections between numbers.

In this unit, you will be able to focus on the four framework dimensions in the following way:

- **Conceptual understanding**: Learners will develop an understanding of number in this unit.
- **Procedural fluency**: Learners will find that using a ten frame will help them to make sense of the 'how manyness' of a number.
- **Strategies**: Learners will discover that they understand a number better when they consider it in relation to other numbers, as they compare, describe and order numbers.
- **Reasoning**: Learners need to verbalise their understanding – they will be able to do this in this unit when they demonstrate different number combinations using bottle tops and ten frames

Building a **learning centred classroom** in this unit will involve (amongst other things) attention to:

- **Problem solving**: Through working with bottle tops and ten frames, learners are able to solve problems related to number combinations.
- **Explaining concepts and procedures**: Learners verbalise the concepts they are learning about and explain the procedures they use to determine number combinations.
- **Connecting representations**: In this unit, learners use concrete representations, drawings and number symbols. The lessons are designed to help them make connections between these representations. Making connections enables deeper learning of mathematical concepts.

Unit 3 overview

DAY	LP	Lesson objective	Lesson Resources	Date completed
Tue	22	Deepen number concept of 6 and 7 by working with number bonds of 6 and 7.	Bottle tops, ten frame (see Printable Resources).	
Wed	23	Deepen number concept of 8 and 9 by working with number bonds of 8 and 9.	Bottle tops, ten frame (see Printable Resources), number picture cards one set per pair of learners (see Printable Resources).	
Thur	24	Deepen number concept of 10 by working with number bonds of 10.	Bottle tops, ten frame, number picture cards one set per pair of learners (see Printable Resources).	
Fri	25	Consolidation of work done this week.	Learner resource activities.	
Mon	26	Deepen number and operation concepts - number bonds 2 to 10.	Bond board, make one per learner, bottle tops, number cut outs, one set per learner (see Printable Resources).	
Tue	27	Compare and order numbers 1 to 10.	Ten frame (see Printable Resources), bottle tops, number picture cards (see Printable Resources).	
Wed	28	Assessment.	Assessment activity in teacher's resources	
Thur	29	Concept of zero - number name and symbol.	Newspapers, ten frame (see Printable Resources).	
Fri	30	Consolidation of work done this week.	Learner resource activities.	
Mon	31	Counting forwards and backwards in 1s and 2s; Number line counting.	n/a	
Tue	32	Create and describe own number patterns.	100 board (see Printable Resources), bottle tops.	
Wed	33	Review numbers 0 to 10.	Number symbol cards (see Printable Resources).	
Thur	34	Assessment.	Assessment activity in teacher's resources.	
Fri	35	Consolidation of work done this week.	Learner resource activities.	

Assessment for learning

Use the templates provided at the front of this guide to think deeply about at least one of the lessons in this unit.

Reflection

Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for this unit? If not, how will you get back on track?

What will you change next time? Why?

Lesson 22: Number bonds of 6 and 7

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Deepen number concept of 6 and 7 by working with number bonds of 6 and 7.
Lesson Vocabulary: more than, less than, pattern.
Resources: Bottle tops, ten frame (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Give learners the following word problem:
Ntokozo has **3** marbles.
He finds **2** more marbles.
How many marbles does Ntokozo have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In today's lesson, you will revise the number names and symbols for 6 and 7. You will also focus on getting learners to develop an understanding of 'how many' the numbers are. In order to do this, learners need opportunities to work with the number bonds using concrete apparatus, before they begin recording the different number combinations.

Today we are learning about the number bonds of 6 and 7.

Activity 1: Whole class activity

- Make sure that each learner has 6 bottle tops.
- Ask the learners: **What can you tell me about your bottle tops?** (There are six bottle tops)
- The learners to put all the bottle tops together using both hands clasped together, and give them a little shake.
- Learners must then randomly divide the bottle tops into each closed hand.
- **Open only one hand.**

- **How many bottle tops do you have in your open hand?** (Answers will differ: 0/1/2/3/4/5/6)
- Let the learners guess how many bottle tops they have in their other (closed) hand.
- Ask the learners to check if their guess is correct or not by putting their bottle tops onto their ten frame.
- Repeat this multiple times so that learners can see that they will have different number combinations in their hands each time.
- Draw 2 circles on the chalkboard, and ask the learners to shake their bottle tops and then to separate them into each hand again.
- Ask one of the learners to show their answer by drawing dots into the circles to show how many bottle tops were in each hand.

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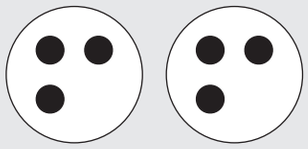


- Write the breaking down of 6.
  3 and 3 make 6
- **Repeat the above steps several times until all the bonds of 6 (patterns) are recorded on the chalkboard.**
- Note: If the same pattern (bond) happens, there is no need to record it again, but the learners must still verbalise.
- **How many patterns of breaking down are there?** (1 and 5, 2 and 4, 3 and 3, 4 and 2, 5 and 1 – there are 5 different patterns.)
- Note: There may be a '0 and 6' pair, then learners can say 'nothing and 6' even though they have not been taught 0.
- Learners must write each of the number pairs that make the bonds of 6 in their classwork books, e.g. 1 and 5, 2 and 4, 3 and 3.
- Repeat the exercise with 7 bottle tops.
- As they work through the activity with you, learners must write each of the number pairs that make the bonds of 7 in their classwork books, e.g. 1 and 6, 2 and 5, 3 and 4.

Activity 2: Learners work in groups

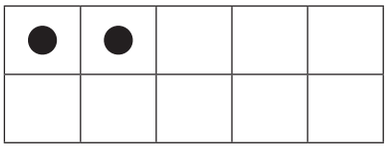
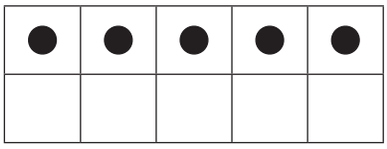
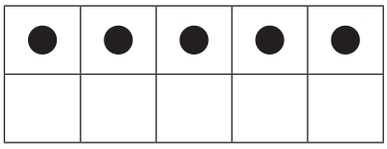
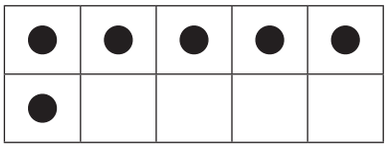
- Play a game with learners in groups of four.
- Make sure that each learner has at least 6 bottle tops.
- Put the number cards 1 to 6 in a bag or a container.
- Explain to the learners that you will put your hand into the bag and select a number symbol card.
- You will use the number as you ask the learners a question. For example, if you pull out a 1:
- **How many more do you need to put with 1 to get to 6?**
- Learners will then move one bottle top to the side and see that they need another 5 bottle tops to make 6.

- The first learner to put up their hand with the correct answer will get a point for their group.
- The group with the most points at the end of the game wins.
- The game can be repeated with 7 bottle tops and 1 to 7 number symbol cards.

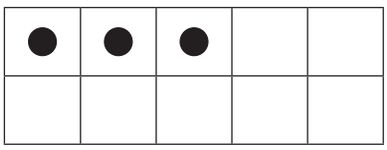
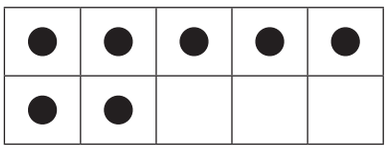
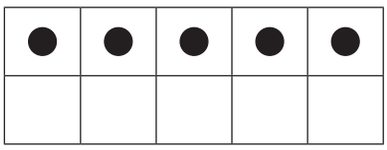
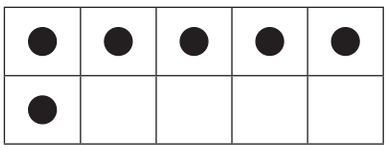
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: Learners must work with printed ten frames and bottle tops when they do these activities.

1 Draw dots in the ten frames to make 6, then fill in the missing numbers.

	2	and	(4)	make 6
	5	and	(1)	make 6
	3	and	(3)	make 6
	6	and	(0)	make 6

2 Draw dots in the ten frame to make 7, then fill in the missing numbers.

	3	and	(4)	make 7
	7	and	(0)	make 7
	5	and	(2)	make 7
	6	and	(1)	make 7

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Draw dots to show how you can make 6.

(●●●)	and	(●●●)	make	6
(●●●●●)	and	(●)	make	6
(●●)	and	(●●●●)	make	6

(other patterns may be used)

2 Draw dots to show how you can make 7.

(●)	and	(●●●●●●)	make	7
(●●●●●)	and	(●●)	make	7
(●●●)	and	(●●●●)	make	7

(other patterns may be used)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about numbers 6 and 7.

- Revise the number names and symbols.
- Ask the learners to tell you what they know about the numbers.
- Revise the number bonds.

Lesson 23: Number bonds of 8 and 9

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Deepen number concept of 8 and 9 by working with number bonds of 8 and 9.		
Lesson Vocabulary: more than, less than, pattern.		
Resources: Bottle tops, ten frame (see *Printable Resources*), number picture cards one set per pair of learners (see *Printable Resources*).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Thandeka has 6 flowers.
She gets 4 more flowers.
How many flowers does Thandeka have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

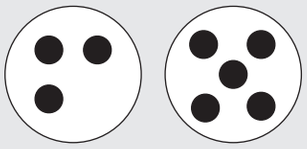
In today's lesson, you will revise the number names and symbols for 8 and 9. You will also focus on getting learners to develop an understanding of 'how many' the numbers are. In order to do this, learners need opportunities to work with the number bonds using concrete apparatus, before they begin recording the different number combinations.

Today we are learning about the number bonds of 8 and 9.

Activity 1: Whole class activity

- Make sure that each learner has 8 bottle tops.
- Ask the learners: **What can you tell me about your bottle tops?** (There are eight bottle tops)
- Ask the learners to put all the bottle tops together in both hands, and to give them a little shake.
- Learners must then randomly divide the bottle tops into each closed hand.
- **Open only one hand.**

- **How many bottle tops do you have in your open hand?** (Answers will differ: 0/1/2/3/4/5/6/7/8.)
- Let the learners guess how many bottle tops they have in their other (closed) hand.
- Ask the learners to check if their guess is correct or not by putting their bottle tops onto their ten frame.
- Repeat this exercisemultiple times so that learners can see that they will have different number combinations in their hands each time.
- Then draw 2 circles on the chalkboard, and ask the learners to shake their bottle tops and to separate them into each hand again.
- Ask one of the learners to show their answer by drawing dots into the circles to show how many bottle tops were in each hand.



- Write the breaking down of 8 on the chalkboard for the learners to see.
  3 and 5 make 8
- Repeat the above steps several times until all the bonds of 8 (patterns) are recorded on the chalkboard.
- **Note:** If the same pattern (bond) happens, there is no need to record it again, but learners must still verbalise.
- **How many patterns of breaking down are there? (**1 and 7, 2 and 6, 3 and 5, 4 and 4, 5 and 3, 6 and 2, 7 and 1 – 7 patterns excluding the (0,8) and (8,0) pairs.)
- Note: There may be a '0 and 8' pair, then learners can say 'nothing and 8' even though they have not been taught 0.
- Learners must write each of the number pairs that make the bonds of 8 in their classwork books, e.g. 1 and 7, 2 and 6, 3 and 5, 4 and 4.
- Repeat with 9 bottle tops.
- As they work through the activity with you, learners must write each of the number pairs that make the bonds of 9 in their classwork books, e.g. 1 and 8, 2 and 7, 3 and 6, 4 and 5.

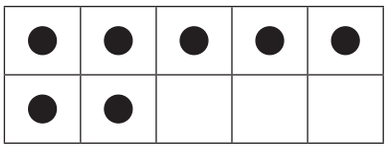
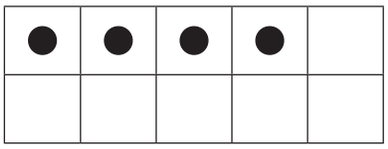
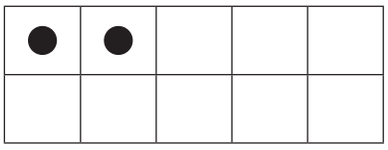
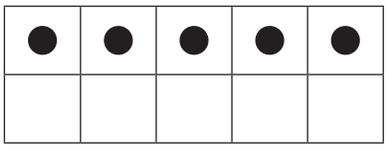
Activity 2: Learners work in pairs

- Give each pair learners a set of number picture cards (up to and including the 8 card).
- Learners hold their cards facing themselves (away from their partner).
- The first learner selects one card and holds it up for the other learner to see. For example: ●●●
- The second learner must then find the card that would go with the ●●● card to make up 8 dots in total. In other words, the number ●●●●● card.
- If there is time, the game can be played again, this time including the 9 card.

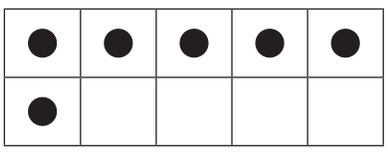
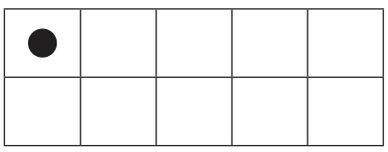
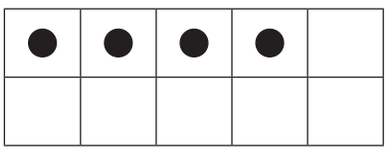
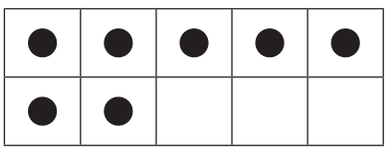
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: Learners must work with printed ten frames and bottle tops when they do these activities.

1 Draw dots in the ten frame to make 8, then fill in the missing numbers.

	7 and (1) make 8
	4 and (4) make 8
	2 and (6) make 8
	5 and (3) make 8

2 Draw dots in the ten frame to make 9, then fill in the missing numbers.

	6 and (3) make 9
	1 and (8) make 9
	4 and (5) make 9
	7 and (2) make 9

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Draw dots to show how you can make 8.

(●●●●)	and	(●●●●)	make	8
(●●●●●)	and	(●●●)	make	8
(●●)	and	(●●●●●●)	make	8

(other patterns may be used)

2 Draw dots to show how you can make 9.

(●●)	and	(●●●●●●●)	make	9
(●●●●●)	and	(●●●●)	make	9
(●●●)	and	(●●●●●●)	make	9

(other patterns may be used)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about numbers 8 and 9.

- Revise the number names and symbols.
- Ask the learners to tell you what they know about the numbers.
- Revise the number bonds.

Lesson 24: Number bonds of 10

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Deepen number concept of 10 by working with number bonds of 10.		
Lesson Vocabulary: more than, less than, pattern.		
Resources: Bottle tops, ten frame, number picture cards one set per pair of learners (see *Printable Resources*).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give learners the following word problem:
Nhlanhla has 2 sweets.
He gets 7 more sweets.
How many sweets does Nhlanhla have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

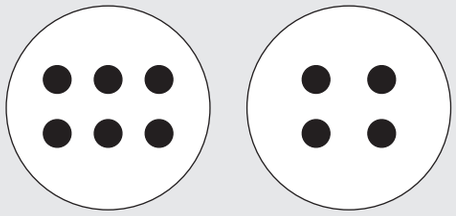
In today's lesson, you will revise the number names and symbols for 10. You will also focus on getting learners to develop an understanding of 'how many' the numbers are. In order to do this, learners need opportunities to work with the number bonds using concrete apparatus, before they begin recording the different number combinations.

Today we are learning about the number bonds of 10.

Activity 1: Whole class activity

- Make sure that each learner has 10 bottle tops.
- Ask the learners: **What can you tell me about your bottle tops?** (There are ten bottle tops)
- Ask the learners to put all the bottle tops together in both hands, and to give them a little shake.
- Learners must then randomly divide the bottle tops into each closed hand.
- **Open only one hand.**

- **How many bottle tops do you have in your open hand?** (Answers will differ: 0/1/2/3/4/5/6/7/8/9/10.)
- Let the learners guess how many bottle tops they have in their other (closed) hand.
- Ask the learners to check if their guess is correct or not by putting their bottle tops onto their ten frame.
- Repeat the exercise multiple times so that learners can see that they will have different number combinations in their hands each time.
- Draw 2 circles on the chalkboard, and ask the learners to shake their bottle tops and to then separate them into each hand again.
- Ask one of the learners to show their answer by drawing dots into the circles to show how many bottle tops were in each hand.



- Write the breaking down of 10 on the board for the learners to see.
  6 and 4 make 10
- Repeat the above steps several times until all the bonds of 10 (patterns) are recorded on the chalkboard.
- **Note:** If the same pattern (bond) happens, there is no need to record it again, but learners must still verbalise.
- **How many patterns of breaking down are there? (**1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5, 6 and 4, 7 and 3, 8 and 2, 9 and 1)
- **Note:** There may be a '0 and 10' pair, then learners can say 'nothing and 10' even though they have not been taught 0.
- Learners must write each of the number pairs that make the bonds of 10 in their classwork books, e.g. 1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5.

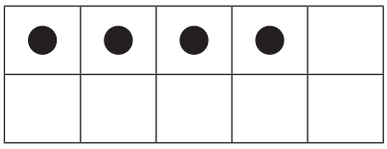
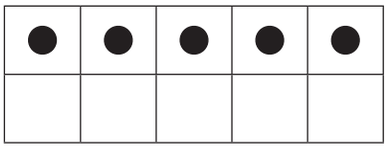
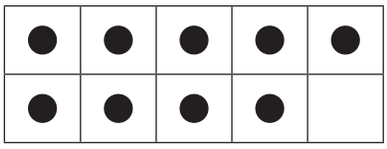
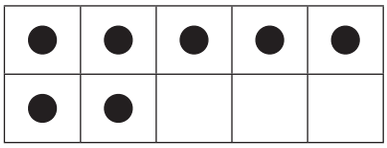
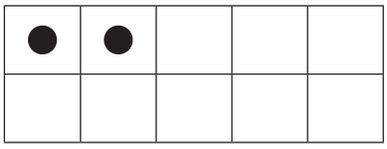
Activity 2: Learners work in pairs

- Give each pair of learners a set of number picture cards.
- Learners shuffle their cards well, before laying them face down on the desk.
- The first learner selects one card and turns it over.
- The first learner then selects another card to try and make up 10 dots in total.
- If the two cards together make up 10, then the first learner gets to keep the two cards and have another turn.
- If the two cards do not make up 10, then the first learner turns them both face down on the desk again (in exactly the same place).
- The second learner must then follow the same procedure to try to make up 10.
- Learners take turns until all the patterns of 10 have been found.
- If there is time, the game can be played again.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: Learners must work with printed ten frames and bottle tops when they do these activities.

