GRADE 3

Mathematics

Teacher Toolkit:
CAPS Planner and Tracker

2019 TERM 4

Contents

About the Planner and Tracker

The curriculum and assessment planner and tracker is a tool to support teachers in several ways by:

- Providing a plan of what should be taught each day of the term based on the daily lesson plans. By following the programme in the tracker and the lesson plans, you will be sure to cover the curriculum in the allocated time, and to complete the formal assessment programme.
- Enabling you to track your progress through the curriculum during the term. By noting the date when each lesson is completed, you can see whether or not you are 'on track'. If you are not, you can strategise with your head of department and peers on how to ensure that all the work for the term is completed. You should file your completed tracker at the end of each term.
- Encouraging you to reflect on what worked well in your lessons, and where your work could be strengthened. This kind of reflection can support continuous improvement in teaching practice.

A suggested mark record sheet is located at the back of this tracker

The sheet has columns in which you can record the marks for the assessments provided in the lesson plans. You can copy this sheet and add your learners' names in the left hand column. The record sheet will help you when you have to enter marks into SA SAMS. If the 'out of' marks for the assessment activities you have used are not the same as those shown in SA SAMS, these can be changed in SA SAMS. The weightings and levels are done automatically in SA SAMS.

It is important to note that:

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.

The following components are provided in the columns of the planner and tracker tables for each week:

1. Day (Monday to Friday)
2. Lesson Plan number (The numbered lesson from the lesson plans)
3. Lesson objective (The work to be covered in the lesson)
4. Lesson resources (The resources you need to prepare for the lesson)
5. Date completed (this needs to be filled in each day).

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/even 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.
Ask learners 'why did you think so', either if their answer is correct or not correct.	Say 'No', 'Wrong', 'Next', 'Right', 'Yes', 'Correct', etc. immediately after learners give the answer.
Assist learners to discover why and where she/he made a mistake. Use other learners as well to explain why something is not correct.	
	Answer the phone.

Weekly reflection

The tracker gives you space to reflect on your Mathematics lessons. You can share this reflection with your HOD and discuss things that worked or did not go so well in your lesson. Together with your HOD, you can think of ways of improving on the daily work that the learners in your class are doing. When you reflect you could think about things such as:

- Was your preparation for the lesson adequate? For instance, did you have all the necessary resources? Had you thought through the content so that you understood it fully and could therefore teach it effectively?
- Did the purpose of the lesson succeed? For instance, did the learners reach a good understanding of the key concepts for the day? Could they use the language expected from them? Could they write what was expected from them?
- Did the learners cope with the work set for the day? For instance, did they finish the classwork? Was their classwork done adequately? Did you assign the homework?

Briefly write down your reflection weekly, following the prompts in the tracker.

- *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?*

The reflection should be based on the daily lessons you have taught each week. It will provide you with a record for the next time you implement the same lesson. It also forms the basis for collegial conversations with your head of department and your peers.

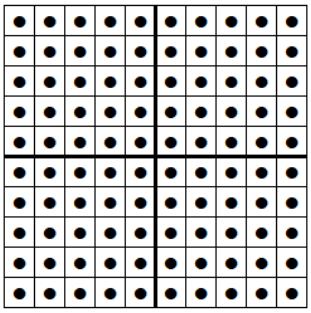
Reflect on this as you prepare lessons that follow the CPA approach

Learners need to make the move from concrete to abstract – but this does not happen suddenly or on 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, offer it to them again.

TMU summary of maths teaching approaches

CPA APPROACH

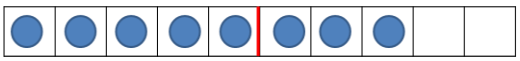
The Concrete-Pictorial-Abstract (CPA) approach helps learners develop the concepts of numbers. The CPA approach uses several different representations for concepts of numbers 1, 10 and 100. For, instance, a number '5' can be represented by 5 bottle tops (concrete objects), 5 circles (pictorial representations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

Number symbols	100	10	1
Number names	hundred	ten	one
Base ten kit (manipulatives)			
Simplified pictorials (drawing)			

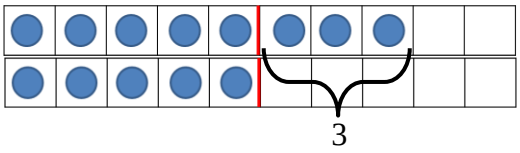
In the CPA approach, the following methods are of great importance.

a. Pre-number concepts by a ten frame (Grade 1)
Ten frames can make all critical activities easier and clearer. (CAPS P93 English version)

