MATHEMATICS

Grade 1

TERM 2 2020

Lesson Plans

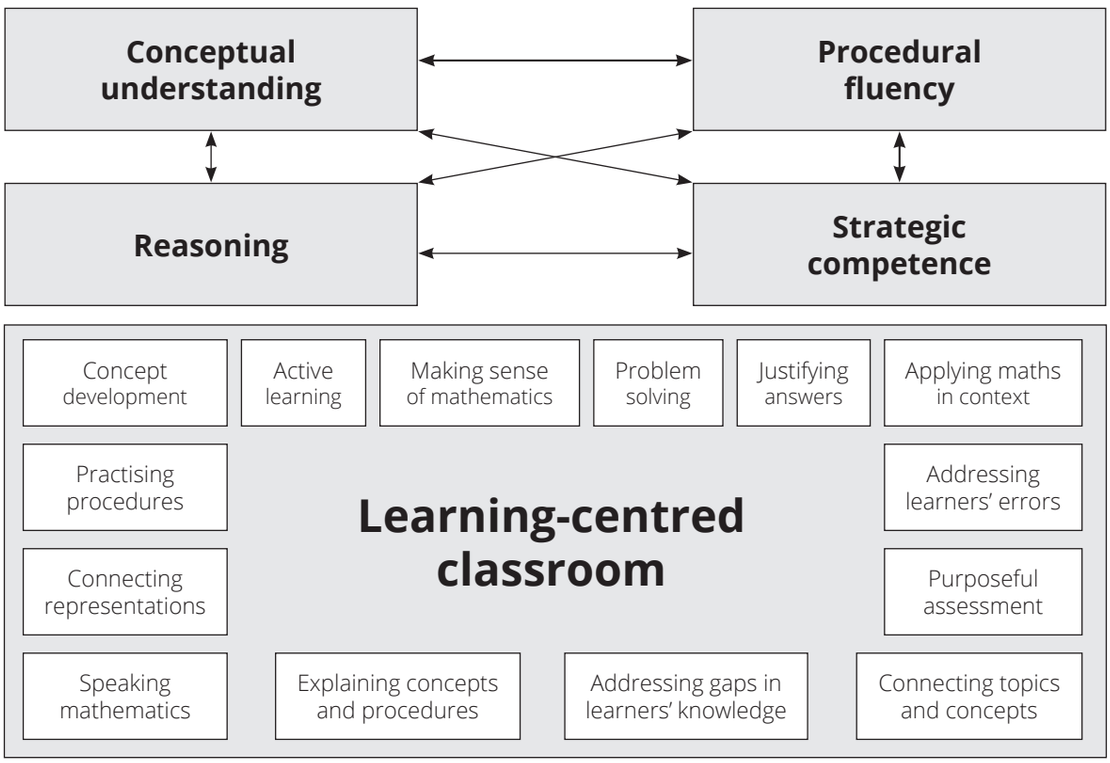
Acknowledgement:

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:

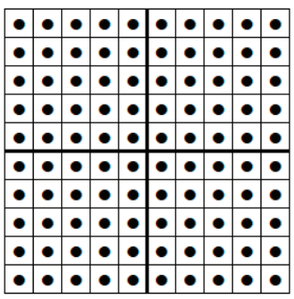
- teach mathematics for **conceptual understanding** to enable comprehension of mathematical concepts, operations, and relations;
- teach so that learners develop **procedural fluency** which involves skill in carrying out procedures flexibly, accurately, efficiently, and appropriately;
- develop learners' **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)			

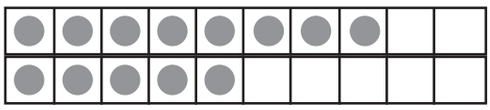
In the CPA approach, the following methods are of great importance.

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

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

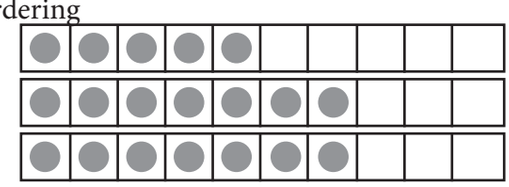
- Matching (one-to-one correspondence)
- Sorting

- Comparing

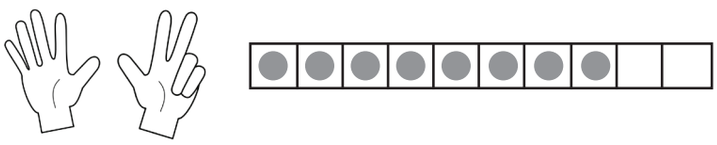


- Ordering

5
7
8

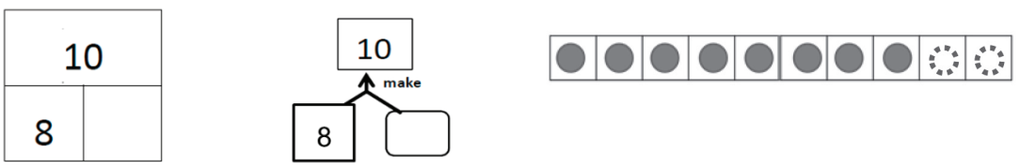


- Subitising



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 = ☐

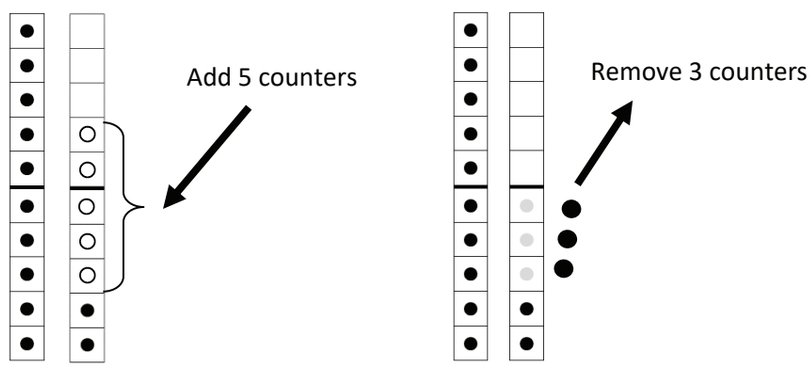


b. Make-a-ten method (Grade 1)

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.

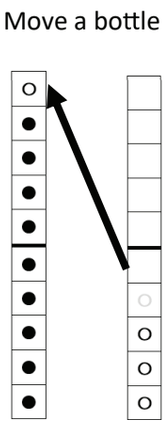
1. 12 + 5 **2.** 15 – 3



10 and 7 make 17. 10 and 2 make 12.

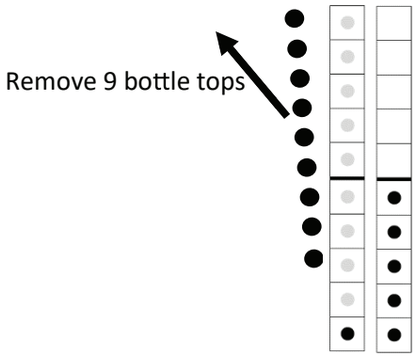
- Addition with carrying and subtraction with borrowing.

3) 9 + 4

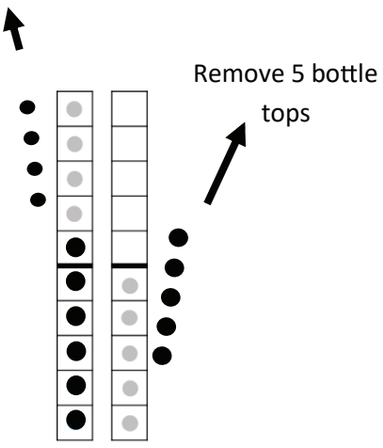


10 and 3 make 13.

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)

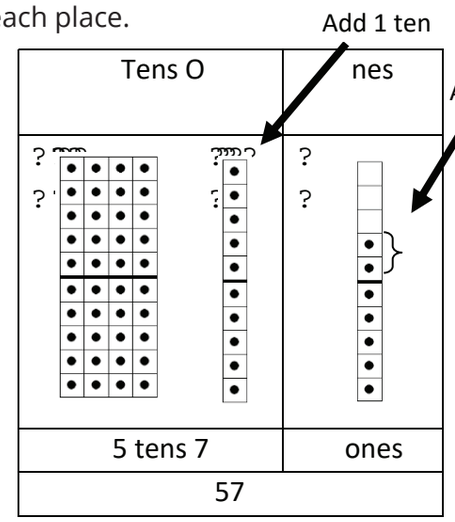
It is critical to show the connection between the place value table and the column method.

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

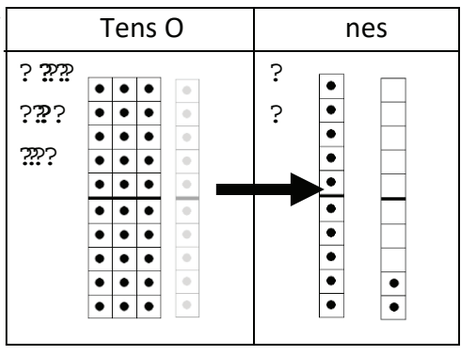
Step 2. Write numbers in each place.

Step 3. Write the answer.

2) 42 – 19

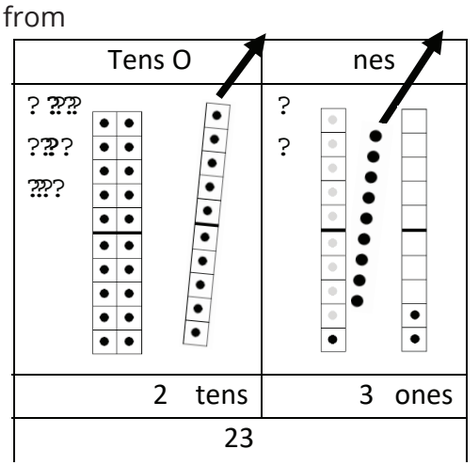
Step 1. Exchange 1 ten for 10 ones.

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.

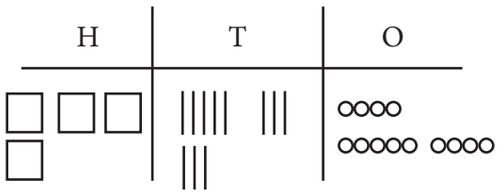
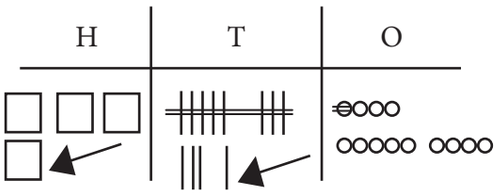
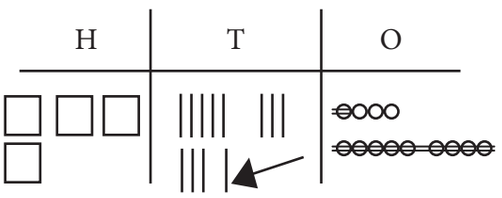
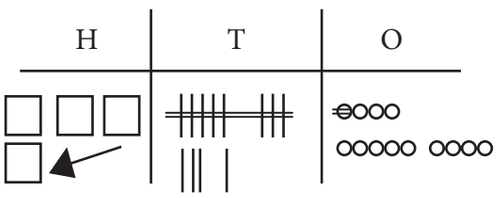
d. Column method using simplified pictorials [pictorial representation] (Grade 3)

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

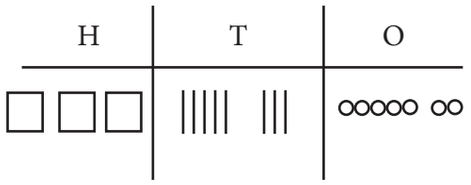
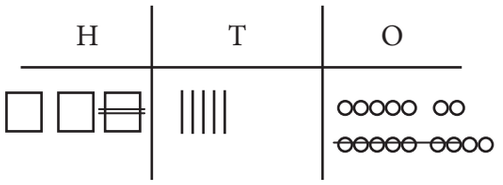
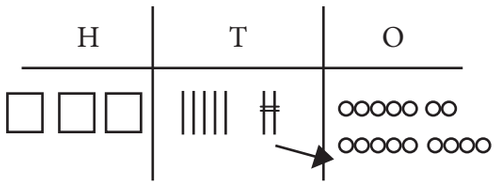
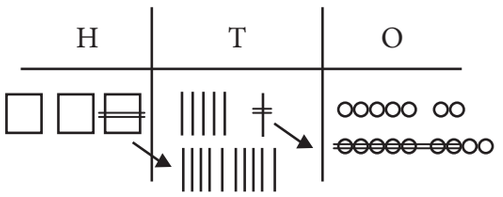
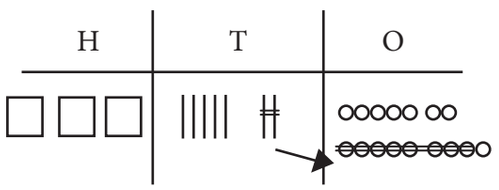
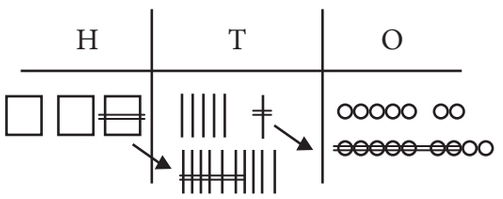
as follows.

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 Đ 19

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

Grade 3

3) 26 + 38

	T	O
	1	
	2	6
+	3	8
	6	4

4) 81 Đ 47

	T	O
	7	1
	8	1
Đ	4	7
	3	4

5) 384 + 139

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

6) 367 Đ 78

	H	T	O
	2	1 5	1
	3	6	7
Đ		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

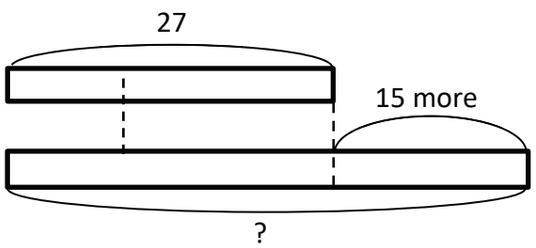
Step 1. Understand the problem.

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

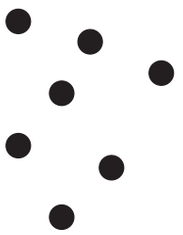
A calculation technique that consists of building up (composition) and breaking down (decomposition). For instance, 4 can be broken down into 1 and 3, 2 and 2 and 3 and 1. These are the number bonds of 4. The number bonds of 10 are the most important since they are used in all calculation strategies.

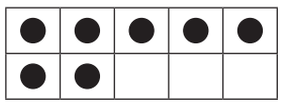
EXPANDED NOTATION

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

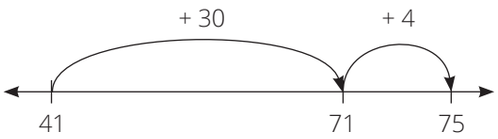
Subitising is 'an instant cognition of the number of objects'. This is one of the most important skills that learners should acquire in the Foundation Phase. A ten frame is a useful tool to help learners to subitise objects. In the example below, it is easier to recognise the number of dots by putting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

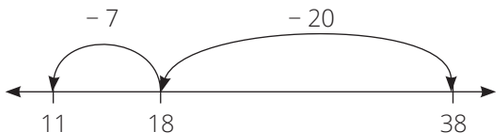




JUMPING STRATEGIES ON A NUMBER LINE

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

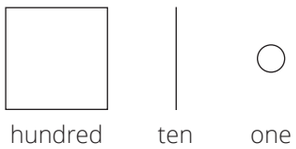
CPA APPROACH (ALSO KNOWN AS THE CRA APPROACH)

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)

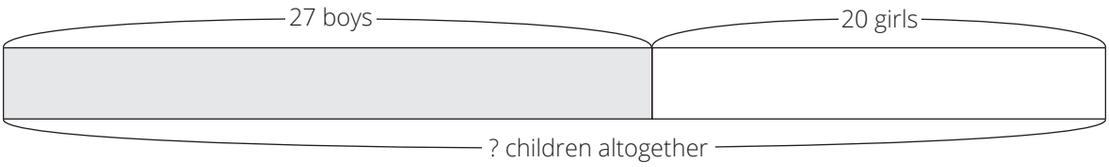
The following is the array diagram of 2 × 4. The order of multiplication is important and is consistent with CAPS.

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

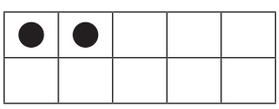
These are concrete apparatus such as counters, printed tens, printed hundreds, box and ball shapes, etc. that can be manipulated by learners.

COUNTERS

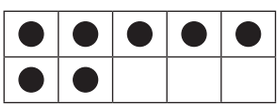
These are any (loose) concrete objects that learners can manipulate when counting. In the TMU, bottle tops are recommended since they are freely available but other counters can also be used such as interlocking cubes (e.g. Unifix cubes). Teachers are expected to use concrete counters such as bottle 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:

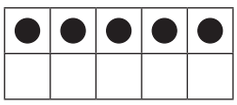


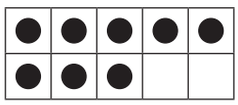
This is the number 7 represented on a double-decker ten frame (visually 5 plus 2):



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)

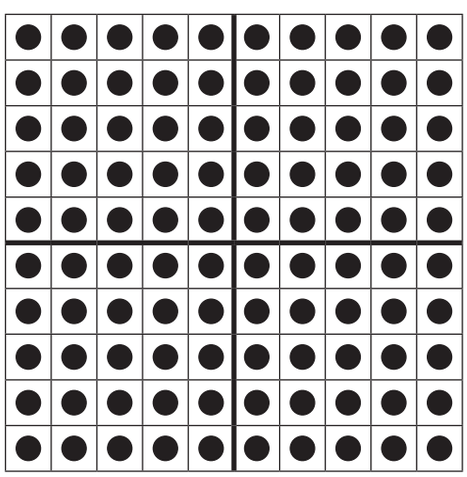
A ten frame which is straight. The thicker line in the middle shows the 5. This line is important because it helps learners to recognise the numbers 6 to 10 by using the building up skill of 5 and … (numbers 1 to 5). A straight ten frame is helpful to deal with numbers bigger than 10.

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.

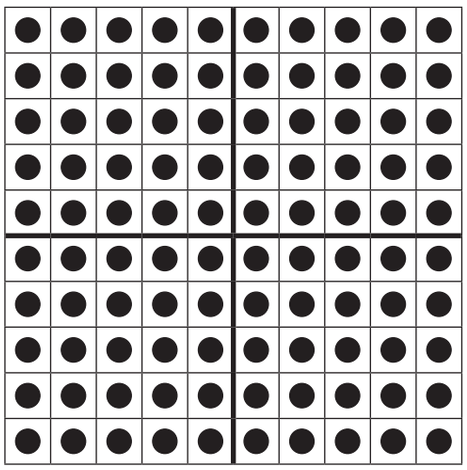
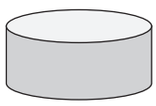


BASE TEN KITS (ALL)

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
		

Assessment for learning

Teaching is an engagement with learners that is ongoing. The engagement should be planned o 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

Programme of Assessment

CONTENT AREA	ASSESSMENT TYPES	LESSON NUMBER	ASSESSMENT TYPE	MARKING GUIDE
NUMBER OPERATIONS & RELATIONSHIPS (NOR)	2 orals 1 practical 5 written	Lesson 6	Written, oral and practical	Memo, checklist and rubric
		Lesson 12	Written	Memo
		Lesson 17	Written and oral	Memo, checklist and rubric
		Lesson 24	Written	Memo
		Lesson 33	Written	Memo
SPACE & SHAPE (SS)	1 written	Lesson 49	Written	Memo
MEASUREMENT (M)	1 oral 1 practical 3 written	Lesson 37	Written and practical	Memo, checklist and rubric
		Lesson 43	Written, oral and practical	Memo, checklist and rubric

CAPS calls for ongoing assessment which should be made up of both formal and informal assessment. TMU fully endorses this approach. The TMU materials does not distinguish between formal and informal assessment. This is to be agreed on by users of the material in collaboration with teacher CoP groups and supporting officials. The assessment provided in the TMU documentation is all linked to the suggested mark sheet which can be found in the Teacher's Resource document. This sheet is to be used at the professional discretion of the teacher based on decisions made in terms of formal and informal assessment. Formal assessment marks can then be entered into SA SAMS from the suggested mark sheet since the mark sheet shows totals per content area, per term. In this way, the TMU assessment programme has been designed to fully support teachers in assessment each term.

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 bilingual Learner Activity Book
- a bilingual Teachers' Resource pack
- 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.

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.

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

Unit 1 Introduction

In Term 1 the learners learned the number bonds of ten. They worked with the patterns of the breaking down of 10 and wrote down each of the number pairs that make the bonds of 10. In lesson one of Term 2 learners will revise how to break down and build up numbers by manipulating bottle tops in a ten frame. As they rediscover the number bonds of 2 to 10, they will be laying the foundation for the three types of addition word problems (combine, change and compare) that are worked on in this unit. Learners must work with bottle tops without ten frames when they represent word problems in this unit.

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

- **Conceptual understanding**: The meaning of addition should be made clear and represented using bottle tops. Using bottle tops will enable learners to visualise the answers to addition questions. The activities in this unit will help learners to understand subtraction in the next unit.
- **Procedural fluency**: It is important that learners develop fluency with the number bonds 2–10. By applying their knowledge of number bonds to solve addition number sentences, learners will be able to find answers without counting.
- **Strategies**: In order to solve addition number sentences, learners can use bottle tops in a ten frame or their knowledge of number bonds.
- **Reasoning**: By answering questions related to solving word problems, learners will have an opportunity to demonstrate and develop their reasoning skills in relation to numbers and operations.

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

- **Problem solving**: There are three different types of addition problems, i.e. combine, change and compare. Learners do not have to know the names and the differences between the three types. However, it is necessary to pose all three different types of problems to the learners and let them realise that all of them can be solved using addition.
- **Connecting representations**: Making connections between words such as 'and', 'makes', bottle tops in a ten frame, number bond tables and number sentences, can enable learners to become fluent in addition problems. Learners have to practice manipulating bottle tops in ten frames. The ten frame helps learners to have an idea of how many more they need to add to make a ten, which is critical knowledge that will be built on in Terms 3 and 4.

Unit 1 overview

Day	LP	Lesson Objective	Lesson Resources	Date Completed
Mon	1	Revise how to build up and break down numbers 2 to 10.	Ten frames and bottle tops, plastic bags (1 per pair of learners).	
Tue	2	Understanding the concepts of increase and decrease to lay the foundation for addition and subtraction.	Ten frames and bottle tops.	
Wed	3	Introduce number sentences to show addition (combine problems).	Ten frames and bottle tops.	
Thur	4	Use number sentences to show addition (combine problems).	Ten frames and bottle tops.	
Fri	5	Consolidation of work done this week.	Learner Activity Book.	
Mon	6	Assessment.	Assessment activity in teacher's resources.	
Tue	7	Introduce number sentences to show addition (change problems).	Ten frames and bottle tops.	
Wed	8	Find patterns of addition using addition cards.	Ten frames and bottle tops, addition cards (see Printable Resources).	
Thur	9	Introduce addition (compare).	Ten frames and bottle tops.	
Fri	10	Consolidation of work done this week.	Learner Activity Book.	
Mon	11	Represent the situation of addition (compare) using number sentences.	Addition cards (see Printable Resources), ten frames and bottle tops.	
Tue	12	Assessment.	Assessment activity in teacher's resources.	
Wed	13	Understand the meaning of adding 0 or adding to 0.	Ten frames and bottle tops, three balls, addition cards (see Printable Resources).	

Thur	14	Create stories for addition, to assist in the understanding of word problems.	Ten frames and bottle tops.	
Fri	15	Consolidation of work done this week.	Learner Activity Book.	
Mon	16	Consolidate understanding of addition.	Ten frames and bottle tops.	
Tue	17	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 the week? If not, how will you get back on track?*

What will you change next time? Why?

Lesson 1: Number bonds up to 10

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Revise how to build up and break down numbers 2 to 10.
Lesson Vocabulary: How many, pattern, number bond, pair, left hand side, right hand side, vertically, horizontally, diagonally.
Resources: Ten frames and bottle tops, plastic bags (1 per pair of learners).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer		What is?	Answer
1	1 and 1 is __	2	**6**	3 and 2 is __	5
2	1 and 3 is __	4	**7**	1 and 2 is __	3
3	2 and 1 is __	3	**8**	2 and 3 is __	5
4	1 and 4 is __	5	**9**	3 and 1 is __	4
5	2 and 2 is __	4	**10**	4 and 1 is __	5

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In today's lesson you will revise the number bonds for numbers 2 to 10. Remind learners of what they learned in Term 1 by initially using concrete apparatus before moving on to a more abstract representation of the number bonds. Number bonds involve building up and breaking down. We mainly use building up in addition problems. The link between the concrete apparatus and written record of the work is important. Make sure learners have plenty of opportunity to discover all the combinations.

Today we will revise the number bonds up to 10.

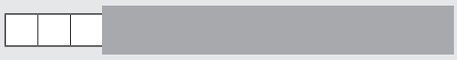
Activity 1: Whole class activity

- Learners should find a partner to work with. (I.e. make pairs.)
- Each pair of learners should take 6 bottle tops and put them in a plastic bag.
- Let one of the learners in each pair put their hand inside the bag, without looking into the bag, and grab some bottle tops. They then take their hand out and check how many bottle tops have been left behind in the bag.
- Ask: **How many bottle tops remain in the bag?**
- Learners check how many bottle tops were taken out of the bag.

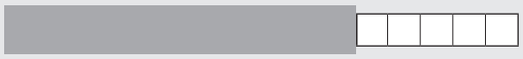
- Then check how many bottle tops were taken out of the bag.
- Each pair should then write the pair of numbers they found in their classwork books.
- Each pair should repeat the above taking turns. Stop them after 3 minutes.
- Ask: **What pairs of numbers did you make up?**
- Write the patterns down on the board.
- *All patterns/number bonds of 6 must appear on the board.*
- Change the number of bottle tops to 7, 8 and 9.

Activity 2: Whole class activity

- Paste the big ten frame on the board and count the blocks to confirm with the learners that there are 10 blocks in the ten frame.
- Quickly hide a part of the ten frame with cardboard, working from the right side of the board.
- Ask: **How many blocks are hidden under the cardboard? Why?** (E.g. Seven, because we can break down 10 into 3 and 7 and we can only see 3 frames.)



- After a while, change the side, you place the cardboard i.e. hide a part of the ten frame from the left side.



- Do the same activity several times with the whole class covering a different number of blocks each time. Later, let individual learners give answers too.
- Record all the patterns/number bonds of 10 on the board; 0 and 10, 1 and 9, 2 and 8, 3 and 7……...10 and 0.
- Learners should get back into their pairs and do the same activity, again taking turns covering and answering. (I.e. one learner hides part of the ten frame (from the right hand side) with a classwork book and the other learner answers.)
- After a while, let the learners change the side of the ten frame they cover, i.e. hide a part of ten frame from left hand side.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. Remind the learners what is needed to complete the bond tables in question 1. You may need to provide an example for question 2 to the learners. Explain the meaning of the vocabulary in the second question by giving the learners examples (refer to the bilingual dictionary for explanations and examples of terms).

1 Fill in the blanks and complete the sentence.

a 5 and 5 make (10)

(10)	
5	5

b 4 and 3 make (7)

(7)	
4	3

c 2 and 4 make (6)

(6)	
2	4

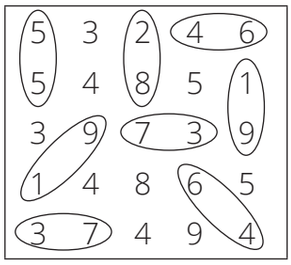
d 9 and 1 make (10)

(10)	
9	1

2 Find and circle as many pairs as you can that make 10. (Pairs must be vertical, horizontal or diagonal.)

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

(Answer)



4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and complete the sentence.

a 4 and 1 make (5)

(5)	
4	1

b 2 and 8 make (10)

(10)	
2	8

c 6 and 4 make (10)

(10)	
6	4

d 4 and 4 make (8)

(8)	
4	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 about the number bonds of 2 to 10.

Lesson 2: Increase and decrease

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Understanding the concepts of increase and decrease to lay the foundation for addition and subtraction.
Lesson Vocabulary: Left, altogether, make, more, less, increase, decrease.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer		What is?	Answer
1	4 and 2 is __	6	**6**	3 and 3 is __	6
2	5 and 2 is __	7	**7**	1 and 6 is __	7
3	6 and 3 is __	9	**8**	7 and 3 is __	10
4	4 and 4 is __	8	**9**	2 and 6 is __	8
5	6 and 4 is ___	10	**10**	8 and 2 is ___	10

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the focus is on developing the vocabulary of increase and decrease. Encourage the learners to think about how the numbers change. Model how to verbalise this increase and decrease, thereby laying the foundation for addition and subtraction. The learners have not yet been exposed to subtraction, so this lesson is building on the learners' knowledge of addition, and creating a context for the introduction of subtraction in Week 4 through the introduction of new vocabulary.

Today we are learning about the ideas of increase and decrease.

Activity 1: Whole class activity

- *This role play is intended to allow the learners to experience increase and decrease in the context of a story. It is also important for learners to have fun with this activity.*
- Bring 7 learners to the front of the class.
- Explain a situation:
  4 people get in a bus at a bus stop.
  3 passengers get in at the next stop.
  5 passengers get off at the following stop.

- Let the 7 learners act out the story.
- Let other learners move their bottle tops to represent the situation after seeing the role play with the 7 learners.
- Explain another situation:
  A boy has 3 pens.
  His mother gives him 5 more pens.
  He gives 4 pens to his sister.
- Change the story by changing the numbers and the situation.
- Ask different learners to act out each new situation. Let the learners who are acting move their bottle tops to follow the story.

Activity 2: Whole class activity

- Ask: **What different verbs did we use to explain the story?** (come in, join, receive/given, get on, etc. and take way, gone, leave, fly away, get off, give to someone, disappear, eat, etc.)
- Make a list of the different verbs and let the learners decide which verbs were used to show an increase and which verbs indicated a decrease.
- Let some learners come to the front of the class and, using bottle tops, show the meaning of the different verbs.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity.