1. Draw dots in the ten frame to make up 10, then fill in the missing numbers.

	4 and (6) make 10
	5 and (5) make 10
	9 and (1) make 10
	7 and (3) make 10
	2 and (8) make 10

4 HOMEWORK ACTIVITY (5 MINUTES)

Show the numbers with your fingers, then trace and write the number symbol.

	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about number 10.

- Revise the number name and symbol.
- Ask the learners to tell you what they know about the numbers.
- Revise the number bonds.

Lesson 25: Consolidation: Number bonds

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.3 Number symbols and number names; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Number bonds.		
Lesson Vocabulary: number combinations.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week, you have revised the number names and symbols for 6–10. You focused on getting learners to develop an understanding of the 'how manyness' of numbers. In this lesson, provide learners with opportunities to consolidate their understanding of the number bonds using concrete apparatus and by recording the different number combinations.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Number bonds may be difficult for learners. Be careful to not make them learn them off by heart. Learners need to have plenty of opportunities to experiment with concrete apparatus before moving on to recording.

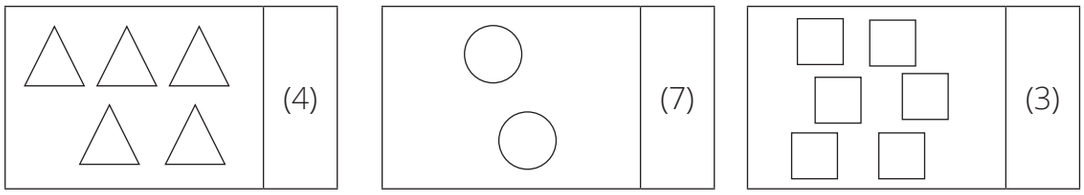
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

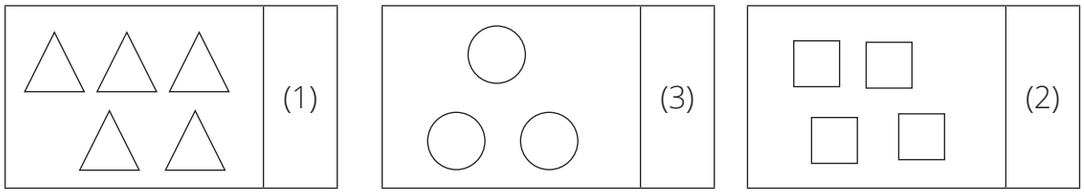
Today we are going over what we learned this week. We are learning more about number bonds.

1. How many more shapes will it take to make 10?

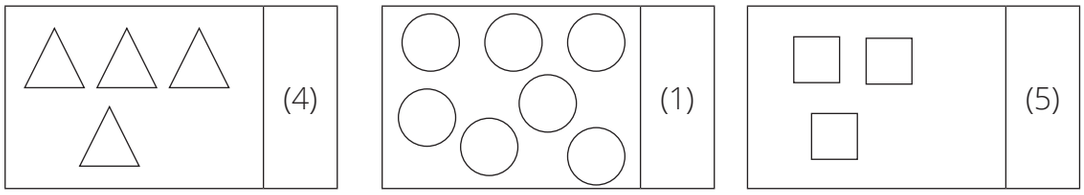
2. How many more shapes will it take to make 9?



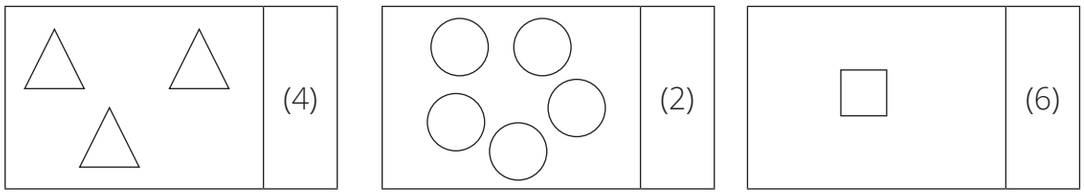
3. How many more shapes will it take to make 6?



4. How many more shapes will it take to make 8?



5. How many more shapes will it take to make 7?



6. Solve the following: you can make a drawing to help you.

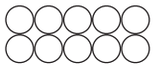
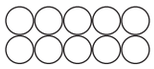
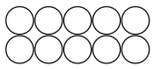
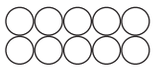
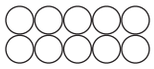
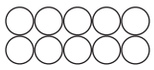
a One more than 9 is ☐

b One more than 7 is ☐

c Two more than 6 is ☐

d Two more than 8 is ☐

7. Complete the table for each number:

Number symbol	10 frame	Number name
6		
		three
7		seven
		
10		
		eight
4		
		nine
0		

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about number bonds.

- Revise the number bonds for 6 – 10.
- Ask the learners what difficulties they may be experiencing.

Week 6

Lesson 26: Number bonds 2 to 10

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Deepen number and operation concepts - number bonds 2 to 10.		
Lesson Vocabulary: pattern, left, right		
Resources: Bond board, make one per learner, bottle tops, number cut outs, one set per learner (see *Printable Resources*).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Neliswa has 1 biscuit.
She gets 5 more biscuits.
How many biscuits does Neliswa have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In today's lesson, you will revise the number bonds for numbers 2 to 10. Focus on getting the learners to work with the number bonds using concrete apparatus and on recording the different number combinations. Activity 1 is an important one as it helps learners to move from a concrete representation of bonds to a more abstract recording of these bond patterns. The number symbol cards used in Activity 1 are a more concrete version of the recording used in Activity 2 (see the layout of the numbers).

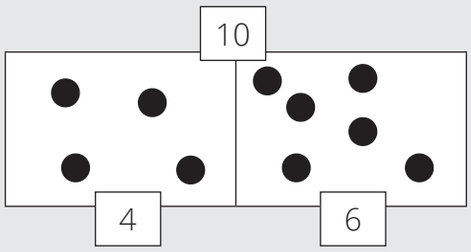
Today we are learning about the number bonds of 2 to 10.

Activity 1: Whole class activity

Note: To make a bond board for each learner take a piece of scrap paper and fold it in half. Draw a line along the fold. The fold divides the paper into two parts onto which bottle tops can fall for use in this lesson.

- Give each learner 10 bottle tops, a set of number symbol cards (cut up) and a bond board.

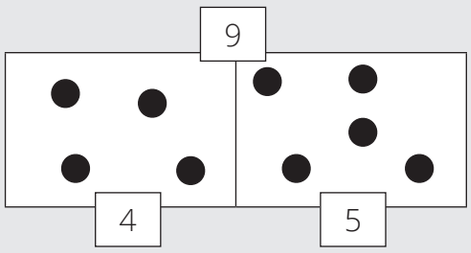
- **Note:** The number symbol cards should be cut up and stored in a container (for example an empty margarine tub) for each learner.
- Ask the learners to select the number symbol '10' from the set of number cards.
- Place the number 10 symbol above the bond board.
- Ask the learners to gently scatter their 10 bottle tops onto their page, so that some bottle tops fall on the left-hand side of the line, and some fall on the right-hand side of the line.
- **What can you tell me about your bottle tops?** (Some bottle tops fell on the left-hand side of the line, and some fell on the right hand side of the line/10 is made up of different patterns/e.g. my pattern was 4 on the left and 6 on the right.)
- **Take number symbol cards and place them below the bond board to show the pattern you found with your bottle tops.** (e.g. 4 on the left and 6 on the right.)



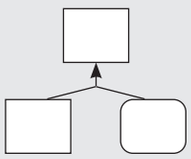
- The learners must will then repeat the process of throwing bottle tops onto the bond board, continuing to use the number 10.
- Once the learners have had a chance to see the different patterns that make up 10, they can then change the top number symbol card.
- Learners must also change the total number of bottle tops to match this new number.
- Place the number symbol above the bond board, then scatter that number of bottle tops over the board so that they fall on the paper. Observe how they fall. Take out the number cards to show the pattern on the left- and right-hand sides of the board.

Activity 2: Whole class activity

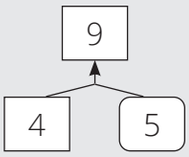
- Ask the learners to use the bond board and bottle tops as they did in Activity 1.
- The learners will throw their bottle tops onto the bond board, and place the number symbol cards below the bottle tops as in Activity 1.



- Ask the learners to trace or draw the diagram (shown below) into their classwork books.



- The learners should then write the number symbols into the diagram to match their bond board.

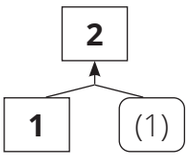


- Learners should repeat this as many times as time allows especially with the number 10.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Use your bottle tops to work out the missing numbers. Write them in the empty blocks.

1.



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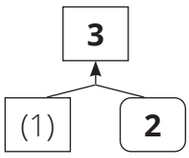

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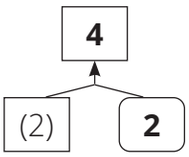

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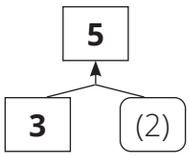
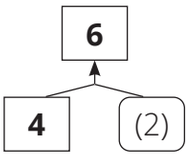
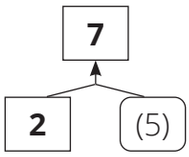


5.



6.



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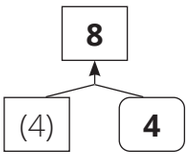
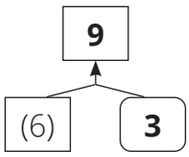


8.



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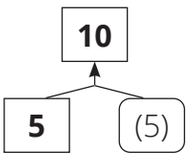

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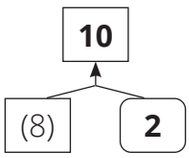
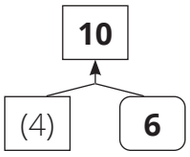


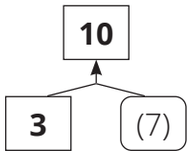
4 HOMEWORK ACTIVITY (5 MINUTES)

Write the missing numbers in the empty blocks.

1.



2.



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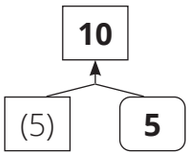

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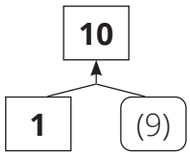


5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about number bonds fom numbers 2 to 10.

- The link between concrete apparatus and recording is important.
- Make sure that learners have plenty of opportunity to discover all the combinations.

Lesson 27: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date. CAPS topics: 1.1 Count objects; 1.2 Count forwards and backwards; 1.4 Describe, compare and order numbers. Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

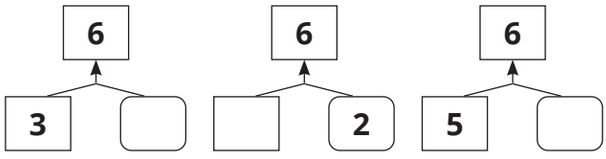
There should be time for you to discuss a few of the items with the class:

- use this opportunity to reflect on the different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners'

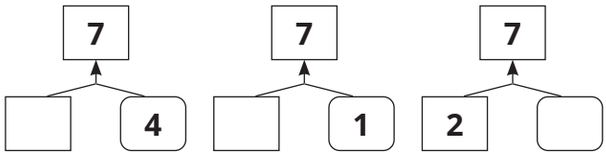
3 ASSESSMENT

WRITTEN ASSESSMENT (15)

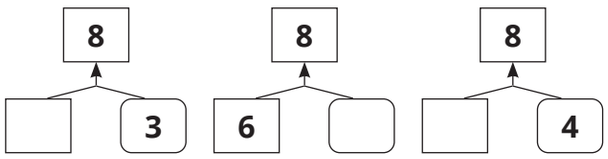
1. Fill in the missing numbers to make 6.
(Answers: 3, 4, 1)



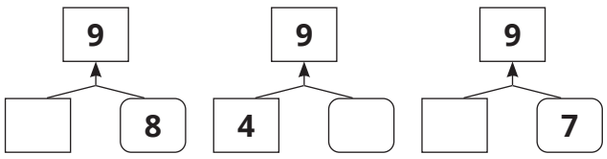
2. Fill in the missing numbers to make 7.
(Answers: 3, 6, 5)



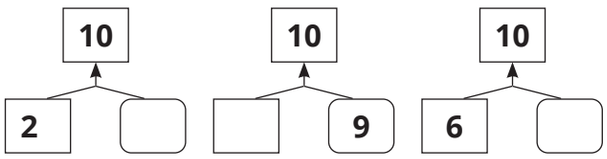
3. Fill in the missing numbers to make 8.
(Answers: 5, 2, 4)



4. Fill in the missing numbers to make 9.
(Answers: 1, 5, 2)



5. Fill in the missing numbers to make 10.
(Answers: 8, 1, 4)



Enrichment:

Velangesihle has 3 apples.
He gets 4 more apples.
How many apples does Velangesihle have now? (7)

Lesson 28: Compare and order numbers 1 to 10

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum
CAPS topics: 1.1 Count objects; 1.2 Count forwards and backwards; 1.4 Describe, compare and order numbers.
Lesson Objective: Compare and order numbers 1 to 10.
Lesson Vocabulary: more than, less than, the same as, forwards, count.
Resources: Ten frame (see Printable Resources), bottle tops, number symbol cards (see Printable Resources), number picture cards (see Printable Resources).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

- Ask the learners to lay out items on their desks.
- Note: The items could be anything – stationery, scrap paper, bottle tops, etc.
- Learners should take turns to count the items on their desk, saying the numbers aloud as they count.
- **Count forwards in 1s.**
- **Count forwards in 2s.**

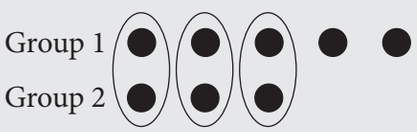
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson will focus on comparing and ordering the numbers 1 to 10 and will further develop learners' understanding of these numbers. In this activity, you will need to get learners thinking about 'how many' a number is and using the standard vocabulary to describe the numbers.

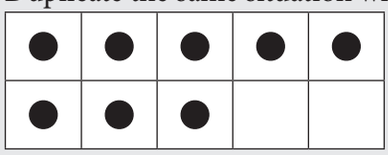
Today we are learning about comparing and ordering the numbers 1 - 10.

Activity 1: Learners work in groups

- Make groups of 1 to 5 learners.
- Choose 2 groups randomly and check how many learners are in each group. (e.g. 5 and 3)
- Ask the learners: **Which group is more?** (Group A) **How do you know?** (The line of learners is longer/there are more learners there.)
- Confirm if the answer is correct or not by lining up each group and comparing the number of people one by one (one-to-one correspondence).
- Draw dots on the board to show the comparison.



- Duplicate the same situation with a ten frame.



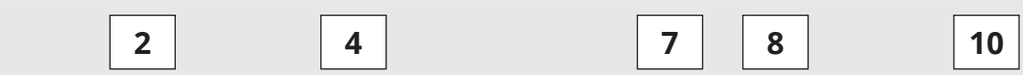
- Tell learners to express this kind of situation as 'Group A is more than Group B by 2'.
- Repeat the above process, but also ask: **Which group has less?**

Activity 2: Learners work in pairs

- Give each learner a set of number symbol cards (1 to 10).
- Ask the learners to each shuffle their cards and then to place their deck face down in a pile on the desk.
- Each learner picks up the top card from their deck and places it face up in the middle of the desk.
- The learners then need to talk about the 2 cards, comparing them and deciding which is the bigger/smaller number.
- The learner who turned over the bigger number card then gets to keep both cards, placing them at the bottom of their deck.
- Encourage learners to verbalise by asking questions such as:
- **How do you know your number is bigger?**
- **How many more do you need to give to Thato's number to make it the same as your number?**
- Continue playing the game until one learner has all/most of the cards.

Activity 3: Whole class activity

- Draw a line on the board.
- Ask 5 learners to select one of their number symbol cards and bring it to the front of the class.
- Note: Make sure that no numbers are duplicated.
- Ask the learners to show their cards to the rest of the class.
- Ask: **Which number is the smallest?**
- **How do you know it is the smallest?**
- **Where should the smallest number go – on the left or the right?**
- Ask the learner with the smallest number to place it on the board on the left-hand side of the line.
- **Which number should come next?**
- **How much bigger than the first number is it?**
- Repeat until all 5 numbers have been placed on the board.



- You can talk to the learners about whether the numbers should be evenly spaced or not.
- The numbers 7 and 8 could be closer together than 4 and 7, because 5 and 6 are not shown on this number line, whereas there are no missing numbers between 7 and 8.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: Learners should refer to their number symbol cards when they do the classwork activity. Learners can also refer to their ten frames or number picture cards if they need help in comparing the numbers.

1. Compare the numbers:

4 and 8	8 is more than (4) by (4)
6 and 9	(9) is more than 6 by (3)
7 and 5	(7) is more than 5 by (2)
10 and 3	10 is more than (3) by (7)

2. Compare the numbers:

5 and 8	5 is less than (8) by (3)
6 and 4	(4) is less than 6 by (2)
10 and 5	(5) is less than 10 by (5)
3 and 7	3 is less than (7) by (4)

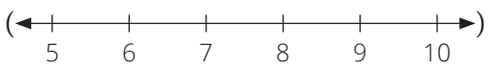
4 HOMEWORK ACTIVITY (5 MINUTES)

1. Draw a triangle around the smallest number and a circle around the biggest number.

7 4 3	9 10 8	5 1 6

2. Write the numbers from the smallest to the biggest on the number line.

10 6 8 7 9 5



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to compare and order numbers 1–10.

- Ask the learners what they may have found challenging in this lesson.
- Emphasise the link between the order of the numbers and their position on the number line.

Lesson 29: Concept of zero

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.2 Count forwards and backwards; 1.4 Describe, compare and order numbers.
Lesson Objective: Concept of zero - number name and symbol.
Lesson Vocabulary: zero, backwards, count, something, nothing.
Resources: Newspapers, ten frame (see Printable Resources).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

- Ask the learners to lay out items on their desks.
- Note: The items could be anything – stationery, scrap paper, bottle tops, etc.
- Learners should take turns to count the items on their desk, saying the numbers aloud as they count.
- **Count backwards in 1s**
- **Count backwards in 2s.**

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will introduce the concept of zero using contextualised stories such as stationery on a desk or goals in sport. This will help learners to see evidence of mathematics in their everyday life. The learners need to see the number name and the number symbol. It is important to allow learners time to trace the number names and number symbols, as they have not fully developed their fine motor skills. The concept of zero is important as it helps learners to further their understanding of other numbers.

Today we are learning about zero.