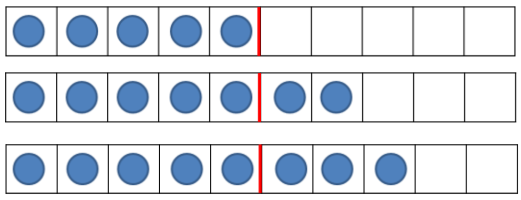
- Matching (one-to-one correspondence)
- Sorting



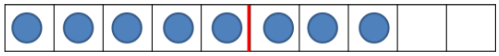
- Comparing



- Ordering

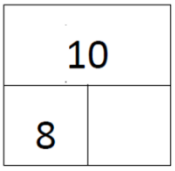


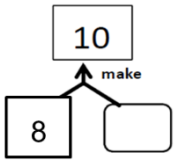
- Subitising



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 = ☐



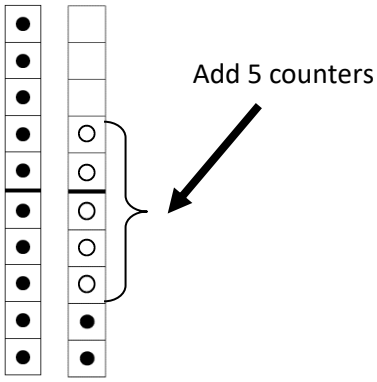


b. Make-a-ten method (Grade 1)

'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.

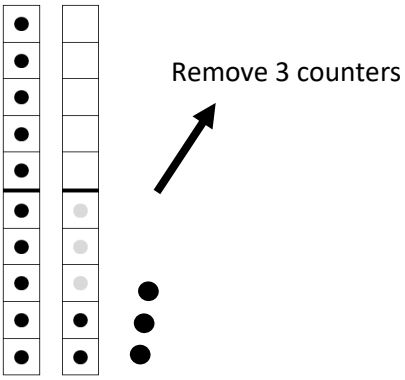
- Addition without carrying and subtraction without borrowing. There is no change in the tens place.

1) 12 + 5



10 and 7 make 17.

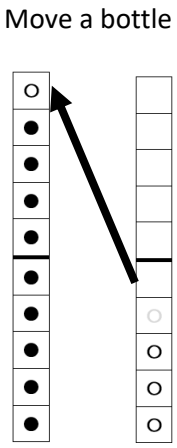
2) 15 – 3



10 and 2 make 12.

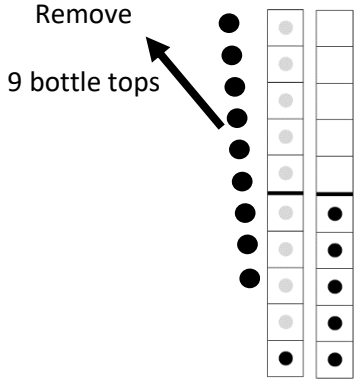
- Addition with carrying and subtraction with borrowing.

3) 9 + 4

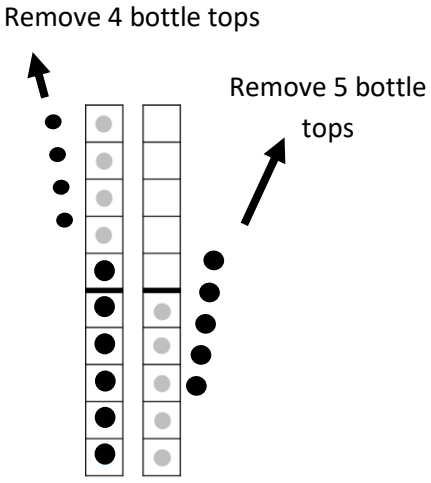


10 and 3 make 13.

4) 15 – 9



1 and 5 make 6.



5 and 1 is 6.

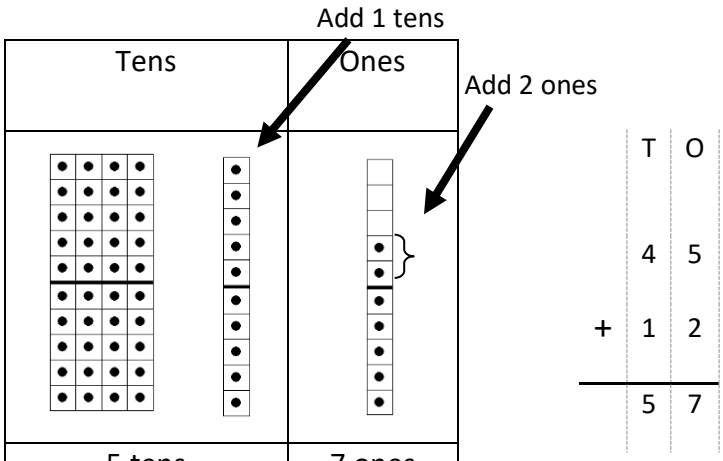
c. Column method by base ten kits [concrete objects] (Grade 2, 3)
It is critical to show the connection between the place value table and the column method.