Fill in the blanks and complete the sentence.

a 4 and 1 make (5)

(5)	
4	1

b 5 and 2 make (7)

(7)	
5	2

c 3 and 3 make (6)

(6)	
3	3

d 3 and 5 make (8)

(8)	
3	5

e 2 and 5 make (7)

(7)	
2	5

f 5 and 5 make (10)

(10)	
5	5

g 6 and 3 make (9)

(9)	
6	3

h 3 and 7 make (10)

(10)	
3	7

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and complete the sentence.

a 3 and 2 make (5)

(5)	
3	2

b 5 and 2 make (7)

(7)	
5	2

c 4 and 4 make (8)

(8)	
4	4

d 3 and 7 make (10)

(10)	
3	7

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 increasing and decreasing numbers. We have also learned about the words that are used to speak about these situations.

Lesson 3: Addition (combine)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Introduce number sentences to show addition (combine problems).
Lesson Vocabulary: Number sentence, addition, add, more, all together.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer			Answer
1	1 and 1	2	**6**	3 and 2	5
2	1 and 3	4	**7**	2 and 1	3
3	1 and 2	3	**8**	4 and 1	5
4	1 and 4	5	**9**	3 and 1	4
5	2 and 2	4	**10**	2 and 3	5

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

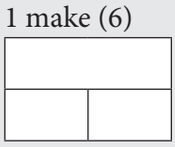
In this lesson learners will be introduced to addition more directly. The learners will learn to write number sentences using appropriate symbols. It is important for the learners to understand what the number sentence means, and to be able to represent the situation of addition as a number sentence, after doing so with concrete apparatus. Focus on combine-type problems where two quantities are added (combined) together to make a total number of items. Change and compare type problems will be addressed in later lessons.

Today we are learning the meaning of addition number sentences and how to write them.

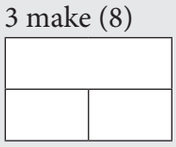
Activity 1: Whole class activity

- Write the following questions and number bond tables on the board.

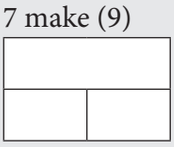
a 5 and 1 make (6)



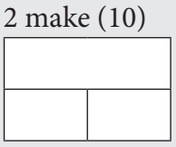
b 5 and 3 make (8)



c 2 and 7 make (9)



d 8 and 2 make (10)



- Ask the whole class the answers to the questions you wrote on the board, moving from a) to d) sequentially.

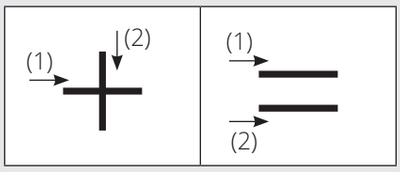
- Let the learners use bottle tops on a ten frame to check the answers.
- Let the learners practise building up other numbers mentally, using numbers that are less than or equal to 10.
- For example:
  - 2 and 4 make (6),
  - 4 and 3 make (7),
  - 4 and 4 make (8),
  - 5 and 4 make (9), etc.
- *If the learners cannot answer mentally, let them use bottle tops with a ten frame.*

Activity 2: Whole class activity

- Read the following problem slowly to the class a few times. This is an example of an addition (combine) problem.
  Nosisi has 3 green and
  2 blue marbles.
  How many marbles does she have?
- *This is the first time Grade 1 learners are being exposed to solving word problems in a mathematical way. In this lesson, focus on reading the question to the learners to help them to understand what you are reading. For this reason, do not write the problem on the board. You will only write the problem on the board later, once learners have become accustomed to the word problem.*
- *Write the critical information of each problem on the board and make drawings to illustrate the solutions.*
- *Focus on understanding the addition situations and developing the number sentences that represent the problems. (From Term 3, all steps for word problem solving must be followed.)*
- Ask: **How many green marbles does Nosisi have?** (3). Then write 3, with a drawing of three marbles, on the board.
- Ask: **How many blue marbles does Nosisi have?** (2). Then write 2, with a drawing of two marbles, on the board.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops) to represent the story.
- *The movement of the bottle tops is related to the type of word problem. As this is a 'combine' type problem, the following diagram shows the correct movement of the bottle tops (combining two numbers thus pushing the two groups of bottle tops together). When we represent a story with bottle tops, we don't use a ten frame (a ten frame is used only for calculation).*

  ●●● → ← ○○

- Teach the learners how to write a number sentence and the names and meanings of the signs.



- Write the number sentence (3 + 2 =). Read the number sentence together several times.
- Write '3 and 2 makes' below the '3 + 2 ='
- Let the learners practise how to write '+' and '=' several times in the air and then in their classwork books.
- Let the learners solve the number sentence (3 + 2 = 5).
- Explain the relationship between addition, building up and the following table.
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.

(5)	
3	2

- Ask: **What is the answer to the word problem?** (Nosisi has 5 marbles.)
- *Learners should write the answer with the correct unit, i.e. 5 marbles.*

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. Explain to the learners that they will write a number sentence to show the addition of the coloured and uncoloured dots in the ten frames for question 1.

1 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a	● ○ ○ ○ 	(1 + 3 = 4)	**b**	● ● ● ● ○ 	(4 + 1 = 5)
c	● ● ● ○ ○ ○ ○	(3 + 4 = 7)	**d**	● ● ● ● ● ● ● ○ ○ ○	(7 + 3 = 10)

2 Write the number sentence. The first one is done for you.

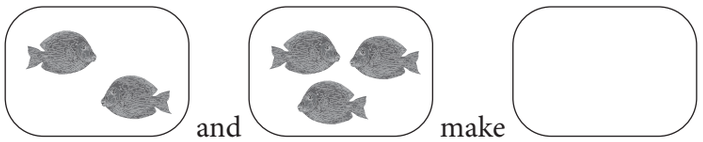
 2 and 2 make ___. 2 and 2 make 4.	(2 + 2 = 4)
 ☐ and ☐ make ___. ___ and ___ make ___	(2 + 1 = 3)
 ☐ and ☐ make ___. ___ and ___ make ___	(3 + 2 = 5)
 ☐ and ☐ make ___. ___ and ___ make ___	(2 + 3 = 5)

4 HOMEWORK ACTIVITY (5 MINUTES)

Draw the answer and then write the number sentence.

a  and make

(1)	+	(4)	=	(5)

b  and make

(2)	+	(3)	=	(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 about the concept of addition (combine problems) and how to add using number sentences.

Lesson 4: Using number sentences to show addition (combine)

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Use number sentences to show addition (combine problems).		
Lesson Vocabulary: Number sentence, addition, add, more, all together.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer			Answer
1	1 and 5	6	**6**	4 and 4	8
2	2 and 5	7	**7**	4 and 2	6
3	3 and 5	8	**8**	6 and 2	8
4	3 and 4	7	**9**	7 and 1	8
5	3 and 3	6	**10**	1 and 8	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson continues to develop the learners' understanding of number sentences. The learners need to practise representing addition problems by writing number sentences, so ensure that you allow them a number of opportunities to do this. Encourage the learners to talk quietly amongst themselves in order to verbalise what they are doing. This will help them to consolidate their understanding.

Today we are learning more about addition using number sentences.

Activity 1: Whole class activity

- Tell the following problem slowly to the class a few times. This is an example of addition (combine) problem.
  There are 4 boys and
  3 girls on the playground.
  How many children are there altogether?
- Ask: **How many boys are there?** (4). Then write 4 with a simple drawing of four boys on the board.

- Ask: **How many girls are there?** (3). Then write 3 with a simple drawing of three girls on the board.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops). *The movement of the bottle tops is related to the type of word problem. As this is a 'combine' type problem, the following diagram shows the correct movement of the bottle tops (combining two numbers).*
  ●●●● → ← ○○○
- Write the number sentence (4 + 3 =). Read the number sentence together several times. Write '4 and 3 make' below the '4 + 3 ='
- Also, write the number bond table with the answer block left blank.

(7)	
4	3

- Let the learners solve the number sentence (4 + 3 = 7).
- Ask: **What is the answer to the word problem?** (There are 7 children.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, i.e. 7 children. They should not simply answer '7'.*

Activity 2: Learners work in pairs

- Let the learners solve the following problem by following the steps used in Activity 1.
  I have 2 pink pieces of chalk and
  4 white pieces of chalk.
  How many pieces of chalk do I have in total?
- The number sentence is 2 + 4 = (6).
- The answer is 'The teacher has 6 pieces of chalk'.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity.

1 Draw the answer and write the number sentence.

a

○○○	and	○○○○○	make	(○○○○○ ○○○)
(3)	+	(5)	=	(8)

b

○○○○○ ○	and	○	make	(○○○○○ ○○)
6	+	1	(=)	(7)

c	○○	and	○○○○○ ○○○	make	(○○○○○ ○○○○○)
	(2)	(+)	8	(=)	(10)
d	○○○○○ ○○	and	○○	make	(○○○○○ ○○○○)
	7	(+)	(2)	(=)	(9)
e	○○○	and	○○○	make	(○○○○○ ○)
	(3)	(+)	(3)	(=)	(6)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	2 + 1 = (3)	● ● ○	**b**	3 + 3 = (6)	● ● ● ○ ○ ○
c	7 + 2 = (9)	● ● ● ● ● ● ● ○ ○	**d**	5 + 3 = (8)	● ● ● ● ● ○ ○ ○

4 HOMEWORK ACTIVITY (5 MINUTES)

Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a	● ● ○ ○ ○	(2 + 3 = 5)	**b**	● ● ● ● ○ ○	(4 + 2 = 6)
c	● ● ● ● ● ○ ○	(5 + 2 = 7)	**d**	● ○ ○ ○ ○ ○ ○ ○ ○ ○	(1 + 9 = 10)
e	● ● ● ● ● ○ ○ ○	(5 + 3 = 8)	**f**	● ● ● ● ● ● ○ ○ ○	(6 + 3 = 9)

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 write addition number sentences.

Lesson 5: Consolidation – number bonds and number sentences

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Revise number bonds and number sentences.		
Lesson Vocabulary: Number sentence, addition, add, more, altogether.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

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

This week the learners were introduced to addition using combine type problems. The learners used bottle tops and drawings to help them solve problems. The learners were also taught how to write number sentences to represent addition problems.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

It is important to emphasise that with combine type problems learners need to join / put together groups of objects to find the total number of objects.

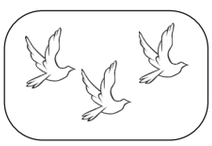
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

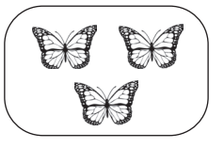
Today we are going over what we learned this week. We are learning more about addition.

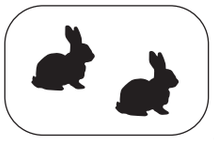
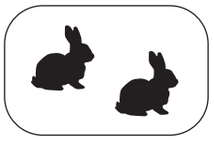
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

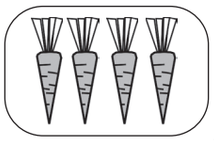
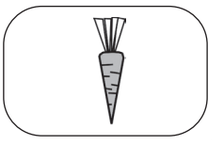
The learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. Eventually, the learners should be able to write answers without using bottle tops or their fingers by doing regular mental maths activities. However, it is also very important that learners are able to link number symbols to real objects by manipulating bottle tops in the early stages. When you observe that learners have attained a strong number concept, you can gradually stop asking them to check their answers using bottle tops in a ten frame.

1 Write the number sentences.

a  _____ and  _____ make _____ (3 and 1 make 4)

b  _____ and  _____ make _____. (1 and 3 make 4)

c  _____ and  _____ make _____. (2 and 2 make 4)

d  _____ and  _____ make _____. (4 and 1 make 5)

2 Write the number sentence.

a		and		make	?
	(4)	+	(2)	=	(6)
b		and		make	?
	(7)	(+)	(3)	(=)	(10)
c		and		make	?
	(5)	(+)	(4)	(=)	(9)
d		and		make	?
	(4)	(+)	(4)	(=)	(8)
e		and		Make	?
	(6)	(+)	(1)	(=)	(7)

3 Fill in the blanks.

a

(6)	
5	1

b

(7)	
4	3

c

(8)	
1	7

d

(9)	
7	2

e

(10)	
5	5

f

(10)	
3	7

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have learned to increase and decrease numbers, to work with the concept of addition and to add using number sentences.

Week 2

Lesson 6: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 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 and practical assessment* (see rubric below). The level achieved by the learner using the rubric is used to assign a mark for the purposes of mark recording for SA SAMS.

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 **(20)**

1 Fill in the blanks. (6)

a

(9)	
6	3

b

(5)	
4	1

c

(6)	
3	3

d

(8)	
2	6

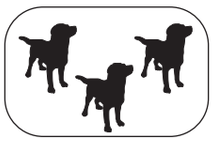
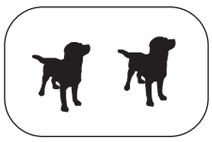
e

(10)	
9	1

f

(7)	
3	4

2 Write the number sentences. (6)

a.  _____ and  _____ make _____ . (3 and 2 make 5)

b.  _____ and  ____ make ____ . (2 and 3 make 5)

3 Draw dots in the ten frame to find the answer to the number sentence. (4)

	Number sentence	Ten frame		Number sentence	Ten frame
a	4 + 2 = (6)	●●●●○ / ○	**b**	6 + 3 = (9)	●●●●● / ●○○○
c	7 + 3 = (10)	●●●●● / ●●○○○	**d**	4 + 4 = (8)	●●●●○ / ○○○

4 Write the number sentences. (4)

	Ten frame	Number sentence		Ten frame	Number sentence
a	●●●○○	(3 + 2 = 5)	**b**	●●○○	(2 + 2 = 4)
c	●●●○○ / ○○	(3 + 4 = 7)	**d**	●●●●● / ●○○○	(6 + 3 = 9)

GUIDELINE:

1. Learners use their knowledge of bonds to complete the tables.
2. Learners use the drawings to complete the number sentence.

3 and 4. Learners use the ten frames to write the number sentences.

Work with ten frames and bottle tops to support learners who have difficulty with any of these assessment items.

ORAL AND PRACTICAL

CAPS: Number, operations and relationships: Counting, naming and writing numbers Activity: Observe learners to assess their ability to count objects up to 20.							Mark: 7
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
Criterion	Cannot count objects correctly. Can say some number names.	Cannot count objects correctly. Can say many random number names.	Able to count out objects by pointing at them but not able to say the numbers in correct sequence.	Able to count up to 5 objects correctly, saying the number names in sequence correctly.	Able to count up to 10 objects correctly, saying the number names in sequence correctly.	Able to count up to 15 objects correctly, saying the number names in sequence correctly.	Able to count up to 20 objects correctly, saying the number names in sequence correctly.

Formal/Informal assessment to be agreed in collaboration with teacher CoP and supporting officials.

ORAL AND PRACTICAL: CHECKLIST (7)

Mark ✓/7	Criteria – Checklist: (1 mark for each criterion achieved)	Achieved – ✓	Not yet – ✘	Almost – ★
1	Cannot count objects correctly. Can say some number names.			
1	Able to count up to 5 objects correctly.			
1	Able to count up to 10 objects correctly.			
1	Can say the numbers up to 10 correctly in sequence.			
1	Able to count up to 15 objects correctly.			
1	Able to count up to 20 objects correctly.			
1	Can say the numbers up to 20 correctly in sequence.			

Lesson 7: Addition (change)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Introduce number sentences to show addition (change problems).
Lesson Vocabulary: Number sentence, addition, add, more, altogether, increase, extend.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer			Answer
1	4 and 5	9	**6**	6 and 4	10
2	3 and 7	10	**7**	6 and 3	9
3	2 and 7	9	**8**	8 and 2	10
4	5 and 5	10	**9**	9 and 1	10
5	3 and 6	9	**10**	7 and 2	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson you will introduce learners to a new addition problem type – change. It is important to consolidate combine problems as they were covered in previous lessons before showing the learners the new type of problem. It is not necessary to explicitly name the different problem types for children. However, they do need to be able to understand the situation of addition and solve both combine and change problems. In this lesson, there are only 2 word problems provided for you. If you have time, use the same format as these to make up more examples. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address learners' misconceptions and errors.

Today we are learning about addition (change).

Activity 1: Whole class activity

- Say the following problem slowly to the class a few times. This is an example of an addition (change) problem.
  There are 4 birds on a branch.
  2 more birds land on the branch.
  How many birds are there on the branch now?

- Ask: **How many birds were there in the beginning?** (4). Then write 4, with a simple drawing of 4 birds, on the board.
- Ask: **How many birds then come to the branch?** (2). Then write 2, with a simple drawing of 2 birds, on the board.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops).
- *The movement of the bottle tops is related to the type of word problem. As this is a 'change' type problem, the following diagram shows the correct movement of the bottle tops (Only the 2 bottle tops move toward the 4 bottle tops. The 4 bottle tops do not move).*
  ●●●● ← ○○
- Write the number sentence (4 + 2 =). Read the number sentence together several times.
- Write '4 and 2 makes' below the '4 + 2 ='
- Write the number bond table on the board, with the answer block left blank.

(6)	
4	2

- Let the learners solve the number sentence (4 + 2 = 6).
- Ask: **What is the answer to the word problem?** (There are 6 birds.).
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, i.e. 6 birds.*

Activity 2: Learners work in pairs

- Let learners solve the following problem by following the steps in Activity 1.
  I have 5 oranges.
  My sister gives me 4 oranges.
  How many oranges do I have in total?
- The number sentence is 5 + 4 = (9).
- The answer is 'I have 9 oranges'.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity.

Fill in the blanks and write a number sentence.

a

(7)	
3	4

(3 + 4 = 7)

b

(8)	
5	3

(5 + 3 = 8)

c

(6)	
2	4

(2 + 4 = 6)

d

(9)	
3	6

(3 + 6 = 9)

e

(10)	
5	5

(5 + 5 = 10)

f

(9)	
7	2

(7 + 2 = 9)

g

(10)	
6	4

(6 + 4 = 10)

h

(8)	
1	7

(1 + 7 = 8)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

(8)	
2	6

(2 + 6 = 8)

b

(6)	
5	1

(5 + 1 = 6)

c

(10)	
8	2

(8 + 2 = 10)

d

(9)	
2	7

(2 + 7 = 9)

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 deepened our understanding of the concept of addition by working on word problems that focus on addition (change).

Lesson 8: Addition patterns

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Find patterns of addition using addition cards.
Lesson Vocabulary: Number sentence, addition, add, more, altogether, increase.
Resources: Ten frames and bottle tops, addition cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer		What is?	Answer
1	1 and 3 is __	4	**6**	2 and 1 is __	3
2	1 and 5 is __	6	**7**	6 and 2 is __	8
3	4 and 1 is __	5	**8**	1 and 9 is __	10
4	3 and 3 is __	6	**9**	7 and 0 is __	7
5	3 and 4 is __	7	**10**	5 and 4 is __	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson learners find patterns made by addition. It is essential that learners are familiar with the different presentations of addition. You will need to prepare the printed addition cards for use in this lesson. You should make your own set of big addition cards on A4 paper, to use on the board, like those in the printable resource. Remember to write the answers on the backs of the cards. The layout of the addition cards, as shown on page 36, may look overwhelming but remember that you will build this table incrementally so that it is easier for the learners to understand. Allow learners time to discuss and to verbalise their understanding. Use this as an opportunity to address learners' misconceptions and errors.

Today we are learning to add using number sentences.

Activity 1: Whole class activity

- Paste all the addition cards, except 2 + 2, 2 + 3 and 2 + 4, on the board as follows:

1 + 1 =	2 + 1 =	3 + 1 =	4 + 1 =	5 + 1 =	6 + 1 =	7 + 1 =	8 + 1 =	9 + 1 =
1 + 2 =		3 + 2 =	4 + 2 =	5 + 2 =	6 + 2 =	7 + 2 =	8 + 2 =	
1 + 3 =		3 + 3 =	4 + 3 =	5 + 3 =	6 + 3 =	7 + 3 =		
1 + 4 =		3 + 4 =	4 + 4 =	5 + 4 =	6 + 4 =			
1 + 5 =	2 + 5 =	3 + 5 =	4 + 5 =	5 + 5 =				
1 + 6 =	2 + 6 =	3 + 6 =	4 + 6 =					
1 + 7 =	2 + 7 =	3 + 7 =						
1 + 8 =	2 + 8 =							
1 + 9 =								

- Note: Lay out the cards incrementally, so that the learners can see the pattern. Allow the learners to discuss the cards, and the patterns that they notice.
- Ask: **What number sentence comes under 2 + 1? Why?** (2 + 2 because then both the right and left sides show '2 +'. The 2 on the left side is the same as the number above. The number being added increases by 1 each time).
- Paste the 2 + 2 card on the board once you have discussed and agreed that it is the first missing card in the display on the board.
- Let the learners work out what the next two cards should be (2 + 3 and 2 + 4).
- Paste 2 + 3 and 2 + 4 in the correct place in the table on the board.
- Ask: **What patterns do you find in this display of number sentences?** (The numbers on the left side are the same numbers in each column. The numbers on the right side are increasing by one, from 1.)
- Next, let the learners find the answers for all the '2 +' cards.
- Turn over all the big '2 +' cards, one by one, to check that the answers are correct.
- Do the same thing for the '3 +' and '4 +' cards.

Activity 2: Learners work in pairs

- Ask: **Can you find me a number sentence that has the answer 7?**
- Ask pairs of learners to discuss and find all the number sentence(s) that they can, that have the answer 7.
- Call one learner to the board to take off one card which has the answer 7.
- Confirm with the whole class that they agree with the card selection and then turn over the card to check the answer. Put the card on the side.
- Ask: **Is this the only number sentence that has the answer 7?** (No, there are others.)
- Ask other learners to take off more cards and check whether their card selections were correct or not and then put the card on the side.

- After all the number sentences that have the answer 7 have been found and taken off, ask: **What pattern do you see in the table after we have taken off the cards that have the answer 7?** (The gaps in the table where the cards were removed are positioned diagonally.)

1 + 1 =	2 + 1 =	3 + 1 =	4 + 1 =	5 + 1 =	6 + 1 =	7 + 1 =	8 + 1 =	9 + 1 =
1 + 2 =	2 + 2 =	3 + 2 =	4 + 2 =	5 + 2 =	6 + 2 =	7 + 2 =	8 + 2 =	
1 + 3 =	2 + 3 =	3 + 3 =	4 + 3 =	5 + 3 =	6 + 3 =	7 + 3 =		
1 + 4 =	2 + 4 =	3 + 4 =	4 + 4 =	5 + 4 =	6 + 4 =			
1 + 5 =	2 + 5 =	3 + 5 =	4 + 5 =	5 + 5 =				
1 + 6 =	2 + 6 =	3 + 6 =	4 + 6 =					
1 + 7 =	2 + 7 =	3 + 7 =						
1 + 8 =	2 + 8 =							
1 + 9 =								

- *If the learners cannot express the position verbally, one learner can come to the board and show what they have found using their hands and body to show the shape (a diagonal line).*
- Next, let the learners find the answers to all the number sentences of '5 +'.
- Turn over all the big '5 +' cards one by one to check if the answers given are correct.
- Then let learners find the answers to all the number sentences of '6 +', '8 +' and '9 +'.
- Turn over the relevant big addition cards to check their answers.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners should work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally by applying their number bond knowledge, it is fine, do not discourage them since they are working at a more advanced level. They might check their answers with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

(7)	
5	2

(5 + 2 = 7)

b

(9)	
5	4

(5 + 4 = 9)

c

(6)	
1	5

(1 + 5 = 6)

d

(7)	
6	1

(6 + 1 = 7)

e

(10)	
6	4

(6 + 4 = 10)

7	2

(7 + 2 = 9)

h

(10)	
8	2

(8 + 2 = 10)

f

(9)

g

(8)	
1	7

(1 + 7 = 8)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

(5)	
1	4

(1 + 4 = 5)

b

(4)	
2	2

(2 + 2 = 4)

c

(6)	
5	1

(5 + 1 = 6)

d

(5)	
3	2

(3 + 2 = 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 more about the concept of addition and to add using number sentences.

Lesson 9: Addition (compare)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Introduce addition (compare).
Lesson Vocabulary: Number sentence, addition, add, more, compare.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	1 + 1 =	2	**6**	2 + 3 =	5
2	1 + 2 =	3	**7**	3 + 1 =	4
3	2 + 2 =	4	**8**	4 + 1 =	5
4	2 + 1 =	3	**9**	1 + 3 =	4
5	1 + 4 =	5	**10**	3 + 2 =	5

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, introduce learners to addition (compare). It is not necessary to explicitly name the different problem types to the learners however they do need to be able to solve the different types of problems. They need to be able to understand the different situations in which addition is required and how to solve these problems. Remind the learners about how they compared two numbers in Term 1. Check your lesson plans from Term 1 so you can make it absolutely clear to each learner how this should be done. Learners need to know that it is necessary to have two rows that are lined up like in the displays shown in this lesson when you compare numbers using bottle tops. In this lesson, there are only 2 word problems provided for you. If you have time, use the same format as these to make up more examples. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning about addition (compare).

Activity 1: Learners work in pairs

- Say the following problem to the class slowly a few times. This is an example of an addition (compare).
  I have 2 balloons.
  My friend has 3 more balloons than I have.
  How many balloons does my friend have?
- Ask: **How many balloons do I have?** (2). Then write 2, with a simple drawing of 2 balloons, on the board.
- Ask: **How many more balloons does my friend have?** (3 more balloons than I have). Then write 3 on the board.
- Let the learners represent the story using bottle tops.
- Ask: **How many more balloons does your friend have, compared to you?**
- Learners should display their bottle tops as follows:

Me	●●
My friend	○○○○○

- Ask: **Can we compare numbers when we have bottle tops displayed like this?** (Yes)
- Learners may set out their bottle tops as follows:

Me	●●
My friend	○○○

- Let some learners show their display of bottle tops to the class (there may be other different displays).
- Ask: **Can we compare the numbers using this display?** (No)
- *Correct the learner's display (ask the class to assist if they volunteer). The following diagram shows the correct representation of the bottle tops for comparison (place the bottle tops in two parallel rows).*

Me	●●
My friend	○○○○○

- Connect the bottle tops by drawing lines to show the one-to-one correspondence between the first two bottle tops.
- Write the number sentence (2 + 3 =). Read the number sentence together several times.
- Write '2 and 3 makes' below the '2 + 3 ='
- Write the number bond table with the answer block blank on the board.

(5)	
2	3

- Let the learners solve the number sentence (2 + 3 = 5).
- Ask: **What is the answer to the word problem?** (My friend has 5 balloons.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 5 balloons.*

Activity 2: Learners work in pairs

- Let the learners solve the following problem by following the steps used in Activity 1.
  Sipho has 5 stickers.
  Bongi has 2 more stickers than Sipho.
  How many stickers does Bongi have?
- The number sentence is 5 + 2 = (7).
- The answer is 'Bongi has 7 stickers'.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners should work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying their number bond knowledge, remember that this is fine. They might check their answers with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

(10)	
9	1

(9 + 1 = 10)

b

(9)	
5	4

(5 + 4 = 9)

c

(8)	
5	3

(5 + 3 = 8)

d

(10)	
4	6

(4 + 6 = 10)

e

(9)	
2	7

(2 + 7 = 9)

f

(8)	
2	6

(2 + 6 = 8)

g

(10)	
8	2

(8 + 2 = 10)

h

(10)	
7	3

(7 + 3 = 10)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

(8)	
4	4

(4 + 4 = 8)

b

(10)	
3	7

(3 + 7 = 10)

c

(10)	
6	4

(6 + 4 = 10)

d

(9)	
3	6

(3 + 6 = 9)

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 deepened our understanding of the concept of addition (compare).

Lesson 10: Consolidation – addition (change and compare)

Teacher's notes
This lesson allows for consolidation of the previous days' lesson content.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Solve three types of additions (combine, change and compare problems).
Lesson Vocabulary: Number sentence, addition, add, more, altogether, compare.
Resources: ten frames and bottle tops.
Date: Week Day

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

This week the learners were introduced to addition using change and compare type problems. Learners used bottle tops and drawings to help them solve problems. The learners were also taught to write number sentences to represent addition problems.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

It is important to encourage the learners to verbalise their solutions so that they can begin to clarify the change or comparison in the problem being solved. Learners need a conceptual understanding of addition – in other words, they need to know why they are solving a problem in a particular way, using addition in this case. This can be achieved by learners explaining their actions, rather than solving problems by simply following a rote pattern or "recipe".

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

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

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally by applying their number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Fill in the blanks and write a number sentence.

a

(5)	
4	1

(4 + 1 = 5)

b

(6)	
2	4

(2 + 4 = 6)

c

(6)	
3	3

(3 + 3 = 6)

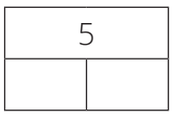
d

(7)	
1	6

(1 + 6 = 7)

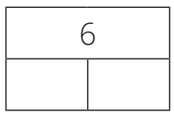
2 Fill in the blanks and write a number sentences.

a



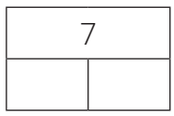
4 + ___ = 5 (1)

b



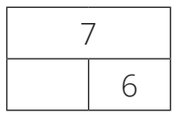
4 + ___ = 6 (2)

c



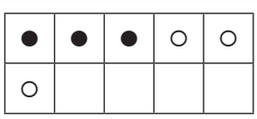
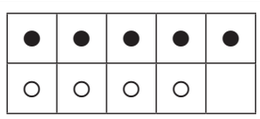
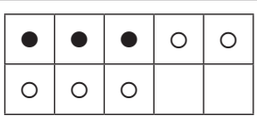
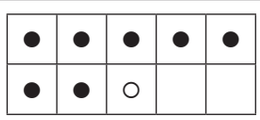
3 + ___ = 7 (4)

d

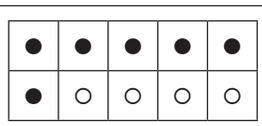
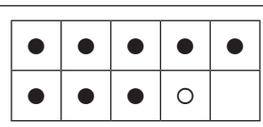
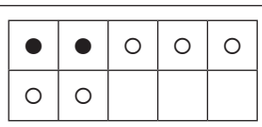
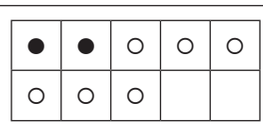


___ + 6 = 7 (1)

3 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a		(3 + 3 = 6)	**b**		(5 + 4 = 9)
c		(3 + 5 = 8)	**d**		(7 + 1 = 8)

4 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	6 + 4 = (10)		**b**	8 + 1 = (9)	
c	2 + 5 = (7)		**d**	2 + 6 = (8)	

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have learned to work with the concept of addition (change and compare) and to add using number sentences.