Activity 1: Learners work in groups

- Ask the learners to clear their desks/keep their desks clear for the start of this activity.
- Ask: **Do you have a pencil in front of you?** (No.)
- Ask the learners to take out a pencil.
- Ask (e.g.): **What can you tell me about your pencil?** (Learners may answer with a broad range of suggestions – you need to guide them to focus on the number value shown by the pencil. It is on its own/there is only one/it is a single pencil.)
- Ask the learners to put their pencils away.

- Ask: **How many pencils do you have in front of you?** (None.)
- Explain to learners that when we have no pencils, we have **zero** pencils.
- Do this with a few different examples.
- Discuss that zero is less than 1, zero is less than 2, and so on. Refer to the pencils – on or off the desk. It might be difficult, but guide the learners to think about the idea for a little while before moving on to the next activity.
- Discuss what happens when you add zero: **What is 5 and zero**? (5 and 0 make 5/I get 5.)
- Ask other similar questions to consolidate that when you add zero, you add nothing, so the number you have does not change.

Activity 2: Learners work in groups

- Have a discussion with learners about where they see zero in their daily life
- Ask the learners: **Have any of you played or watched a soccer game where one team did not manage to score any goals?** (Yes.)
- **What about a netball match?** (Yes.)
- **So what can you tell me about the number of goals those teams scored?** (We can't tell you anything because they didn't score any goals/they scored no goals.)
- **Well, you can tell me something. You can say that they scored <u>zero</u> goals.** (Some learners might have said that when you asked the last question – let this guide the conversation.)
- **We use the word zero to show when we have nothing or none.**
- **Can you think of other times/places in your life where you might have zero?** (I have zero brothers/etc.).
- **Have a look at the newspaper page on your desk.**
- Note: You can cut up newspaper pages to share between the groups. Learners only need to look at a small part.
- **Can anyone see any number symbols on the page?** (Yes.)
- **Which ones can you see?**
- **What about this symbol – 0 – can anyone see that symbol?** (Yes/No.)
- **What does that symbol mean?** (It means nothing/none/zero)
- **Look at your newspaper pages and see how many zero symbols you can find.**
- Put the number zero symbol card on the board.
- Point to the number symbol, and explain to the learners how we write the number zero symbol for zero. Stress the starting point and direction when writing the symbol.

- The learners should write the number symbol in the air, then on their desk with their fingers and then they should trace the number symbol into their workbook and finally write it in their workbook.
- Put the number zero number name card on the board.

zero

- Point to the number name (*zero*) and read it to the class.
- Ask the class to read the number name with you. Ask a few learners to read the number name for you.
- Learners will begin learning to recognise and read the number name *zero*. They should know how to write this word by the **end of Term 1**.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

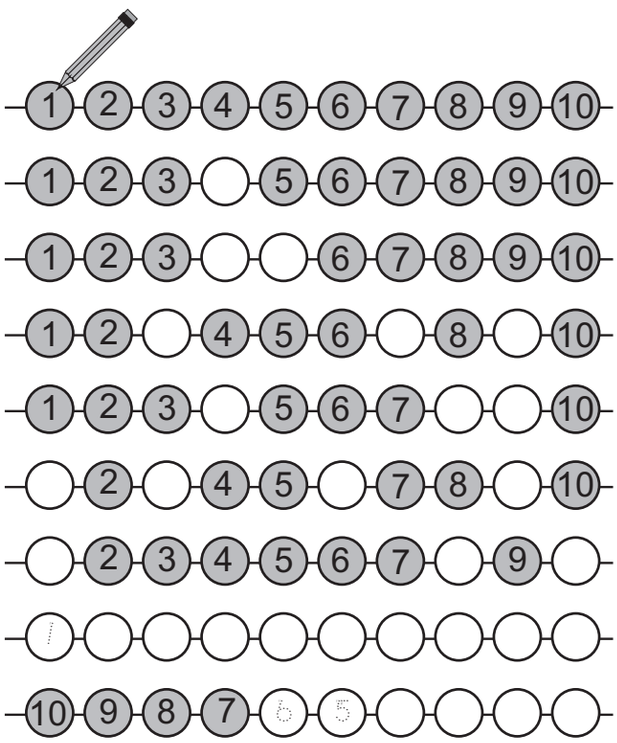
Note: For this activity you have to give each learner a copy of the printable number tracing card.

1. Trace the number symbol and number name zero on the tracing card.

2. Draw dots:

0	and	(●●)	make	2
0	and	(●●●●●●●●●)	make	9
0	and	(●●●●●●)	make	6
0	and	(●●●●)	make	4
0	and	(●●●●●●●●●●)	make	10

3 . Fill in the missing numbers:



4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the missing numbers:

5 and 0 make _(5)_
7 and 0 make _(7)_
0 and 3 make _(3)_
10 and 0 make _(10)_
0 and 8 make _(8)_

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned the concept of zero.

- Zero is important to understand so that you can better understand other numbers.
- We have also learned about counting backwards in 1s and 2s.

Lesson 30: Consolidation: Numbers 0 to 10

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.1 Count objects; 1.2 Count forwards and backwards; 1.4 Describe, compare and order numbers.		
Lesson Objective: Revise numbers 0 to 10.		
Lesson Vocabulary: number bonds, smaller, bigger, smallest, biggest, number.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week ,you have been dealing with number bonds 2 – 10 and comparing and ordering numbers. In this lesson, provide learners with opportunities to consolidate their understanding of the numbers and their number bonds by recording the different number combinations.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Number bonds may be difficult for learners. Be careful to not make them learn them off by heart. Learners need to have plenty of opportunities with concrete apparatus before moving on to recording.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about number bonds.

1 Write the number to make the number in the top box.

1.

10	
8	(2)

2.

7	
(4)	3

3.

5	
1	(4)

4.

9	
(5)	4

5.

3	
2	(1)

6.

6	
(3)	3

7

2	
(1)	1

8

4	
(0)	4

9

8	
7	(1)

10

10	
6	(4)

2 Write the answer in the block.

	Which is smaller?	Answer		Which is bigger?	Answer
1	1 or 9?	(1)	**6**	10 or 9?	(10)
2	7 or 5?	(5)	**7**	6 or 8?	(8)
3	3 or 10?	(3)	**8**	5 or 1?	(5)
4	4 or 6?	(4)	**9**	4 or 0?	(4)
5	8 or 2?	(2)	**10**	2 or 7?	(7)

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

		Answer
1	0, 8, 2, 10, 7, 3	(10, 8, 7, 3, 2, 0)
2	5, 2, 7, 9, 6, 3	(9, 7, 6, 5, 3, 2)
3	0, 4, 10, 6, 9	(10, 9, 6, 4, 0)
4	6, 2, 7, 9, 1, 3	(9, 7, 6, 3, 2, 1)
5	9, 2, 4, 8, 3, 0	(9, 8, 4, 3, 2, 0)
6	8, 5, 2, 4, 9	(9, 8, 5, 4, 2)
7	0, 6, 3, 9, 4	(9, 6, 4, 3, 0)
8	10, 8, 3, 2, 7	(10, 8, 7, 3, 2)
9	0, 8, 6, 3, 1, 9	(9, 8, 6, 3, 1, 0)
10	6, 5, 1, 9, 10	(10, 9, 6, 5, 1)

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about number bonds.

- Revise number bonds 6 – 10.

Ask the learners what difficulties they may be experiencing.

Week 7

Lesson 31: Counting forwards and backwards

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 2.2 Number patterns.		
Lesson Objective: Counting forwards and backwards in 1s and 2s; Number line counting.		
Lesson Vocabulary: forwards, backwards, counting, smallest, biggest.		
Resources: N/A		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

- Ask the learners to lay out items on their desks.
- Note: The items could be anything – stationery, scrap paper, bottle tops, etc.
- Learners should take turns to count the items on their desk, saying the numbers aloud as they count.
- **Count forwards in 1s.**
- **Count backwards in 1s.**
- **Count forwards in 2s.**
- **Count backwards in 2s.**

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, learners are practicing counting in 1s and 2s, both forwards and backwards. Remember to ensure that the learners count slowly, actually thinking about the number and what it represents, rather than just racing through words in a sequence. Learners will also work with a number line so you can revise the idea of a number line and the order and position of the numbers.

Today we are learning to count forwards and backwards in 1s and 2s.

Activity 1: Whole class activity

- Make sure that the learners each have 10 bottle tops.
- Ask the learners to count their bottle tops by touching each one, and moving it slightly to the side once it has been counted. (Note: Help learners to count forwards in ones slowly, if needed.)
- Repeat the above steps, but this time ask the learners to start from the biggest number (10) and to count backwards slowly.

- **Note:** Learners may want to rush this, saying '10, 9, 8, 7, 6, 5, 4, 3, 2, 1, blast off' but it is important for you to encourage them to count slowly, moving the bottle tops as they say each number, rather than just shouting out the number sequence.
- Ask the learners: **Is there a quicker way to count these bottle tops?** (Yes: we can count more than one at a time. We can count in 2s).
- **Okay, let's have a look at how that will work.**
- **Put your bottle tops in a straight line across the desk.**
- **Put your finger on the last bottle top in the row (the one on the very right-hand side). How many bottle tops do you have?** (10)
- **If we're counting backwards, which way should we count?** (from the biggest number to the smallest number.) **On the bottle tops, we count backwards from 10 to zero.**
- **Ask**: Count backwards from 10 to zero.
- Moving from right to left, put your finger on the next bottle top and say the number softly in your head (9).
- Put your finger on the next number (still moving from right to left) and say the number aloud. (8)
- Continue in the same way until you have counted all the bottle tops backwards from 10 to 0.
- Do the same, counting backwards in 2s. Say the number aloud on every second bottle top.

Activity 2: Whole class activity

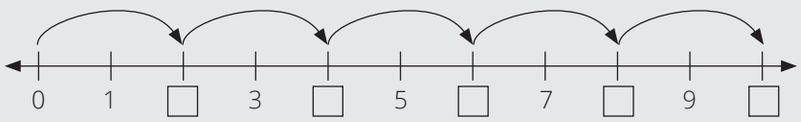
- Ask the learners to count in twos (2, 4, 6, 8, 10, 12, 14, 16, 18, 20).
- Place or draw a number line (0–20) on the floor.
- Call a few learners to the front to participate in this activity. Let them take turns.
- Ask the learners to stand on zero.
- Ask the learners to take one step forward to 1 so that they can understand that zero to one is one step.
- Then ask them to stand on zero and take two steps forward.
- Ask the learners to say the number every time they step on the multiples of 2 (Step on 2, say 2, step on 4, say 4, … to 20).
- Explain to them that these are the multiples of two and are called even numbers. They are counting in twos.

Activity 3: Whole class activity

- Draw a number line (0–10) on the board, with zero and the odd numbers labelled.

- Ask the learners to show you where the zero is.
- Ask the learners to show how to move from 0 to 1, then 1 to 2 and so on, counting the steps as they move.
- Fill in the missing numbers.

- Ask the learners to count in 2s using the number line. They should say the number every time they land on the multiples of 2. (land on 2, say 2; land on 4, say 4; … to 10).
- Draw 'hops' above the number line to show the movement involved in counting in 2s and the numbers that you land on when you count in 2s on a number line.
- Some of the hops have been marked on the number line below.
- You should allow learners the chance to come up to the board and mark the hops.

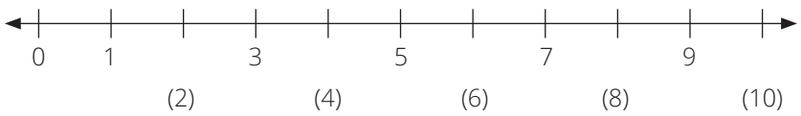


3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

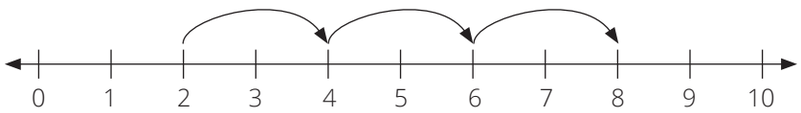
1 Complete the pattern by colouring the multiples of 2.

1	2 (✓)	3	4 (✓)	5	6 (✓)	7	8 (✓)	9	10 (✓)

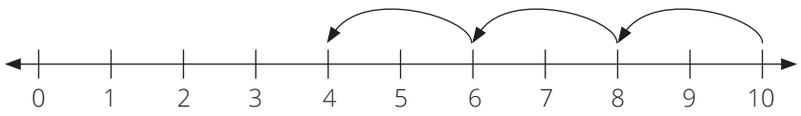
2 Complete the number line:



3 Draw hops on a number line to show 2, 4, 6, 8



4 Draw hops on a number line to show 10, 8, 6, 4

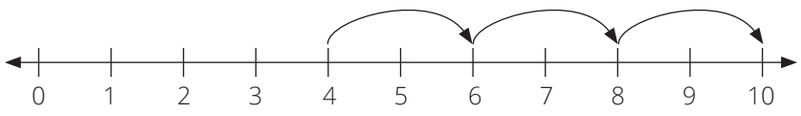


4 HOMEWORK ACTIVITY (5 MINUTES)

Note: In this activity learners can go up to the number 10. Some learners may be able to count in 2s far beyond 20. You should encourage them to do this, but do not put pressure on the others.

1 Write the multiples of 2. Start at 4. (4, 6, 8 ,10)

2 Draw hops on a number line to show 4, 6, 8, 10



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to count forwards and backwards in 1s and 2s.

- Give the learners opportunities to consolidate their understanding
- Help the learners to move away from needing to touch every item as they count, but only when they are ready for this.

Lesson 32: Number patterns

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 2.2 Number patterns.		
Lesson Objective: Create and describe own number patterns.		
Lesson Vocabulary: straight line, diagonal line , vertical, horizontal.		
Resources: 100 board (see *Printable Resources*), bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Ask the learners to:

- Count forwards in 1s.
  Ask: **What do you notice when we count forwards in 1s?** (The numbers get bigger by 1 each time.)
- Count forwards in 2s.
  Ask: **What do you notice when we count forwards in 2s?** (The numbers get bigger by 2 each time.)
- Count backwards in 1s.
  Ask: **What do you notice when we count backwards in 1s?** (The numbers get smaller by 1 each time.)
- Count backwards in 2s.
  Ask: **What do you notice when we count backwards in 2s?** (The numbers get smaller by 2 each time.)

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the learners are practicing the number patterns that they have already learned, and also creating and describing their own patterns. Remember to ensure that learners say the numbers in the pattern slowly, actually thinking about the number and what it represents, rather than just racing through words in a sequence. Learners will also work with a number line so you can revise the idea of a number line and the order and position of the numbers.

Activity 1: Learners work in pairs

- Ask the learners to copy the sounds you make as you:
  - clap, stamp, clap, stamp;
  - clap, clap, click, click, clap, clap, click, click;
  - etc.

- Ask the learners: **What can you tell me about the sounds we made?** (There was a pattern each time)
- **What do we mean by a pattern?** (Learners may or may not know.)
- Explain to learners that a pattern is a regular sequence of something.
- Ask the learners to suggest their own sound patterns for the rest of the class to try.

Activity 2: Whole class activity

- Look at your 100 board in the classwork activity.
- Ask the learners: **What patterns can you see on the 100 board?** (All the numbers in a row increase by 1/all the numbers in each column end in the same number.)
- Note that columns go down from top to bottom, and rows go across from left to right.
- **Draw a cross on all of the numbers that end in 2.**
- **What do you notice about the crosses?** (The crosses are all in straight lines)
- What else do you notice? (Have an open discussion, noting all the observations they make about the arrangement of the number in the hundred board. – e.g. the first number of the written numbers in the squares goes from 1 to 9 in every column/in the second row all the numbers start with a 1/in the third row all the numbers start with a 2/the numbers get bigger by 10 each time as you go down the columns/etc.).
- **Note:** counting in 10s hasn't been taught yet, but some learners may suggest this as an answer.
- Repeat with other numbers (ending in 6/9 etc.).
- **Now draw a circle around every second number, starting at 2.**
- **What do you notice?** (We are counting in 2s/we miss out a number, then cover a number each time/all the covered numbers end in either 2, 4, 6, 8 or 0)
- Give the learners some time to study the hundred board for a little longer.
- Ask the learners to create their own patterns using the 100 board.
- Ask the learners to tell the person sitting next to them about their pattern.

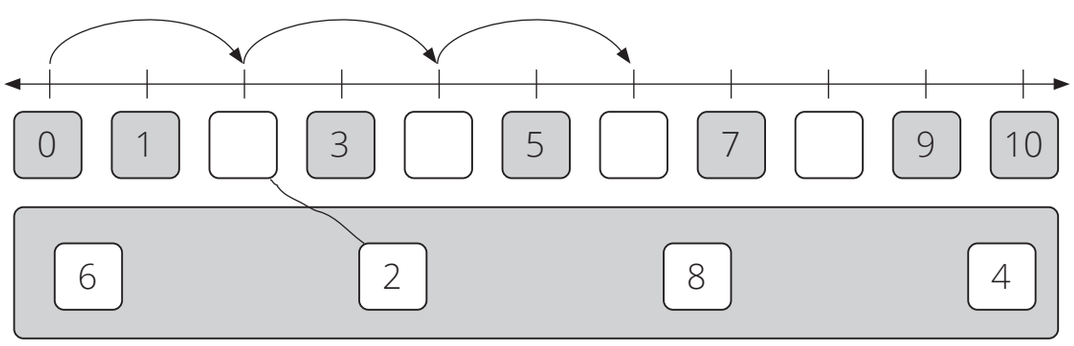
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: The hundred board in question 1 is to be used in the whole class activity before the classwork starts.

1 Hundred board activity.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2 Draw a line to the matching number. Then complete two more hops.



(Match 4, 6 and 8 to the correct spaces.)

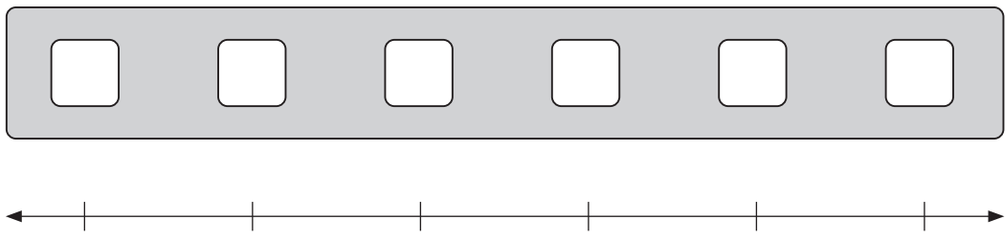
3 Complete the pattern by colouring the numbers.