In Grade 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 →



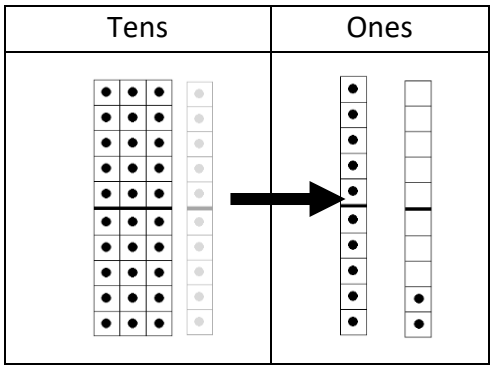
Step 2. Write numbers in each place.

Step 3. Write the answer.

2) 42 – 19

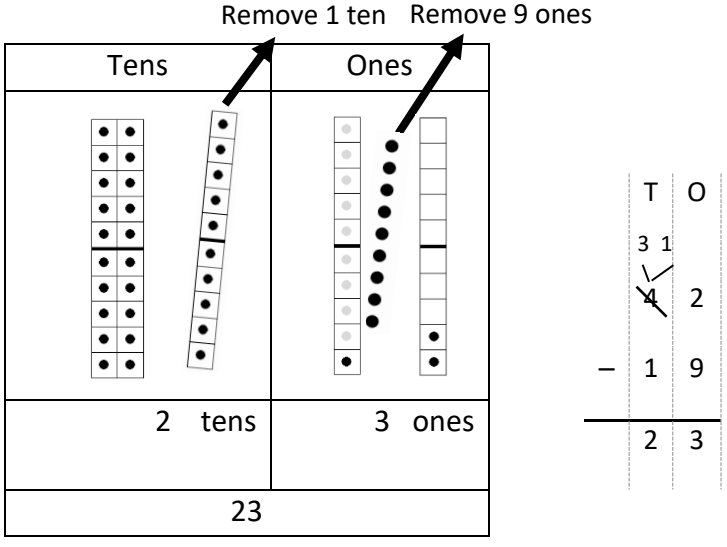
Step 1. Exchange 1 ten to 10 ones.

Use base ten kits →



Step 2. Remove bottle tops from each place.

Use base ten kits →



Step 3. Write numbers in each place.

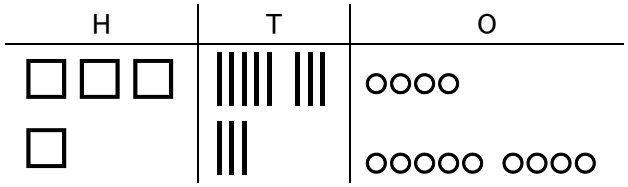
Step 4. Write the answer.

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

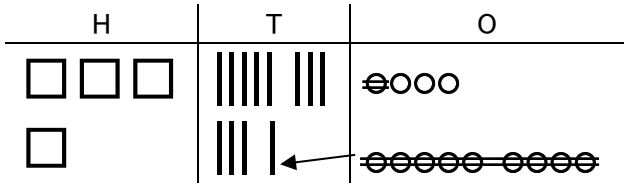
In Grade 3, learners use simplified pictorials. In the following diagrams, all the steps can be drawn in one diagram. Let learners make a group of five to show numbers 6 to 10 by organising pictorials as follows.

1) 384 + 139

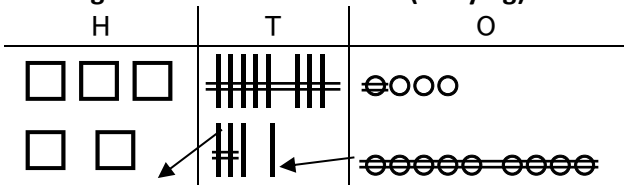
Step 1. Draw 384 and 139 vertically.