Week 3

Lesson 11: Using number sentences to show addition (compare)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Represent the situation of addition (compare) using number sentences.
Lesson Vocabulary: number sentence, addition, add, more, compare.
Resources: Addition cards (see ***Printable Resources***), ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is ...	Answer		What is ...	Answer
1	1 more than 5?	6	**6**	1 more than 8?	9
2	2 more than 5?	7	**7**	3 more than 5?	8
3	1 more than 9?	10	**8**	5 more than 5?	10
4	2 more than 6?	8	**9**	2 more than 5?	7
5	2 more than 7?	9	**10**	1 more than 7?	8

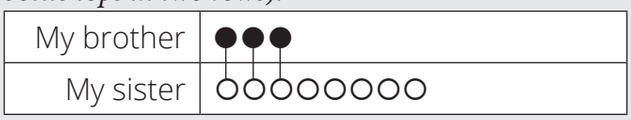
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson we continue to develop the learners' understanding of addition (compare). You should provide a variety of problems, encouraging learners to talk about their solutions and to compare their answers. Use this as an opportunity to address the learners' misconceptions and errors. You will need to prepare the printed addition cards for use in this lesson – each learner needs a full set which is made using all three pages from the *Printable Resources*.

Today we are learning to add using number sentences.

Activity 1: Whole class activity

- Say the following problem to the class slowly a few times. This is an example of an addition (compare) problem.
  My brother is 3 years old and
  my sister is 5 years older than him.
  How old is my sister?
- Ask: **How old is my brother?** (3). Then write 3 on the board.
- Ask: **How many years older than my brother is my sister?** (5 years older). Then write 5 on the board.
- Let the learners represent the story using bottle tops.
- Let some learners present their representation using bottle tops to the class.
- *The following diagram shows the correct representation using the bottle tops (place the bottle tops in two rows).*



- Connect the bottle tops to show the one-to-one correspondence between the first three bottle tops.
- Write the number sentence (3 + 5 =). Read the number sentence together several times.
- Write '3 and 5 makes' below the '3 + 5 ='
- Write the number bond table with the answer block blank on the board.

(8)	
3	5

- Let the learners solve the number sentence (3 + 5 = 8).
- Ask: **What is the answer to the word problem?** (My sister is 8 years old.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correctunit, 8 years old.*

Activity 2: Whole class activity

- Give each learner a set of the printed addition cards.
- Learners must cut out all of the number sentences to make the addition cards.
- Ask the learners to write the answer on the back of every addition card.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners play with addition cards in pairs. Give each pair of learners a set of addition cards.

The learners should shuffle all the addition cards and pile them up between them, with the number sentence side showing. Each learner must pick up one card and put it on the table. The learner who gets the bigger number (answer) takes both cards. Continue doing this

until all of the cards in the centre have been used. The person with the most cards is the winner of the round.

Play another round of the game, but this time, change the rule so that the person who gets the smaller number (answer) takes both cards.

When the game is finished, pack each set of addition cards in a pile with an elastic band around them to keep them safe for the next time you use them.

4 HOMEWORK ACTIVITY (5 MINUTES)

Learners should work with bottle tops and a ten frame to represent the numbers when they do this activity if necessary.

Fill in the blanks and write a number sentence.

a

(6)	
2	4

(2 + 4 = 6)

b

(7)	
3	4

(3 + 4 = 7)

c

(6)	
3	3

(3 + 3 = 6)

d

(7)	
5	2

(5 + 2 = 7)

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 deepened our understanding of the concept of addition (compare problems).

Lesson 12: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 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 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 (16)

1 Fill in the blanks and write a number sentence. (8)

a

(3)	
1	2

(1 + 2 = 3)

b

(5)	
4	1

(4 + 1 = 5)

c

(6)	
3	3

(3 + 3 = 6)

d

(8)	
5	3

(5 + 3 = 8)

e

(10)	
3	7

(3 + 7 = 10)

f

(8)	
1	7

(1 + 7 = 8)

g

(10)	
2	8

(2 + 8 = 10)

h

(9)	
7	2

(7 + 2 = 9)

2 Fill in the blanks and write a number sentence. (8)

a

3	
2	(1)

3 + __ = 5 (2)

b

5	
3	(2)

3 + __ = 5 (2)

c

6	
4	(2)

4 + __ = 6 (2)

d

8	
1	(7)

1 + __ = 8 (7)

e

5	
(2)	3

__ + 3 = 5 (2)

f

8	
(6)	2

__ + 2 = 8 (6)

g

7	
(5)	2

__ + 2 = 7 (5)

h

10	
(6)	4

__ + 4 = 10 (6)

ENRICHMENT

Ntokozo has 3 marbles.

Bongi has 2 more marbles than Ntokozo.

How many marbles does Bongi have? (5 marbles)

There are 4 flowers in the vase.

I put 3 more flowers in the vase.

How many flowers are there now? (7 flowers)

GUIDELINE:

1 and 2. Learners use their knowledge of bonds to complete the tables.

Work with ten frames and bottle tops to support learners who have not yet established their bonds and addition facts.

Lesson 13: Addition with 0

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Understand the meaning of adding 0 or adding to 0.
Lesson Vocabulary: Number sentence, addition, add, more, altogether.
Resources: Ten frames and bottle tops, three balls, addition cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	1 + 5 =	6	**6**	3 + 3 =	6
2	3 + 4 =	7	**7**	6 + 1 =	7
3	4 + 4 =	8	**8**	6 + 2 =	8
4	4 + 5 =	9	**9**	7 + 2 =	9
5	2 + 8 =	10	**10**	5 + 5 =	10

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson you will continue to develop the learners' understanding of addition. You will provide learners with problems where they are required to add zero. It is essential that the learners are able to recognise that adding zero does not increase the value of the original number. You will use the printed addition cards prepared using the *Printable Resources* for Lesson 11.

Today we are learning about adding zero and adding to zero.

Activity 1: Whole class activity

- *Learners play the throwing game. To do this, learners throw 3 small balls into a basket. They record the number of balls that land in the basket. If no balls land in the basket, record '0'.*
- *Through this game the learners learn the meaning of '0'.*

- Draw the following table to show the total score (per try) of each of the learners:

	1st try	2nd try
Learner A		
Learner B		
Learner C		
Learner D		

- Ask 4 learners to come to the front of the class, to throw the balls.
- Let each learner throw 3 balls per try.
- Each learner has two chances. Record the number of balls that land in the basket each time.
- *If no 0 appears, choose another learner to do the same thing but make the distance between the learners and the basket longer until a 0 appears.*

Activity 2: Whole class activity

- Let the learners write number sentence to express the total score of each of the 4 learners (from Activity 1).
- E.g. 2 + 3 = 5 or 3 + 0 = 3 or 0 + 2 = 2.
- Allow some learners to present their work to the class.
- Ask: **When you add 0, what happens to the answer?** (There is no change; the first number remains as it is.)
- Ask: **What does 0 + 0 = mean in the context of throwing balls?** (It means the learner did not manage to throw any balls in the basket at all. His/her score is zero. He/she did not get a score.)

Activity 2: Learners work in pairs

Learners play with addition cards in pairs. Give each pair of learners a set of addition cards.

Learners shuffle all the addition cards and pile them up between them, with the number sentence side showing. Each learner must pick up one card and put it on the table. The learner who gets the bigger number (answer) takes both cards. Continue doing this until all of the cards in the centre have been used. The learner with the most cards is the winner of the round.

Play another round of the game, but this time, change the rule so that the learner who gets the smaller number (answer) takes both cards.

When the game is finished, pack each set of addition cards in a pile with an elastic band around them to keep them safe for the next time you use them.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying their number bond knowledge, it is fine. They might check the answer with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

(7)	
3	4

(3 + 4 = 7)

b

(6)	
6	0

(6 + 0 = 6)

c

(10)	
7	3

(7 + 3 = 10)

d

(0)	
0	0

(0 + 0 = 0)

e

(9)	
3	6

(3 + 6 = 9)

f

(8)	
8	0

(8 + 0 = 8)

g

(10)	
4	6

(4 + 6 = 10)

h

(10)	
0	10

(0 + 10 = 10)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

(5)	
1	4

(1 + 4 = 5)

b

(4)	
4	0

(4 + 0 = 4)

c

(4)	
3	1

(3 + 1 = 4)

d

(5)	
0	5

(0 + 5 = 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 about the number zero and how to add to 0.

Lesson 14: Creating stories for addition

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Create stories for addition, to assist in the understanding of word problems.
Lesson Vocabulary: Number sentence, addition, add, increase, more, altogether, compare.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	0 + 6 =	6	**6**	4 + 2 =	6
2	1 + 6 =	7	**7**	4 + 3 =	7
3	3 + 5 =	8	**8**	8 + 0 =	8
4	0 + 9 =	9	**9**	5 + 4 =	9
5	5 + 5 =	10	**10**	10 + 0 =	10

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, learners will create stories for addition. Initially the learners may find the creation of addition stories a little challenging, but encourage them to think about the word problems that they have been exposed to since Term 1. Model an example for the learners if necessary. This helps them to work with numbers in context, which makes maths more relevant to them. Learners need to be able to identify the key information in addition stories (word problems) so that they are able to solve the problem. Make sure you encourage the learners to listen carefully to the addition stories, and help them to identify the relevant information. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning to work with addition stories.

Activity 1: Learners work in pairs

- Give each pair of learners 7 bottle tops.
- Ask the learners to split the bottle tops between them.
- Ask the learners to make up a story about their bottle tops.

- For example, if the 7 was split into 4 and 3, the problem could be as follows:
  I have 4 books and
  my brother has 3 books.
  How many books do we have in total?
- Ask one learner to share their story with the class.
- Write the story on the board so that the learners can see the problem in three lines.

Activity 2: Whole class activity

- Use the problem from activity 1.
- Read the problem.
- Spend time helping the learners to read the problem fluently and with understanding.
- Underline the numbers (4 and 3).
- Underline the question ("How many books do we have in total?") with a wavy line.
- Let the learners represent the story using bottle tops.
- Let some learners present how they moved their bottle tops to the class.
- *The following diagram shows the correct representation of the movement of the bottle tops.*
  ●●●● → ← ○○○
- Write the number sentence (4 + 3 =). Read the number sentence together several times.
- Confirm with the learners that the answer is 7 books.
- Try another problem if time allows.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Make up an addition story about 4 apples and 9 peaches.
(Learners' answers will vary. Go through some of the suggestions in the class, making sure that they present the required addition.)

2 Fill in the blanks and write a number sentence.

a

(8)	
5	3

(5 + 3 = 8)

b

(6)	
5	1

(5 + 1 = 6)

c

(9)	
9	0

(9 + 0 = 9)

d

(7)	
4	3

(4 + 3 = 7)

e

(10)	
1	9

(1 + 9 = 10)

f

(9)	
4	5

(4 + 5 = 9)

g

(8)	
0	8

(0 + 8 = 8)

h

(10)	
2	8

(2 + 8 = 10)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

(7)	
2	5

(2 + 5 = 7)

b

(8)	
8	0

(8 + 0 = 8)

c

(10)	
6	4

(6 + 4 = 10)

d

(9)	
0	9

(0 + 9 = 9)

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 identify key information from addition stories and to solve problems using addition stories.

Lesson 15: Consolidation – addition

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content..		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Consolidate addition in context and become fluent in calculation.		
Lesson Vocabulary: Number sentence, addition, add, more, all together, compare.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

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

This week learners worked with a variety of addition situations. Learners solved problems by comparing numbers, and also investigated what happens when we add zero. Learners used addition stories, and focused on identifying the key information needed to solve the problems arising from these stories.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners may find working with zero confusing, and it may be necessary to spend time getting the learners to understand the concept of zero. The addition stories may also prove difficult, as the learners may become distracted by non-essential information. It is important to help the learners to identify key information in the addition stories, and to use this information to solve the problems.

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

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

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Learners should work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity, by mentally applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Fill in the blanks and write a number sentence.

a

(6)	
4	2

(4 + 2 = 6)

b

(7)	
3	4

(3 + 4 = 7)

c

(7)	
5	2

(5 + 2 = 7)

d

(8)	
2	6

(2 + 6 = 8)

e

(9)	
5	4

(5 + 4 = 9)

f

(10)	
3	7

(3 + 7 = 10)

g

(9)	
6	3

(6 + 3 = 9)

h

(10)	
10	0

(10 + 0 = 10)

2 Fill in the blanks and complete the number sentence.

a

7	
2	(5)

2 + __ = 7 (5)

b

6	
3	(3)

3 + __ = 6 (3)

c

8	
5	(3)

5 + __ = 8 (3)

d

10	
1	(9)

1 + __ = 10 (9)

e

7	
(4)	3

__ + 3 = 7 (4)

f

9	
(3)	6

__ + 6 = 9 (3)

g

8	
(4)	4

__ + 4 = 8 (4)

h

10	
(7)	3

__ + 3 = 10 (7)

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 more about addition and have practised doing calculations in bond tables.

Week 4

Lesson 16: Consolidation of addition

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Consolidate understanding of addition.
Lesson Vocabulary: Number sentence, addition, add, more, all together, compare.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is ...	Answer		What is ...	Answer
1	1 more than 4?	5	**6**	1 more than 5?	6
2	2 more than 8?	10	**7**	3 more than 5?	8
3	1 more than 6?	7	**8**	5 more than 5?	10
4	1 more than 9?	10	**9**	2 more than 5?	7
5	2 more than 7?	9	**10**	4 more than 5?	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson focuses on consolidating the learners' understanding of addition. Learners will practise solving problems by comparing numbers and investigate what happens when we add zero. Learners will solve combine, change and compare problems using both number sentences and addition stories. Learners will also revise addition with zero. In this lesson, there are only 2 word problems provided for you. If you have time, use the same format as these to make up more examples. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning to add.

Activity 1: Learners work in pairs

- Write the following word problem on the board. This is an example of an addition (combine) problem.
  There are 3 red and
  4 blue flowers in a garden.
  How many flowers are there?
- Read the problem.
- Spend time helping the learners to read the problem fluently and with understanding.
- Underline the numbers (3 and 4).
- Underline the question ("How many flowers are there?") with wavy line.
- Let the learners represent the story using bottle tops.
- Let some learners present their representation using bottle tops to the class.
- *The following diagram shows the correct representation using the bottle tops (place the bottle tops in two rows).*
  ●●● → ← ○○○○
- Write the number sentence (3 + 4 =). Read the number sentence together several times.
- Write the number bond table with the answer block left blank.

(7)	
3	4

- Let the learners solve the number sentence (3 + 4 = 7).
- Ask: **What is the answer to the word problem?** (There are 7 flowers.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 7 flowers.*

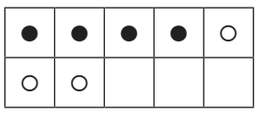
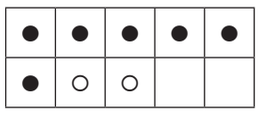
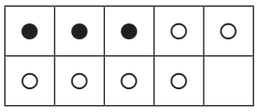
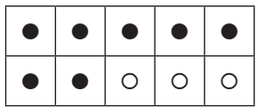
Activity 2: Whole class activity

- Let the learners solve the following problem by following the steps in Activity 1.
- The problem is addition (change).
  There are 4 cars in a parking lot.
  2 more cars arrive and park there too
  How many cars are there in the parking lot now?
- The number sentence is 4 + 2 = (6).
- The answer is 'There are 6 cars in the parking lot'.

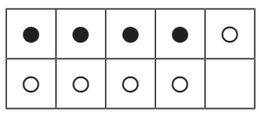
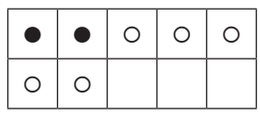
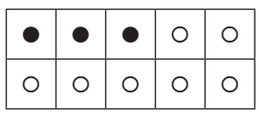
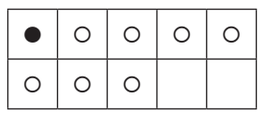
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners should work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Write the number sentence.

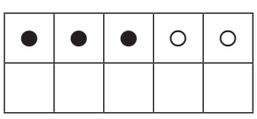
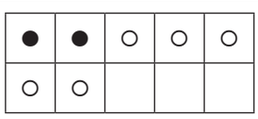
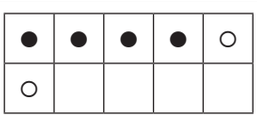
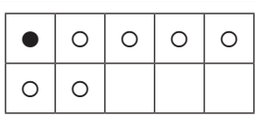
	Ten frame	Number sentence		Ten frame	Number sentence
a		(4 + 3 = 7)	**b**		(6 + 2 = 8)
c		(3 + 6 = 9)	**d**		(7 + 3 = 10)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	4 + 5 = (9)		**b**	2 + 5 = (7)	
c	3 + 7 = (10)		**d**	1 + 7 = (8)	

4 HOMEWORK ACTIVITY (5 MINUTES)

Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	3 + 2 = (5)		**b**	2 + 5 = (7)	
c	4 + 2 = (6)		**d**	1 + 6 = (7)	

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 write addition number sentences and to add using a variety of problems and situations.

Lesson 17: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 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 rubric below). The level achieved by the learner using the rubric is used to assign a mark for the purposes of mark recoding for SA SAMS.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

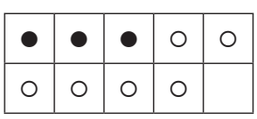
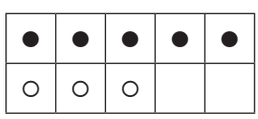
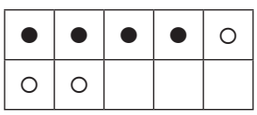
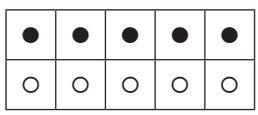
There should be time for you to discuss a few of the items with the class:

- 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 (10)

1 Write the number sentence. (6)

	Ten frame	Number sentence		Ten frame	Number sentence
a		(3 + 6 = 9)	**b**		(5 + 3 = 8)
c		(4 + 3 = 7)	**d**		(5 + 5 = 10)

2 Fill in the blanks and complete the number sentence. (4)

a

7	
3	(4)

3 + __ = 7 (4)

b

8	
2	(6)

2 + __ = 8 (6)

c

9	
(6)	3

__ + 3 = 9 (6)

d

10	
(8)	2

__ + 2 = 10 (8)

ENRICHMENT

Thandeka has **5** sweets.
Vusi has **2** more sweets than Thandeka.
How many sweets does Vusi have? (7 sweets)

There are **4** blue flowers
and **1** red flower in the garden.
How many flowers are in the garden? (5 flowers)

GUIDELINE:

1 and 2. Learners use their knowledge of bonds to complete the tables.

Note that the conceptual difficulty of question 2 is greater and learners might need more support here, since the missing number is not in the 'answer' position. This is testing learner's relational understanding of addition.

ORAL

CAPS: Number, operations and relationships Activity: Assess the learners' ability to do addition word problems				Mark: 7
	Level 1	Level 2-3	Level 4-5	Level 6-7
Criterion	Able to read and understand the problem	Able to devise a plan (identify the operation and write a number sentence)	Able to find the answer (do the calculation).	Able to discuss the answer/explain the solution found.

ORAL AND PRACTICAL: CHECKLIST (7)

Mark ✓/7	Criteria – Checklist: (1 mark for each criterion achieved)	Achieved – ✓	Not yet – ✘	Almost – ★
1	Able to read the problem			
1	Able to understand the problem			
1	Able to devise a plan (demonstrate understanding)			
1	Able to identify the operation needed to find the solution			
1	Able to write a number sentence to find the solution			
1	Able to find the answer (do the calculation).			
1	Able to discuss the answer/explain the solution found.			

Unit 2 Introduction

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

- **Conceptual understanding**: In this unit learners develop their understanding of subtraction. Learners use concrete apparatus to see and experience the concept of subtraction, which helps them to more clearly construct their own understanding, rather than rote learning procedures.
- **Procedural fluency**: Learners use bottle tops and a ten frame which helps them to visualise the calculations and to develop procedural fluency. In addition to this, there is a lot of repetition in this unit, where learners practise calculations involving numbers up to a total of 10. This repetition helps learners to develop confidence and greater fluency.
- **Strategies**: In order to solve subtraction number sentences, learners can use bottle tops in a ten frame or their knowledge of number bonds.
- **Reasoning**: By answering questions related to solving word problems, learners will have an opportunity to demonstrate and develop their reasoning skills in relation to numbers and operations demonstrate and develop their reasoning skills in relation to numbers and operations.

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

- **Connecting topics and concepts:** Learners will develop their understanding of subtraction more effectively if they connect their new learning to what they learned in Unit 1 (Addition). They are able to build on and extend this knowledge by identifying patterns, similarities and differences in the procedures.
- **Addressing learners' errors**: This unit provides a good opportunity to address learners' errors as it is very similar to what was covered in Unit 1 (Addition). Learners may experience difficulties similar to those identified in Unit 1, and special attention can be paid to areas noted as cause for concern. Learners are given opportunities to verbalise their understanding which aids the teacher in identifying errors and areas needing clarification.
- **Practising procedures**: This unit provides many opportunities for learners to practise the procedures associated with subtraction, through written work, games, and pair work as well as by engaging with the teacher.
- **Justifying answers**: Justification of answers is important as learners develop their understanding of subtraction while doing this. They need to be able to verbalise their understanding, and explain how they solved the problems. This is part of the development of their conceptual understanding, and also assists with improving their procedural fluency.

Unit 2 overview

Day	LP	Lesson Objective	Lesson Resources	Date Completed
Wed	18	Introduce number sentences to show subtraction (change problems).	Ten frames and bottle tops.	
Thur	19	Introduce number sentences to show subtraction (change problems).	Ten frames and bottle tops.	
Fri	20	Consolidation of work done this week.	Learner Activity Book.	
Mon	21	Introduce number sentences to show subtraction (combine problems).	Ten frames and bottle tops.	
Tue	22	Use number sentences to show subtraction (combine problems).	Ten frames and bottle tops.	
Wed	23	Find patterns of subtraction using subtraction cards.	Ten frames and bottle tops, subtraction cards (see Printable Resources).	
Thur	24	Assessment.	Assessment activity in teacher's resources.	
Fri	25	Consolidation of work done this week.	Learner Activity Book.	
Mon	26	Introduce subtraction (compare).	Ten frames and bottle tops, subtraction cards (see Printable Resources).	
Tue	27	Represent the situation of subtraction (compare) using number sentences.	Ten frames and bottle tops.	
Wed	28	Understand the meaning of subtracting 0 and subtracting to get 0.	Ten frames and bottle tops, three balls, subtraction cards (see Printable Resources).	
Thur	29	Create stories for subtraction, to assist in the understanding of word problems.	Ten frames and bottle tops.	
Fri	30	Consolidation of work done this week.	Learner Activity Book.	
Mon	31	Consolidate understanding of subtraction (change and combine problems).	Ten frames and bottle tops, subtraction cards (see Printable Resources).	
Tue	32	Revise addition and subtraction.	Ten frames and bottle tops, addition and subtraction cards (see Printable Resources).	
Wed	33	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 the week? If not, how will you get back on track?*

What will you change next time? Why?

Lesson 18: Subtraction (change)

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Introduce number sentences to show subtraction (change problems).		
Lesson Vocabulary: Number sentence, subtraction, take away, subtract, less, left over.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

	What is the missing number?	Answer			Answer
1	2 is 1 and __	1	**6**	5 is 1 and __	4
2	3 is 1 and __	2	**7**	4 is 1 and __	3
3	4 is 2 and __	2	**8**	5 is 4 and __	1
4	5 is 2 and __	3	**9**	4 is 3 and __	1
5	3 is 2 and __	1	**10**	5 is 3 and __	2

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson the learners will be introduced to subtraction. Learners will learn to write number sentences using appropriate symbols. It is important for the learners to understand what the number sentences mean, and to be able to represent the situation of subtraction as a number sentence, after using concrete apparatus. Focus on change-type problems as combine and compare type problems will be addressed in later lessons. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning about the meaning of subtraction number sentences and how to write them.

Activity 1: Whole class activity

- Write the following questions and number bond tables on the board.

a 5 take away 4 makes (1)

5	
4	(1)

b 7 take away 2 makes (5)

7	
(5)	2

c 8 take away 4 makes (4)

8	
(4)	4

d 9 take away 3 makes (6)

9	
3	(6)

- Ask the whole class the answers to the questions you wrote, moving from a) to d) sequentially.
- Ask: **How did you find the answers?** (I used number bonds – the number bond table is the same as the number sentence above the diagram. Some might say – I counted on from the number taken away to reach the number above.)
- Let the learners use bottle tops on a ten frame to check the answers.
- Let the learners practise mentally breaking down other numbers, using numbers that are less than or equal to 10. For example, 6 take away 3 makes (3), 7 take away 4 makes (3), 8 take away 5 makes (3), 10 take away 7 makes (3) etc.
- *If the learners cannot answer mentally, let them use bottle tops with a ten frame.*

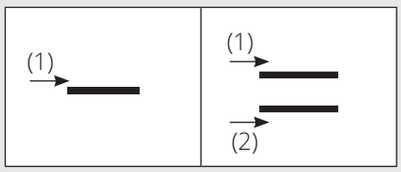
Activity 2: Whole class activity

- Read the following problem slowly to the class a few times. This is an example of a subtraction change-type problem.
  Noluthando had 5 apples.
  She gave 2 apples to Silo.
  How many apples does she have now?
- *This is the first time Grade 1 learners will be exposed to solving subtraction word problems in a mathematical way. In this lesson, focus on reading the question to the learners to help them to understand what you are reading. For this reason, do not write the problem on the board. You will only write the problem on the board later, once the learners have become accustomed to the word problem*
- *Write the critical information of each problem on the board and make drawings to illustrate the solutions.*
- *Focus on understanding the subtraction situation and developing the number sentences that represent the problems. (From Term 3, all steps for word problem solving must be followed.)*
- Ask: **How many apples did Noluthando have?** (5). Then write 5, with a drawing of five apples, on the board.
- Ask: **How many apples did she give to Silo?** (2). Then write 2 on the board. Take away two of the apple drawings by striking through them.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops) to represent the story to the class.

- *The movement of the bottle tops is related to the type of word problem. As this is a 'change' type problem, the following diagram shows the correct movement of the bottle tops (taking away 2 bottle tops from 5). When we represent a story with bottle tops, we don't use a ten frame (a ten frame is used only for calculations).*

●●● ●●→

- Teach the learners how to write a number sentence and the names and meanings of the signs. Write the signs on the board:



- Write the number sentence (5 – 2 =). Read the number sentence together several times. Write '5 take away 2 makes' below the '5 – 2 ='
- Let the learners practise how to write ' – ' and ' = ' several times in the air and then in their classwork books.
- Let the learners solve the number sentence (5 – 2 = 3).
- Explain the relationship between subtraction, breaking down and the following table.

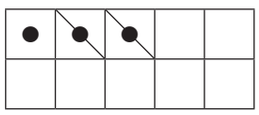
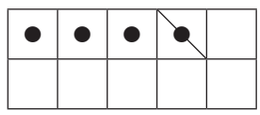
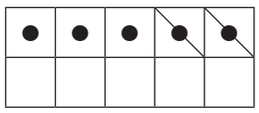
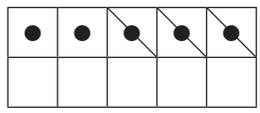
5	
(3)	2

- Ask: **What is the answer to the word problem?** (Noluthando had 5 apples.)
- *Learners should write the answer with the correct unit, 3 apples.*

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity.

1 Write the number sentence.

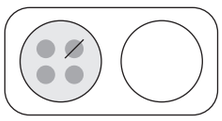
	Ten frame	Number sentence		Ten frame	Number sentence
a		(3 – 2 = 1)	**b**		(4 – 1 = 3)
c		(5 – 2 = 3)	**d**		(5 – 3 = 2)

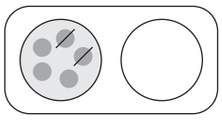
2 Write the numbers.

a		(5)	take away	(1)	makes	(4)
b		(5)	take away	(2)	makes	(3)
c		(5)	take away	(3)	makes	(2)

4 HOMEWORK ACTIVITY (5 MINUTES)

1 How many beads are left? Draw the beads and then write the number sentence.

a.  (4 – 1 = 3, 3 beads)

b.  (5 – 2 = 3, 3 beads)

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 concept of subtraction (change problems) and how to subtract using number sentences.

Lesson 19: Using number sentences to show subtraction (change)

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Introduce number sentences to show subtraction (change problems).		
Lesson Vocabulary: Number sentence, subtraction, take away, subtract, less, left over.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

	What is the missing number?	Answer			Answer
1	6 is 5 and __	1	**6**	8 is 3 and __	5
2	7 is 5 and __	2	**7**	6 is 2 and __	4
3	8 is 6 and __	2	**8**	7 is 2 and __	5
4	6 is 3 and __	3	**9**	8 is 4 and __	4
5	7 is 4 and __	3	**10**	8 is 1 and __	7

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, you will continue to develop the learners' understanding of the change problem type in relation to subtraction. It is not necessary to explicitly name the different problem types to the learners. However, they do need to be able to understand the situation of subtraction and to solve a variety of problem types. The various problem types have been introduced in the teaching of addition, and so the subtraction lessons will follow a similar format to help the learners make connections and develop their understanding. In this lesson, there are only 2 word problems provided for you. If you have time, use the same format as these to make up more examples. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning about subtraction (change).

Activity 1: Whole class activity

- Say the following problem slowly to the class a few times. This is an example of a subtraction (change) problem.
  There are 8 birds on the branch.
  3 of them fly away.
  How many birds are left on the branch?
- Ask: **How many birds were there in the beginning?** (8). Then write 8, with simple drawings, on the board.
- Ask: **How many birds fly away?** (3). Then write 3 on the board. Strike through 3 of the bird drawings..
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops).
- *The movement of the bottle tops is related to the type of word problem. As this is a 'change' type problem, the following diaram shows the correct movement of the bottle tops (3 bottle tops are moved away from the total of 8 bottle tops. 5 bottle tops do not move).*
  ●●●●● ●●● →
- Write the number sentence (8 – 3 =). Read the number sentence together several times.
- Write '8 take away 3 makes' below the '8 – 3 ='.
- Write the number bonds diagram with the answer block left blank.