1	2	3	4	5	6	7	8	9	10

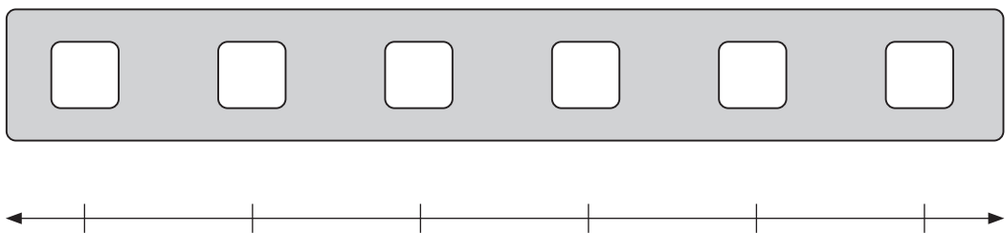
(8, 10, coloured in)

4 Choose your own numbers to write in the blocks and show the pattern on the number lines.

a Pattern of 1s.



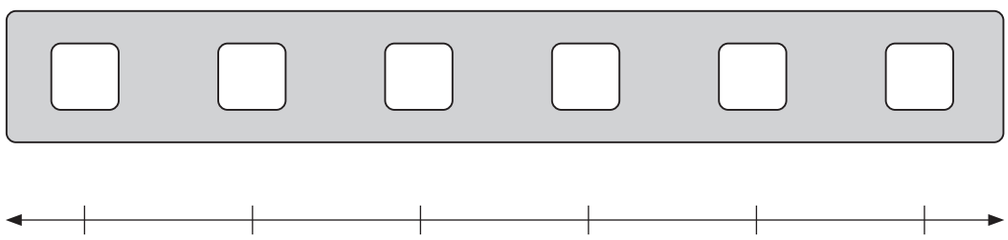
b Pattern of 2s.



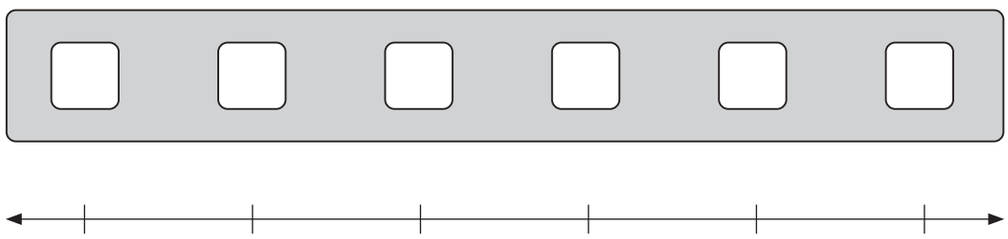
4 HOMEWORK ACTIVITY (5 MINUTES)

1 Choose your own numbers to write in the blocks and show the pattern on the number lines.

a Pattern of 1s



b Pattern of 2s



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned to create and describe our own patterns.

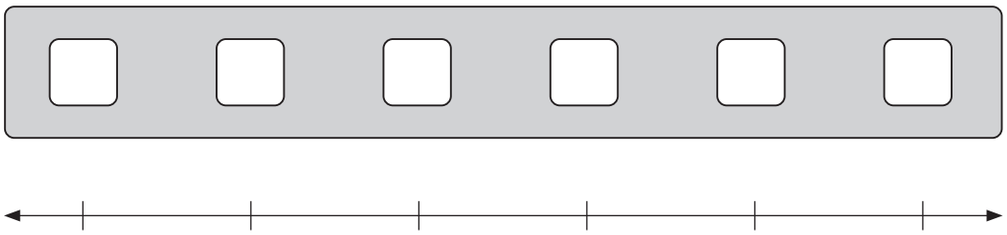
- Make sure that learners have opportunities to discuss their patterns.
- Allow time for the learners to look and find their own patterns.
- Don't expect learners to see things in exactly the same way that you do.

Lesson 33: Review of numbers 0 to10

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 1.1 Count objects; 1.3 Number symbols and number names.
Lesson Objective: Review numbers 0 to 10.
Lesson Vocabulary: more than, less than, in between, before, after, smallest, biggest.
Resources: Number symbol cards (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Draw a number line on the board, with blocks above each of the demarcations.



Ask the learners to work in pairs.
The learners take turns to choose numbers that could go in the blocks and they verbalise these to their partners. Walk around and observe the learners, assisting where necessary, in order to address learners' misconceptions and errors.

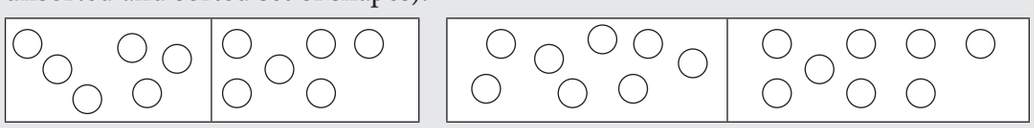
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will review the numbers 0 to 10. Learners need to see the number names and the symbols, and revise the number bond combinations. In this lesson, you will also revise comparing and ordering numbers using a number line.

Today we are revising the numbers 0 to 10.

Activity 1: Whole class activity

- On the board, draw the following displays (in each pair of drawings, there is an unsorted and sorted set of shapes):



- Ask the learners to copy the arrangements with their own bottle tops on their tables.

- Ask them: **Which group of bottle tops was easier to copy?** (The sorted/ordered group should be the most common answer but there is not a correct answer to this question.)
- Ask the learners to touch and count the bottle tops in the ordered group. Then ask: **How many bottle tops are in front of you?**
- **Ask: Do you need to touch the bottle tops in order to count them?**
- Note: Encourage learners to move beyond touch-counting as soon as they are ready for this. Encourage them to look for patterns in the sorting and to let that help them to recognize how many bottle tops there are.
- Repeat this a few times with different drawings.

Activity 2: Whole class activity

- Make sure that each pair of learners has 10 bottle tops.
- Hold up a number symbol card (any number from 0 to 10).
- Ask the learners to tell the person sitting next to them everything that they can think of about the number.
- Learners can move/arrange their bottle tops to help them.
- For example, for the number 8: What do you notice?
  - 8 is more than 7.
  - 8 is less than 9.
  - 8 is made up of 6 and 2/5 and 3/4 and 4/7 and 1.
  - I say the number 8 when I count backwards in 2s from 10.
- Be sure to allow time for discussion of the different number bond combinations.
- Ask some learners to report back to the rest of the class. Do not ask each child to do this as it is very time consuming.
- If need be, ask: **What other combinations can you think of to make that number?**
- Then hold up a different number symbol card, and repeat the process.

Activity 3: Learners work in pairs

- Let the learners work in pairs, using number symbol cards.
- The leearners should shuffle their cards.
- Each learner selects 3 cards.
- The learners lay out all 6 cards on their desk; they then need to discuss the order in which the numbers need to go (smallest to biggest).
- Let the learners arrange the 6 cards in a line, discussing their reasons for the arrangement.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Fill in the missing number in the blank box.

1.

6	
2	(4)

2.

(9)	
0	9

3.

(10)	
6	4

4.

4	
(1)	3

5.

7	
2	(5)

6.

(10)	
9	1

7.

3	
(0)	3

8.

(5)	
3	2

9.

(9)	
6	3

10.

10	
(8)	2

2 Write the answer in the block.

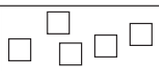
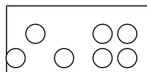
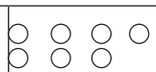
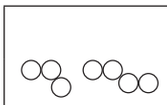
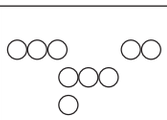
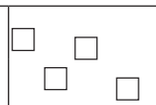
	Which is less?	Answer		Which is more?	Answer
1	1 or 2?	(1)	**6**	10 or 3?	(10)
2	4 or 7?	(4)	**7**	6 or 2?	(6)
3	8 or 3?	(3)	**8**	5 or 9?	(9)
4	6 or 0?	(0)	**9**	4 or 1?	(4)
5	2 or 3?	(2)	**10**	9 or 8?	(9)

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

		Answer
1	6, 9, 4, 10, 2, 5	(2, 4, 5, 6, 9, 10)
2	10, 7, 3, 0, 9, 8, 5	(0, 3, 5, 7, 8, 9, 10)
3	5, 9, 2, 0, 3, 7, 6	(0, 2, 3, 5, 6, 7, 9)
4	10, 7, 5, 2, 9, 6	(2, 5, 6, 7, 9, 10)
5	5, 2, 7, 3, 9, 0	(0, 2, 3, 5, 7, 9)
6	10, 6, 2, 0, 7, 3	(0, 2, 3, 6, 7, 10)
7	8, 5, 1, 3, 7, 2	(1, 2, 3, 5, 7, 8)
8	9, 0, 4, 8, 7	(0, 4, 7, 8, 9)
9	6, 0, 9, 3, 4, 7	(0, 3, 4, 6, 7, 9)
10	1, 9, 3, 7, 5	(1, 3, 5, 7, 9)

4 HOMEWORK ACTIVITY (5 MINUTES)

Do the blocks have the same/different numbers of pictures?

		same (✓) different
		same (✓) different
		same different (✓)
		same (✓) different

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have reviewed numbers 0 to 10.

- Discuss what learners may have found difficult.

Lesson 34: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date. CAPS topics: 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction; 2.2 Number patterns.. Resources: Printable assessment in teacher's resources		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

Take some time to do the *oral assessment* (see checklist below).

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

There should be time for you to discuss a few of the items with the class:

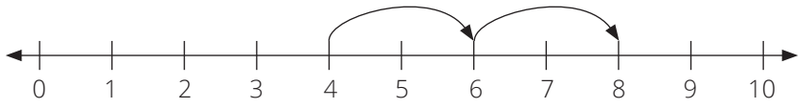
- use this opportunity to reflect on the different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

3 ASSESSMENT

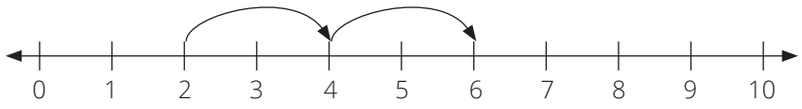
WRITTEN ASSESSMENT

1 Draw hops on a number line to show the following:

a 4, 6, 8



b 2, 4, 6



2 Write the numbers from biggest to smallest.

a	10, 1, 7	(10, 7, 1) _____, _____, _____
b	5, 3, 6	(6, 5, 3) _____, _____, _____
c	4, 0, 10	(10, 4, 0) _____, _____, _____

3 Fill in the missing numbers.

a.

(5)	
3	2

b.

9	
(4)	5

c.

10	
1	(9)

d.

(6)	
2	4

e.

8	
8	(0)

f.

7	
(5)	2

g.

(9)	
6	3

h.

10	
(10)	0

i.

7	
6	(1)

j.

(8)	
6	2

4 Circle the number that is 4 less than 9.

(5)

5 Circle the number that is 5 more than 2.

(7)

Enrichment

Nombuyiselo has 2 flowers.
She gets 7 more flowers.
How many flowers does Nombuyiselo have now? (9)

ORAL

CAPS: Patterns and algebra **Activity: Observe learners' ability to copy, extend and describe simple number sequences to 10.**	**Mark: 7**
Mark	**Criteria – Checklist: (1 mark for each criterion achieved)**
1	Able to copy simple number sequences of 1s up to 5.
1	Able to copy simple number sequences of 1s up to 10.
1	Able to copy simple number sequences of 2s up to 10.
1	Able to extend simple number sequences of 1s given a starting point.
1	Able to extend simple number sequences of 2s given a starting point.
1	Able to extend simple number sequences of 1s (forwards or backwards) given a starting point.
1	Able to extend simple number sequences of 2s (forwards or backwards) given a starting point.

Lesson 35: Consolidation: Number bonds and number patterns

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction; 2.2 Number patterns.		
Lesson Objective: Consolidate number bonds and patterns.		
Lesson Vocabulary: more than, less than, before, after, in between, smallest, biggest, pair, horizontal, diagonal, vertical.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week, you have covered number patterns and you have revised the numbers 0 to 10. In this lesson, provide learners with opportunities to consolidate their understanding of the number bonds using concrete apparatus and by recording the different number combinations. Allow the learners a chance to verbalise their thoughts.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Number bonds may be difficult for learners. Be careful to not make them learn them off by heart. Learners need to have plenty of opportunities with concrete apparatus before moving on to recording.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about number bonds and patterns.

1 Write the numbers in order from smallest to biggest.

7, 3, 6	(3, 6, 7) _____, _____, _____
5, 2, 8	(2, 5, 8) _____, _____, _____
9, 7, 10	(7, 9, 10) _____, _____, _____

2 Fill in the missing numbers.

1

10	
4	(6)

2

9	
(7)	2

3

7	
3	(4)

4

10	
(10)	0

5

10	
5	(5)

6

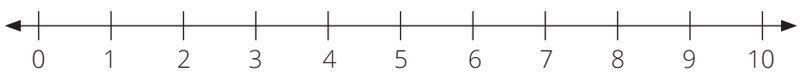
10	
(7)	3

3 Find and circle all the number pairs that make 10 (vertically, horizontally and diagonally)

6	**1**	**2**	**8**	**9**
3	**4**	**3**	**6**	**4**
5	**2**	**7**	**1**	**5**
4	**5**	**2**	**9**	**8**
8	**2**	**3**	**7**	**3**

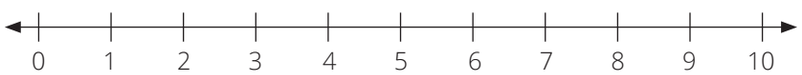
(1 and 9, 2 and 8, 3 and 7, 4 and 6, 5 and 5)

4 Circle the number that is 3 less than 10.



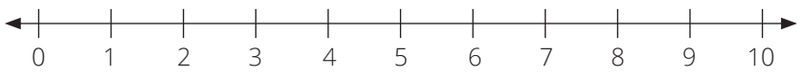
(7)

5 Circle the number that is 4 less than 9.



(5)

6 Circle the number that is 2 more than 3.



(5)

7 Circle the number that is 1 less than 1.

(0)

5 Reflection and summary of lesson

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about number bonds and number patterns.

- Ask the learners what they found challenging.
- Ask the learners to talk about the number patterns that they made up.

Week 8

Unit 4 Introduction

In this unit, learners will learn about ordinal numbers. This unit links back to Unit 1, where the concept of position was addressed. The learners will use this knowledge to develop an understanding of ordinal numbers. This unit also links back to Units 2 and 3, as the difference between ordinal numbers and cardinal numbers is clarified.

In this unit, you will be able to focus on the four framework dimensions in the following way:

- **Conceptual understanding**: This unit addresses the key concept of ordinal (position) numbers.
- **Procedural fluency**: Learners will develop procedural fluency through a variety of tasks on ordinal and cardinal numbers.
- **Strategies**: Learners will discover that it is essential for them to establish a starting point when they work with ordinal numbers.
- **Reasoning**: Learners will have to justify why they have identified a particular ordinal number and they could also reason mathematically when they differentiate between ordinal and cardinal numbers.

Building a **learning centred classroom** in this unit will involve (amongst other things) attention to:

- **Connecting topics and concepts**: In this unit, learners are applying what they have learned in Units 1, 2 and 3. An understanding of ordinal numbers is connected to knowledge of position and as well as knowledge of cardinal numbers.
- **Addressing gaps in learners' knowledge**: This unit is a good opportunity to address gaps in learners' knowledge as it makes a number of connections back to Units 1, 2 and 3. The teacher is therefore able to revise and build on previous knowledge.
- **Addressing learners' errors**: The teacher can address learners' errors in this unit, as the unit might expose learners' misconceptions in relation to ordinal and cardinal number. Errors in activities may reflect a confusion between ordinal (position) and cardinal (amount/quantity) numbers.

Unit 4 overview

DAY	LP	Lesson objective	Lesson Resources	Date completed
Mon	36	Counting forwards and backwards in 1s and 2s; Number line counting.	n/a	
Tue	37	Create and describe own number patterns.	n/a	
Wed	38	Review numbers 0 to 10.	Assessment activity in teacher's resources.	

Assessment for learning

Use the templates provided at the front of this guide to think deeply about at least one of the lessons in this unit.

Reflection

Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for this unit? If not, how will you get back on track?

What will you change next time? Why?

Lesson 36: Ordinal numbers

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum		
CAPS topics: 1.4 Describe, compare and order numbers; 3.1 Position, orientation and views		
Lesson Objective: Ordinal numbers		
Lesson Vocabulary: ordinal numbers, top, bottom, front, back, right, left, circle, square, triangle, shape, position		
Resources: N/A		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Draw the number line shown below on the board.

Ask the learners the following questions:

- What number is 3 more than 6? (9)
- What number is 4 less than 5? (1)
- What number comes after 2? (3)
- What number comes before 10? (9)
- What number is in between 7 and 9? (8)

Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

Ordinal number concept is different to pure (cardinal) number concept. Ordinal numbers are used to indicate the position in an ordered set of objects. Learners were introduced to ordinal numbers in Grade R but this is the Grade 1 learners' first opportunity to learn more about ordinal numbers. Remember that learners don't need to write ordinal numbers. They are expected to know and use ordinal numbers where it is necessary. In this lesson, learners will draw on their knowledge of the names of some 2-D shapes, so you should revise the shape names with them during that activity if necessary.

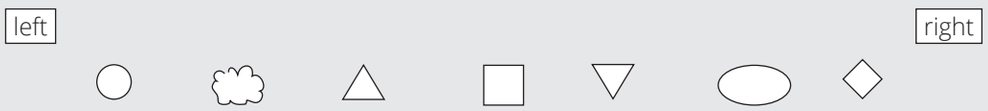
Today we are learning about ordinal numbers.

Activity 1: Whole class activity.

- Place 10 chairs in the front of the class.
- Call up one learner and say: **Sit on the second chair from the right**.
- Discuss with them (if necessary) how to find the second chair.
- Call up another learner and say: **Sit on the eighth chair from the right**.
- Call up more learners and ask them to sit on the first/third/fourth/fifth/sixth/seventh/ninth/tenth chair from the left.
- When all the chairs are occupied, ask the rest of the learners:
  - **Who is sitting on the seventh chair from the left?**
  - **Who is sitting on the last chair***?*
- Continue asking questions:
- **Who is sitting on the first/third/fourth/fifth/sixth/ninth/tenth chair (vary from the left/right)***?*

Activity 2: Whole class activity

- Draw this display of circles, triangles and squares on the board.



- Ask the learners to describe the positions of the shapes, for example:
- **Ask the learners to describe the positions of the shapes, for example:**
- **What shape is second from the right?** (oval)
- **What shape is second from the left?** (cloud shape)
- **What shape is fourth from the right?** (heart shape)
- **What shape is fourth from the left?** (square)
- **NOTE:** It makes a difference if you start counting from the left or from the right. You have to know from where to start counting.
- **What shape is third from the left?** (triangle pointing up)
- **What shape is third from the right?** (triangle pointing down)
- **What do you notice about third shape from the right and third shape from the left? (They are both triangles, but they point in different directions.)**

Activity 3: Whole class activity.