8	
(5)	3

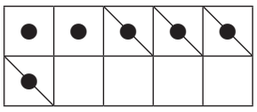
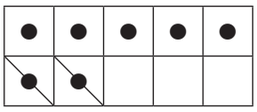
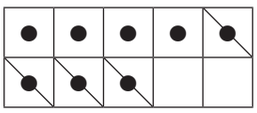
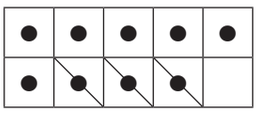
- Let the learners solve the number sentence (8 – 3 = 5).
- Ask: **What is the answer to the word problem?** (There are 5 birds left over.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 5 birds.*

Activity 2: Learners work in pairs

- Let the learners solve the following problem by following the steps used in Activity 1.
  I have 7 apples.
  My sister takes 3 of my apples.
  How many apples do I have left over?
- The number sentence is 7 – 3 = (4).
- The answer is 'I have 4 apples'.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a		(6 – 4 = 2)	**b**		(7 – 2 = 5)
c		(8 – 4 = 4)	**d**		(9 – 3 = 6)

2 Fill in the numbers.

a		(3)	take away	(2)	makes	(1)
b		(4)	take away	(3)	makes	(1)
c		(4)	take away	(1)	makes	(3)
d		(5)	take away	(3)	makes	(2)
e		(5)	take away	(4)	makes	(1)

4 HOMEWORK ACTIVITY (5 MINUTES)

Remind the learners that when they do this homework activity they can make a drawing to find the answer if they would like to.

Write the number sentence.

a  take away  makes (4 – 2 = 2)

b  take away  makes (5 – 1 = 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 about the concept of subtraction (change).

Lesson 20: Consolidation – subtraction number sentences

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Revise subtraction (change).		
Lesson Vocabulary: Number sentence, subtraction, take away, subtract, less, left over.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

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

This week the learners were introduced to subtraction using change type problems. Learners used bottle tops and drawings to help them solve the problems. Learners were also taught to write number sentences to represent their subtraction problems.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

It is important to emphasise that, with change type problems, the learners need to change the original number by making it smaller and removing some bottle tops from the ten frame.

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

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

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. Eventually, learners should be able to write the answers without using bottle tops or their fingers by doing regular mental maths activities. However, it is also very important that the learners are able to link number symbols to real objects by manipulating bottle tops in the early stages. When you observe that learners have attained a strong number concept, you can gradually stop asking them to check their answers using bottle tops in a ten frame. Learners can cross out the circles in question 1 as shown in the first example.

1 Cross out the beads and write the number sentences.

a  5 take away 2 is 3. ___ – ___ = ____ (5 – 2 = 3)

b  5 take away 1 is (4). ___ – ___ = ____ (5 – 1 = 4)

c  5 take away 3 is (2). ___ – ___ = ____ (5 – 3 = 2)

d  5 take away 4 is (1). ___ – ___ = ____ (5 – 4 = 1)

2 Write the number sentence.

a

○○○○○	take away	2	makes	?
(5)	(–)	(2)	=	(3)

b

○○○○○ ○○○○	take away	5	makes	?
(9)	(–)	(5)	(=)	(4)

c

○○○○○ ○○○○○	take away	6	makes	?
(10)	(–)	(6)	(=)	(4)

d

○○○○○ ○	take away	3	is	?
(6)	(–)	(3)	(=)	(3)

e

○○○○○ ○○○	take away	7	is	?
(8)	(–)	(7)	(=)	(1)

3 Fill in the blanks.

a

7	
3	(4)

b

9	
4	(5)

c

10	
1	(9)

d

6	
(4)	2

e

8	
(5)	3

f

5	
3	(2)

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 concept of subtraction and how to subtract using number sentences.

Week 5

Lesson 21: Subtraction (combine)

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Introduce number sentences to show subtraction (combine problems).		
Lesson Vocabulary: Number sentence, subtraction, take away, less, left over, decrease.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

	What is themissing number?	Answer			Answer
1	9 is 7 and __	2	**6**	10 is 5 and __	5
2	10 is 9 and __	1	**7**	9 is 4 and __	5
3	9 is 6 and __	3	**8**	10 is 4 and __	6
4	10 is 7 and __	3	**9**	9 is 1 and __	8
5	9 is 5 and __	4	**10**	10 is 2 and __	8

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson the learners will be introduced to combine-type subtraction problems. Learners will write number sentences using appropriate symbols, and will recognise the connection between building up and breaking down numbers. Give the learners time to discuss the problems and to verbalise their solutions. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning the meaning of subtraction number sentences and how to write them.

Activity 1: Whole class activity

- Read the following problem slowly to the class a few times. This is an example of a subtraction (combine) problem.
  I have 4 balloons.
  3 of them are green and the rest are red.
  How many red balloons do I have?
- *Refer to Term 2 Lesson 18 for a reminder of the focus areas for working with word problems.*
- Ask: **How many balloons do I have?** (4). Then write 4, with a drawing of 4 balloons on the board.
- Ask: **How many balloons are green?** (3). Then write 3, circling 3 of the 4 balloons, on the board.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops) to represent the story to the class.
- *The movement of the bottle tops is related to the type of word problem. As this is a 'combine' type problem, the following diagram shows the correct movement of the bottle tops. When we represent a story with bottle tops, we don't use a ten frame (a ten frame is used only for calculation).*
  ← ●●● ● →
- *For a combine-type situation, nothing is deleted/removed. We just separate the bottle tops/ objects into two groups.*
- Write the number sentence (4 – 3 =). Read the number sentence together several times.
- Write '4 take away 3 makes' below the '4 – 3 ='.
- Let the learners solve the number sentence (4 – 3 = 1).
- Ask: **How can you show '4 – 3 = 1' on a bond table** *(see below)*. (Learners may be able to recognise that 4 can be broken down into 3 and 1, and that 3 and 1 can be built up / combined into 4.)

4	
3	1

- Ask: **What is the answer to the word problem?** (I have 1 red balloon.)
- *Learners should write the answer with the correct unit, 1 red balloon.*

Activity 2: Whole class activity

- Write the following questions and number bond tables on the board.

a

5	
(3)	2

b

4	
2	(2)

c

3	
(2)	1

d

5	
4	(1)

- Ask the whole class to answer the questions you wrote, moving from a) to d) sequentially.
- Let the learners use bottle tops on a ten frame to check the answers.

- Let the learners practise breaking down the numbers 2, 3, 4 and 5 mentally.
- *If the learners cannot answer mentally, let them use bottle tops with a ten frame.*
- Discuss with the learners (using bottle tops to help them if necessary) the connection between breaking down and building up numbers. For example:
  - 5 can be broken down to 2 and 3,
  - 2 and 3 can be built up / combined to make 5

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check the answer with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

10	
(6)	4

(10 – 4 = 6)

b

9	
8	(1)

(9 – 8 = 1)

c

7	
2	(5)

(7 – 2 = 5)

d

9	
(3)	6

(9 – 6 = 3)

e

6	
(3)	3

(6 – 3 = 3)

f

8	
5	(3)

(8 – 5 = 3)

g

7	
(3)	4

(7 – 4 = 3)

h

10	
2	(8)

(10 – 2 = 8)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

9	
(5)	4

(9 – 4 = 5)

b

7	
5	(2)

(7 – 5 = 2)

c

8	
(7)	1

(8 – 1 = 7)

d

10	
5	(5)

(10 – 5 = 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 about the concept of subtraction (combine) problems and how to subtract using number sentences.

Lesson 22: Using number sentences to show subtraction (combine)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Use number sentences to show subtraction (combine problems).
Lesson Vocabulary: Number sentence, subtraction, take away, less, left over.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is the missing number?	Answer			Answer
1	6 is 4 and __	2	**6**	6 is 1 and __	5
2	7 is 5 and __	2	**7**	7 is 3 and __	4
3	8 is 5 and __	3	**8**	8 is 2 and __	6
4	9 is 6 and __	3	**9**	9 is 1 and __	8
5	10 is 8 and __	2	**10**	10 is 3 and __	7

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson continues to develop the learners' understanding of number sentences of subtraction. Learners need to practise representing subtraction problems by writing number sentences so you must ensure that you give them a number of opportunities to do this. Encourage the learners to talk quietly amongst themselves in order to verbalise what they are doing. This will help them to consolidate their understanding.

Today we are learning to subtract using number sentences.

Activity 1: Whole class activity

- Say the following problem slowly to the class a few times. This is an example of a subtraction (combine) problem.
  There are 10 trees in the garden.
  7 of them are avocado trees and the rest are pawpaw trees.
  How many pawpaw trees are there?

- Ask: **How many trees are there?** (10). Then write 10, with a simple drawing of ten trees, on the board.
- Ask: **How many avocado trees are there?** (7). Then write 7, encircling 7 trees of the 10 trees, on the board.
- Let the learners represent the story using bottle tops.
- Let some learners show the rest of the class what they did with their bottle tops (how the learners moved their bottle tops).
- *The movement of the bottle tops is related to the type of word problem. As this is a 'combine' type problem, the following diagram shows the correct movement of the bottle tops:*
  ← ●●●●●●● ○○○ →
- Write the number sentence (10 – 7 =). Read the number sentence together several times.
- Write '10 take away 7 makes' below the '10 – 7 ='.
- Write the number bond table with the answer block left blank.

10	
7	(3)

- Let the learners solve the number sentence (10 – 7 = 3).
- Ask: **What is the answer to the word problem?** (There are 3 pawpaw trees.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 3 pawpaw trees. They should not simply answer '3'.*

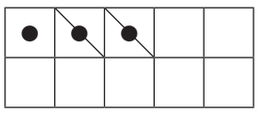
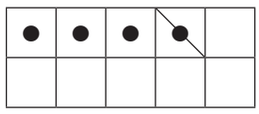
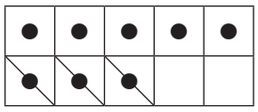
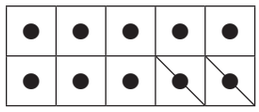
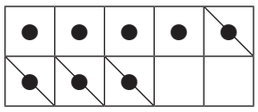
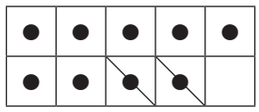
Activity 2: Learners work in pairs

- Let the learners solve the following problem by following the steps used in Activity 1.
  I have 8 balls.
  3 of the balls are blue and the rest are pink.
  How many pink balls do I have?
- The number sentence is 8 – 3 = (5).
- The answer is 'I have 5 pink balls'.

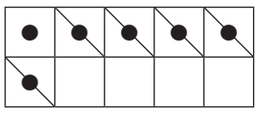
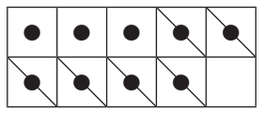
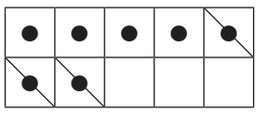
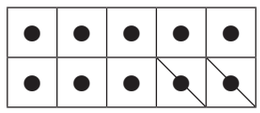
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity, by mentally applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Write the number sentence.

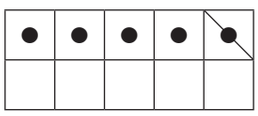
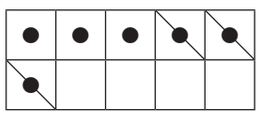
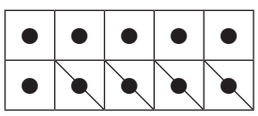
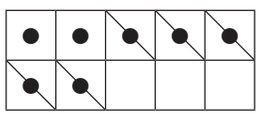
	Ten frame	Number sentence		Ten frame	Number sentence
a		(3 – 2 = 1)	**b**		(4 – 1 = 3)
c		(8 – 3 = 5)	**d**		(10 – 2 = 8)
e		(8 – 4 = 4)	**f**		(9 – 2 = 7)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	6 – 5 = (1)		**b**	9 – 6 = (3)	
c	7 – 3 = (4)		**d**	10 – 2 = (8)	

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a		(5 – 1 = 4)	**b**		(6 – 3 = 3)
c		(10 – 4 = 6)	**d**		(7 – 5 = 2)

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 write subtraction number sentences.

Lesson 23: Subtraction patterns

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Find patterns of subtraction using subtraction cards.
Lesson Vocabulary: Number sentence, subtraction, take away, less, left over.
Resources: Ten frames and bottle tops, subtraction cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is the missing number?	Answer			Answer
1	6 is 5 and __	1	**6**	6 is 3 and __	3
2	7 is 6 and __	1	**7**	7 is 2 and __	5
3	8 is 4 and __	4	**8**	8 is 6 and __	2
4	9 is 7 and __	2	**9**	9 is 3 and __	6
5	10 is 7 and __	3	**10**	10 is 1 and __	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson the learners will find patterns made by subtraction number sentences. It is essential that the learners are familiar with the different types of subtraction. Learners will need to prepare the printed subtraction cards for use in this lesson (see *Printable Resources*). You should make your own set of big subtraction cards on A4 pieces of paper, to use on the board, like those that the learners make using the *Printable Resources*. Remember to write the answers on the backs of the cards.

Today we are learning to subtract using number sentences.

Activity 1: Whole class activity

- Paste the subtraction cards on the board as follows, leaving out 10 – 2, 10 – 3 and 10 – 4, as follows:

2 – 1	3 – 1	4 – 1	5 – 1	6 – 1	7 – 1	8 – 1	9 – 1	10 – 1
	3 – 2	4 – 2	5 – 2	6 – 2	7 – 2	8 – 2	9 – 2	
		4 – 3	5 – 3	6 – 3	7 – 3	8 – 3	9 – 3	
			5 – 4	6 – 4	7 – 4	8 – 4	9 – 4	
				6 – 5	7 – 5	8 – 5	9 – 5	10 – 5
					7 – 6	8 – 6	9 – 6	10 – 6
						8 – 7	9 – 7	10 – 7
							9 – 8	10 – 8
								10 – 9

- Ask: **What number sentence comes under 10 – 1? Why?** (10 – 2 because then all the number sentences in the column start with 10, and the number on the right hand goes from 1 to 2. It increases by 1).
- Paste the 10 – 2 card on the board once you have discussed and agreed that it is the first missing card in the display.
- Let the learners work out what the next two missing cards are (10 – 3 and 10 – 4).
- Paste the 10 – 3 and 10 – 4 cards on the board.
- Ask: **What do you find in this order of number sentences?** (The numbers on the left side are all the same numbers in each column. The numbers on the right side increase by one from 1.)
- Next, let the learners find the answers for all the '10 -' cards.
- Turn over all the big '10 -' cards, one by one, to check if the answers are correct.
- Do the same thing for the '9 -' and '8 -' cards.

Activity 2: Learners work in pairs

- Ask: **Can you tell me a number sentence that has the answer 3?**
- Ask pairs of learners to discuss and find all the number sentence(s) that they can, that have the answer 3.
- Call one learner to the board and ask them to take off one card with the answer 3.
- Confirm with the whole class that it is correct and then turn over the card to check the answer.
- Ask: **Is this the only number sentence that has the answer 3?** (No, there are others.)
- Ask other learners to take off more cards and confirm with the class whether or not they are correct.
- After all the number sentences that have the answer 3 are shown on the board, ask: **What pattern do you find in the table after taking off all the cards that have the answer 3? (**The number sentences that have the same answer are positioned diagonally.) *If learners cannot express the position verbally, one learner can come to the board and show what they have found using their hands and body to represent the shape (a diagonal line).*

2 – 1	3 – 1	4 – 1	5 – 1	6 – 1	7 – 1	8 – 1	9 – 1	10 – 1
	3 – 2	4 – 2	5 – 2	6 – 2	7 – 2	8 – 2	9 – 2	10 – 2
		4 – 3	5 – 3	6 – 3	7 – 3	8 – 3	9 – 3	10 – 3
			5 – 4	6 – 4	7 – 4	8 – 4	9 – 4	10 – 4
				6 – 5	7 – 5	8 – 5	9 – 5	10 – 5
					7 – 6	8 – 6	9 – 6	10 – 6
						8 – 7	9 – 7	10 – 7
							9 – 8	10 – 8
								10 – 9

- Next, let the learners find the answers to all the number sentences of '7 -'.
- Turn over all the big '7 -' cards one by one to check if the answers given are correct.
- Now let the learners find the answers to all the number sentences of '6 -', '5 -' and '4 -'.
- Turn over the relevant big subtraction cards to check their answers.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

10	
(8)	2

(10 – 2 = 8)

b

8	
3	(5)

(8 – 3 = 5)

c

9	
1	(8)

(9 – 1 = 8)

d

6	
(4)	2

(6 – 2 = 4)

e

7	
5	(2)

(7 – 5 = 2)

f

9	
(3)	6

(9 – 6 = 3)

g

10	
7	(3)

(10 – 7 = 3)

h

8	
(2)	6

(8 – 6 = 2)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

6	
(3)	3

(6 – 3 = 3)

b

7	
(4)	3

(7 – 3 = 4)

c

5	
2	(3)

(5 – 2 = 3)

d

4	
3	(1)

(4 – 3 = 1)

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 concept of subtraction and how to subtract using number sentences.

Lesson 24: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date. CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 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 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 (14)

1 Fill in the blanks. (6)

a

10	
6	(4)

b

7	
(4)	3

c

8	
(5)	3

d

9	
3	(6)

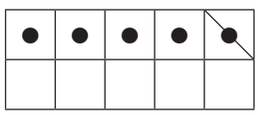
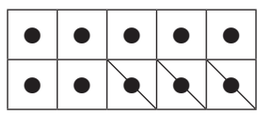
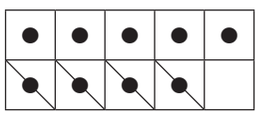
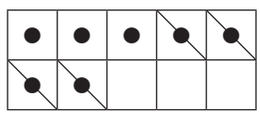
e

6	
(4)	2

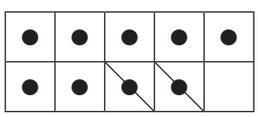
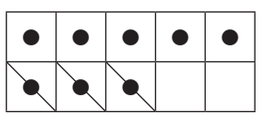
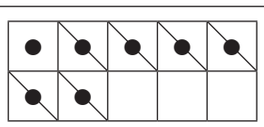
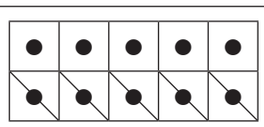
f

10	
3	(7)

2 Draw dots in the ten frame to find the answer to the number sentence. (4)

	Number sentence	Ten frame		Number sentence	Ten frame
a	5 – 1 = (4)		**b**	10 – 3 = (7)	
c	9 – 4 = (5)		**d**	7 – 4 = (3)	

3 Write the number sentence. (4)

	Ten frame	Number sentence		Ten frame	Number sentence
a		(9 – 2 = 7)	**b**		(8 – 3 = 5)
c		(7 – 6 = 1)	**d**		(10 – 5 = 5)

ENRICHMENT

I have **8** balls.

5 balls are green and the rest are yellow.

How many yellow balls do I have? (3 balls)

Bheki has **6** toy cars.

He gives **2** toy cars to his friend.

How many toy cars does Bheki have now? (4 toy cars)

GUIDELINE:

1. Learners use their knowledge of bonds to complete the tables.

2. Learners refer to and use ten frames to complete and write number sentences.

Note that in this assessment it is the first time learners are required to write a full number sentence.

Lesson 25: Consolidation – subtraction (change and combine)

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Solve two types of subtraction problems (combine and change problems).		
Lesson Vocabulary: Number sentence, subtraction, take away, less, left over.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

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

This week the learners learned about subtraction using change and combine type problems. Learners used bottle tops and drawings to help them solve problems. Learners were also taught to write number sentences to represent their subtraction problems.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners need a conceptual understanding of subtraction – in other words, they need to know why they are solving a problem in a particular way, (using subtraction in this case). This can be achieved by learners explaining their actions, rather than solving problems by simply following a rote pattern or "recipe".

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

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

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Fill in the blanks and write a number sentence.

a

8	
(7)	1

(8 – 1 = 7)

b

10	
(6)	4

(10 – 4 = 6)

c

9	
5	(4)

(9 – 5 = 4)

d

6	
4	(2)

(6 – 4 = 2)

e

10	
8	(2)

(10 – 8 = 2)

f

7	
4	(3)

(7 – 4 = 3)

g

8	
3	(5)

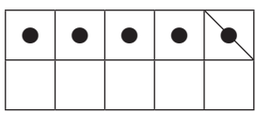
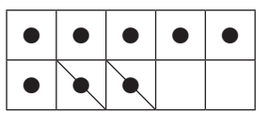
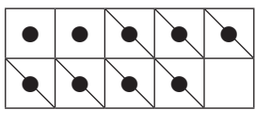
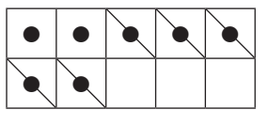
(8 – 3 = 5)

h

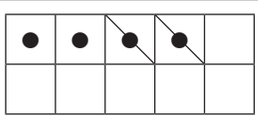
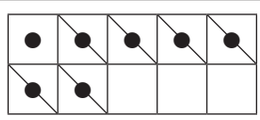
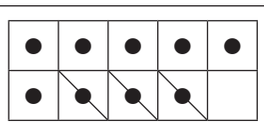
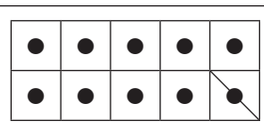
9	
(3)	6

(9 – 6 = 3)

2 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a		(5 – 1 = 4)	**b**		(8 – 2 = 6)
c		(9 – 7 = 2)	**d**		(7 – 5 = 2)

3 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	4 – 2 = (2)		**b**	7 – 6 = (1)	
c	9 – 3 = (6)		**d**	10 – 1 = (9)	

5 REFLECTION AND SUMMARY OF LESSON

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

Today we learned to work with the concept of subtraction and to subtract using number sentences. We also solved two types of subtraction problems (combine and change problems).

Week 6

Lesson 26: Subtraction (compare)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Introduce subtraction (compare).
Lesson Vocabulary: Number sentence, subtraction, subtract, less, difference, compare.
Resources: Ten frames and bottle tops, subtraction cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is the missing number?	Answer			Answer
1	6 is 2 and __	4	**6**	6 is 1 and __	5
2	7 is 3 and __	4	**7**	7 is 2 and __	5
3	8 is 2 and __	6	**8**	8 is 1 and __	7
4	9 is 2 and __	7	**9**	9 is 1 and __	8
5	10 is 4 and __	6	**10**	10 is 2 and __	8

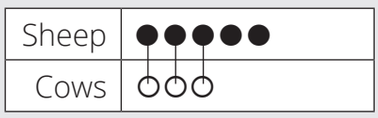
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the learners will be introduced to subtraction (compare). It is not necessary to explicitly name the different problem types to the learners. However, they do need to be able to solve the different types of problems. They need to be able to understand the different situations in which subtraction is required and to solve subtraction problems. Remind the learners how they compared two numbers in Term 1. Check your lesson plans from Term 1 Lesson 28 so you can make it absolutely clear to each learner how it is done. Learners need to know that it is necessary to have two rows lined up when they compare numbers of bottle tops. For this lesson learners will need to prepare the printed subtraction cards for use in this lesson – each learner needs a full set, which is made using all three pages from the *Printable Resources*.

Today we are learning about subtraction (compare).

Activity 1: Learners work in pairs

- Say the following problem to the class slowly a few times. This is an example of a compare-type subtraction problem.
  There are 5 sheep and
  3 cows in the backyard.
  What is the difference between the number of sheep and cows?
- Ask: **How many sheep are in the backyard?** (5). Then write 5, with a simple drawing, on the board.
- Ask: **How many cows are there in the backyard?** (3). Then write 3 on the board.
- Let the learners represent the story using bottle tops.
- Let some learners present their representation of bottle tops to the class.
- *The following diagram shows the correct representation of the bottle tops (place bottle tops in two rows).*



- Connect the bottle tops to show one-to-one correspondence between the first three bottle tops.
- Write the number sentence (5 – 3 =). Read the number sentence together several times.
- Write '5 subtract 3 makes' below the '5 – 3 ='
- Write the number bond table with the answer block left blank.

5	
3	(2)

- Let the learners solve the number sentence (5 – 3 = 2).
- Ask: **What is the answer to the word problem?** (There are 2 less cows than sheep.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 2 cows.*

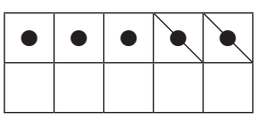
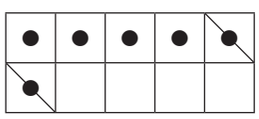
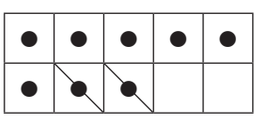
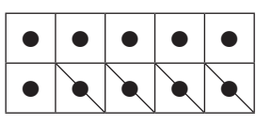
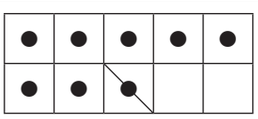
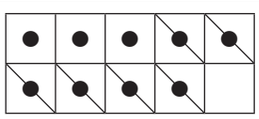
Activity 2: Learners work in pairs

- Give each learner set of the printed subtraction cards.
- Learners must cut out all of the number sentences to make the subtraction cards.
- Ask learners to write the answer on the back of every subtraction card. Check that they do this correctly.
- Learners each show their partner a card.
- In their pairs, the learners decide whose answer is bigger / smaller.
- Ask the learners to check the answer on the back of their subtraction card to see if they correctly identified the bigger / smaller number.

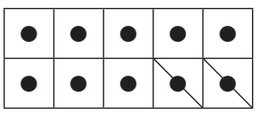
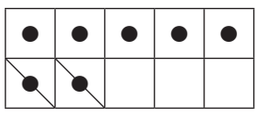
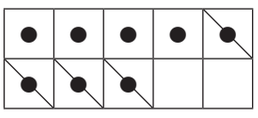
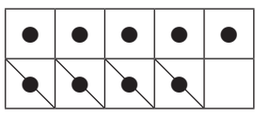
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Write the number sentence.

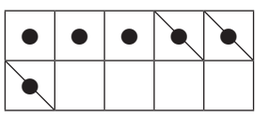
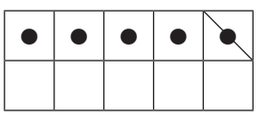
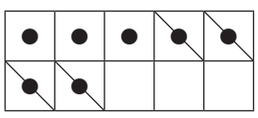
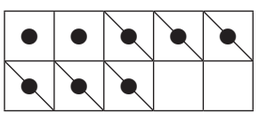
	Ten frame	Number sentence		Ten frame	Number sentence
a		(5 – 2 = 3)	**b**		(6 – 2 = 4)
c		(8 – 2 = 6)	**d**		(10 – 4 = 6)
e		(8 – 1 = 7)	**f**		(9 – 6 = 3)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	10 – 2 = (8)		**b**	7 – 2 = (5)	
c	8 – 4 = (4)		**d**	9 – 4 = (5)	

4 HOMEWORK ACTIVITY (5 MINUTES)

Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a		(6 – 3 = 3)	**b**		(5 – 1 = 4)
c		(7 – 4 = 3)	**d**		(8 – 6 = 2)

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 work with the concept of subtraction (compare).

Lesson 27: Using number sentences to show subtraction (compare)

Teacher's notes		
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Represent the situation of subtraction (compare) using number sentences.		
Lesson Vocabulary: Number sentence, subtraction, subtract, minus, less, difference, compare.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	5 – 1 =	4	**6**	4 – 3 =	1
2	4 – 2 =	2	**7**	3 – 1 =	2
3	3 – 2 =	1	**8**	4 – 1 =	3
4	2 – 1 =	1	**9**	5 – 2 =	3
5	5 – 3 =	2	**10**	5 – 4 =	1

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson we continue to develop the learners' understanding of subtraction (compare). You should provide a variety of problems, encouraging learners to talk about their solutions and to compare them. Use this as an opportunity to address the learners' misconceptions and errors.

Today we are learning to subtract using number sentences.

Activity 1: Learners work in groups

- Say the following problem to the class slowly a few times. This is an example of a compare type subtraction problem.
  Nosisi has 9 bananas.
  Themba has 7 bananas.
  How many more bananas does Nosisi have than Themba?
- Ask: **How many bananas does Nosisi have?** (9). Then write 9, with a simple drawing, on the board.
- Ask: **How many bananas does Themba have?** (7). Then write 7 on the board.
- Let the learners represent the story using bottle tops reminding them they need one row for Nosisi and another row for Themba.

- Let some learners present their representation using bottle tops to the class.
- *The following diagram shows the correct representation using the bottle tops (place bottle tops in two rows)*:
  Nosisi ●●●●●●●●
  Themba ○○○○○○○
- Draw lines to show the one-to-one correspondence between the first 7 bottle tops.
- Write the number sentence (9 – 7 =). Read the number sentence together several times.
- Write '9 minus 7 makes' below the '9 – 7 ='.
- Write the number bond table with the answer block left blank.

9	
7	(2)

- Let the learners solve the number sentence (9 – 7 = 2).
- Ask: **What is the answer to the word problem?** (Nosisi has 2 more bananas than Themba.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 2 bananas.*

Activity 2: Whole class activity

- Let the learners solve the following problem by following the steps used in Activity 1.
  I am 7 years old.
  My cousin is 4 years younger than me.
  How old is my cousin?
- The number sentence is 7 – 4 = (3).
- The answer is 'My cousin is 3 years old'.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

10	
7	(3)

(10 – 7 = 3)

b

8	
(4)	4

(8 – 4 = 4)

c

7	
5	(2)

(7 – 5 = 2)

d

9	
(3)	6

(9 – 6 = 3)

e

6	
2	(4)

(6 – 2 = 4)

f

10	
1	(9)

(10 – 1 = 9)

g

9	
(7)	2

(9 – 2 = 7)

h

8	
(5)	3

(8 – 3 = 5)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

10	
(6)	4

(10 – 4 = 6)

b

5	
3	(2)

(5 – 3 = 2)

c

9	
(4)	5

(9 – 5 = 4)

d

8	
5	(3)

(8 – 5 = 3)

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 deepened our understanding of the concept of subtraction (compare problems).

Lesson 28: Subtraction with 0

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Understand the meaning of subtracting 0, and subtracting to get 0.
Lesson Vocabulary: Number sentence, subtraction, subtract, minus, take away, less, left over, decrease.
Resources: Ten frames and bottle tops, three balls, subtraction cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	7 – 5 =	2	**6**	6 – 3 =	3
2	9 – 4 =	5	**7**	10 – 1 =	9
3	6 – 2 =	4	**8**	8 – 2 =	6
4	8 – 3 =	5	**9**	7 – 2 =	5
5	10 – 8 =	2	**10**	9 – 1 =	8

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson you will continue to develop the learners' understanding of subtraction. You will provide the learners with problems where they are required to subtract zero. It is essential that the learners are able to recognise that subtracting zero does not decrease the value of the original number. It is also important for learners to know that a number can be subtracted from itself to get a final answer of zero. You will use the subtraction cards made in Lesson 26 from the *Printable Resources*.

Today we are learning about subtracting zero, and subtracting to get zero.

Activity 1: Whole class activity

- *Learners play the throwing game. To do this, the learners throw 3 small balls in the basket. They record the number of balls that land in the basket. If no balls land in the basket, record '0'.*
- *Through this game, the learners learn the meaning of '0'.*
- Draw a table to show the total scores of the learners.

	1st try	2nd try
Learner A		
Learner B		
Learner C		
Learner D		

- Ask 4 learners to come to the front of the class, to throw the balls.
- Let each learner throw 3 balls per try.
- Each learner has two chances. Record the number of balls that land in the basket per try.
- *If no 0 appears, choose other learners to do the same thing but make the distance between the learners and the basket wider until a 0 appears.*

Activity 2: Whole class activity

- Ask the learners to work out the difference between the scores each learner got for their first try and their second try.
- For example:

	1st try	2nd try
Learner A	**2**	**3**

- Ask: **What is the difference between the two scores for Learner A?**
- *Also, compare the scores between learners if necessary.*
- Let the learners write the number sentence to express the difference between the first and second try.
  (3 – 2 = 1)
- Let the learners write number sentences to represent the difference between the two scores for the rest of the learners,
- e.g. 2 – 2 = 0, or 3 – 0 = 3, or 2 – 0 = 2, or 0 – 0 = 0, or 3 – 3 = 0, or 1 – 0 = 1.
- Allow some learners to present their work to the class.
- Ask: **When you subtract 0, what happens to the answer?** (There is no change: The first number remains as it is.)
- Ask: **What does 0 – 0 = mean in the context of throwing balls?** (It means the learner did not manage to throw any balls in the basket at all. His/her score is zero. He/she did not get a score.)
- Ask: **What does 2 – 2 = mean in the context of throwing balls?** (It means that the learner threw the same number of balls each time and that there was no difference in the number of balls that landed in the basket).

Activity 3: Learners work in pairs

Learners play with subtraction cards in pairs. Give each pair of learners a set of subtraction cards.

Learners shuffle all the subtraction cards and pile them up between them, with the number sentence side showing. Each learner must pick up one card and put it on the table. The learner who gets the bigger number (answer) wins. Continue doing this until all of the cards in the centre have been used. The learner with the most cards is the winner of the round.

Play another round of the game, but this time, change the rules so that the learner who gets the smaller number (answer) wins.

When the game is finished, pack each set of subtraction cards in a pile with an elastic band around them to keep them safe for the next time you use them.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

Fill in the blanks and write a number sentence.

a

8	
(1)	7

(8 – 7 = 1)

b

7	
(7)	0

(7 – 0 = 7)

c

9	
9	(0)

(9 – 9 = 0)

d

0	
(0)	0

(0 – 0 = 0)

e

5	
0	(5)

(5 – 0 = 5)

f

6	
(2)	4

(6 – 4 = 2)

g

10	
(0)	10

(10 – 10 = 0)

h

7	
2	(5)

(7 – 2 = 5)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

6	
(0)	6

(6 – 6 = 0)

b

8	
3	(5)

(8 – 3 = 5)

c

9	
(9)	0

(9 – 0 = 9)

d

0	
0	(0)

(0 – 0 = 0)

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 number zero and subtracting zero.

Lesson 29: Creating stories for subtraction

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Create stories for subtraction, to assist in the understanding of word problems.
Lesson Vocabulary: Number sentence, subtraction, subtraction, minus, subtract, less, left over, compare.
Resources: Ten frames and bottle tops.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	9 – 8 =	1	**6**	6 – 6 =	0
2	7 – 7 =	0	**7**	9 – 4 =	5
3	8 – 0 =	8	**8**	10 – 0 =	10
4	6 – 2 =	4	**9**	8 – 2 =	6
5	10 – 5 =	5	**10**	7 – 4 =	3

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the learners will create stories for subtraction. This helps them to work with numbers in context, making maths more relevant to them. Learners need to be able to identify the key information in subtraction stories (word problems) so that they are able to solve the problems. Make sure you encourage the learners to listen carefully to the subtraction stories, and help them to identify the relevant information.

Today we are learning to work with subtraction stories.

Activity 1: Learners work in pairs

- Give each pair of learners 10 bottle tops.
- Ask the learners to split their bottle tops between them, giving 3 bottle tops to the one learner and 7 bottle tops to the other learner in the pair.
- Ask the learners to make up a story about their bottle tops.
- For example, the problem could be as follows:
  There are 7 sweets and
  there are 3 chocolates.
  What is the difference between the number of sweets and the number of chocolates?

- Allow the learners to share a variety of stories.
- Choose one of their stories and write the story on the board so that the learners can see the problem in three lines.

Activity 2: Whole class activity

- Use one of the problems given in Activity 1.
- Read the problem slowly a few times. This is an example of a combine type subtraction problem.
- Ask: **How many sweets are there?** (7). Then write 7 on the board.
- Ask: **How many chocolates are there?** (3). Then write 3 on the board.
- Let the learners represent the story using bottle tops.
- Let some learners present how they moved their bottle tops to the class.
- *The following diagram shows the correct representation of the bottle tops.*

- Write the number sentence (7 – 3 =). Read the number sentence together several times.
- Confirm with learners that the answer is difference of 7.
- Try another problem if time allows.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity, by mentally applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Make up a subtraction story about 8 apples and 6 peaches.

2 Fill in the blanks and write a number sentence.

a

10	
10	(0)

(10 – 10 = 0)

b

5	
2	(3)

(5 – 2 = 3)

c

8	
(4)	4

(8 – 4 = 4)

d

6	
0	(6)

(6 – 0 = 6)

e

4	
(2)	2

(4 – 2 = 2)

f

7	
(0)	7

(7 – 7 = 0)

g

9	
1	(8)

(9 – 1 = 8)

h

0	
0	(0)

(0 – 0 = 0)

4 HOMEWORK ACTIVITY (5 MINUTES)

Fill in the blanks and write a number sentence.

a

4	
(0)	4

(4 – 4 = 0)

b

7	
(1)	6

(7 – 6 = 1)

c

10	
(6)	4

(10 – 4 = 6)

d

8	
0	(8)

(8 – 0 = 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 to identify key information from subtraction stories and to solve problems using subtraction stories.

Lesson 30: Consolidation – subtraction

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content..		
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.		
Lesson Objective: Consolidate subtraction in context and become fluent in calculation.		
Lesson Vocabulary: Number sentence, subtraction, subtract, minus, take away, less, left over, compare.		
Resources: Ten frames and bottle tops.		
Date:	Week	Day

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

This week the learners worked with a variety of subtraction situations. Learners solved problems by comparing numbers, and also investigated what happens when we subtract zero, or subtract to get to zero. Learners used subtraction stories, and focused on identifying the key information needed to solve the problems arising from these stories.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners may find working with zero confusing. It may be necessary to spend time getting the learners to understand the concept of zero through real life situations. The subtraction stories may also prove difficult, as learners may become distracted by non-essential information. It is important to help the learners to identify key information in the subtraction stories, and to use this information to solve the problems.

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

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

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check the answer with bottle tops and a ten frame.

1 Fill in the blanks and write a number sentence.

a

3	
(1)	2

(3 – 2 = 1)

b

5	
0	(5)

(5 – 0 = 5)

c

9	
(7)	2

(9 – 2 = 7)

d

10	
(3)	7

(10 – 7= 3)

e

6	
(2)	4

(6 – 4 = 2)

f

7	
(0)	7

(7 – 7 = 0)

g

2	
(2)	0

(2 – 0 = 2)

h

4	
3	(1)

(4 – 3 = 1)

2 Fill in the blanks and write a number sentence.

a

6	
2	(4)

(6 – 2 = 4)

b

9	
0	(9)

(9 – 0 = 9)

c

7	
5	(2)

(7 – 5 = 2)

d

4	
1	(3)

(4 – 1 = 3)

e

8	
(0)	8

(8 – 8 = 0)

f

5	
(3)	2

(5 – 2 = 3)

g

10	
(4)	6

(10 – 6 = 4)

h

3	
(0)	3

(3 – 3 = 0)

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have practised doing subtraction problems.

Week 7

Lesson 31: Consolidation of subtraction

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Consolidate understanding of subtraction (change and combine problems).
Lesson Vocabulary: Number sentence, subtraction, subtract, minus, take away, subtract, less, left over.
Resources: Ten frames and bottle tops, subtraction cards (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	10 – 0 =	10	**6**	8 – 1 =	7
2	5 – 1 =	4	**7**	5 – 5 =	0
3	9 – 7 =	2	**8**	6 – 3 =	3
4	4 – 3 =	1	**9**	10 – 2 =	8
5	7 – 7 =	0	**10**	4 – 0 =	4

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson focuses on consolidating the learners' understanding of subtraction. Learners will practise solving problems by comparing numbers and investigate what happens when we subtract zero, and subtract to get to zero. Learners will solve combine, change and compare problems using both number sentences and subtraction stories. You will need to prepare the printed subtraction cards for use in this lesson – each learner needs a full set which is made using all three pages from the *Printable Resources*.

Today we are learning to subtract.

Activity 1: Learners work in pairs

- Write the following word problem on the board. This is an example of a combine type subtraction problem.
  There are 9 flowers in the garden.
  5 of the flowers are purple and the rest are yellow.
  How many yellow flowers are there?

- Read the problem slowly a few times.
- Ask: **How many flowers are there in total?** (9). Then write 9 on the board.
- Ask: **How many purple flowers are there?** (5). Then write 5 on the board.
- Let the learners represent the story using bottle tops.
- Let some learners present their representation using bottle tops to the class.
- *The following diagram shows the correct representation using the bottle tops.*
  ← ●●●●● ●●●● →
- Write the number sentence (9 – 5 =). Read the number sentence together several times.
- Write the number bond table with the answer block left blank.

9	
5	(4)

- Let the learners solve the number sentence (9 – 5 = 4).
- Ask: **What is the answer to the word problem?** (There are 4 yellow flowers.)
- Fill the answer into the bond table, making the connection between the number sentence and the bond table.
- *Learners must answer with the correct unit, 4 flowers.*

Activity 2: Whole class activity

- Let the learners solve the following problem by following the steps used in Activity 1.
- The problem is a subtraction (change) problem.
  There are 8 cars in a parking lot.
  6 cars drive away.
  How many cars are left in the parking lot?
- The number sentence is 8 – 6 = (2).
- The answer is 'There are 2 cars left in the parking lot'.

Activity 3: Learners work in pairs

Learners play with subtraction cards in pairs. Give each pair of learners a set of subtraction cards.

Learners shuffle all the subtraction cards and pile them up between them, with the number sentence side showing. Each learner must pick up one card and put it on the table. The learner who gets the bigger number (answer) wins. Continue doing this until all of the cards in the centre have been used. The learner with the most cards is the winner of the round.

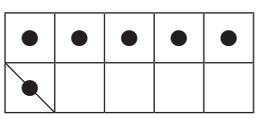
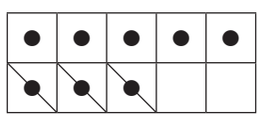
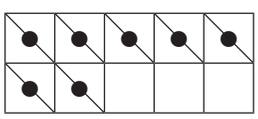
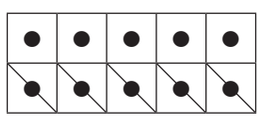
Play another round of the game, but this time, change the rules so that the person who gets the smaller number (answer) wins.

When the game is finished, pack each set of subtraction cards in a pile with an elastic band around them to keep them safe for the next time you use them.

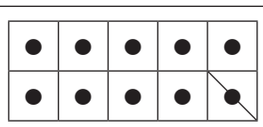
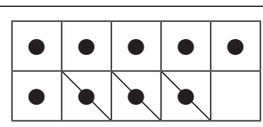
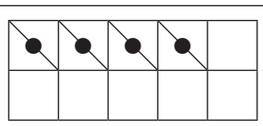
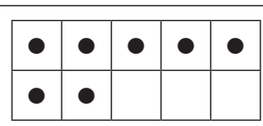
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Learners need to work with bottle tops and a ten frame to represent the numbers when they do this activity. If any learners do this activity mentally, by applying number bond knowledge, it is fine. They might check their answers with bottle tops and a ten frame.

1 Write the number sentence.

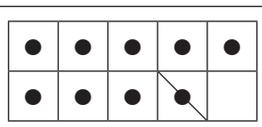
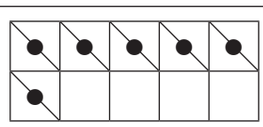
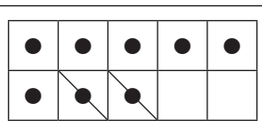
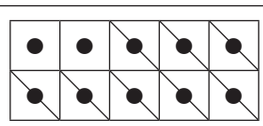
	Ten frame	Number sentence		Ten frame	Number sentence
a		(6 – 1 = 5)	**b**		(8 – 3 = 5)
c		(7 – 7 = 0)	**d**		(10 – 5 = 5)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	10 – 1 = (9)		**b**	9 – 3 = (6)	
c	4 – 4 = (0)		**d**	7 – 0 = (7)	

4 HOMEWORK ACTIVITY (5 MINUTES)

Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	9 – 1 = (8)		**b**	6 – 6 = (0)	
c	8 – 2 = (6)		**d**	10 – 8 = (2)	

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 write subtraction number sentences and to subtract using a variety of problems and situations.

Lesson 32: Play with addition and subtraction

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 1.12 Techniques (methods or strategies); 1.13 Addition and subtraction.
Lesson Objective: Revise addition and subtraction.
Lesson Vocabulary: Number sentence, addition, subtraction, small, smaller, smallest, big, bigger, biggest.
Resources: Ten frames and bottle tops, addition and subtraction cards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	Calculate:	Answer			Answer
1	10 – 3 =	7	**6**	6 – 2 =	4
2	8 – 8 =	0	**7**	5 – 3 =	2
3	7 – 3 =	4	**8**	9 – 0 =	9
4	9 – 1 =	8	**9**	7 – 2 =	5
5	10 – 0 =	10	**10**	8 – 6 =	2

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson the learners play with addition and subtraction cards while they revise what they have learned about the concepts of addition and subtraction thus far. You will need to prepare the printed addition and subtraction cards for use in this lesson – each learner needs two full sets of cards (you should have these stored from previous lessons). In this lesson you should encourage learners to use the correct vocabulary: small, smaller, smallest, big, bigger, and biggest.

Today we will practise doing addition and subtraction using addition and subtraction cards, ten frames and number sentences

Activity 1: Learners work in pairs

Learners play with addition and subtraction cards in pairs. Give each pair of learners a set of addition and subtraction cards.

Learners shuffle all the addition and subtraction cards and pile them up between them, with the number sentence side showing. Each learner must pick up one card and put it on the table. The learner who gets the bigger number (answer) wins. Continue doing this until all

of the cards in the centre have been used. The learner with the most cards is the winner of the round.

Play another round of the game, but this time, change the rule so that the learner who gets the smaller number (answer) wins.

When the game is finished, pack each set of addition and subtraction cards in a pile with an elastic band around them to keep them safe for the next time you use them.

Activity 2: Learners work in pairs

- Each pair of learners works with one set of addition cards.
- Learners must sort their cards into piles that have the same answers, e.g. the addition cards which have the answer 5 are 1+4, 2+3, 3+2 and 4+1 (these should be grouped in a pile).
- Let the learners order all the addition cards in columns, from smallest to biggest.
  - The first column must have all the 1+ cards, then all the 2+ cards, then the 3+ cards and so on.
  - In each row the answers on the cards must be the same. (In the first row the answer is 2, in the second row the answers are 3, in the third row the answers are 4 and so on.)
- The display on their tables should look as follow:

1+1							
1+2	2+1						
1+3	2+2	3+1					
1+4	2+3	3+2	4+1				
1+5	2+4	3+3	4+2	5+1			
1+6	2+5	3+4	4+3	5+2	6+1		
1+7	2+6	3+5	4+4	5+3	6+2	7+1	
1+8	2+7	3+6	4+5	5+4	6+3	7+2	8+1

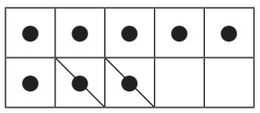
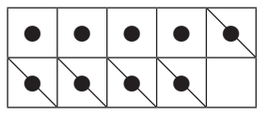
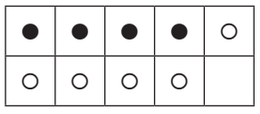
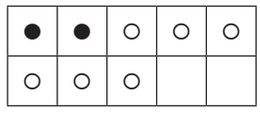
Activity 3: Learners work in pairs

- Each pair of learners works with one set of subtraction cards.
- Let the pairs find the subtraction cards which have the same answers, e.g. the subtraction cards which have the answer 7 are, 10 – 3, 9 – 2 and 8 – 1.
- Learners now make a display of the subtraction cards:
  - Each row must have the same answer.
  - Each column is in order from smallest answer to biggest answer, starting with the 2- cards, then the 3- cards, then the 4- cards and so on).
- The display on their tables should look as follows:

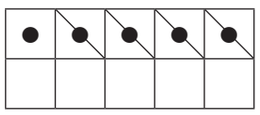
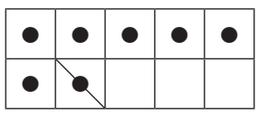
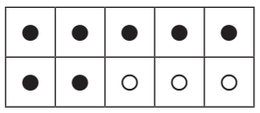
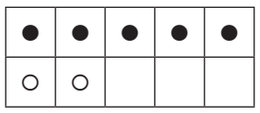
2-1	3-2	4-3	5-4	6-5	7-6	8-7	9-8	10-9
	3-1	4-2	5-3	6-4	7-5	8-6	9-7	10-8
		4-1	5-2	6-3	7-4	8-5	9-6	10-7
			5-1	6-2	7-3	8-4	9-5	10-6
				6-1	7-2	8-3	9-4	10-5
					7-1	8-2	9-3	10-4
						8-1	9-2	10-3
							9-1	10-2
								10-1

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Write the number sentence.

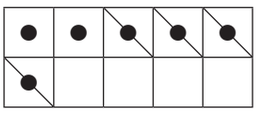
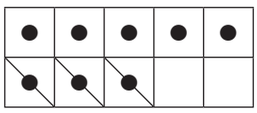
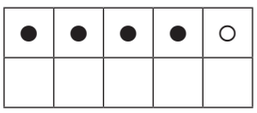
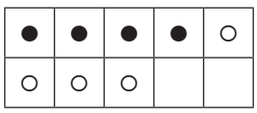
	Ten frame	Number sentence		Ten frame	Number sentence
a		(8 – 2 = 6)	**b**		(9 – 5 = 4)
c		(4 + 5 = 9)	**d**		(2 + 6 = 8)

2 Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	5 – 4 = (1)		**b**	7 – 1 = (6)	
c	7 + 3 = (10)		**d**	5 + 2 = (7)	

4 HOMEWORK ACTIVITY (5 MINUTES)

Draw dots in the ten frame to find the answer to the number sentence.

	Number sentence	Ten frame		Number sentence	Ten frame
a	6 – 4 = (2)		**b**	8 – 3 = (5)	
c	4 + 1 = (5)		**d**	4 + 4 = (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 practised doing addition and subtraction using addition and subtraction cards, ten frames and number sentences.

Lesson 33: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date. CAPS topics: 1.6 Problem solving techniques; 1.7 Addition and subtraction; 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.

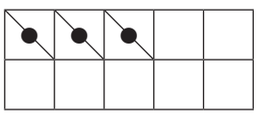
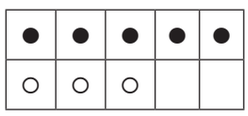
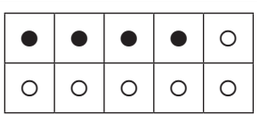
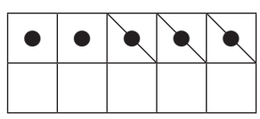
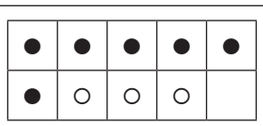
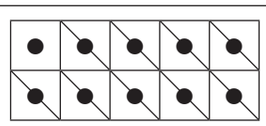
There should be time for you to discuss a few of the items with the class:

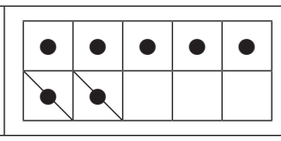
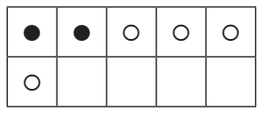
- use this opportunity to reflect on different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher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

3 ASSESSMENT

WRITTEN ASSESSMENT (16)

1 Write the number sentence. (8)

	Ten frame	Number sentence		Ten frame	Number sentence
a		(3 – 3 = 0)	**b**		(5 + 3 = 8)
c		(4 + 6 = 10)	**d**		(5 – 3 = 2)
e		(6 + 3 = 9)	**f**		(10 – 9 = 1)

g		(7 – 2 = 5)	**h**		(2 + 4 = 6)

2 Fill in the blanks and write the number sentence. (8)

a

7	
0	(7)

(7 – 0 = 7)

b

(8)	
3	5

(3 + 5 = 8)

c

9	
(0)	9

(9 – 9 = 0)

d

(5)	
1	4

(1 + 4 = 5)

e

(6)	
6	0

(6 + 0 = 6)

f

4	
1	(3)

(4 – 1 = 3)

g

10	
(6)	4

(10 – 4 = 6)

h

(9)	
6	3

(6 + 3 = 9)

ENRICHMENT

There are **7** dogs and

3 cats in the backyard.

What is the difference between the number of dogs and the number of cats? (4 dogs)

Nombuyiselo had **8** apples.

She gave **2** apples to her mom.

How many apples does Nombuyiselo have now? (6 apples)

GUIDELINE:

1. Learners refer to and use the ten frames to write the number sentences of subtraction.

2. Learners use their knowledge of bonds to complete the tables.

Note that the number 0 is included in this assessment. This adds to the conceptual load of the number sentences which knowledge learners are consolidating over this term.

Unit 3 Introduction

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

- **Conceptual understanding**: Learners develop their conceptual understanding of measurement through involvement in practical activities. Learners verbalise their direct and indirect comparisons of length, capacity and mass as they actively engage in their own investigations.
- **Procedural fluency**: Learners are introduced to the measurement of length using non-standard units, and practise taking measurements in a variety of ways. They develop procedural fluency through their use of non-standard units to measure capacity and mass through doing multiple activities which enable them to recognise patterns that emerge.
- **Strategies**: Learners will compare objects according to their length, capacity and mass. They do this while they investigate various reliable methods of measurement.
- **Reasoning**: Learners need to verbalise their understanding, and explain what they notice about both their measurements and their measuring instruments.

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

- **Active learning**: In this unit learners will be actively engaged in practical tasks as they construct their own understanding of measurement.
- **Making sense of mathematics**: In this unit learners are able to make sense of mathematics as they will be asked to identify the purpose(s) for what they are doing (measuring). They will begin to see the need for standard units of measurement through doing activities that call on them to compare the measurements that are made using non-standard units.
- **Applying maths in context**: Measurement is a necessary skill for everyday life. The lessons in this unit enable learners to recognise the relevance and usefulness of being able to measure things.

Unit 3 Overview

Day	LP	Lesson Objective	Lesson Resources	Date Completed
Thur	34	Compare and order the lengths of two or more objects by placing them next to each other.	Items from around the classroom that can be compared in terms of length.	
Fri	35	Consolidation of work done this week.	Learner Activity Book.	
Mon	36	Measure, compare, order and record length using non-standard measures.	Matchboxes, pencils, bottle tops, objects to be measured (e.g. books, suitcases, desks, mats etc).	
Tue	37	Assessment.	Assessment activity in teacher's resources.	
Wed	38	Compare and order the amount of liquid that two containers can hold if filled (capacity).	Variety of 1 litre containers, a 500 ml jug, one large container (e.g. a 2 litre bottle), sand or water.	
Thur	39	Measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.	Containers of various shapes and sizes, e.g. cups, spoons, jugs, yoghurt tubs, ice cream tubs, margarine tubs, plastic cold drink bottles, scrap paper (one sheet per group).	
Fri	40	Consolidation of work done this week.	Learner Activity Book.	
Mon	41	Use relevant language to talk about comparison of mass.	A variety of heavy and light objects (e.g. kitchen items), balance scale (make your own one using a coat hanger, string and two plastic yoghurt tubs if necessary), heavy and light flashcards (see Printable Resources).	
Tue	42	Measure, compare, order and record mass using a balancing scale and non-standard measures.	Balance scale, objects found in the classroom to use to compare mass.	
Wed	43	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 the week? If not, how will you get back on track?*

What will you change next time? Why?

Lesson 34: Comparison of length

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 4.2 Length.
Lesson Objective: Compare and order the lengths of two or more objects by placing them next to each other.
Lesson Vocabulary: Length, measure, long/longer than, short/shorter than, taller than, wider than, narrower than, thicker than, thinner than, order, arrange.
Resources: Items from around the classroom that can be compared in terms of length.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is ...	Answer		What is ...	Answer
1	3 more than 2?	5	**6**	2 less than 5?	3
2	1 more than 9?	10	**7**	5 less than 9?	4
3	4 more than 4?	8	**8**	1 less than 8?	7
4	2 more than 7?	9	**9**	4 less than 9?	5
5	5 more than 2?	7	**10**	3 less than 6?	3

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This is a practical lesson where learners are given the opportunity to develop their understanding of the concept of length. It is important to give learners the chance to do this practical work. At the same time, make sure that they use the correct vocabulary to talk about what they are doing and what they are learning. In this lesson, pencils are used as an easily accessible resource. If you are able to find additional resources, such as candles, ribbons or rulers, then these can be used as well. Refer to the bilingual dictionary for explanations and examples of the relevant mathematical terminology.

Today we are learning to compare and order the lengths of two or more objects by placing them next to each other.

Activity 1: Whole class activity

- Hold up a pencil for the learners to see.
- Ask: **Is this pencil long or short?** (Allow discussion, including a variety of answers, but don't indicate that either answer is correct or incorrect.)
- Now hold up another, longer pencil next to the first pencil.

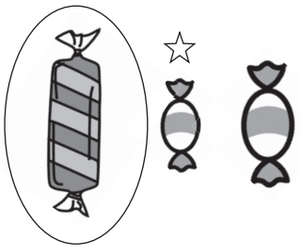
- Ask: **Now can you tell me if the first pencil is long or short?** (Learners are likely to say short now because the first pencil is shorter than the second pencil.)
- Then put the second pencil back down on a desk before holding up a third, shorter pencil next to the first pencil.
- Ask: **What about now … is the first pencil long or short?** (Learners are likely to say that the pencil is long, because it is longer than the third pencil.)
- Repeat the above steps, using the heights of learners instead of the lengths of pencils. Call a medium-height learner to the front and ask: **Is Tshepo tall or short?**
- Please be aware that some children may be sensitive about their height so you need to handle this very tactfully.
- Ask: **What have you noticed about length?** (We can only tell the length of something when we compare it to something else).

Activity 2: Learners work in groups

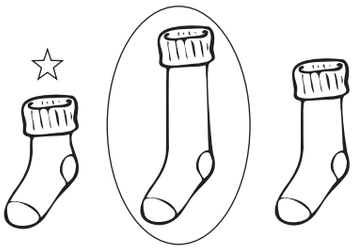
- Ask groups of learners to find a variety of items around the class (or outside).
- Encourage the learners to find 3 of each item, such as 3 books, 3 pencils, 3 leaves, 3 learners or 3 socks.
- Encourage the learners to arrange their items in order according to their length.
- Items can be arranged from longest / tallest to shortest or from shortest to longest / tallest. (*Note: when we compare more than 3 objects, we use the words longest/tallest/ shortest. If we are only comparing 2 objects, we use the words longer/taller/shorter.*)
- Learners need to talk about the order of their items, using appropriate length vocabulary.
- Ensure that the learners are using the vocabulary correctly, saying (for example) "he is *taller* than me" and not "he is longer than me".

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

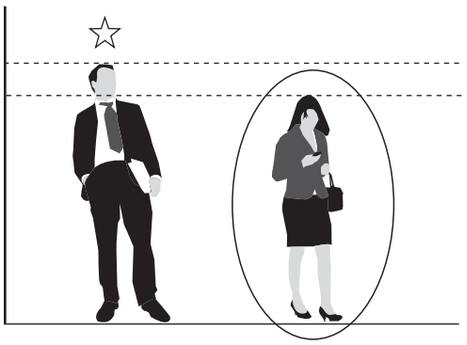
1 Circle the **longest** sweet. Draw a star above the **shortest** sweet.



2 Circle the **longest** sock. Draw a star above the **shortest** sock.

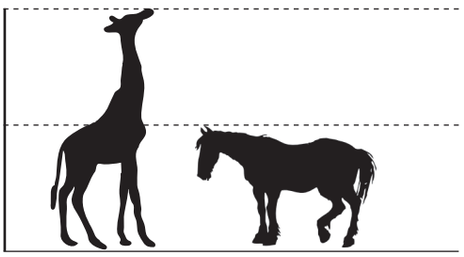


3 Circle the **shorter** person. Draw a star above the **taller** person.

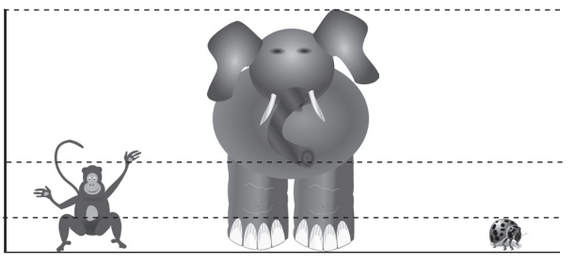


4 Circle the correct word:

a. The giraffe is (taller) / shorter than the horse.