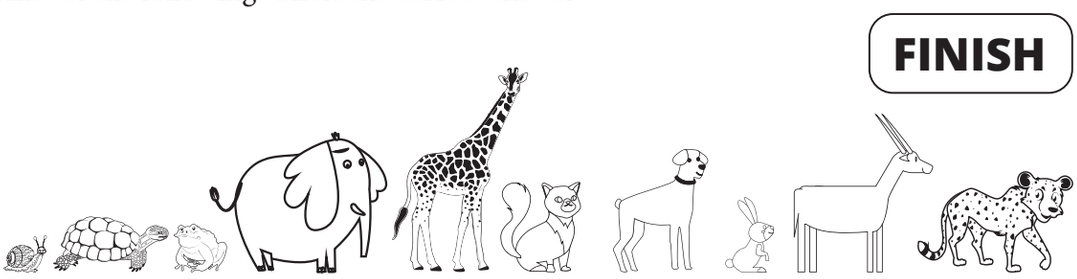
- Ask the learners to draw 10 squares in their classwork books. Give the following instructions:
  - Start on the left-hand side.
  - Cross out the sixth square.
  - Draw a triangle in the ninth square.
  - Draw a heart in the fifth square.
  - Draw a circle in the third square.

- Draw a star in the first square.
- Draw a face in the last square.
  (Answer: )

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Squares for classwork activity 3.

2 Answer the following. Circle the correct answer.



a) Who came first?	Buck	(cheetah)
b) Who came last?	(snail)	tortoise
c) Who came third?	Buck	(rabbit)
d) Who came seventh?	(elephant)	cat
e) Who came second?	Giraffe	(buck)
f) Who came eighth?	(frog)	cat
g) Who came fourth?	elephant	(dog)
h) Who came ninth?	(tortoise)	snail
i) Who came fifth?	cheetah	(cat)
j) Who came sixth?	(giraffe)	dog

3 Colour the correct circle:

a The 3rd circle from the right.

b The 5th circle from the left.

c The 1st circle from the bottom

d The 2nd circle from the top.

a	b	c	d
○○(○)○○	○○○○(○)	○ ○ ○ (○) (	○ (○) ○ ○ ○

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Draw ten triangles in your classwork book:

a Draw a dot in the second triangle from the left.

b Draw a star in the eighth triangle from the left.

c Cross out the fifth triangle from the left.

d Colour in the ninth triangle from the left.

e Put a tick (✓) in the sixth triangle from the left.

5 Reflection and summary of lesson (5 minutes)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about ordinal numbers.

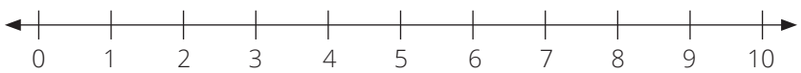
- Ordinal numbers tell us about the position of something.
- It is important to know the starting point when you are determining position.

Lesson 37: Ordinal and cardinal numbers

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum		
CAPS topics: 1.4 Describe, compare and order numbers; 3.1 Position, orientation and views		
Lesson Objective: Difference between ordinal and cardinal numbers		
Lesson Vocabulary: ordinal, cardinal, top, bottom, front, back, right, left		
Resources: N/A		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Draw the number line shown below on the board.



Ask the learners the following questions:

- What number is 5 more than 3? (8)
- What number is 8 less than 10? (2)
- What number comes after 6? (7)
- What number comes before 4? (3)
- What number is in between 5 and 7? (6)

Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

Ordinal number concept is different to pure number concept. Ordinal numbers are used to indicate the position in an ordered set of objects. Cardinal numbers, on the other hand, are used to show the complete number of objects in a set. The last number you say when counting a group of objects is the cardinal number.

Today we are learning about the difference between ordinal numbers and cardinal numbers.

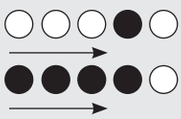
Activity 1: Whole class activity

- Bring 10 learners in front of the chalkboard. Make them stand in a line.
- Give the following instructions:
  - **The third person from the right, put your hands up.**
  - **Three learners (starting from the right), put your hands up.**
- See whether the learners have the same response for both instructions.
- Ask the learners: **What is the difference between the two instructions I gave you?**
- Explain clearly that ordinal numbers show the position of something.

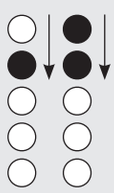
- **How do we know when we are talking about an ordinal number?** (The words are a little different – first, second, third, fourth, etc.
- **When I asked for three learners from the right to raise their hands, I was giving you the total number of people. The word <u>three</u> there tells you how many people in total.** (Cardinal number – one, two three, four, etc.)
- Give them lots of different questions by changing the number of people and the position of the person.
  - E.g. **The sixth person from the right, put your hands up.**
  - **Six learners (starting from the right), put your hands up.**
  - **The fourth person from the left, put your hands up.**
  - **Four learners (starting from the left), put your hands up.**

Activity 2: Whole class activity

- Draw two rows of five circles on the board. Colour them as shown in the diagrams below.



- Ask: **What can you tell me about the coloured circle in the first row?** (The fourth circle from the left is shaded/the second circle from the right is shaded.)
- **How about the second row?** (Four circles from the left are shaded/the first circle on the right is not shaded)
- Give the learners time to think before they tell you their ideas.
- Write the sentences below on the board, with 10 uncoloured circles next to them.
- Ask one of the learners to present the answer by colouring the blank circle/s on the board.
- Colour the fourth circle from the right. ○○○○○○○○○○ (○○○○○○●○○○)
- Colour four circles from the right. ○○○○○○○○○○ (○○○○○○●●●●)
- Repeat the same process with the statements and pictures below.
- Ask: **Which circles are shaded?** (Discuss the answers with the class, noting that this time the starting point is from the top. We could do the same, starting from the bottom.)



In the first column, the second circle from the top is shaded.
In the second column, two circles from the top are shaded.
In the first column, the fourth circle from the bottom is shaded.
In the second column, three circles from the bottom are NOT shaded

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Draw 10 circles in your classwork book. Then:

a Cross out the ninth circle from the right.

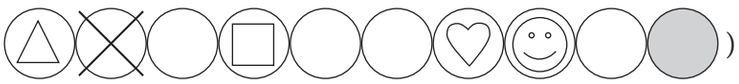
b Draw a face in the third circle from the right.

c Draw a triangle in the last circle from the right.

d Colour in the first circle from the right.

e Draw a heart in the fourth circle from the right.

f Draw a square in the seventh circle from the right.

(Answer: )

2 Colour the correct circle or circles:

a The third circle from the right.

b Three circles from the right.

c The fifth circle from the left.

d Five circles from the left.

e The eighth circle from the right.

f Eight circles from the right.

g The sixth circle from the left.

h Six circles from the left.

i Four circles from the bottom.

j The fourth circle from the bottom.

k Two circles from the top.

l The second circle from the top.

i	j	k	l
			

4 HOMEWORK ACTIVITY (5 MINUTES)

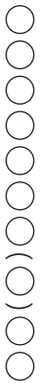
1 Colour the correct circle or circles:

a Three circles from the bottom.

b The sixth circle from the bottom.

c Five circles from the top.

d The eighth circle from the top.

a	b	c	d
			

5. REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the difference between ordinal numbers and cardinal numbers.

- Ordinal numbers tell us about the position of something.
- Cardinal numbers tell us the total number of things in a group.
- It is important to know the starting point when you are determining position.

Lesson 38: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.4 Describe, compare and order numbers; 3.1 Position, orientation and views.		
Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

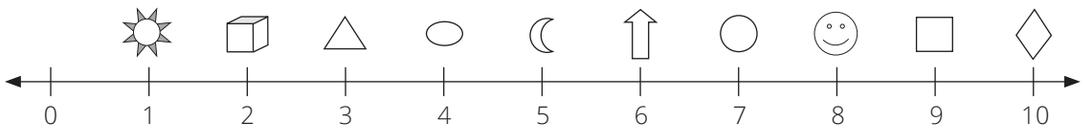
There should be time for you to discuss a few of the items with the class:

- use this opportunity to reflect on the different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

3 ASSESSMENT

WRITTEN ASSESSMENT (18)

1 Look at the number line and answer the following. Start on the left.



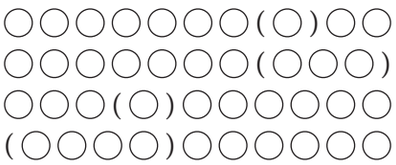
Circle the correct answer.

Which is second?		( )	Which is ninth?	( )	
Which is last?	( )		Which is fourth?		( )
Which is sixth?	( )		Which is eighth?	( )	
Which is seventh?	( )		Which is first?	( )	

Which is fifth?	△	(☾)	Which is third?	▱	(△)

2 Colour the correct circle or circles.

a The third circle from the right.
b Three circles from the right.
c The fourth circle from the left.
d Four circles from the left.
e Five circles from the bottom.
f The fifth circle from the bottom.
g Two circles from the top.
h The second circle from the top.



e	f	g	h
			

Unit 5 Introduction

In this unit, learners are exposed to 3-D and 2-D shapes. It is important that these are related back to learners' everyday experiences, so that their learning can be based upon strong connections. It is essential that learners progress from learning about 3-D objects to 2-D shapes and not the other way around. Children learn through physical experiences and so a tangible object that can be held and examined through touch is a necessary starting point. There is a clear progression of understanding as learners work towards developing their knowledge of geometric patterns.

In this unit you will be able to focus on the four framework dimensions in the following way:

- **Conceptual understanding**: The key conceptual areas in this unit are 3-D objects and 2-D shapes.
- **Procedural fluency**: Learners develop procedural fluency by physically engaging in activities that require them to verbalise their understanding.
- **Strategies**: Learners apply what they have learned about position (in Unit 1) and orientation (in this unit) in order to create and describe their own geometric patterns.
- **Reasoning**: Learners need to justify the rules for their patterns by verbalising the position and orientation of shapes.

Building a **learning centred classroom** in this unit will involve (amongst other things) attention to:

- **Active learning**: Learners are actively involved in the lessons in this unit, as they are expected to physically handle resources themselves, rather than just observing the teacher.
- **Applying maths in context**: Learners are able to see how Mathematics is relevant to their everyday lives as they see connections between the pattern knowledge learned in their lessons and in the world around them.

Unit 5 overview

DAY	LP	Lesson objective	Lesson Resources	Date completed
Thur	39	Observe and build 3-D objects using concrete materials.	Lots of empty matchboxes, glue, objects, balls, boxes, recycled materials (collect for lesson).	
Fri	40	Consolidation of work done this week.	Learner resource activities	
Mon	41	Assessment.	Assessment activity in teacher's resources.	
Tue	42	Characteristics of 3-D objects.	Lots of empty matchboxes, glue, objects, balls, boxes, recycled materials (collect for the lesson).	
Wed	43	Describe, sort and compare 3-D objects (roll and slide).	Boxes and balls of various shapes and sizes (collect for the lesson).	
Thur	44	2-D shapes (circle, triangle, square) - Describe, sort and compare in terms of; size, colour, shape, straight sided, round sided.	Shape cut-outs (see Printable Resources).	
Fri	45	Consolidation of work done this week.	Learner resource activities.	
Mon	46	3-D objects – characteristics (faces: number and shape).	Lots of empty matchboxes, objects, balls, boxes, recycled materials (collect for this lesson).	
Tue	47	Copy and extend simple geometric patterns using physical objects and drawings.	Pattern strips (see Printable Resources), balls, boxes, books, cans, crayons, tins, coloured bottle tops, Unifix cubes, etc.	
Wed	48	Copy and extend simple geometric patterns using physical objects and drawings.	Shape cut-outs (see Printable Resources.	
Thur	49	Assessment.	Assessment activity in teacher's resources.	
Fri	50	Consolidation of work done this week.	Learner resource activities.	

Assessment for learning

Use the templates provided at the front of this guide to think deeply about at least one of the lessons in this unit.

Reflection

Think about and make a note of: What went well? What did not go well? What did the learners find difficult or easy to understand or do? What will you do to support or extend learners? Did you complete all the work set for this unit? If not, how will you get back on track?

What will you change next time? Why?

Lesson 39: 3-D objects - Constructing figures

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum		
CAPS topics: 3.2 3-D objects.		
Lesson Objective: Observe and build 3-D objects using concrete materials.		
Lesson Vocabulary: Balls, boxes, balance, compare, 3-D objects (3-Dimensional objects), tallest, shortest, biggest, round, flat.		
Resources: Lots of empty matchboxes, glue, objects, balls, boxes, recycled materials (collect for lesson).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give learners the following word problem:
Velangesihle has 7 books.
He gets 3 more books.
How many books does Velangesihle have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, learners use 3-D objects from their everyday lives to construct figures. It is important that you allow the learners time to build structures of their own as this is how they will begin to develop their understanding of 3-D objects and begin to understand the ideas of round and flat. Allow the learners to discuss their projects as this verbalisation is how they make sense of what they are doing.

Activity 1: Whole class activity

- Ask the learners to find a partner with whom to work with.
- Ask the learners: **What items did you bring from home?** (Learners should have been given time to collect empty boxes/toilet roll inners/etc.)
- Discuss the different items brought, as well as the different sizes.
- Discuss the materials that the items are made from: **Do they look strong? Do you think they will break easily? Why do you say that?**

- Allow the pairs time to discuss their items with each other.

Activity 2: Learners work in pairs

- Explain to the learners: **Today you are going to construct a figure using the items that you brought from home.**
- **Try to use as many items from home as you can.**
- **You are not allowed to use glue or a stapler or sticky tape.**
- **You need to get your items to balance well.**
- Allow the learners time to plan what they are going to construct.
- The learners must draw their plan in their classwork books.
- Move around the classroom, asking learners: **Why did you decide to do it this way?**
- When the learners have planned sufficiently, allow them to begin their construction.

Activity 3: Learners work in pairs

- Learners can draw their figure into their classwork books.
- The purpose of the drawing is not to make it look pretty, but to get the learners to think about which items were used for each part of the figure.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1. There is no written classwork for today.
2. Use this time for learners to present their figures to the class.
3. It is important for the learners to identify the 3-D objects used in the construction of their figures.

4 HOMEWORK ACTIVITY (5 MINUTES)

1. Collect 4 items from inside or outside your home.
2. Plan the construction of your figure by drawing.
3. Construct your figure. (No glue/stapler/sticky tape may be used.)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned how to construct figures using 3-D objects.

- It is important for learners to identify the 3-D objects used in the construction of their figures.
- This will link to Lesson 41 where the properties of solids will be discussed.

Lesson 40: Consolidation: Ordinal and cardinal numbers

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.4 Describe, compare and order numbers;		
Lesson Objective: Revise ordinal and cardinal numbers.		
Lesson Vocabulary: Ordinal numbers, cardinal numbers.		
Resources: N/A		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

In this lesson, we revise ordinal numbers and cardinal numbers. Allow the learners opportunities to talk amongst themselves as they make sense of starting points and directionality.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Remember that ordinal numbers are used to indicate the position in an ordered set of objects. Cardinal numbers, on the other hand, are used to show the complete number of objects in a set. The last number you say when counting a group of objects is the cardinal number.

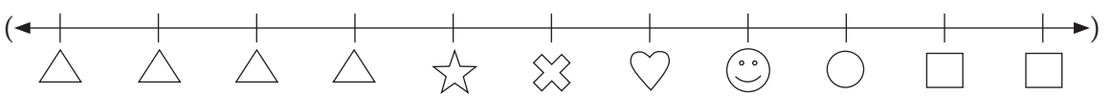
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

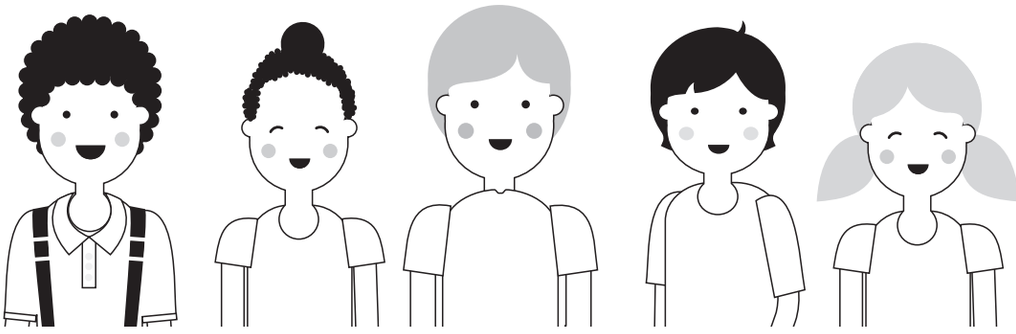
Today we are going over what we learned this week. We are learning more about ordinal numbers and cardinal numbers.

1 Draw the shapes on the line by following the instructions:

a Draw a star under the fifth line from the left.
b Draw a circle under the third line from the right.
c Put a heart under the line seventh from the left.
d Put a triangle under the first four lines from the left.
e Put a square under the first two lines from the right.
f Put a cross under the line sixth from the left.
g Put a smiley face under the line fourth from the right.



2 Answer the questions about the children below.



1	Who is third from the left?	(John)
2	Who is second from the right?	(Peter)
3	Who is fourth from the right?	(Lerato)
4	Who is first from the left?	(Sipho)
5	Who are the first three learners from the left?	(Sipho, Lerato, John)
6	Who are the first two learners from the right?	(Ann, Peter)

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the difference between ordinal numbers and cardinal numbers.

- Ordinal numbers tell us about the position of something.
- Cardinal numbers tell us the total number of things in a group.
- It is important to know the starting point when you are determining position.

Week 9

Lesson 41: Properties of solids

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 3.2 3-D objects.		
Lesson Objective: Characteristics of 3-D objects.		
Lesson Vocabulary: Balls, boxes, balance, compare, 3-D objects (3-Dimensional objects), tallest, shortest, biggest, round, flat.		
Resources: Lots of empty matchboxes, glue, objects, balls, boxes, recycled materials (collect for the lesson).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Bheki has 6 toy cars.
He gets 2 more toy cars.
How many toy cars does Bheki have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the learners focus on the nature of the shape in terms of its sides – by thinking about the answers to the question, *are they flat or are they round*? These characteristics are highlighted through thinking about whether or not you can build a tower using given shapes. The round shapes cannot balance on top of a tower, or anywhere in a tower. It is important that you allow learners time to build towers of their own so that they consolidate the ideas of round and flat and see for themselves which shapes are able to balance.

Today we are learning to construct figures using 3-D objects.