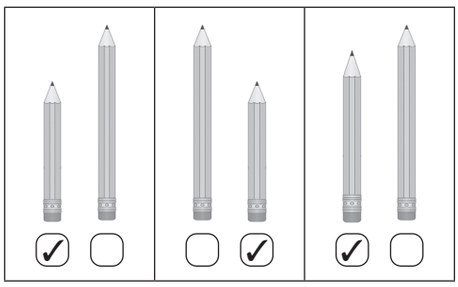


b. The monkey is (taller) / shorter than the bug but taller / (shorter) than the elephant.

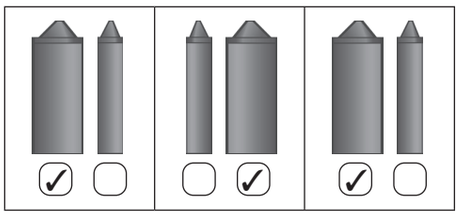


5 The black ladder is _____(long)_____ and the grey ladder is __(short)_____.

6 Tick the shorter pencil.



7 Tick the wider crayon:



4 HOMEWORK ACTIVITY (5 MINUTES)

1 Find something that is longer than a pencil.
_____ is longer than a pencil.

2 Find something that is shorter than a pencil.
_____ is shorter than a pencil.

3 Find something that is the same length as a pencil.
_____ is the same length as a pencil.

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 the lengths of two or more objects by placing them next to each other and to order the lengths of two or more objects by placing them next to each other

Lesson 35: Consolidation – addition, subtraction, length

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; 4.2 Length.		
Lesson Objective: Add and subtract; Compare the length of two or more objects by placing them next to each other.		
Lesson Vocabulary: Length, measure, long/longer than, short/shorter than, taller than, wider than, narrower than, thicker than, thinner than, order.		
Resources: Items from around the classroom that can be compared in terms of length.		
Date:	Week	Day

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

The lessons this week have covered addition, subtraction and length. In the final lessons for this term on addition and subtraction, working with these operations was consolidated. Learners need to be able to recognise the different operations, and to know what to do when solving different types of problems that call for these operations. The lesson on length was an introductory lesson, and focused on increasing the learners' vocabulary on this topic.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

The learners may have struggled to do both addition and subtraction together. It is important to make sure that the learners understand the concept of these operations, so that they know why they solve the problems in a particular way. It is a good idea to revise the ideas of increase and decrease to help the learners in this regard. Learners may find the vocabulary associated with the concept of length difficult, and need to be encouraged to use the vocabulary of length as much as possible when doing the activities.

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

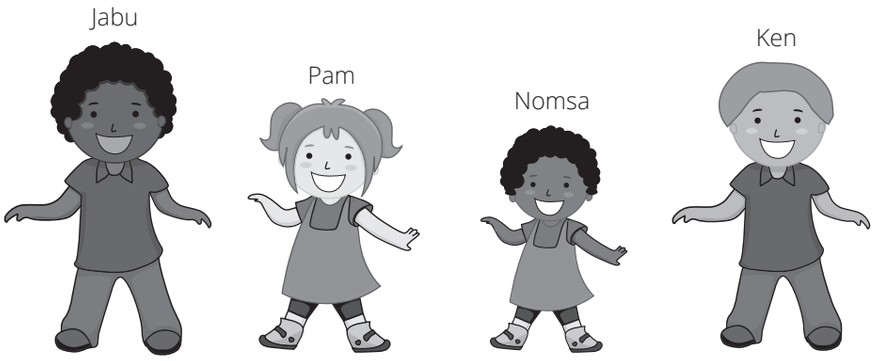
Today we are going over what we learned this week. We are learning more about addition, subtraction and length.

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

1 Draw a tall tree and a short tree.

2 Draw a long line and a short line.

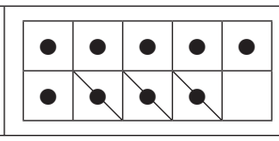
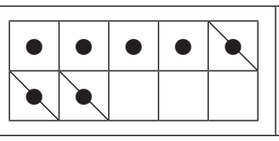
3 Look at the picture and answer the questions.



a. Who is the tallest? _____ (Jabu)
b. Who is the shortest? _____ (Nomsa)
c. Who is the shortest boy? _____ (Ken)
d. Who is the tallest girl? _____ (Pam)

4 Write the number sentence.

	Ten frame	Number sentence		Ten frame	Number sentence
a	● ● ● ● ● ○ ○ ○ ○	(5 + 4 = 9)	**b**	● ● ● ● ● ● ● ○ ○ ○	(7 + 3 = 10)

c		(9 – 3 = 6)	**d**		(7 – 3 = 4)

5 Fill in the blanks and complete the number sentence.

a

6	
1	(5)

1 + __ = 6 (5)

b

9	
2	(7)

2 + __ = 9 (7)

c

7	
(4)	3

7 – 3 = __ (4)

d

8	
(6)	2

8 – 2 = __ (6)

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have compared lengths and we have practised doing addition and subtraction.

Week 8

Lesson 36: Measuring length

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction , 4.2 Length.
Lesson Objective: Measure, compare, order and record length using non-standard measures.
Lesson Vocabulary: Length, measure, long/longer than, short/shorter than, taller than, wider than, narrower than, thicker than, thinner than, order, record, non-standard units, size.
Resources: Matchboxes, pencils, bottle tops, objects to be measured (e.g. books, suitcases, desks, mats etc.).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is a number bigger than ...	Answer		What is a number smaller than ...	Answer
1	4?	5, 6, 7, 8, 9, 10	**6**	6?	5, 4, 3, 2, 1
2	2?	3, 4, 5, 6, 7, 8, 9, 10	**7**	4?	3, 2, 1
3	7?	8, 9, 10	**8**	8?	7, 6, 5, 4, 3, 2, 1
4	1?	2, 3, 4, 5, 6, 7, 8, 9, 10	**9**	5?	4, 3, 2, 1
5	6?	7, 8, 9, 10	**10**	7?	6, 5, 4, 3, 2, 1

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson you will introduce measurement of length. Non-standard units of measurement are used to help learners understand how length is measured by comparing the length of one object to the length of another object. You should demonstrate how non-standard units are used to measure length and also give the learners the opportunity to do it themselves.

Today we are learning to measure, compare, order and record length using a variety of non-standard measures.

Activity 1: Learners work in pairs

- Give each learner some pencils, matchboxes and bottle tops.
- Encourage the learners to sort the objects (in whatever way they want to).
- Ask: **What do you notice about the pencils, the match boxes and the bottle tops?** (They are different sizes, they are different shapes. They will speak about the different sorting they did.)
- Discuss the sorting that used length as a criterion.
- Explain that when you measure the length of an object, you must choose one kind of object to measure with, e.g. you can choose to measure with pencils or bottle tops but not pencils and bottle tops together.
- Explain that there are two ways to use non-standard units:
    - Using a number of objects of the same length laid out in a row across/along the object being measured.
    - Using one object as the non-standard unit and moving it along as you measure.

Activity 2: Whole class activity

- Ask the learners to choose an object from their sorted piles with which they would like to measure.
- Ask them to measure the length of their classwork books with their chosen objects.
- Ask the learners to compare their measurements with the learners sitting near them.
- Ask: **Do you have the same measurements?** (No). **Why not?** (Because the objects that we used to measure with are different sizes.)
- Ask them to then measure the width of their classwork books with their chosen objects.
- Ask the learners to compare their measurements with those of the learners sitting near them.
- Ask: **Do you have the same measurements?** (No) **Why not?** (Because the objects that we used to measure with are different sizes.)
- The discussion about differences found in measurement when different non-standard units are used is important. It might motivate the learners to ask why they don't all use the same unit to measure with. This is very important as this insight leads into the discussion of standard units which will ultimately be used to measure more accurately.
- Even though the learners may have found different measurements – they should still be able to agree on the following:
- Ask: **Which edge is longer?** (The length.)
- Ask: **Which edge is shorter?** (The width.)

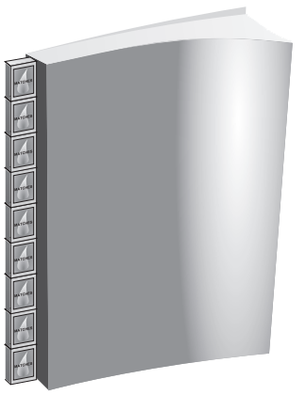
Activity 3: Learners work in pairs

- Repeat the above steps (if there is time), but this time the learners should choose a different non-standard unit of measurement and discuss their findings.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

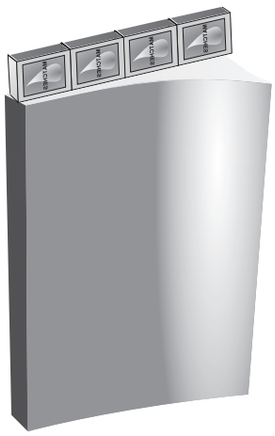
Note that in this activity small objects are drawn alongside the object whose length is being measured. You should help thelearners to identify the units of measurement in order to find the necessary lengths.

1 What is the length of this book?



The book is _(9)_ match boxes long.

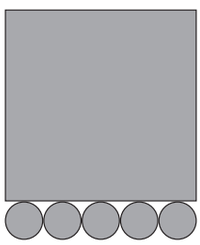
2 What is the width of this book?



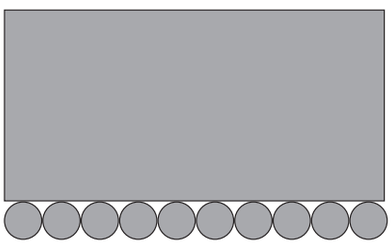
The book is _(4)_ match boxes wide.

3 How many counters long is each side?

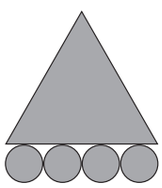
a (5)



b (10)



c (4)



4 Measure the width of your table using your bottle tops.
My table is ____ bottle tops wide. (Various answers)

5 Measure the length of your pencil using your bottle tops.
My pencil is ____ bottle tops long. (Various answers)

6 Measure the width of your chair using your bottle tops.
My chair is ____ bottle tops wide. (Various answers)

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Measure the width of your bed using a pencil.
My bed is ____ pencils wide. (Various answers)

2 Measure the length of your bed using a pencil.
My bed is _____ pencils long. (Various answers)

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 measure, compare, order and record length using non-standard measures.

Lesson 37: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 4.2 Length.		
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 rubric below). The level achieved by the learner using the rubric is used to assign a mark for the purposes of mark recoding for SA SAMS.

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

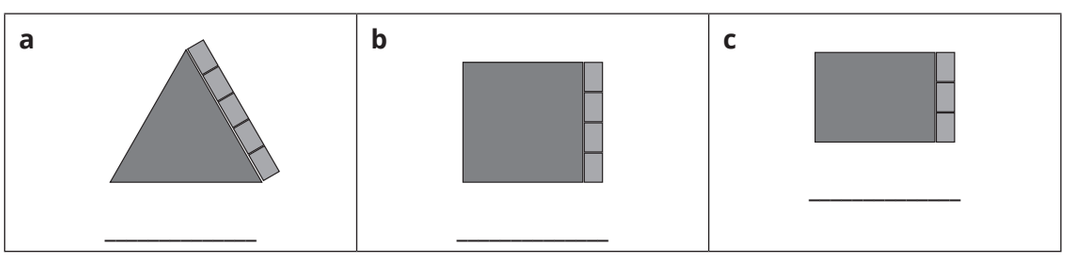
There should be time for you to discuss a few of the items with the class:

- 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

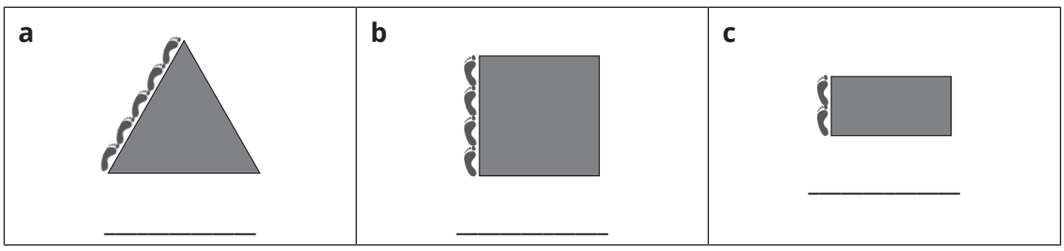
WRITTEN ASSESSMENT (14)

1 How many blocks are there on the edge? (3)



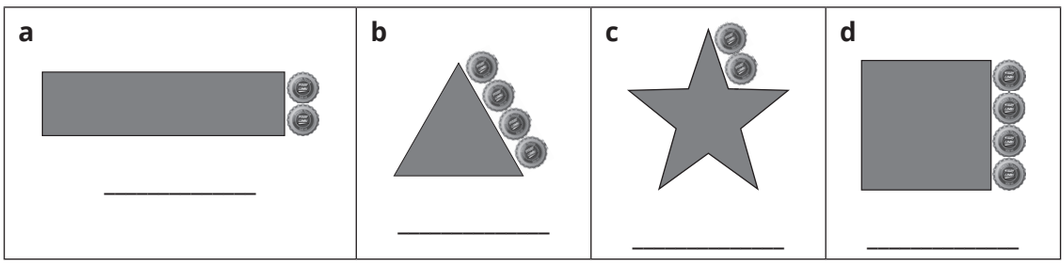
(Answers: 5, 4, 3)

2 How many feet are there on the edge? (3)



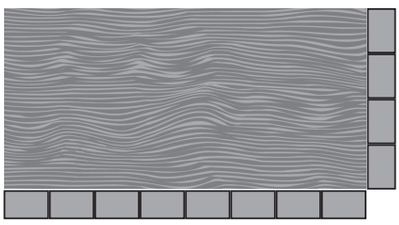
(Answers: 5, 4, 2)

3 How many bottle tops are there on the side? (4)



(Answers: 2, 4, 2, 4)

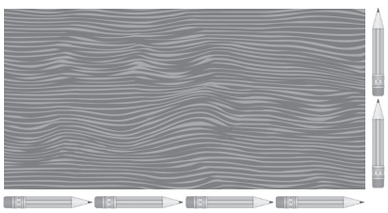
4 Look at the picture below: (2)



a Length: ___(8)___ blocks.

b. Width: __(4)_____ blocks.

5 Look at the picture below: (2)



a. Length: __(4)___ pencils.

b. Width: __(2)___ pencils.

GUIDELINE

Note that in this assessment the core concept being tested is that of the measurement of length by comparison to units of length. Length terminology is also needed to do the test. Support learners who have not achieved this by going over the relevant items carefully with them. Use concrete activities to support the measurement as needed.

PRACTICAL

CAPS: Measurement: Length **Activity: Observe the learners' ability to order and compare according to length.**							**Mark: 7**
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
Criterion	Does not understand simple length concepts.	Needs help to describe simple length concepts.	Knows and can describe: length – long, short.	Knows and can compare: lengths – long, shorter but makes some errors.	Knows and can compare: length – longer, shorter correctly.	Knows and can order: length – longer, shorter but makes some errors.	Knows and can order: length – long, shorter.

ORAL AND PRACTICAL: CHECKLIST (7)

Mark ✓/7	Criteria – Checklist: (1 mark for each criterion achieved)	Achieved – ✓	Not yet – ✘	Almost – ★
1	Able to point out the length of a side (concept)			
1	Able to identify a short object			
1	Able to identify a long object			
1	Able to identify a shorter object (compare)			
1	Able to identify a longer object (compare)			
1	Able to order objects from short to long			
1	Able to order objects from long to short			

Lesson 38: Comparing volume and capacity

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction , 4.4 Capacity / Volume.
Lesson Objective: Compare and order the amount of liquid that two containers can hold if filled (capacity).
Lesson Vocabulary: Full, empty, more than, less than, the same as, compare, amount, measure, capacity, volume.
Resources: Variety of 1 litre containers, a 500 ml jug, one large container (e.g. a 2 litre bottle), sand or water.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is 3 more than ...	Answer		What is 2 less than ...	Answer
1	5?	8	**6**	10?	8
2	7?	10	**7**	4?	2
3	2?	5	**8**	9?	7
4	4?	7	**9**	6?	4
5	3?	6	**10**	8?	6

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This is a practical lesson where the learners are given the opportunity to work with containers while they develop their understanding of the concept of capacity. It is important to give the learners the chance to do this practical work. At the same time, make sure that they use the correct vocabulary to talk about what they are doing and what they are learning. Refer to the bilingual dictionary for explanations and examples of the relevant mathematical terminology.

If you do not have sufficient space to allow all of the learners to do the practical work themselves it is essential for you to demonstrate the activities to the whole class and to allow at least some learners to participate in the demonstration so that the class feels involved in the demonstration. Depending on your context, you may choose to set up practical stations in your class, using different containers at each station. You can decide how it is best for you

to set up this lesson, but do encourage learners to be actively involved so as to promote the development of their conceptual understanding.

Today we are learning to compare and order the amount of liquid that two containers can hold when filled.

Activity 1: Learners work in groups

- In this lesson you will work with a few different 1 litre containers. You should have collected as many different 1 litre containers as you could find (some short and wide, others tall and thin etc.)
- Place the 1 litre containers on the learners' desks. (Do not tell the learners that they are 1 litre containers.)
- Ask: **Do you think the containers can all hold the same volume of water?**
- Ask the learners to give reasons for their answers. Discuss the answers and their feasibility but at this stage do not indicate whether they are correct or not.
- Say: **Put the containers in order from the one that can hold the most water to the one that can hold the least water.**
- Discuss the way in which the learners ordered the containers.
- Note: At this point in the lesson do not tell the learners whether their sorting/ordering is right/wrong. They will sort and order containers according to capacity in the next activity.

Activity 2: Learners work in groups

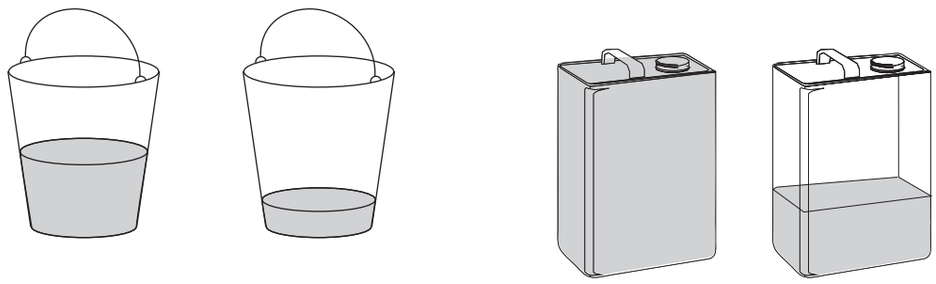
- Fill all the 1 litre containers with water/sand.
- Find out if they hold the same volume by pouring the water/sand from each litre container, one at a time, into the same jug and marking the level each time.
- Discuss the findings.
- Ask: **Did the way you thought about the capacity of the different containers change after doing this activity?** (Open discussion.)
- Note: In this discussion you could talk about the idea that although the containers look different and it may seem that they do not/cannot hold the same amount of substance, since they are all 1 litre containers they hold the same amount. This discussion will help the learners not to be confused by differences in the appearance of the containers and learn to estimate capacity more effectively.
- You might have to repeat the comparison activities to make sure that all thelearners realise that all 1 litre bottles have the same capacity, even if they look different.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Which container contains more? The first or the second? (a. first; b. first)

a

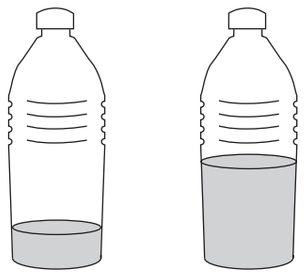
b



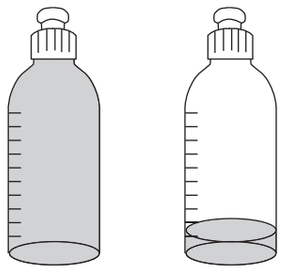
_____ _____

2 Which container contains less? The first or the second? (a. first; b. second)

a

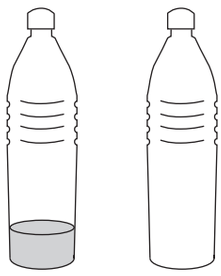


b

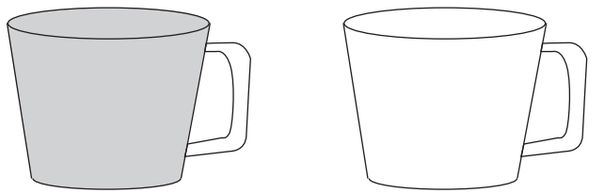


_____ _____

3 Colour to show more water in the container on the right. (Answers will vary – the second container must have more.)

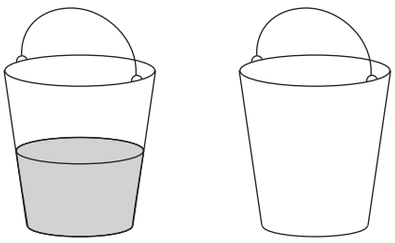


4 Colour to show less water in the container on the right. (Answers will vary – the second container must have less.)

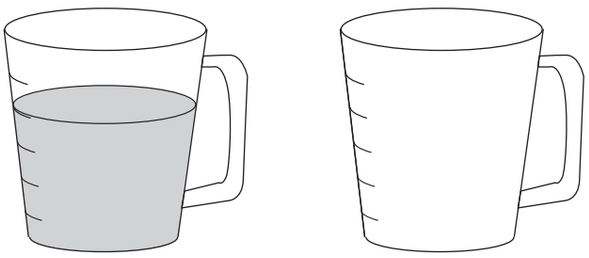


4 HOMEWORK ACTIVITY (5 MINUTES)

1 Colour to show more water in the container on the right. (Answers will vary – the second container must have more.)



2 Colour to show less water in the container on the right. (Answers will vary – the second container must have less.)



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 capacities by comparing the amounts of liquid that two containers can hold when they are filled.

Lesson 39: Measuring volume and capacity

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction , 4.4 Capacity / Volume.
Lesson Objective: Measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.
Lesson Vocabulary: Forwards, backwards, capacity, measure, compare, most, more, least, less, non-standard measures, order, record, container, cup, unit (of measurement).
Resources: Containers of various shapes and sizes, e.g. cups, spoons, jugs, yoghurt tubs, ice cream tubs, margarine tubs, plastic cold drink bottles, scrap paper – one sheet per group.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is 2 more than ...	Answer		What is 3 less than ...	Answer
1	8?	10	**6**	6?	3
2	2?	4	**7**	4?	1
3	7?	9	**8**	3?	0
4	1?	3	**9**	9?	6
5	4?	6	**10**	7?	4

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson provides the learners with an opportunity to measure, compare, order and record capacity using non-standard units. Remember to use all of the vocabulary and encourage the learners to use all of the vocabulary as well. Learners need to be actively involved in the lesson so that they can develop their own understanding.

Today we are learning to measure, compare, order and record the capacity of containers by using non-standard measures.

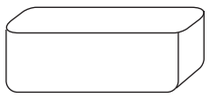
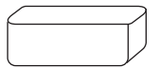
Activity 1: Learners work in groups

- Give the learners three different containers, e.g. a small yoghurt tub, an ice cream tub and a margarine tub.
- Ask: **Which container do you think has the biggest capacity?** (Ice cream tub – depending on the containers you brought.)
- Ask: **Which container do you think has the smallest capacity?** (Yoghurt tub – depending on the containers you brought.)

- Allow the learners to take a cup and then measure how many cups of water or sand will fill each container.
- Make sure that the learners fill each container right up to the top of the container and emphasise that filled 'to capacity' means filled up to the top.

Activity 2: Learners work in groups

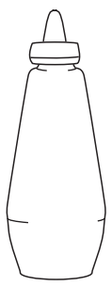
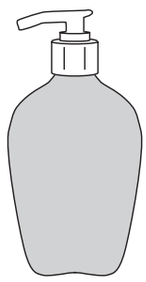
- Give each group of learners a sheet of scrap paper.
- In this activity learners will record the findings from the previous activity.
- Ask the learners to draw the three different containers on the paper and then record the number of cups of water/sand that is required to fill each container.
- The learners can then write *most* and *least* under the correct pictures.

Yoghurt tub	Ice cream tub	Margarine tub
		
☐ cups (least)	☐ cups (most)	☐ cups

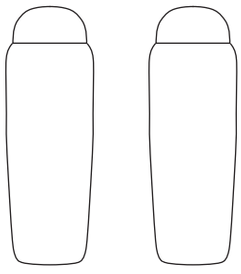
3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

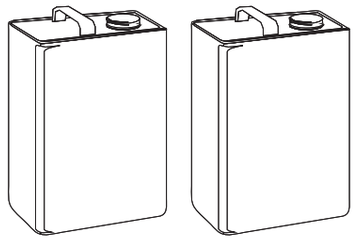
1 Which word correctly describes the containers (a, b and c) below?

empty	half full	almost full	full

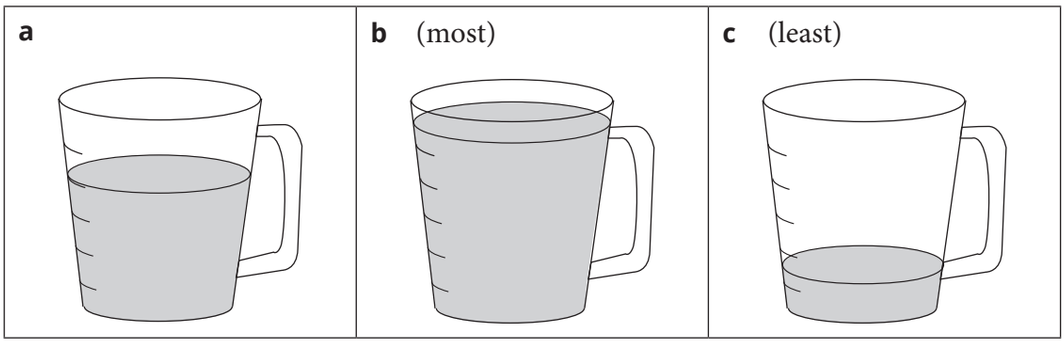
a (half full)	**b** (empty)	**c** (full)
		

2 Colour the first container so that it is full and the second one so that it is half full:

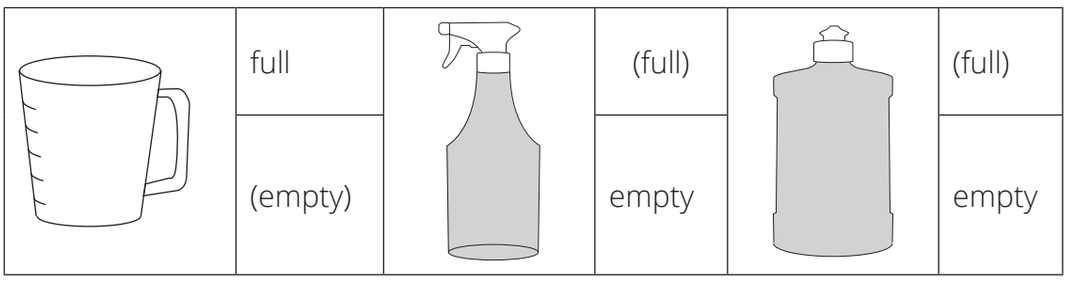
a  (colour)

b  (colour)

3 Circle the container that has the most liquid. Draw a cross over the container that has the least.



4 Are the containers full or empty? Colour the correct word.



4 HOMEWORK ACTIVITY (5 MINUTES)

1 Find three different containers at home. Draw them in your homework book. (answers will vary)
2 Circle the one that you think will hold the most water in red. Label it – most.
3 Circle the one that you think will hold the least water in blue. Label it – least.

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 measure, compare and order the capacity of containers using non-standard measures. We also learned how to record our findings.

Lesson 40: Consolidation – length, capacity, volume

Teacher's notes
This lesson allows for consolidation of the previous days' lesson content.
CAPS topics: 4.2 Length, 4.4 Capacity / Volume.
Lesson Objective: Measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.
Lesson Vocabulary: Forwards, backwards, capacity, measure, compare, most, more, least, less, non-standard measures, order, record, container, cup, unit (of measurement).
Resources: n/a
Date: Week Day

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

This week the learners focused on length and capacity / volume. Learners need to be able to compare and measure length and capacity, and to be able to use the correct vocabulary.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners may struggle to use the vocabulary appropriately. Encourage the learners to talk to one another, and to verbalise what they are seeing and doing.

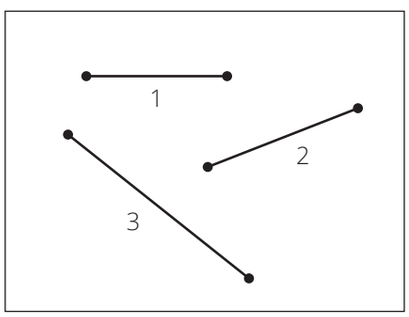
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

Today we are going over what we learned this week. We are learning more about length and capacity / volume.

4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

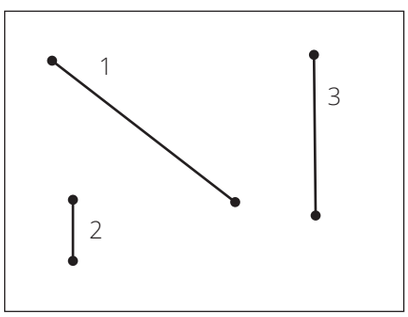
1 Which is the longest line? Write the number.

a



(3)

b



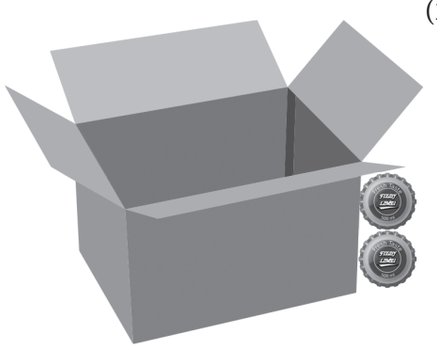
(1)

2 How many bottle tops are there along the side? Write the number.

a

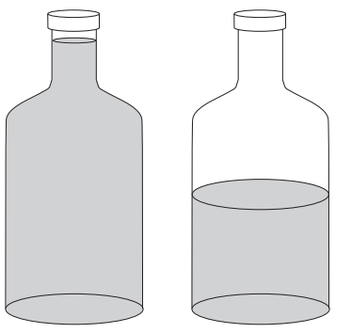
(4)

b (2)

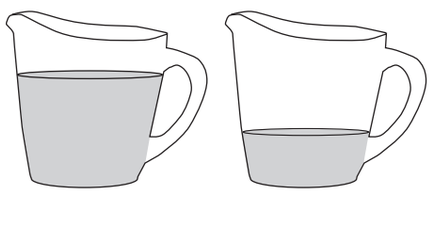


3 Tick which container has less water.

a

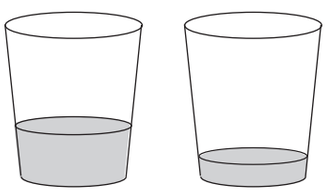


b

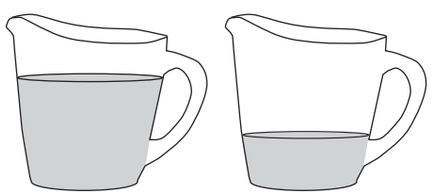


4 Tick which container has more water.

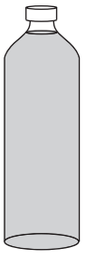
a



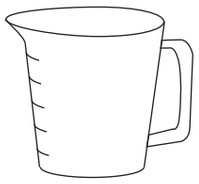
b



5 Are the containers full or empty?



(full)



(empty)

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have learned to compare and measure length and to compare and measure capacity.

Week 9

Lesson 41: Comparison of mass

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 4.3 Mass.
Lesson Objective: Use relevant language to talk about comparison of mass.
Lesson Vocabulary: Heavy, heavier, light, lighter, measure, compare, order, record, compare, balance scales.
Resources: A variety of heavy and light objects (e.g. kitchen items), balance scale (make your own one using a coat hanger, string and two plastic yoghurt tubs if necessary), heavy and light flashcards (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is 4 more than ...	Answer		What is 1 less than ...	Answer
1	1?	5	**6**	10?	9
2	4?	8	**7**	5?	4
3	6?	10	**8**	8?	7
4	3?	7	**9**	3?	2
5	5?	9	**10**	9?	8

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson you will introduce some vocabulary that is used in the topic of mass. It is important that you use all of the different words and demonstrate and explain their meaning to your class. You should also give the learners the opportunity to say the words themselves. Refer to the bilingual dictionary for explanations and examples of the relevant mathematical terminology. If you do not have a commercial balance scale, you should make one of your own to use in this lesson and in the other lessons on mass.

Today we are learning about the vocabulary we use to talk about the comparison of mass.

Activity 1: Learners work in groups

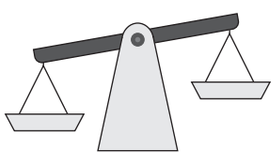
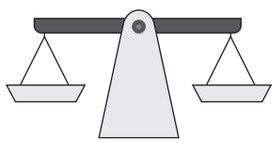
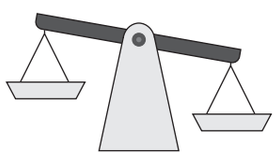
- Note: You need to use the resources that you prepared for this lesson. It is important that the learners are given the chance to hold the different objects while they compare their masses. This is a practical activity!
- Give each group some heavy and light objects.
- Ask learners to pick up two of the objects.
- Ask: **What can you tell me about your two objects?** (This one is *heavy.* /This one is *light*.)
- Hold up the flashcard *heavy* or *light* whenever learners use the word.
- Say: **Choose two different objects that are *heavier* than one of your two objects.** (Learners find objects, discuss the comparison of their mass and agree on the differences.)
- Say: **Choose two different objects that are *lighter* than one of your two objects.** (Learners find objects, discuss the comparison of their mass and agree on the differences.)

Activity 2: Learners work in groups

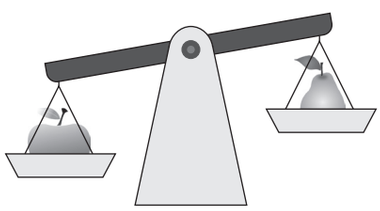
- Learners work with the balance scale that you prepared for this lesson.
- Allow the learners to place identical objects on either side of the balance scale. (This will demonstrate that the bar/base of the coat hanger/balance scale is horizontal when the two objects have the same mass.)
- Ask the learners to compare objects by placing different objects in each side of the balance scale to see which is *heavier* or *lighter*.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

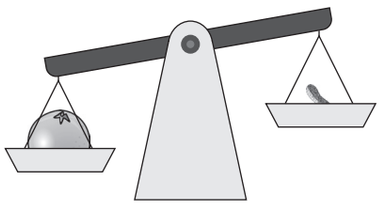
1 Draw blocks on each side of the scale to make it true.

a (Learners draw more blocks on the left) 	**b** (Learners draw the same number of blocks on both sides) 	**c** (Learners draw more blocks on the right) 

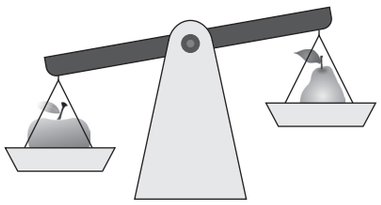
2 Draw a scale to show that an apple is heavier than a grape.
(Learners must draw a rough sketch that looks something like the one shown below.)

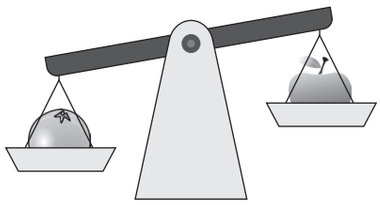


3 Draw a scale to show that a peanut is lighter than an orange.
(Learners must draw a rough sketch that looks something like the one shown below.)



4 Look at the scales and compare the mass of the apple, the pear and the orange. .





a The _(pear)_ is the lightest.
b The _(orange)_ is the heaviest.

4 HOMEWORK ACTIVITY (5 MINUTES)

Learners must follow the instructions and provide various drawings.
1 Find two objects at home. Hold one in each hand to compare their masses.
2 Decide which object is heavier and which object is lighter.
3 Draw the objects.
4 Write the word 'heavy' below the heavier object and 'light' below the lighter object.

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 use relevant language to talk about the comparison of mass.

Lesson 42: Measuring mass

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 4.3 Mass.
Lesson Objective: Measure, compare, order and record mass using a balancing scale and non-standard measures.
Lesson Vocabulary: Mass, heavy, light, heavier, lighter, heaviest, lightest, balance, estimate, measure, compare, record, balance scale.
Resources: Balance scale, objects found in the classroom to use to compare mass.
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is 1 more than ...	Answer		What is 4 less than ...	Answer
1	3?	4	**6**	5?	1
2	8?	9	**7**	10?	6
3	5?	6	**8**	8?	4
4	9?	10	**9**	6?	2
5	6?	7	**10**	9?	5

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson provides the learners with an opportunity to measure, compare, order and record mass using non-standard units. Remember to use all of the vocabulary and encourage the learners to use all of the vocabulary as well. Learners need to be actively involved in the lesson so that they can develop their own understanding. Use the balance scale that you made for the previous lesson again today.

Today we are learning to measure, compare and order the mass of various containers by using a balance scale and non-standard measures. We will also record our findings.

Activity 1: Learners work in groups

- Discuss with the class that mass refers to the amount of substance an object is made of. Use examples to help them realise the difference between the masses of different objects.
- Give each group of learners two objects to hold, one in each hand. (Any items from around the classroom can be used)
- Ask: **Which object is heavier?** (Answers will vary.)
- Ask: **Which object is lighter?** (Answers will vary.)

- Say: **Place the objects on the balance scale to see if you were correct.** (This can be done in front of the class or in groups.)
- Discuss: **When an object is lighter, what can we say about its mass?** (It has a lower mass – it is made of less substance.)
- Discuss: **When an object is heavier, what can we say about its mass?** (It has a higher mass – it is made of more substance.)

Activity 2: Learners work in groups

- Give each group of learners 20 bottle tops and a balance scale. (Do this activity as a whole class demonstration if you do not have more than one balance scale.)
- Ask the learners to place a pen in the one bucket.
- They should then put bottle tops into the other bucket, till they see that the pen and the bottle tops have the same mass (or very similar), balancing the scale.
- Encourage the learners to measure a variety of items, using the bottle tops as a non-standard unit of measurement.
- Learners must state the unit when giving the mass, e.g. the pen has the same mass as 5 bottle tops.
- Do the same with a ruler, pencil, eraser, etc.

Activity 3: Learners work in groups

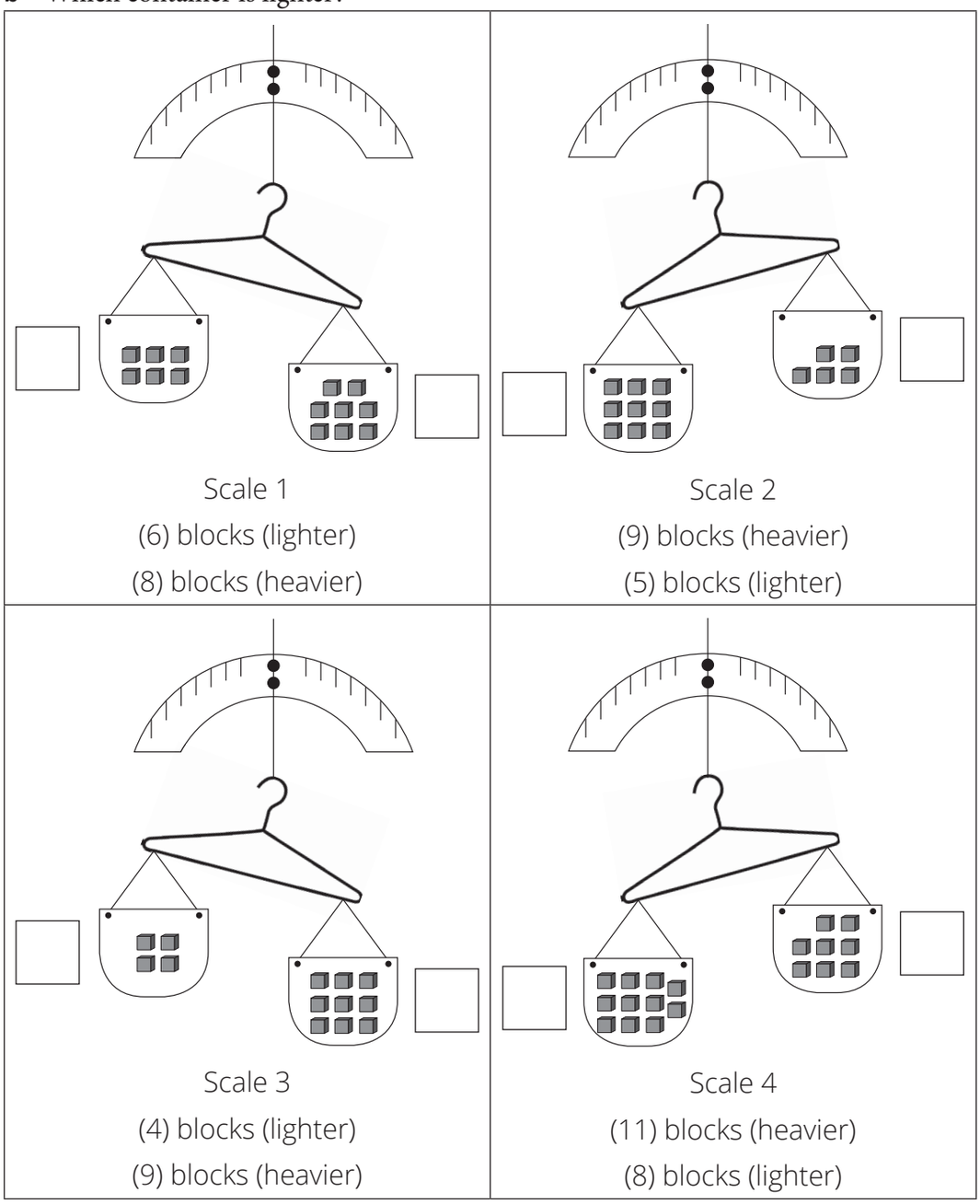
- Give each group 20 bottle tops, 20 counters (or match boxes / blocks / marbles etc.) and a balance scale. Do this activity as a whole class demonstration if you do not have more than one balance scale.
- Say: **Use your blocks to measure the mass of a pencil.** (Learners put the pencil on the one side of the balance scale and then place *blocks* on the other side of the balance scale, until the scale is balanced.)
- Say: **Use your counters to measure the mass of the same pencil.** (Learners put the pencil on the one side of the balance scale and then place *counters* on the other side of the balance scale, until the scale is balanced.)
- Ask: **What do you notice?** (Discuss. We got a different number of blocks and counters.)
- Learners need to understand that in order to compare the mass of different objects; the same unit needs to be used.
- For example, if a ruler has a mass of 20 bottle tops and a pair of scissors has the mass of 20 marbles; one cannot say whether or not they have the same mass.
- Discuss why we can't compare mass if we have used different non-standard units. (Because the units are not exactly the same.)

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 How many blocks are there on each side of the scale? (For each scale.)

a Which container is heavier?

b Which container is lighter?



Scale 1

(6) blocks (lighter)

(8) blocks (heavier)

Scale 2

(9) blocks (heavier)

(5) blocks (lighter)

Scale 3

(4) blocks (lighter)

(9) blocks (heavier)

Scale 4

(11) blocks (heavier)

(8) blocks (lighter)

4 HOMEWORK ACTIVITY (5 MINUTES)

Learners answers will vary – they should estimate to decide on the mass of the various objects they choose. Check their work to make sure that the objects have been compared correctly according to mass.

1 Choose four objects from around your home.

2 Write the names of the four objects you chose.

_____

3 Which object do you think is the heaviest? Draw it.

4 Which object do you think is the lightest? Draw it.

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 measure, compare and order the mass of containers by using a balance scale and non-standard measures. We have also learned to record our findings.

Lesson 43: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 4.3 Mass, 4.4 Capacity / Volume.		
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 and practical assessment* (see checklist below).

2 DISCUSS ASSESSMENT ITEMS WITH THE CLASS (45 MINUTES)

Take in the learners' work when they are done.

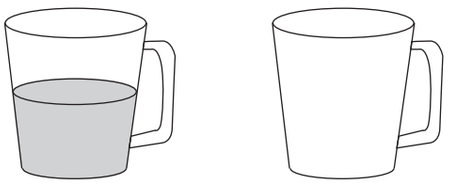
There should be time for you to discuss a few of the items with the class:

- 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.

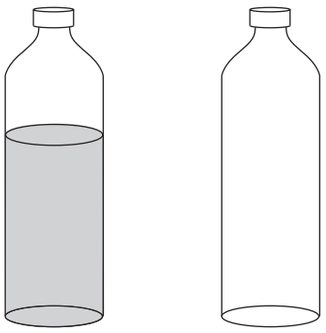
3 ASSESSMENT

WRITTEN ASSESSMENT (10)

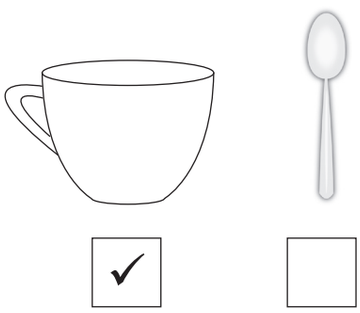
1 Colour in to show more water in the cup on the right. (1)



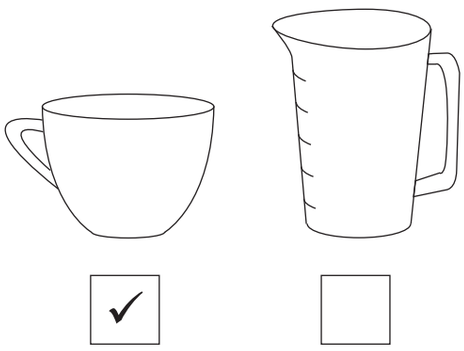
2 Colour in to show less water in the container on the right. (1)



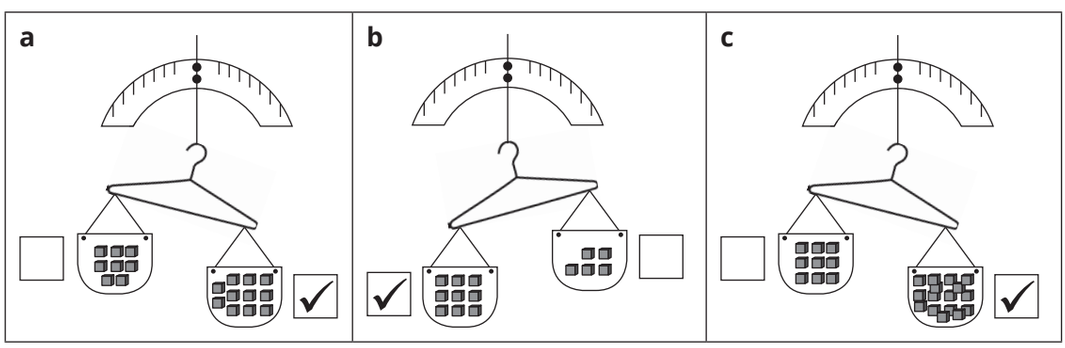
3 Tick the container that will hold more. (1)



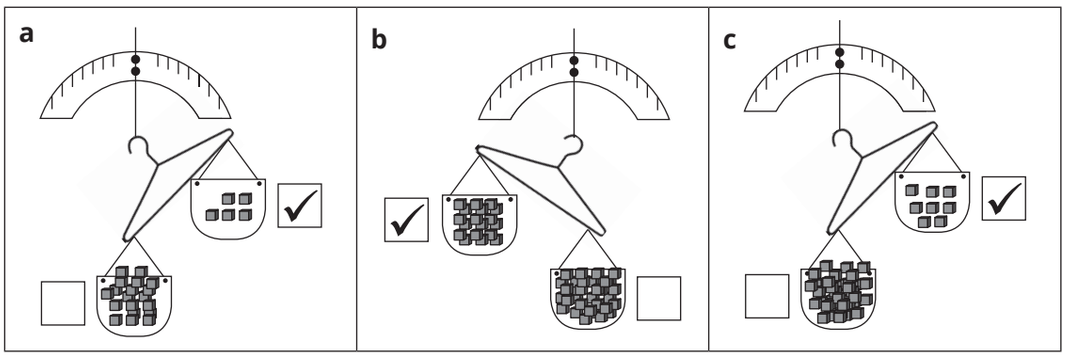
4 Tick the container that will hold less. (1)



5 Tick the box next to the heavier container. (3)



6 Tick the box next to the lighter container. (3)



GUIDELINE

Note that in this assessment the core concepts being tested are that of capacity and mass.

Use concrete activities to support the learners' understanding of these concepts as needed.

CAPS: Measurement: Capacity Activity: Assess the learners' ability to use vocabulary (full and empty), order and compare amounts in containers according to capacity and estimate and measure capacity using non-standard measures							Mark: 7
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
Criterion	Use vocabulary - full and empty.	Use vocabulary - the same as.	Use vocabulary - more than and less than.	Order containers according to the amount of liquid that they can hold if filled.	Compare the amount of liquid that two containers can hold if filled.	Estimate the capacity of containers by using non-standard measures.	Measure the capacity of containers by using non-standard measures.

ORAL AND PRACTICAL: CHECKLIST (7)

Mark ✓/7	Criteria – Checklist: (1 mark for each criterion achieved)	Achieved – ✓	Not yet – ✘	Almost – ★
1	Use vocabulary - full and empty.			
1	Use vocabulary - the same as.			
1	Use vocabulary - more than and less than.			
1	Order containers according to the amount of liquid that they can hold if filled.			
1	Compare the amount of liquid that two containers can hold if filled.			
1	Estimate the capacity of containers by using non-standard measures.			
1	Measure the capacity of containers by using non-standard measures.			

Unit 4 Introduction

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

- **Conceptual understanding**: Learners develop their conceptual understanding of shapes by building on the knowledge that they gained in Term 1. Learners work practically with shapes, and verbalise their understanding in order to build conceptual development in relation to space and shape.
- **Procedural fluency**: The flow of lessons in this unit allows for procedural fluency as the learners are given time to build on their knowledge, and to practice working with shapes in a variety of ways.
- **Strategies**: Learners move from a more concrete approach to working with shapes to a more abstract approach. Initially the learners work with models of shapes, then they move on to using objects like sticks to build shapes and then they connect dots to draw shapes.
- **Reasoning**: Learners need to be able to talk about shapes, as well as their creation of shapes using sticks or dots. Learners also need to be able to explain how shapes change when they move or are joined.

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

- **Addressing gaps in learners' knowledge**: This unit allows for gaps in the learners' knowledge to be addressed as it builds on from previous lessons in Term 1. The flow of lessons allows the teacher to identify gaps in the learners' knowledge, and the structure of the lessons provides opportunities to rectify these gaps.
- **Purposeful assessment**: Assessment should be purposeful in order to add value to the teaching and learning process. In this unit, the learners' understanding is scaffolded so that the assessment is a more accurate determination of their understanding.
- **Speaking Mathematics:** Learners are expected to verbalise their understanding, and knowledge of shapes. The vocabulary is important as they begin to express themselves in more coherent ways. This 'speaking maths' is also important as part of the learners' assessment, as it enables the teacher to identify the learners' level of understanding.
- **Explaining concepts and procedures**: In this unit the learners explain the properties of shapes, and discuss how they make shapes. This explanation of concepts and procedures is an important part of their conceptual development and assessment so learners need many opportunities to talk to their peers as well as to the teacher.

UNIT 4 OVERVIEW

Day	LP	Lesson Objective	Lesson Resources	Date Completed
Thur	44	Recognise and name 2-D shapes; describe, sort and compare 2-D shapes in terms of straight sides and round sides.	Shape cut-outs (see *Printable Resources*).	
Fri	45	Consolidation of work done this week.	Learner Activity Book.	
Mon	46	Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; make shapes using sticks.	Sticks (matchsticks/ toothpicks / twigs), number cards (for mental maths).	
Tue	47	Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; make shapes by connecting dots.	Dotted paper (see *Printable Resources*), number cards (for mental maths).	
Wed	48	Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; change shapes using shape cut-outs.	Triangle shape cut-outs (see *Printable Resources*).	
Thur	49	Assessment.	Assessment activity in teacher's resources.	
Fri	50	Consolidation of work done this week.	Learner Activity Book.	

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 the week? If not, how will you get back on track?*

What will you change next time? Why?

Lesson 44: Recognising shapes

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 3.3 2-D shapes.
Lesson Objective: Recognise and name 2-D shapes; describe, sort and compare 2-D shapes in terms of straight sides and round sides.
Lesson Vocabulary: 2-D shapes, circles, triangles, squares, rectangles, round sides, curved, straight sides, describe, sort, compare, recognise, name.
Resources: Shape cut-outs (see *Printable Resources*).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

	What is?	Answer		What is?	Answer
1	1 less than 2?	1	**6**	1 more than 8?	9
2	2 less than 7?	5	**7**	2 more than 4?	6
3	3 less than 6?	3	**8**	3 more than 5?	8
4	4 less than 7?	3	**9**	10 more than 0?	10
5	5 less than 9?	4	**10**	8 more than 1?	9

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson the learners will revise the names of 2-D geometric shapes (circles, triangles, squares; rectangles). They will also learn to use some of the mathematical words that describe the characteristics of these shapes – size, straight sided, round edged. CAPS refers to shapes that have round sides. You can help learners to understand this by talking about curves and curved sides as well since the word curved is used to describe a rounded edge. Refer to the bilingual dictionary for explanations and examples of the relevant mathematical terminology. You need to prepare the shape cut-outs for this lesson. Make enough copies so that each group of learners has a few of each shape.

Today we are learning to recognise, name and describe 2-D shapes.

Activity 1: Learners work in groups

- Give each group of learners some paper shapes (triangles, squares, rectangles and circles) of various sizes.
- Say: **Hold up a circle.**
- Say: **Trace around the circle with your fingers.**

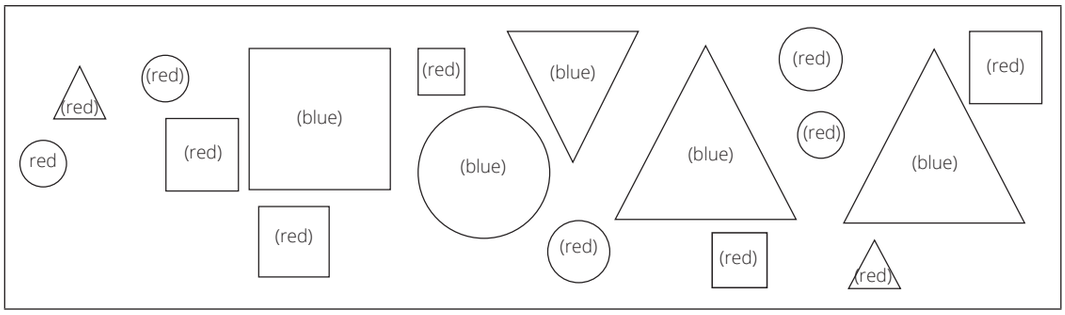
- Ask: **Does it have straight or round sides?** (Round sides.) You may need to guide the learners at the beginning.
- Encourage the learners to draw a shape with round sides in the air.
- Say: **Hold up a triangle.**
- Say: **Trace around the triangle with your fingers.**
- Ask: **Does it have straight or round sides?** (Straight sides.) You may need to guide the learners at the beginning.
- Encourage the learners to draw a shape with straight sides in the air.
- Say: **Hold up a square.**
- Say: **Trace around the square with your fingers.**
- Ask: **Does it have straight or round sides?** (Straight sides.) You may need to guide the learners at the beginning.
- Encourage the learners to draw a shape with straight sides in the air.
- Say: **Hold up a rectangle.**
- Say: **Trace around the rectangle with your fingers.**
- Ask: **How do you know that this is not a square?** (It has 2 short straight sides and 2 long straight sides instead of 4 straight sides the same length.) You may need to guide the learners at the beginning.
- Encourage the learners to draw a rectangle in the air.

Activity 2: Learners work in groups

- Ask the learners to place all the shapes in the middle of their table.
- Select one learner to close her/his eyes and pick up a shape.
- Learners must guess what shape they have picked up by feeling if the sides are straight or round and (if they are straight) by counting the number of sides the shape has. They must do this with their eyes closed as it helps them develop their ability to visualise the shapes.
- Ask: **Does the shape have round or straight sides?** (It has round/straight sides.)
- Ask: **Can you name the shape?** (It is a circle/square/triangle/rectangle.)
- Ask: **How do you know?** (It has _____ sides.)
- After the learners have all had a chance to visualise the shapes, summarise the findings in a whole class discussion.
- Say: **Pick up a square. How many straight sides does it have?** (4 straight sides.)
- Say: **Pick up a triangle. How many straight sides does it have?** (3 straight sides.)
- Say: **Pick up a circle. Does it have straight sides?** (No, it has a round side.)
- Say: **Pick up a rectangle. What do you notice about the sides?** (It has 2 short straight sides and 2 long straight sides.)
- Make sure that all learners have a chance to feel the shapes and to talk about them.

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

1 Colour the small shapes red and the big shapes blue.



2 Trace the following shapes.

triangle	circle	square
triangle	rectangle	rectangle

3 Does the shape have round or straight sides?

a	b	c	d
(round sides)	(straight sides)	(straight sides)	(straight sides)

4 Draw a shape with:

a 3 straight sides. (triangle.)

b Round sides. (circle.)

c Name your shapes.

4 HOMEWORK ACTIVITY (5 MINUTES)

1 Draw a shape with 4 straight sides. (or)

2 What is the name of the shape you have drawn? _____ (Square or rectangle.)

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 recognise, name and describe 2-D shapes.

Lesson 45: Consolidation – 2-D shapes

Teacher's notes
This lesson allows for consolidation of the previous days' lesson content.
CAPS topics: 3.3 2-D shapes.
Lesson Objective: Recognise and name 2-D shapes: circles, triangles, rectangles and squares; describe, sort and compare 2-D shapes in terms of: size, colour, shape, straight sided, round sided.
Lesson Vocabulary: Circles, triangles, squares, rectangles, sort, sorting, compare, describe, size, colour, shape, straight sides, round sides, curved, big, bigger, biggest, small, smaller, smallest, square corners.
Resources: n/a
Date: Week Day

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

This week the learners have compared size as they learned about mass and measurement. They have also begun to learn about shapes for the first time this term. The consolidation lesson will focus on the new topic of shapes, giving the learners an opportunity to recognise, name and describe shapes.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners may find it difficult to describe the shapes. It is important to model the use of the language, and to encourage the learners to verbalise their thoughts as they work with the shapes.

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

Today we are going over what we learned this week. We are learning more about recognising, naming and describing shapes.