Activity 1: Learners work in groups

- This activity will depend on the resources you have available.
- Give the learners some balls and boxes.
- Ask them to build a tower in their groups.
- Ask: **What can you tell me about the objects?** (The balls are round/The boxes have flat sides etc.)
- Ask: **Were you able to use all the objects to build a tower? Why not?** (Learners should realise that you cannot balance all shapes on top of each other. The round shapes cannot balance.)
- **What did you do with the leftover objects?** (Learners may have had different ideas here – encourage them to think freely and creatively.)

Activity 2: Whole class activity

- Build a tower of boxes, with the biggest box at the bottom and the smallest box at the top.
- Ask the learners to copy your model with their own boxes.
- Ask: **What do you notice about this tower?** (Encourage learners to discuss the features of the boxes that allow them to balance.)
- **What would happen if I tried to put a ball in the middle here?** (Everything would fall over because the ball is curved.)
- Repeat with other models.
- Encourage the learners to discuss why they think certain 3-D objects should (or should not) be used for particular models.

Activity 3: Learners work in pairs

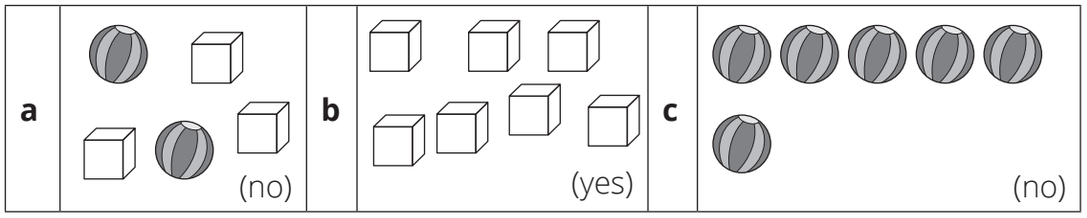
- Allow the learners to use the resources to create their own models independently.
- Encourage learners to verbalise why they use some 3-D objects in their construction and not others.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

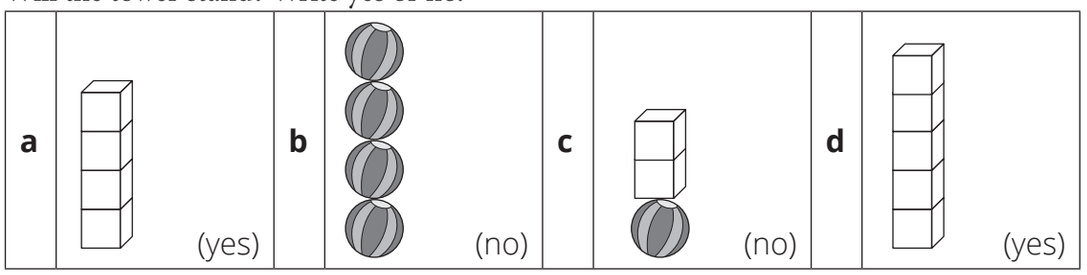
1 Which of these pictures look like balls? Mark the circle.

2 Which of these pictures look like boxes? Mark the square.

3 Can you build a tower with all of the following objects? Write yes or no.



4 Will the tower stand? Write yes or no.



5 Use ten matchboxes and glue to make your own building. (Learners will follow instructions, if there are resources and if there is time.)

4 HOMEWORK ACTIVITY (5 MINUTES)

1. Collect boxes and balls at home.
2. Build your own tower (or other shape). (Learners will follow instructions.)
3. What shape did you build? (Learners will respond to the question.)
4. Bring it to school to show your teacher. (Learners will follow instructions.)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about constructing figures using 3D objects.

- Some 3-D objects have flat sides and can be stacked.
- Some 3-D objects are curved and can't be stacked.

Lesson 42: Balls and boxes

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum		
CAPS topics: 3.2 3-D objects.		
Lesson Objective: Describe, sort and compare 3-D objects (roll and slide)		
Lesson Vocabulary: Balls, boxes, big, small, balance, describe, sort, compare, flat side, curved side, roll, slide		
Resources: Boxes and balls of various shapes and sizes (collect for the lesson).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Nombuyiselo has 4 apples.
She gets 5 more apples.
How many apples does Nombuyiselo have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

Remember to collect as many different examples of ball and box shaped objects as possible to bring to the lesson. It is very important for learners to work with real examples of 3-D objects while they are learning about them. The focus of this lesson is the nature of the faces of the objects.

Today we are learning about the features of balls (spheres) and boxes (prisms).

Activity 1: Learners work in groups

- Place a variety of box and ball-shaped objects in the middle of each group of learners.
- Instruct the learners to sort the objects.
- They should explain to you how they sorted them. (These are boxes and those are balls. They might go into more detail – listen to all of their explanations – some of them might lead into the next activity of this lesson which is about curved and flat faces of 3-D objects.) (Always build on what the learners offer in the conversation when this is possible as this shows them that you listen to them and respect what they say.)

Activity 2: Learners work in groups

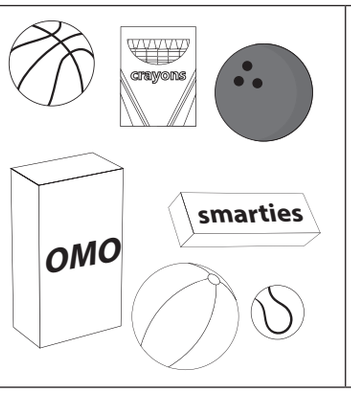
- Let the learners continue to work with the balls and objects shaped like balls, as well as various boxes and other objects shaped like rectangular prisms or cubes that you gave them for the first activity.
- Ask each group of learners to make a slope using a large book/other objects that they can work with.
- Using the slope that they have made, learners should investigate which of the objects can roll, and which can slide. The teacher should circulate and facilitate this discovery activity.
- **What do you notice?** (Learners will discover that ball-shaped objects will roll down the incline and box-shaped objects will slide down the incline.)
- The learners will also discover that some objects are able to slide and roll because they have both flat and curved sides, e.g. toilet roll, tin can, yoghurt tub.
- Draw the class into a group discussion once all groups have had time to investigate the properties of 3-D objects. Discuss ideas such as the following:
  - **What side does the object roll on if it has flat and curved sides?** (The curved one.)
  - **What side does the object slide on if it has flat and curved sides?** (The flat side.)
  - Do objects need a slope to roll or slide? (No, they can be pushed on a flat surface and roll or slide, depending on the types of faces they have.)
  - Etc. Discuss other points that the learners may raise.

Activity 3: Learners work in pairs

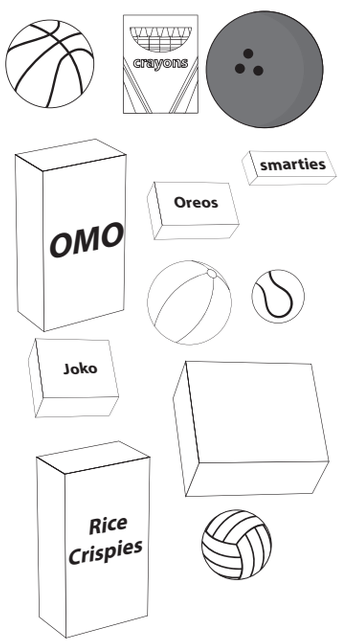
- In this activity, three position words are revised. Make sure that learners are able to understand and use these words as they do the activity.
- Ask the learners to draw an object of their choosing *in the middle* of a page in their classwork books
- Ask the learners to draw a smaller object *on the left* of their first drawing.
- Ask the learners to draw a bigger object *on the right* of their first drawing.
- The learners can then discuss their pictures with learners sitting near them by using the appropriate vocabulary (e.g. **My triangle is bigger than my flower, but my sun is bigger than my triangle.**)

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Draw the objects in the correct block.

	Balls	Boxes
		

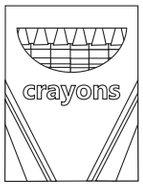
2 Draw the objects into the correct block.

	Small balls	Small boxes
		
	Big balls	Big boxes

3 Will these objects roll or slide? Write the correct answer.

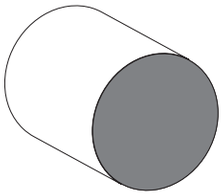
a  (roll)

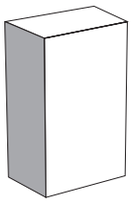
b  (slide)

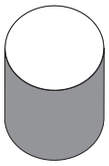
c 

(slide)

d  (roll)

e  (roll and slide)

f  (slide)

g  (roll and slide)

4 HOMEWORK ACTIVITY (5 MINUTES)

1. Find four objects at home. Make a slope by placing a box under one end of a big book.
2. Test each object to see whether it can roll or slide.
3. Draw the objects that can roll on the left side of your page and the objects that can slide on the right side of your page.
4. Label your group of pictures: roll/slide.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the features of balls (spheres) and boxes (prisms)

- Ask the learners what they have learned about balls (spheres).
- Ask the learners what they have learned about boxes (prisms).
- Ask the learners if there is anything that they found challenging.

Lesson 43: 2-D shapes

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum
CAPS topics: 3.3 2-D shapes.
Lesson Objective: 2-D shapes (circle, triangle, square) - Describe, sort and compare in terms of; size, colour, shape, straight sided, round sided.
Lesson Vocabulary: Circles, triangles, squares, sort, sorting, compare, describe, size, colour, shape, straight sides, round sides, big, bigger, biggest, small, smaller, smallest, more than, less than, square corners.
Resources: Shape cut-outs (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Neliswa has 1 biscuit.
She gets 8 more biscuits.
How many biscuits does Neliswa have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, learners will revise the names of 2-D geometric shapes, but they will also learn to use some of the mathematical words that describe the characteristics of theses shapes - size, straight sided, round edged. They also revise colours by sorting shapes according to colour. This lesson prepares learners to name the shapes that make up the faces on the 3-D objects that they are also learning about in this unit.

Today we are learning about 2-D shapes.

Activity 1: Whole class activity

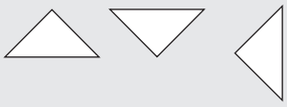
- Ask the learners to hold up a cylinder:
  - **What shape can you see on the face of the cylinder?** (A circle.)
  - Encourage the learners to describe the features of a circle. (It has a round edge.)
- Ask the learners to hold up a cube:
  - **What shape can you see on the face of the cube?** (A square.)

  - Encourage the learners to describe the features of a square. (It has straight sides, there are four sides, it has four square corners.)
- Ask the learners to hold up a triangular object:
  - **What shape can you see on the face of the object?** (A triangle.)
  - Encourage the learners to describe the features of a triangle. (It has straight sides, there are three sides, it has three corners.)

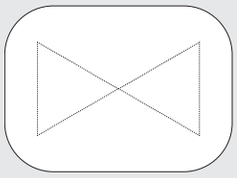
Activity 2: Whole class activity

- Show the learners a triangle that looks like this:

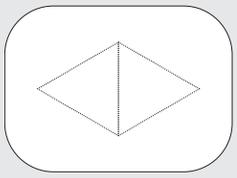
- Ask: **What shape is this?** (a triangle.)
- Discuss the fact that a triangle is still a triangle regardless of which way you hold it. Show the learners a variety of orientations. E.g.



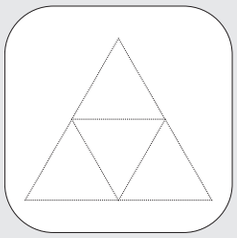
- Hold up a **square** and a **rectangle**, also showing that they can be placed in many different ways, not always on the same one side.
- Draw this shape on the board:



- Ask: **What can you tell me about this picture?** (There are 2 triangles that face opposite directions)
- Draw this shape on the board:



- Ask: **What can you tell me about this picture?** (There are 2 triangles that face opposite directions)
- Draw this shape on the board:



- Ask: **What can you tell me about this picture?** (There are triangles making up a triangle/ the triangles don't all face the same way.)

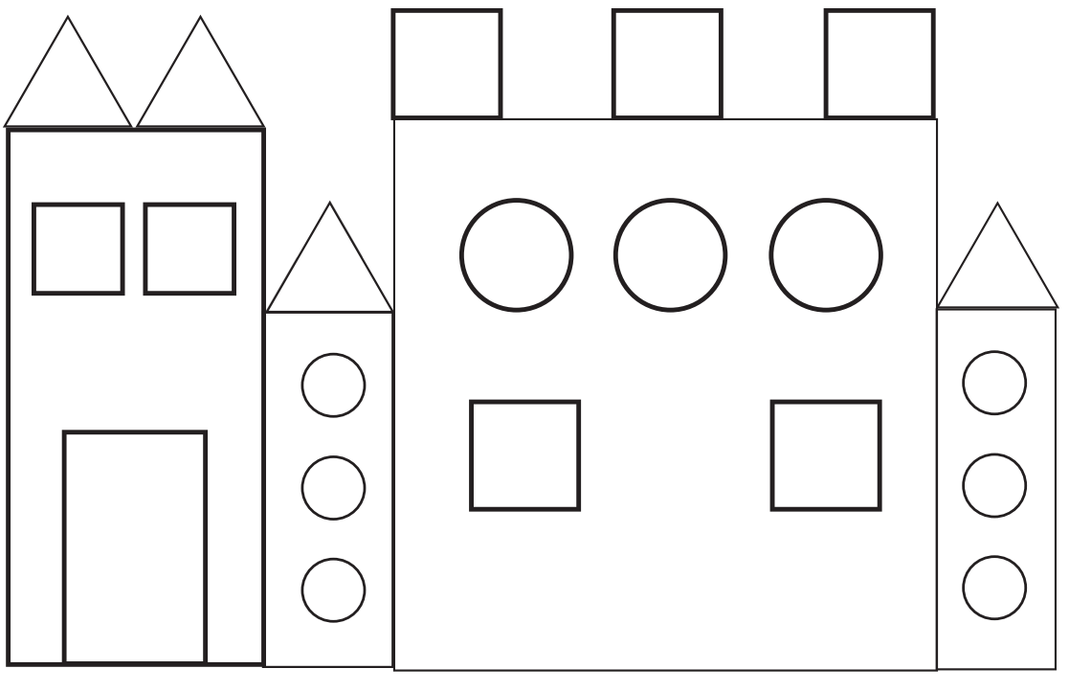
Activity 3: Learners work in pairs

Note: Learners need to use the shape cut outs for this activity. If learners finish the activity quickly, they must then put all their shapes back into the piles created in step 1. The learners can then create a different picture (repeating steps 2 and 3).

1 Put all your shapes in groups of similar shapes.
2 Use your shapes to create a picture.
3 Copy your picture into your classwork book.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

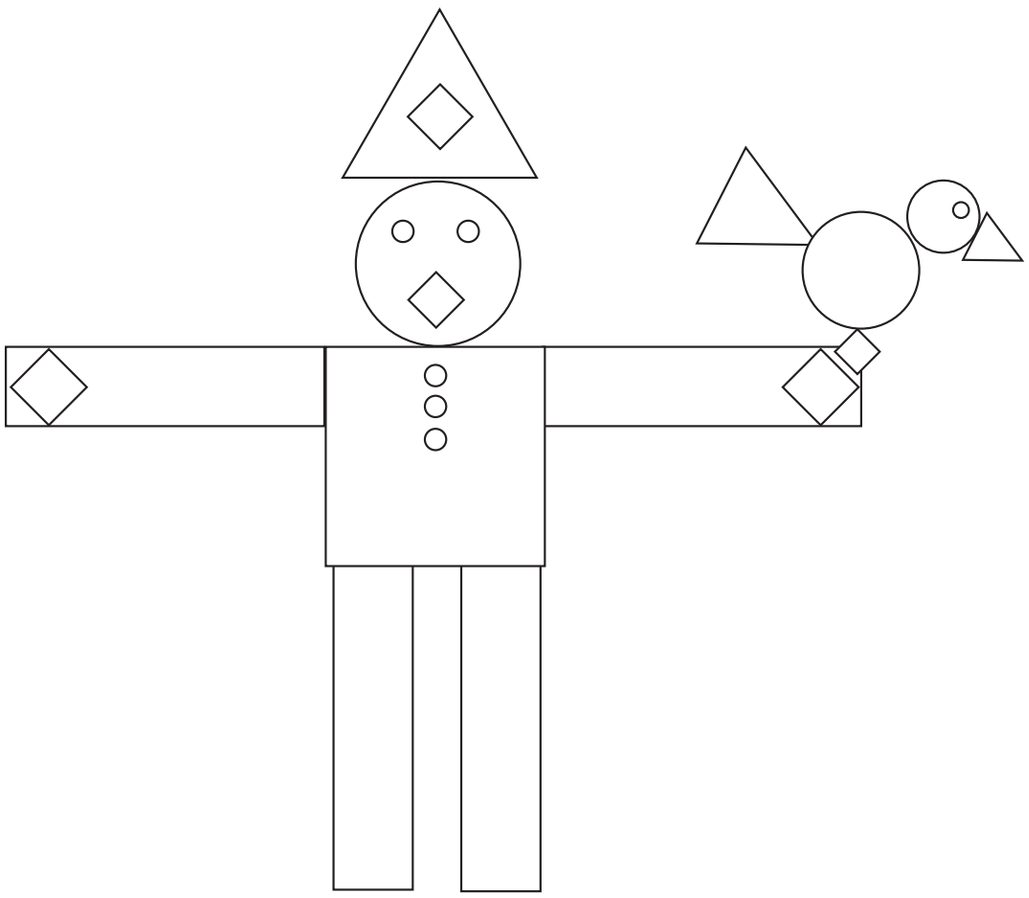
Look at the picture and answer the questions.



1 How many squares are there? (8 – don't forget the big one)
2 How many triangles are there? (4)
3 How many circles are there? (9)
4 What other shapes can you see? (rectangles – 4)
5 Colour in the picture.

4 Homework activity (5 minutes)

1 Answer the questions in the table.



a How many squares can you find?	(6)
b How many circles can you find?	(9)
c How many triangles can you find?	(3)
d How many rectangles can you find?	(4)

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we are learning about the faces of balls (spheres) and boxes (prisms) and their shapes.

- Ask the learners what they have learned about 3-D objects.
- Ask the learners what they have learned about faces.
- Ask the learners about which 2-D shapes they have learned.
- Ask the learners if there is anything that they found challenging.

Lesson 44: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 3.2 3-D objects.		
Resources: Printable assessment in teacher's resources.		
Date:	Week	Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

Take some time to do the *practical assessment* (see checklist below).

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

There should be time for you to discuss a few of the items with the class:

- use this opportunity to reflect on different methods used by the learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

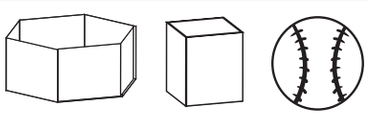
3 ASSESSMENT

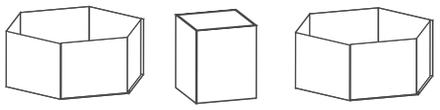
WRITTEN ASSESSMENT (12)

1 Draw the objects.

Draw a ball.	(any ball shape)
Draw a box.	(any box shape)

2 Can you build a tower with all these objects? Write yes or no.

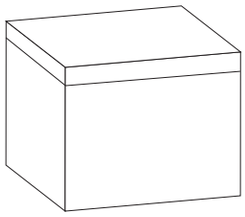
a 	(no)

b 	(no)
c 	(yes)
d 	(no)

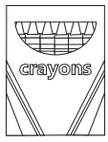
3 Draw a ball that is bigger.

	(any bigger ball shape)

4 Draw a box that is smaller.

	(any bigger box shape)

5 Can these objects slide or roll? Circle the correct word.

	slide/ (roll)
	(slide)/ roll
	(slide)/ roll
	slide/(roll)

PRACTICAL

CAPS: Space and object: 3-D objects **Activity: Observe learners' ability to identify, recognise, name and sort ball and box shaped objects.**		**Mark: 7**
Mark	**Criteria – Checklist: (1 mark for each criterion achieved)**	
1	Can recognise ball-shaped objects.	
1	Can recognise box-shaped objects.	
1	Can sort ball-objects and box-shaped objects when they are mixed up together.	
1	Can identify round objects that can roll.	
1	Can identify flat objects that can slide.	
1	Can identify which objects can be used to build a tower.	
1	Can identify which objects cannot be used to build a tower.	

Lesson 45: Consolidation: 3-D objects

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 3.2 3-D objects.		
Lesson Objective: Revise the features and faces of 3-D objects.		
Lesson Vocabulary: ball, box, face, shape, slide, roll.		
Resources: Old magazines/newspapers/advertisement flyers.		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

This week we have learned about the features and faces of 3-D objects. It is important to allow learners the opportunity to physically handle the objects themselves. They need to be able to feel the differences between the objects and to discover the features and faces for themselves, rather than simply being told by the teacher.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners need to have a good knowledge of 3-D objects in order to develop an understanding of 2-D shapes. The reason for this is because we are surrounded by 3-D objects in our everyday life which we can hold and feel. As learners touch these objects, they learn about flat surfaces, which is their introduction to 2-D shapes. This is how they begin to understand the difference between 3-D objects that take up space (are not flat) and 2-D shapes that are flat and that have no depth or height. Learners will understand and learn about the shapes much more effectively if you have real examples of them in all of the lessons when you teach about shapes.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

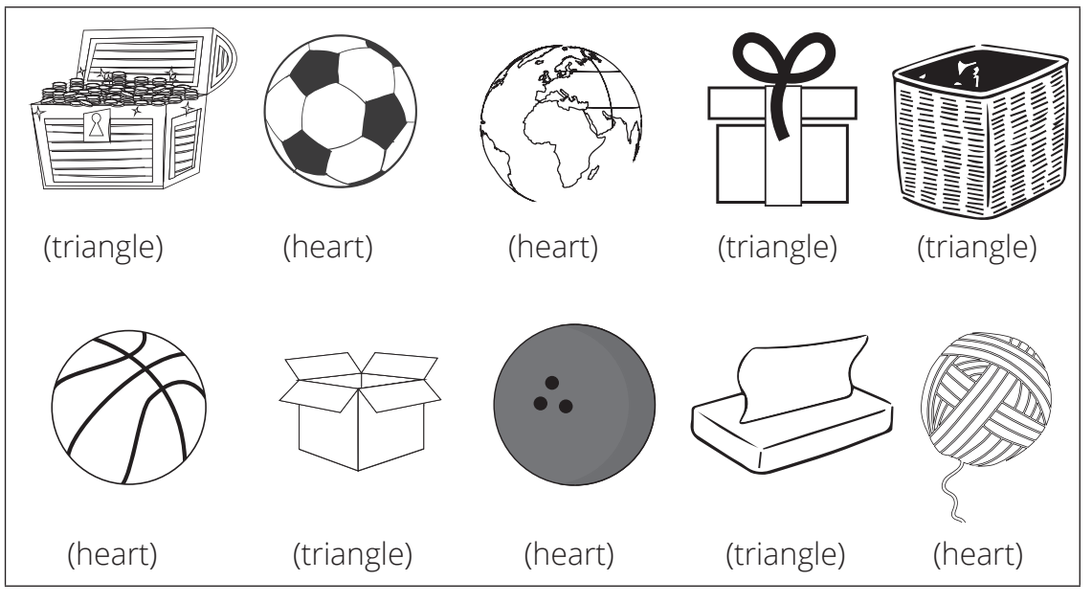
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about 3-D objects.

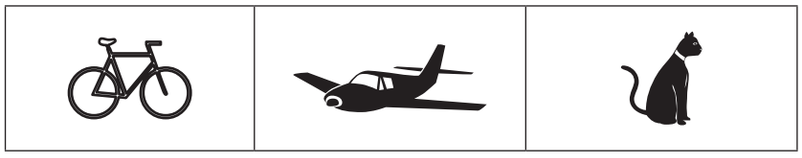
- Learners may draw the shapes in their books for this lesson if you do not have old newspapers/magazines/advertisement flyers for them to cut pictures from.
- (Learners answers will vary. Check their work to make sure they found the right kind of objects and followed the instructions correctly.)

1 Find two ball pictures and two box pictures and paste them in your maths book. (Learners will cut and paste pictures.)

2 Draw a triangle around the objects that can slide and a heart around the objects that can roll.

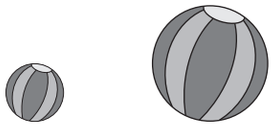


3 Write the sentences using the correct word.



a A bicycle is bigger/smaller than an aeroplane. (smaller)
b A cat is bigger/smaller than a bicycle. (smaller)
c An aeroplane is bigger/smaller than a cat. (bigger)

4 Draw a big ball and a bigger ball. (Various drawings)
5 Draw a big box and a bigger box. (Various drawings)
6 Draw a small box and a smaller box. (Various drawings)
7 Draw a small ball and a smaller ball. (Various drawings)
8 Is the smaller ball on the left or on the right?


(on the left)

5 REFLECTION AND SUMMARY OF LESSON

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about 3-D objects.

- What do you know about ball shapes?
- What do you know about box shapes?
- What did you find challenging?

Week 10

Lesson 46: Faces of 3-D objects

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 3.3 2-D shapes.		
Lesson Objective: 3-D objects – characteristics (faces: number and shape).		
Lesson Vocabulary: object, ball, box, face, 2-D shapes, circle, triangle, square.		
Resources: Lots of empty matchboxes, objects, balls, boxes, recycled materials (collect for this lesson).		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Nhlanhla has 6 sweets.
He gets 1 more sweet.
How many sweets does Nhlanhla have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

Remember to collect as many different examples of ball-and box-shaped objects to bring to the lesson. It is very important for learners to work with real examples of 3-D objects while they are learning about them. The focus of this lesson is the nature of the faces (flat surfaces) of the objects. Make sure that you provide a variety of 3-D objects so that learners can see different faces (i.e. a circle from a cylinder/ cone; a rectangle or square from a prism (box); triangle from a triangular prism; etc.). In this lesson, learners draw on their knowledge of 2-D shapes when they speak about the faces of the 3-D objects.

Today we are learning about the faces of 3-D objects and the shapes that make their faces.

Activity 1: Learners work in groups

- Give the learners some ball-shaped objects, such as round pebbles, marbles, oranges and balls of different sizes.
- Give the learners some box-shaped objects, such as blocks, bricks and boxes of different sizes.
- Ask the learners to show you the: *ball*-shaped objects and then the *box*-shaped objects.

- Discuss the objects chosen by the learners as examples of balls/boxes – make sure all learners are sure about which is which.

Activity 2: Whole class activity

- Ask the learners to hold up a box-shaped object.
- Ask: **What do you notice about this object?** (Learners' answers will vary.)
- Point to one of the sides of the box and explain to learners that: **The word we use to talk about the side of the object is 'face'.**
- **This is one face of the object, and there are other faces over here and here** (point to the other faces of the object in turn).
- **Put your box down on the paper in front of you. Don't put it in the middle – rather keep it close to the edge so that we can use more of the paper presently.**
- **Take your pencil and trace around the face of the object.**
- **Now move the object to the side and look at your drawing.**
- **What can you tell me about your drawing?** (It has 4 sides/ the lines are all straight/it looks like a square/ rectangle).
- Repeat with other objects. Make sure that the faces that are traced are different in shape/ size each time if possible.

Activity 3: Learners work in pairs

- Ask the learners to find different 3-D objects around the classroom.
- Ask the learners to tell the person sitting next to them about the faces they see on each of the 3-D objects.
- Learners can talk about the different faces and which 2-D shapes they can recognise.
- When you do this, check that the learners remember the names of the 2-D shapes that they need to know to speak about the faces of the 3-D objects they have (e.g. square, rectangle, triangle, circle).

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Note: Ask the learners to prepare for the classwork by cutting out the different shapes that they drew in Activity 2. If learners need more shapes/ different shapes, allow them some time to trace more faces of different 3-D objects. If the learners finish the activity quickly, they must then put all their shapes back into the piles created in step 2. The learners can then create a different picture (repeating steps 3 and 4).

1. Cut out all your shapes.
2. Put all your shapes in groups of similar shapes.
3. Use your shapes to create a picture.
4. Copy your picture into your classwork book.

4 HOMEWORK ACTIVITY (5 MINUTES)

1. Trace 5 different faces from objects that you found at home.
2. Write the name of the object below the face that you traced.

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about the faces of balls (spheres) and boxes (prisms) and their shapes.

- Ask the learners what they have learned about 3-D objects.
- Ask the learners what they have learned about faces.
- Ask the learners about which 2-D shapes they have learned.
- Ask the learners if there is anything that they found challenging.

Lesson 47: Geometric patterns

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.
CAPS topics: 2.1 Geometric patterns.
Lesson Objective: Copy and extend simple geometric patterns using physical objects and drawings.
Lesson Vocabulary: Geometric pattern, pattern, copy, extend, repeat, more, less.
Resources: Balls, boxes, books, cans, crayons, tins, coloured bottle tops, Unifix cubes, etc.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Thandeka has 2 flowers.
She gets 5 more flowers.
How many flowers does Thandeka have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

The topic of geometric patterns provides an opportunity to recap the naming of shapes (and talking about their characteristics, such as size). It also consolidates general thinking about patterns – sequences which develop and grow according to a rule. The rule for a geometric pattern is often found by counting and so geometric patterns link to number patterns as well.

Today we are learning about geometric patterns.

Activity 1: Learners work in pairs

- Arrange a number of objects (e.g. can, box, box, can, box, box, can, …) in a pattern on a table/your desk at the front of the classroom.
- Ask the learners to copy and draw the pattern in their workbooks.
- Do a second example (e.g. ball, can, book, ball, can, book, …).
- Ask a few learners to suggest some other patterns and show them to the class.

Activity 2: Whole class activity

- Set up another pattern on your desk (e.g. ball, box, ball, box, …).
- Clap out the pattern for the learners (i.e. 1 clap (ball), 2 claps (box), 1 clap (ball), 2 claps (box), …).

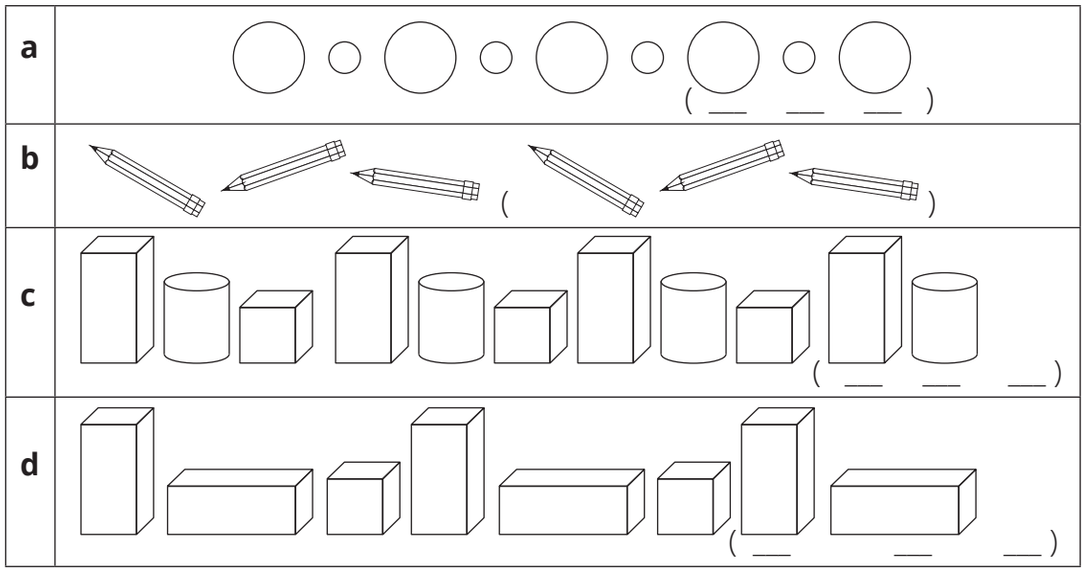
- Ask the learners to clap out the pattern with you (1 clap, 2 claps, 1 clap, 2 claps, …).
- Repeat with other patterns – ask a few learners to suggest ideas that they show the class and have the whole class clap the new patterns together.

Activity 3: Whole class activity

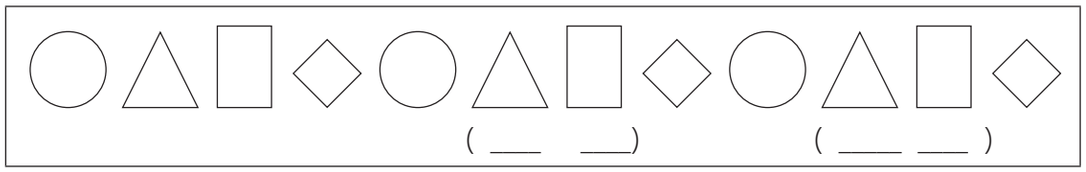
- Give the learners geometric pattern cards that you have prepared for this lesson.
- Look at each of the patterns and talk about them.
- If you were unable to prepare pattern cards, draw the different patterns on the board for the class to refer to.
- **Note:** In some patterns:
  - the number of objects that is repeated changes;
  - the size of the objects varies, but the groups are repeated in exactly the same way.
  - different objects make up a group, and then the group of objects is repeated;
  - repeating groups can be made up of the same objects that are positioned in different ways;

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Extend the patterns.



2 Fill in the missing spaces to complete the pattern.



3 Draw your own pattern. (Learners will draw various patterns.)

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Extend the pattern.

a 

b 

c 

d 

5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about geometric patterns and orientation.

- Discuss the concept of a pattern.
- Discuss the idea of orientation.
- Ask the learners if there are any areas they find challenging.

Lesson 48: More geometric patterns

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 1 curriculum.		
CAPS topics: 2.1 Geometric patterns.		
Lesson Objective: Copy and extend simple geometric patterns using physical objects and drawings.		
Lesson Vocabulary: Geometric pattern, pattern, copy, extend, repeat, more, less, orientation.		
Resources: Shape cut-outs (see *Printable Resources).*		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

Give the learners the following word problem:
Ntokozo has 5 marbles.
He finds 5 more marbles.
How many marbles does Ntokozo have now?

Allow the learners time to discuss the problem. Encourage the learners to solve the problem mentally, but if they need resources to help them, then provide these for learners to use. Give the learners opportunities to verbalise their solutions. Use this to address learners' misconceptions and errors. Ask more questions using the same format as above if you have time.

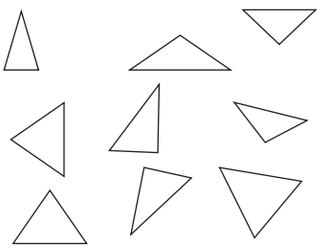
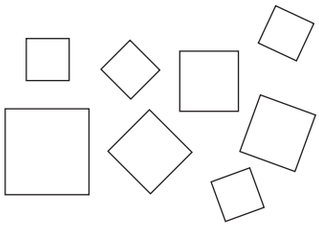
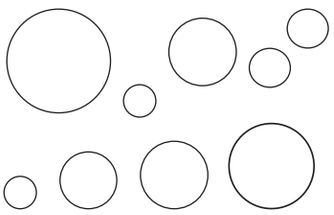
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson on geometric patterns, learners will talk about the orientation of the shapes. This means that they will consider their position on the page. The learners will then use this knowledge about orientation to determine patterns – sequences which develop and grow according to a rule. The rule for a geometric pattern is often found by counting and so geometric patterns link to number patterns as well.

Today we are learning about geometric patterns and orientation.

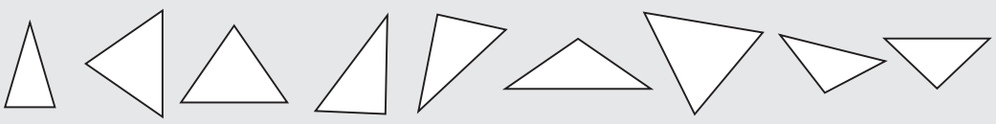
Activity 1: Learners work in groups

- Draw the following on the board.
- Let the learners discuss the collections of drawings in their groups. Circulate and make sure that they are all identifying the shapes correctly.

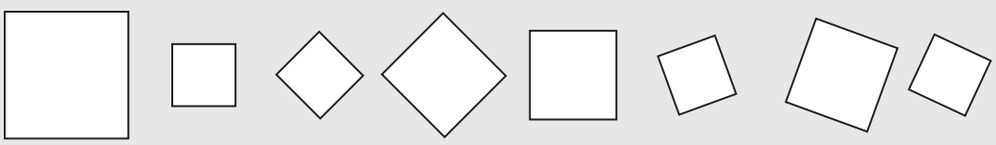
Ask: *Are they all triangles?*	Ask: *Are they all squares?*	Ask: *Are they all circles?*
		

Activity 2: Whole class activity

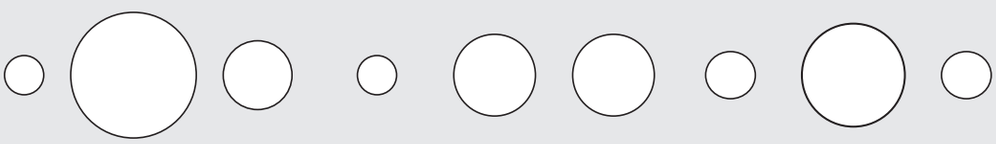
- Put a few cardboard triangles on the board.
- Discuss with the learners the fact that these shapes are all triangles and remain triangles even when they are turned in some way. e.g.



- Put a few cardboard squares on the board.
- Discuss with the learners the fact that these shapes are all squares and remain squares even when they are turned in some way. e.g.