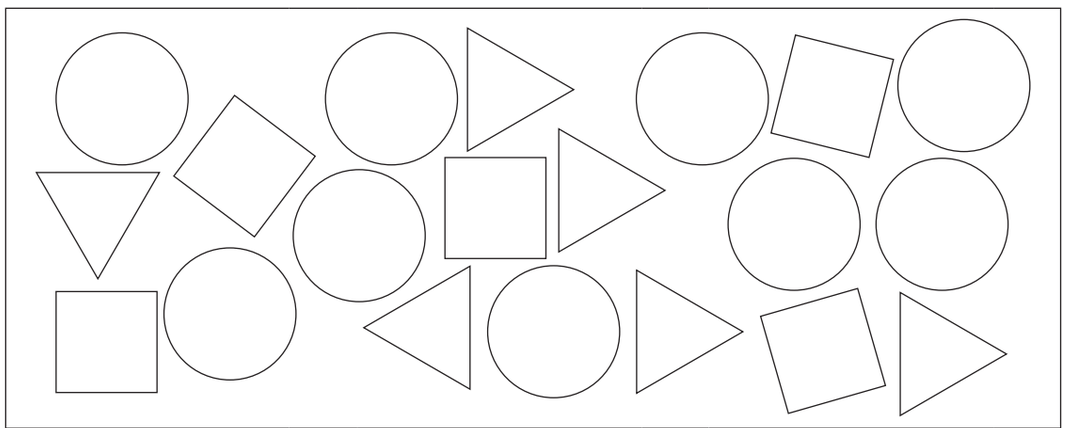
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

1 Complete the table below.

a	Draw a circle	Draw a square	Draw a rectangle	Draw a triangle
	( )	( )	( )	( )
b	How many sides?	How many sides?	How many sides?	How many sides?
	(1)	(4)	(4)	(3)

c.	Round or straight sides?	Round or straight sides?	Round or straight sides?	Round or straight sides?
	(Round)	(Straight)	(Straight)	(Straight)

2 Sort the shapes and make a drawing of your sorting.



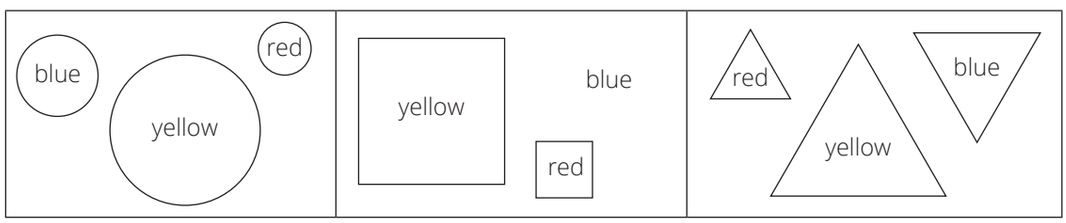
circles		triangles		squares	
How many circles?	(9)	How many triangles?	(6)	How many squares?	(5)

3 Colour the shapes below:

a Big shapes yellow

b Smaller shapes blue

c Smallest shapes red



4 Use four shapes to draw a picture. You can use the shapes more than once.

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have learned to recognise, name and describe shapes.

Week 10

Lesson 46: Making shapes (using sticks)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 3.3 2-D shapes.
Lesson Objective: Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; make shapes using sticks.
Lesson Vocabulary: Circles, triangles, squares, rectangles, describe, colour, shape, straight sides, round sides, curved, square corners.
Resources: Sticks (matchsticks/ toothpicks / twigs), number cards (for mental maths).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Learners use number cards and arrange the cards in the correct order on their desks. (Make your own number cards.)

	Put these numbers in order from the smallest to the biggest.	Answer		Put these numbers in order from the smallest to the biggest.	Answer
1	9, 5, 7, 2, 10	2, 5, 7, 9, 10	**6**	8, 3, 1, 9, 4	1, 3, 4, 8, 9
2	9, 2, 4, 8, 7	2, 4, 7, 8, 9	**7**	9, 2, 10, 5, 7	2, 5, 7, 9, 10
3	0, 3, 8, 1, 6	0, 1, 3, 6, 8	**8**	3, 9, 2, 5, 7	2, 3, 5, 7, 9
4	9, 0, 7, 8, 2	0, 2, 7, 8, 9	**9**	3, 9, 2, 4, 5	2, 3, 4, 5, 9
5	10, 3, 9, 2, 1	1, 2, 3, 9, 10	**10**	3, 8, 1, 7, 5	1, 3, 5, 7, 8

2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

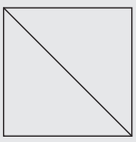
In today's lesson, the learners will make shapes by arranging sticks to represent the sides of the shapes. Learners need to be able to make the shapes by considering the direction of the lines of the shape, and arranging the sticks accordingly.

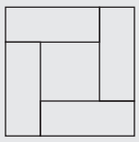
Today we are learning to make shapes using sticks.

Activity 1: Whole class activity

- Draw a square on the board, with a triangle directly above it.

- Ask: **What do you see?** (Learners may say "a square and a triangle", or they may say "a house")
- Give the learners time to discuss the shapes and their sides.
- Ask: **How many sides does a square have?** (4)
- Ask: **How many sides does a triangle have?** (3)
- Ask: **Can you see where the square and the triangle share a side?** (A learner can point out the line on the board.)
- Repeat with other shapes, such as:



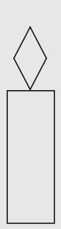


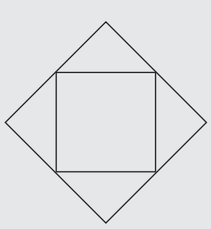
- Ask questions about the shared sides of the shapes. (Learners can come to the board to point out the lines.)

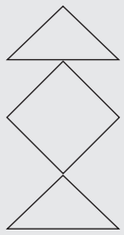
Activity 2: Learners work in pairs

- Give each pair of learners some sticks (matchsticks / toothpicks / twigs).
- Draw the following shape on the board:

- Say: **Let's pretend this is a tree.**
- Encourage the learners to make the above shape by using their sticks on their desk.
- Learners will lay out the sticks to look the same as the shape drawn on the board.
- Ask: **Does the shape have straight sides or curved sides?** (They are straight.)
- Ask: **How did you use your sticks?** (We made a triangle using 3 sticks, and then used 1 more stick to make the tree trunk).
- Make sure you discuss the formation of the shapes with the learners, giving them an opportunity to verbalise their understanding of how the shapes are made.
- Repeat with the shapes below:

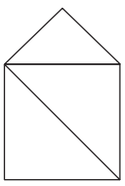
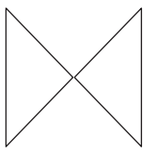
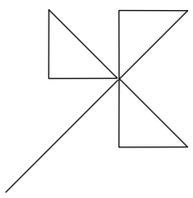
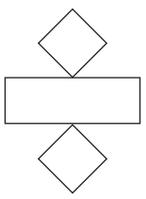
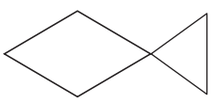
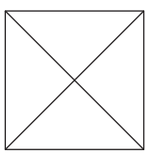
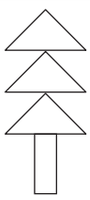
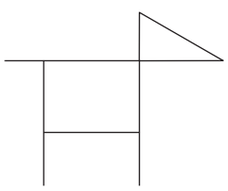






3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

Make the following shapes using sticks.

a		**e**	
b		**f**	
c		**g**	
d		**h**	

4 HOMEWORK ACTIVITY (5 MINUTES)

In the block below:

1 Draw a square.
2 Draw a triangle on top of the square.
3 Draw another triangle underneath the square.

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 make shapes using sticks.

Lesson 47: Making shapes (connecting dots)

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 3.3 2-D shapes.
Lesson Objective: Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; make shapes by connecting dots.
Lesson Vocabulary: Circles, triangles, squares, rectangles, describe, colour, shape, straight sides, round sides, curved, square corners.
Resources: Dotted paper (see ***Printable Resources***), number cards (for mental maths).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

Learners use number cards and arrange the cards in the correct order on their desks. (Make your own number cards.)

	Put these numbers in order from the biggest to the smallest.	Answer		Put these numbers in order from the biggest to the smallest.	Answer
1	9, 3, 1, 8, 0, 7	9, 8, 7, 3, 1, 0	**6**	5, 7, 9, 3, 0	9, 7, 5, 3, 0
2	5, 3, 1, 8, 7, 0	8, 7, 5, 3, 1, 0	**7**	10, 8, 3, 4, 2	10, 8, 4, 3, 2
3	9, 2, 0, 7, 5	9, 7, 5, 2, 0	**8**	2, 6, 4, 8, 3	8, 6, 4, 3, 2
4	6, 7, 2, 0, 9	9, 7, 6, 2, 0	**9**	9, 0, 7, 5, 2	9, 7, 5, 2, 0
5	1, 5, 10, 3, 4	10, 5, 4, 3, 1	**10**	3, 7, 2, 10, 5	10 ,7, 5, 3, 2

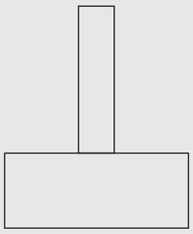
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

This lesson follows on from the previous lesson, as the learners are now expected to create their own lines by connecting dots, rather than by arranging sticks to represent the shapes. This is a more abstract step, and the learners need to be given a number of opportunities to see the connections between making shapes with sticks and by connecting dots.

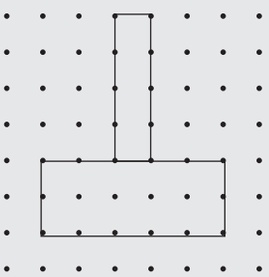
Today we are learning to make shapes by connecting dots.

Activity 1: Whole class activity

- Draw the following shape on the board:



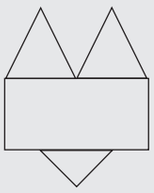
- Ask: **What do you see?** (Learners may say "2 rectangles".)
- Give the learners time to discuss the shapes and their sides.
- Ask: **How many sides does a rectangle have?** (4)
- Ask: **Do you think we can draw this shape so that all of our drawings look the same?** (Learners are likely to give a variety of responses.)
- Draw dots on the board in symmetrical lines so that you can join the dots to draw the shape (as shown below) together with the class.
- Call learners to the front and ask them to connect dots to re-create the shape.



- Give each learner a piece of dotted paper. Discuss with the learners how to draw lines from dot to dot in order to draw shapes.

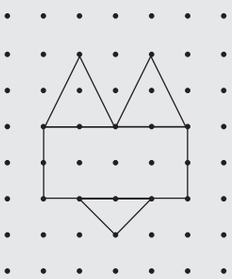
Activity 2: Whole class activity

- This activity follows the same pattern as Activity 1, but uses a more complex shape.
- Draw the following shape on the board:



- Ask: **What do you see?** (Learners may say "a rectangle and 3 triangles", or they may say "a dog / fox".)
- Give the learners time to discuss the shapes and their sides.
- Ask: **How many sides does a rectangle have?** (4)
- Ask: **How many sides does a triangle have?** (3)

- Ask: **Do you think we can draw this shape so that all of our drawings look the same?** (Learners are likely to give a variety of responses.)
- Draw dots on the board in symmetrical lines so that you can join dots to draw the shape below together with the class.
- Call learners to the front and ask them to connect dots to re-create the shape.

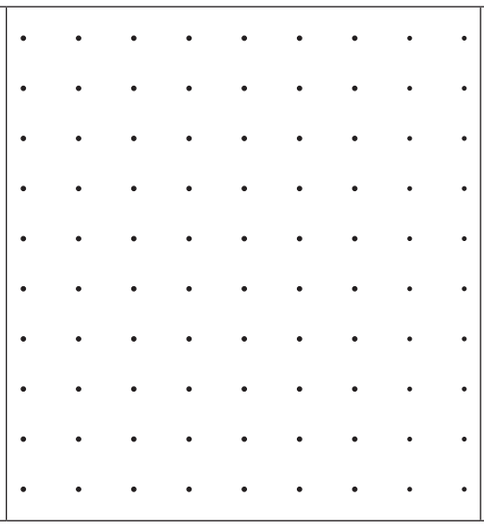


3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

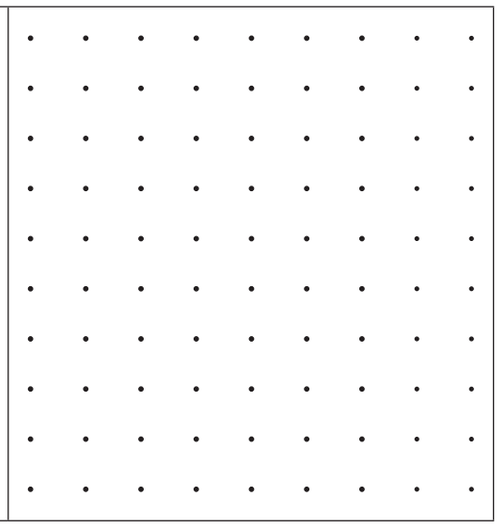
In this activity the learners are given the freedom to choose the shapes they want to draw. Guide them if they need help. You could suggest that first they draw some simple shapes (triangle, square, rectangle) and then they draw more complicated shapes made out of combinations of shapes.

1 Connect the dots to make shapes. You can choose the shapes you want to make.

a

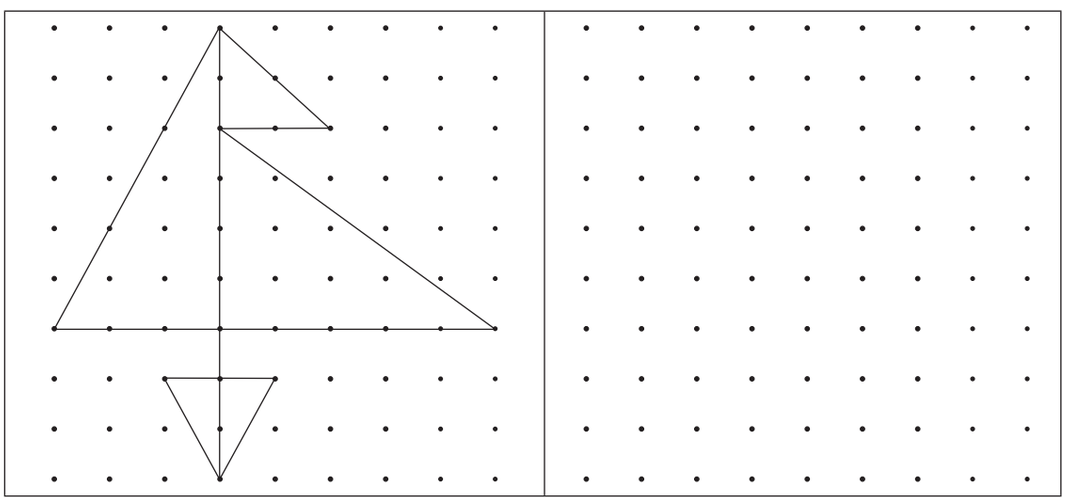


b



c		**d**	
e		**f**	

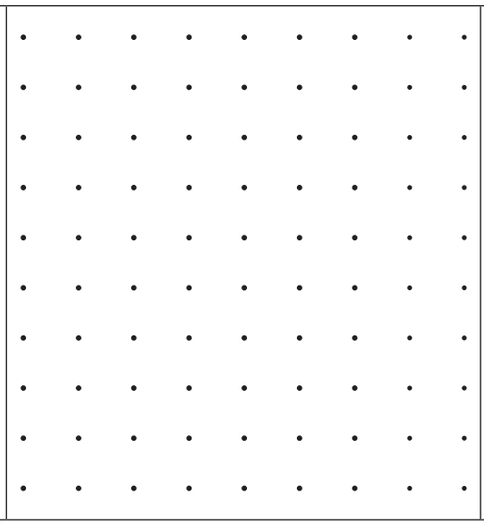
2 Copy the shape by connecting the dots.



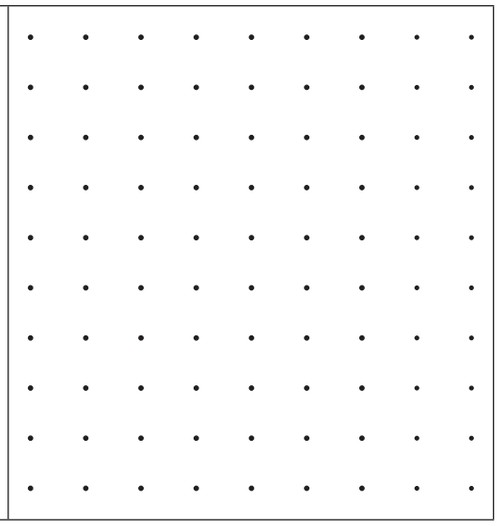
4 HOMEWORK ACTIVITY (5 MINUTES)

1 Connect the dots to make shapes. You can choose the shapes you want to make.

a



b



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 make shapes by connecting dots.

Lesson 48: Changing shapes

Teacher's notes
This lesson is one of the fully planned lessons to be used to cover the Term 2 curriculum.
CAPS topics: 1.13 Addition and subtraction, 3.3 2-D shapes.
Lesson Objective: Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; change shapes using shape cut-outs.
Lesson Vocabulary: Circles, triangles, squares, rectangles, describe, colour, shape, straight sides, round sides, curved, square corners.
Resources: Triangle shape cut-outs (see ***Printable Resources***).
Date: Week Day

1 MENTAL MATHS (10 MINUTES)

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

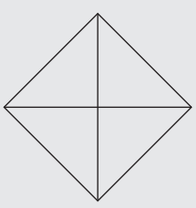
2 LESSON CONTENT – CONCEPT DEVELOPMENT (45 MINUTES)

In this lesson, the learners need to be able to see how shapes are made up of smaller shapes. In addition, learners will see that if the smaller shapes are moved, or rotated, then the overall shape is changed. This is quite a challenging concept and the learners will need to use concrete apparatus to develop their understanding.

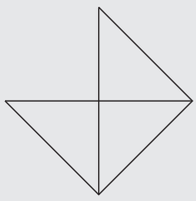
Today we are learning to change shapes.

Activity 1: Learners work in pairs

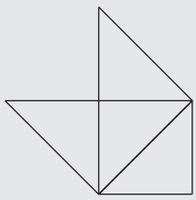
- Make sure that each pair of learners has 4 triangle shape cut-outs on the desk in front of them.
- Say: **Find 4 triangles and put them together to make a square** (place the triangles on the board to demonstrate).



- Ask the learners to move one triangle out of the original shape.



- Say: **Now add the triangle back into the shape, but in a different position to where it was before.**

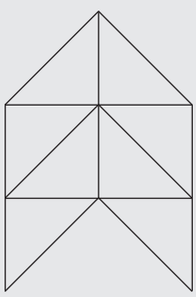


(for example)

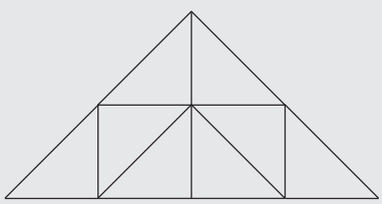
- Encourage the learners to discuss their new shapes, explaining how they moved the triangle.
- Repeat the above steps, allowing learners to move the triangle from and to different positions each time.

Activity 2: Learners work in pairs

- Make sure that each pair of learners has their triangle shape cut-outs on the desk in front of them.
- Ask the learners to arrange 8 triangles as per the picture below:



- Say: **Move 2 triangles to change the shape.**



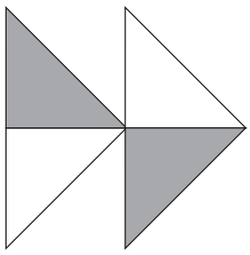
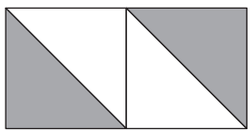
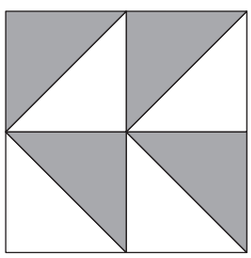
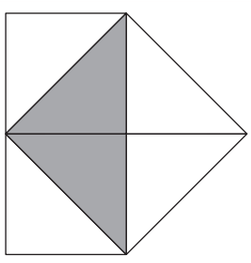
(for example)

- Encourage the learners to move the triangles around to see how many ways they can change the original shape (the square).

3 CLASSWORK ACTIVITY AND CORRECTION OF HOMEWORK (25 MINUTES)

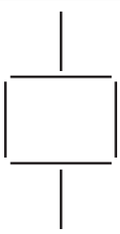
In this activity the learners should be encouraged to draw as many new shapes as they have time to draw. They can also use their shape cut outs to make the shapes and experiment with making new shapes by moving the cut outs.

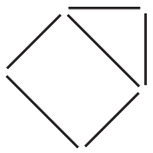
Change the shapes by moving the triangles.

a	Move one triangle.		(answers will vary)
b	Move one triangle.		(answers will vary)
c	Move two triangles.		(answers will vary)
d	Move two triangles.		(answers will vary)

4 HOMEWORK ACTIVITY (5 MINUTES)

Change the shapes by moving the lines.

a	Move one line.		(answers will vary)

b	Move two lines.		(answers will vary)

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 change shapes.

Lesson 49: Assessment

Teacher's notes		
This lesson should be used for assessment of the content covered in this unit to date.		
CAPS topics: 3.3 2-D shapes.		
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:

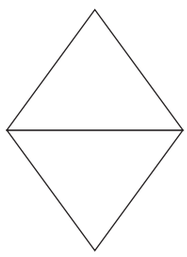
- use this opportunity to reflect on different methods used by learners (allow some learners to write their solutions on the board).
- speak about misconceptions that may have arisen in learners' responses.
- close tracking of learners' responses in learning and teaching situations will enable the teacher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

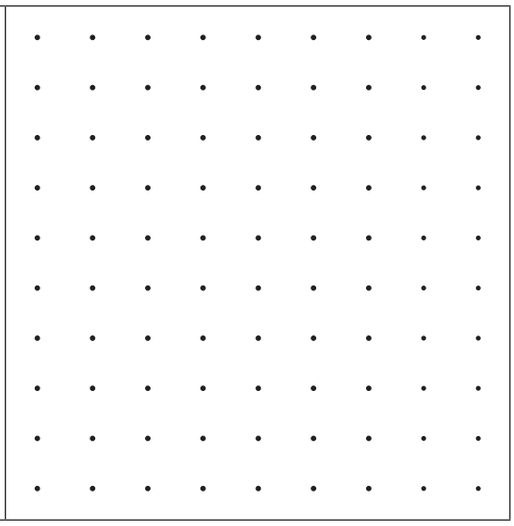
3 ASSESSMENT

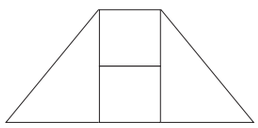
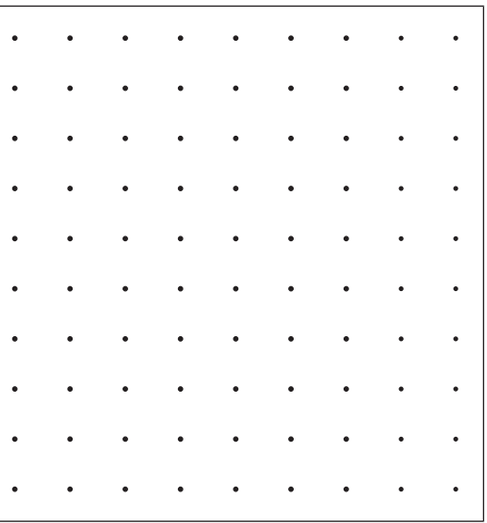
WRITTEN ASSESSMENT (12)

1 Copy the shape by connecting the dots. (3 + 3 = 6)

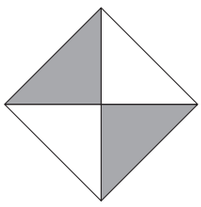
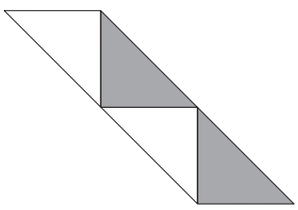
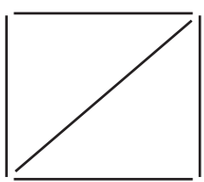
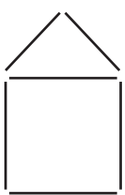
a





b		

2 Change the shapes.

a	Move one triangle (1)
	(answers will vary)
b	Move two triangles (2)
	**Guideline:** These questions challenge learners to work with their spatial concept of 2-D shapes. Allow them to manipulate concrete cut outs of 2-D shapes to help them develop this skill.
c	Move one stick (1)
	
d	Move two sticks (2)
	

Lesson 50: Consolidation – 2-D shapes

Teacher's notes		
This lesson allows for consolidation of the previous days' lesson content. CAPS topics: 3.3 2-D shapes. Lesson Objective: Describe and compare 2-D shapes in terms of: shape, straight sided, round sided; make and change shapes. Lesson Vocabulary: Circles, triangles, squares, rectangles, describe, colour, shape, straight sides, round sides, curved, square corners. Resources: n/a		
Date:	Week	Day

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

This week the learners have learned to make shapes by using sticks and by connecting dots. Learners have also learned to change shapes by moving shape cut-outs or sticks to different positions. Learners need a lot of practice with this as the position of shapes and lines can be quite difficult for them to represent using concrete apparatus or drawings.

2 POSSIBLE MISCONCEPTIONS LINKED TO THE WEEK'S WORK

Learners may find it difficult to represent shapes by connecting the dots, as this is quite an abstract representation of shapes. Encourage the learners to connect the dots one line at a time. It may be necessary to show the learners the start and end points of each line, going through the connecting of the dots step by step. Be sure to ask questions, getting the learners to verbalise what they think they need to do, rather than simply giving them instructions to follow.

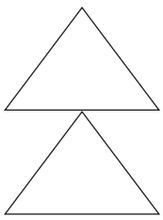
3 CLASSWORK/HOMEWORK – COMPLETE THIS WEEK'S CLASSWORK AS NEEDED

Today we are going over what we learned this week. We are learning more about making and changing 2-D shapes.

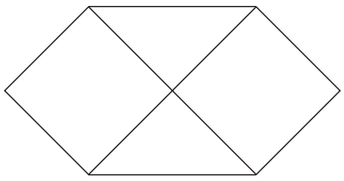
4 ADDITIONAL ACTIVITIES FOR CONSOLIDATION – SEE LEARNER RESOURCES

1 Make the following shapes using sticks.

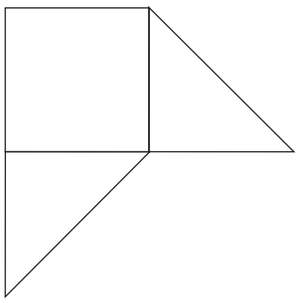
a



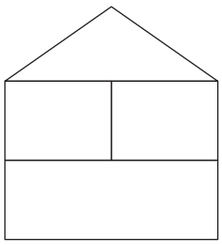
b



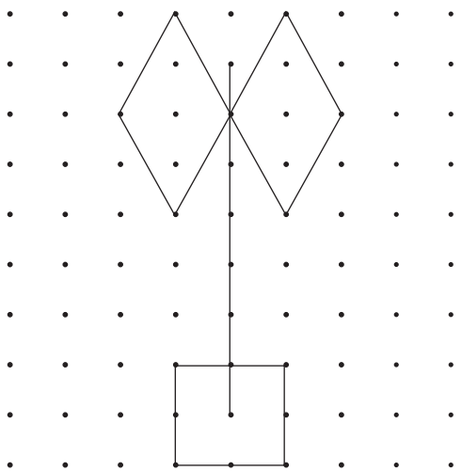
c

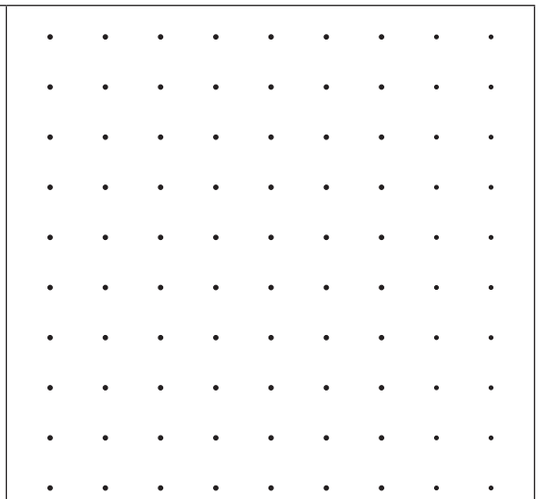


d

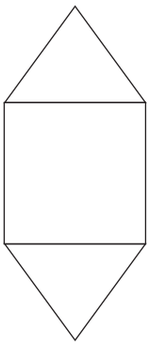
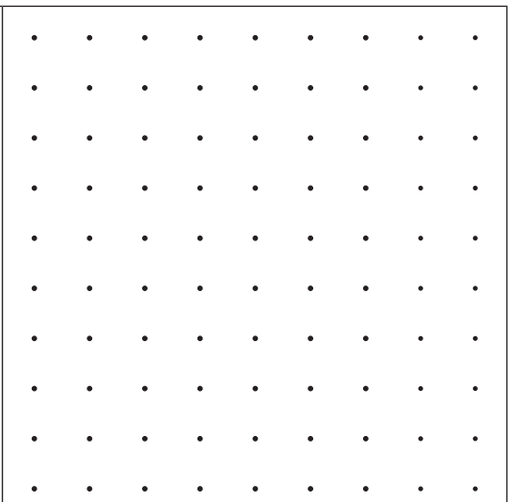
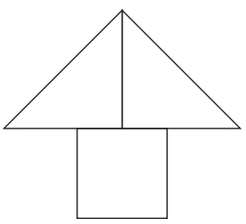
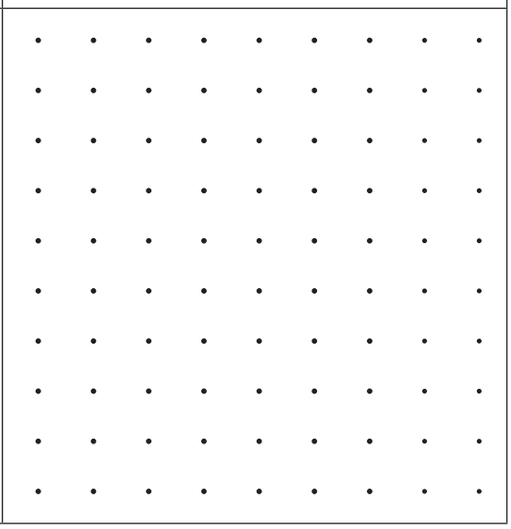


2 Copy the shape by connecting the dots.

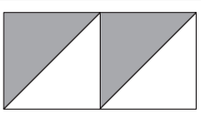
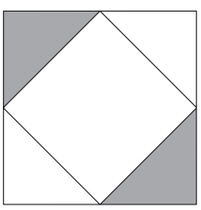


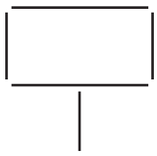
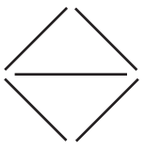


3 Draw the shape by connecting the dots.

a		
b		

4 Change the shapes.

a	Move one triangle
	(Answers will vary)
b	Move two triangles
	(Answers will vary)
c	Move one stick

	(Answers will vary)
d	Move two sticks
	(Answers will vary)

5 REFLECTION AND SUMMARY OF LESSON

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

Today we have learned to make 2-D shapes and to change 2-D shapes.