- Put a few cardboard circles on the board.
- Discuss with the learners the fact that these shapes are all circles and remain circles even when they differ in size. e.g.



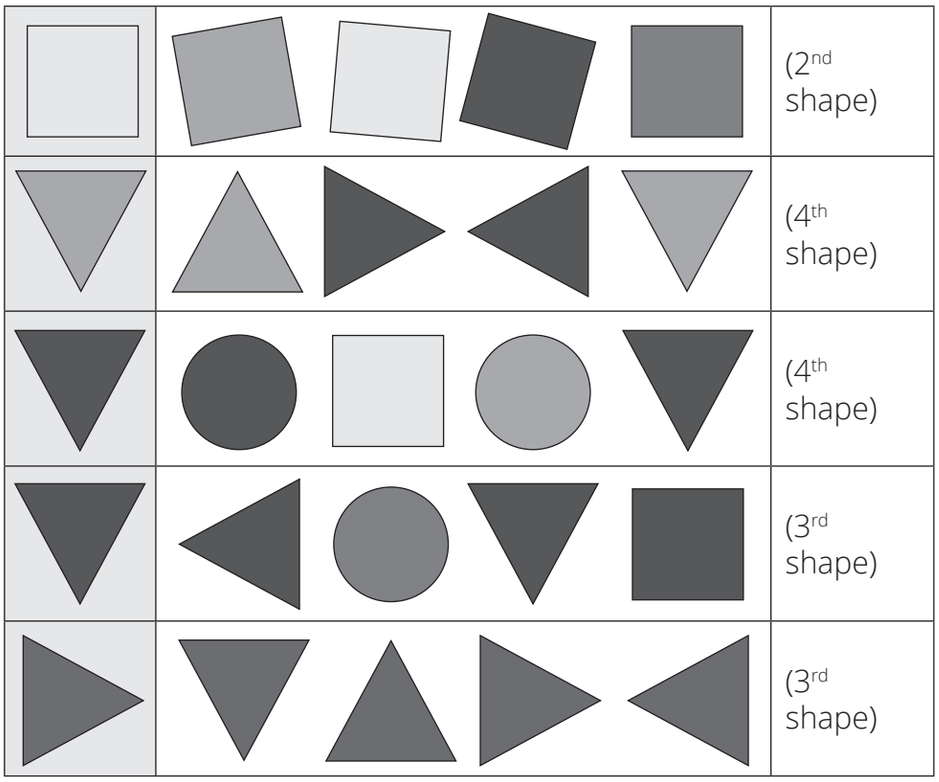
- Mix up all these cardboard shapes on the board and ask the learners to help you sort them out according to whether they have straight or round sides.

Activity 3: Whole class activity

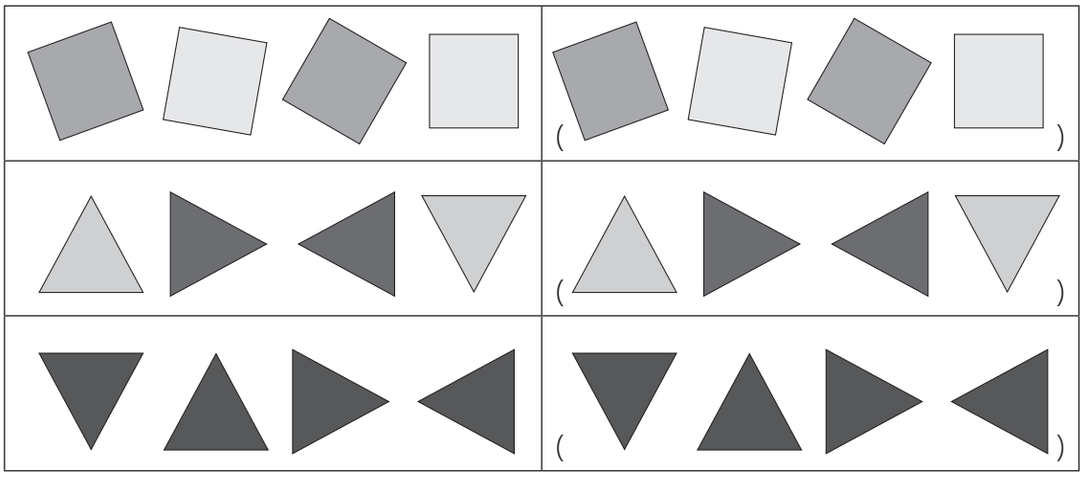
- Ask the learners to use their cut-out shapes to create a pattern.
- Tell the learners that the first pattern that they create can only include triangles
- Learners need to vary the orientation of the triangles to create the pattern.
- Repeat with other shapes.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1. Circle the shape that is the same as the shape in the first box.

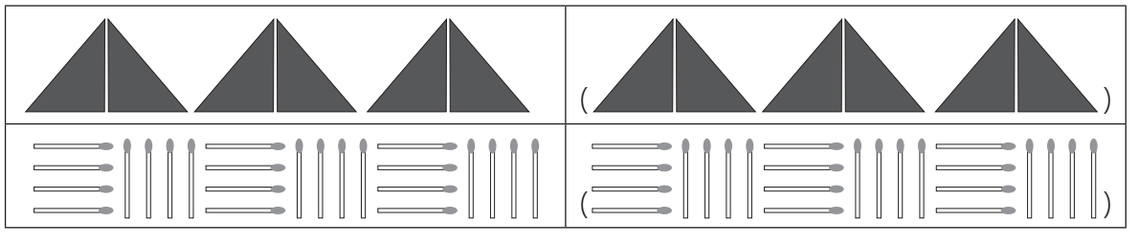


2 Extend the patterns.



4 HOMEWORK ACTIVITY (5 MINUTES)

Extend the patterns.



5 REFLECTION AND SUMMARY OF LESSON (5 MINUTES)

Call the whole class to attention and summarise the key concepts of the lesson:

Today we have learned about geometric patterns and orientation.

- Discuss the concept of a pattern.
- Discuss the idea of orientation.
- Ask the learners if there are any areas they find challenging.

Lesson 49: Assessment

Teacher's notes
This lesson should be used for assessment of the content covered in this unit to date.
CAPS topics: 2.1 Geometric patterns.
Resources: Printable assessment in teacher's resources.
Date: Week Day

1 SETTLE THE CLASS AND ADMINISTER THE ASSESSMENT. (45 MINUTES)

The assessment for today is linked to the work covered in the unit to date.

You will find the printable version of the assessment in the teacher's resource pack.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

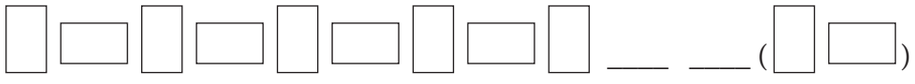
There should be time for you to discuss a few of the items with the class:

- use this opportunity to reflect on different methods used by the learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher to do continuous assessment, monitor learners' progress and plan support accordingly for learners experiencing barriers to learning.

3 ASSESSMENT

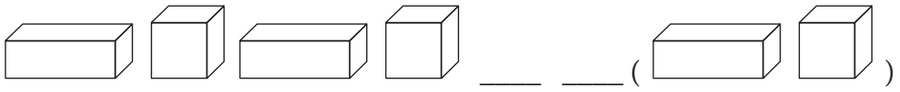
WRITTEN ASSESSMENT (19)

1. Extend the pattern.

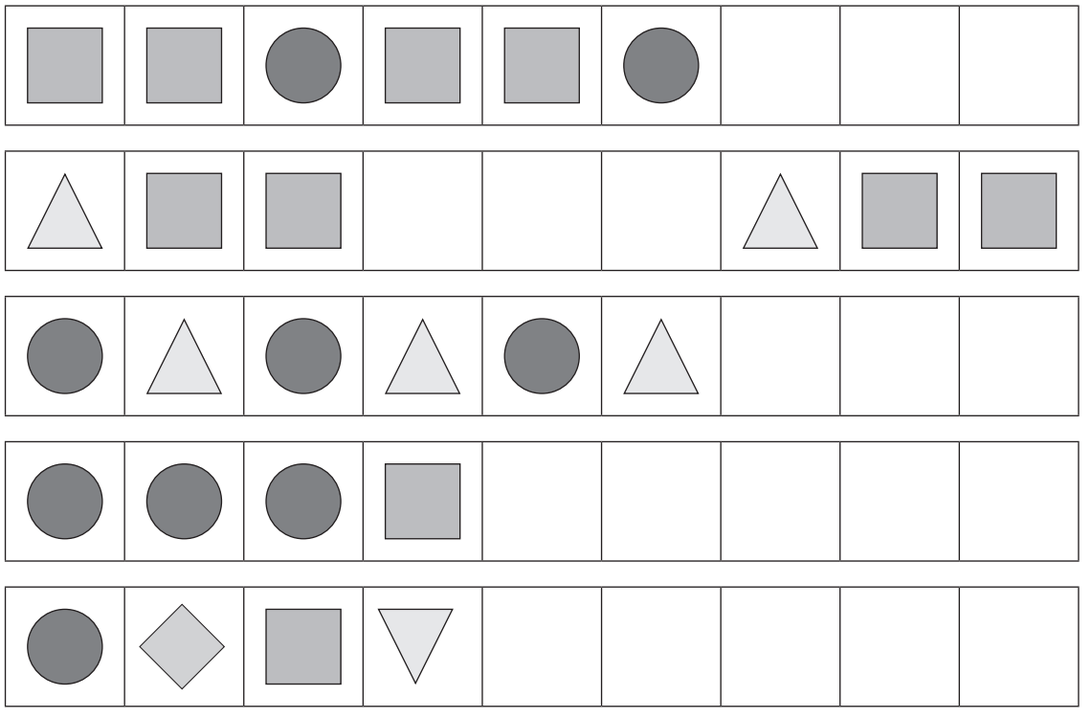
a 

b →↑→↑→↑→↑→↑→↑→↑→↑→↑→ ____ ____ (↑→)

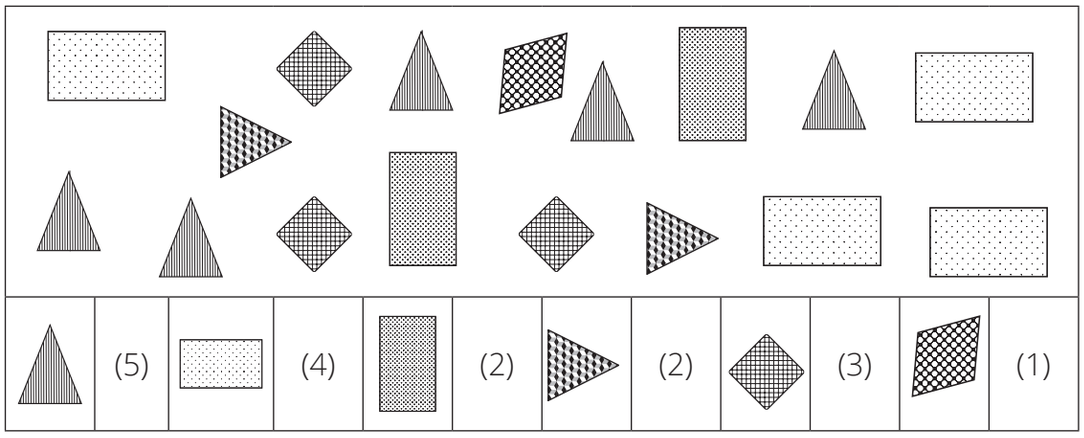
c 

d 

2. Complete the patterns.



3. Count the shapes that are the same.



Lesson 50: Consolidation: Geometric patterns

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 2.1 Geometric patterns.		
Lesson Objective: Copy and extend simple patterns using physical objects and drawings.		
Lesson Vocabulary: Geometric pattern, pattern, copy, extend, repeat, more, less.		
Resources: Scrap paper.		
Date:	Week	Day

1 NOTES FOR THE TEACHER RELATING TO THIS WEEK'S WORK

Patterns are present in everyday life, so learners are more familiar with the concept of patterns than they realise. Ensure that you discuss these patterns with the learners, asking them for suggestions of where they hear or see patterns. Examples could be bird calls, music, patterns created by window frames etc.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Geometric patterns can be quite confusing for learners so it is important that learners are given the opportunity to discuss patterns and to determine for themselves how the pattern is created and repeated. Orientation is also important to consolidate as learners need to recognise that a rectangle is a rectangle regardless of the way it is positioned.

3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

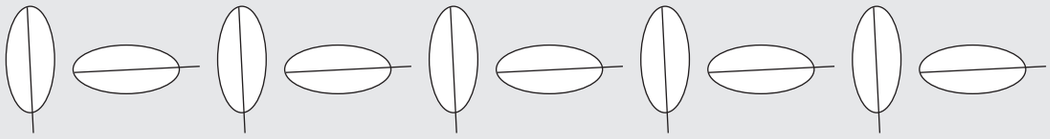
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Today we are going over what we learned this week. We are learning more about geometric patterns and orientation of shapes. The first activity can be done with the whole class, taking them outside first and then coming back to class to work in their maths classwork books. You need some scrap paper on which to do the leaf rubbing on. There are also activities provided in the LAB.

Activity: Learners work in pairs

- Take the learners outside to each collect some leaves.
- Each learner needs to use one leaf, but they should collect a few leaves, in case some break or get damaged in some way.

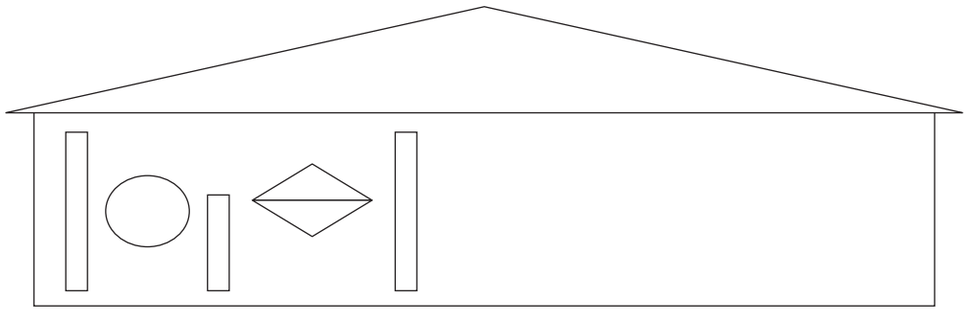
- Ask the learners to look at the shapes of their leaves.
- Discuss the similarities and differences.
- Show the learners how to make a leaf rubbing: place a leaf upside down on the desk, place a sheet of paper on top of the leaf, rub the leave with a pencil or crayon through the paper lightly – the shape of the leaf will emerge.
- Ask the learners to each make a few rubbings of the leaf they collected.
- They can then paste these leaf rubbings in a pattern on paper. E.g.



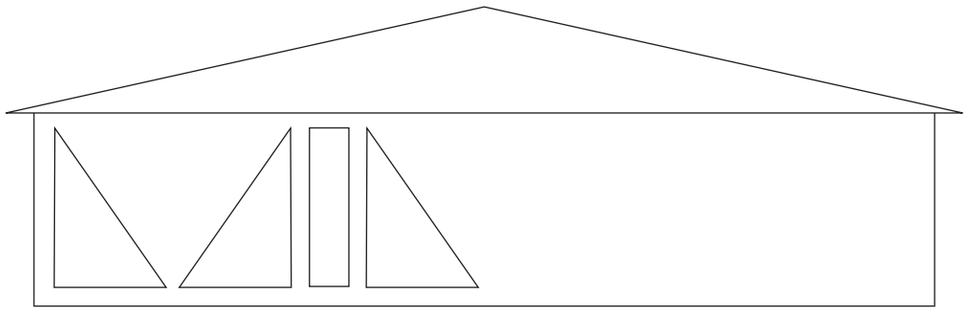
- The learners can make a pattern using more than one leaf if they want to, or using the leaf pointing in different directions.

1 Complete the patterns on the huts. Colour them in when you have finished.

a



b



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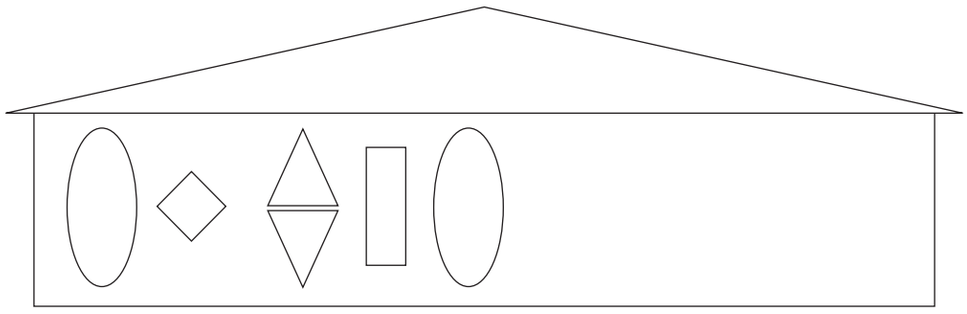
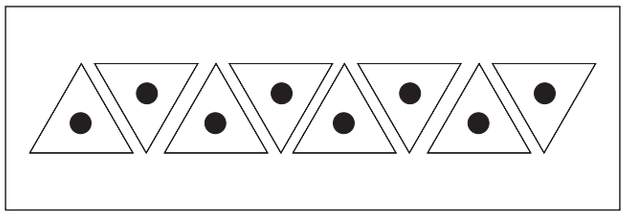
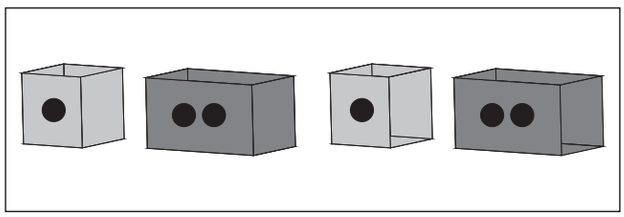
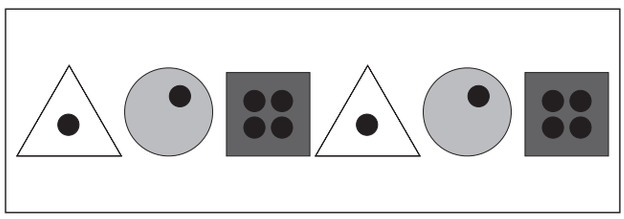
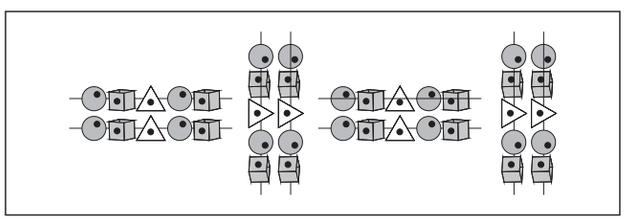


2 Extend the patterns.









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