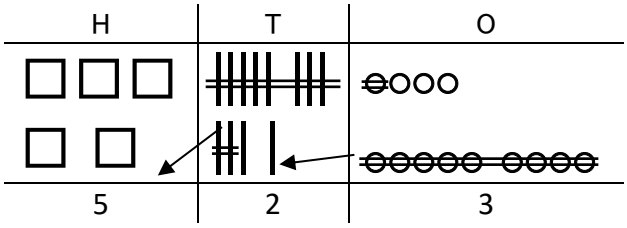
Step 2. Since 4 + 9 in the ones place exceeds 10, exchange 10 ones into 1 ten (carrying).



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



Step 4. Write the answer.

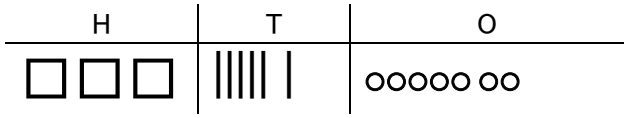


The answer is 523.

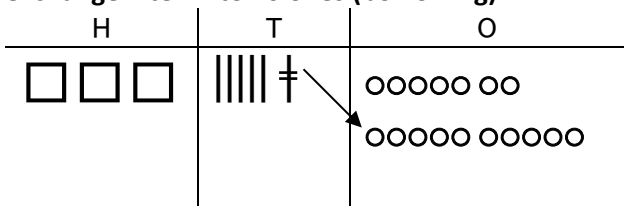
	H	T	O
	1	1	
	3	8	4
+	1	3	9
	5	2	3

2) 367 – 78

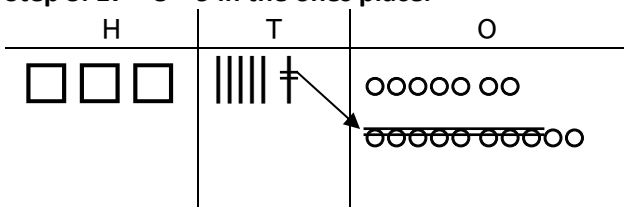
Step 1. Draw 367.



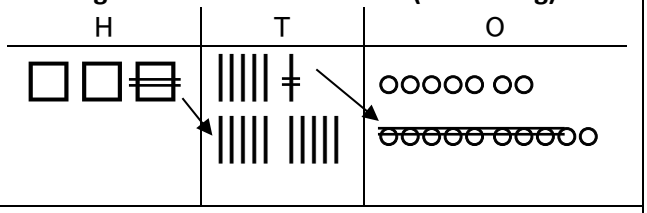
Step 2. Since we can't do 7 – 8 in the ones place, exchange 1 ten into 10 ones (borrowing).



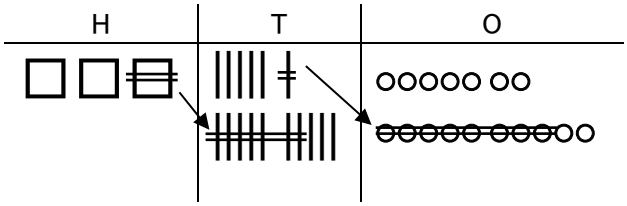
Step 3. 17 – 8 = 9 in the ones place.



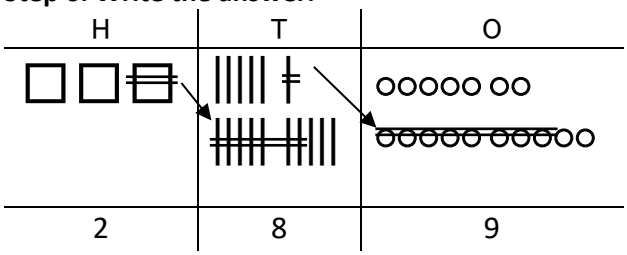
Step 4. Since we can't do 5 – 7 in the tens place, exchange 1 hundred into 10 tens (borrowing).



Step 5. 15 – 7 = 8 in the tens 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 expected 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 write in one row.

Grade 2

1) 45 + 12

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

2) 42 – 19

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

Grade 3

3) 26 + 38

	T	O	
	1		
	2	6	
+	3	8	
	6	4	

4) 81 – 47

	T	O	
	7 1		
	~~8~~	1	
–	4	7	
	3	4	

5) 384 + 139

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

6) 367 – 78

	H	T	O	
	2 1	5 1		
	~~3~~	~~6~~	7	
–		7	8	
	2	8	9	

PROBLEM SOLVING

a. Problem solving in general

1. Present a problem (e.g. a number sentence) to learners.
2. Let learners work on it individually.
3. (Work in pairs or groups of less than 4). * This step can be skipped sometimes.
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 learners correct their work in their classwork books if necessary.

b. Word problem solving with manipulatives or diagram

4 steps to solve word problem

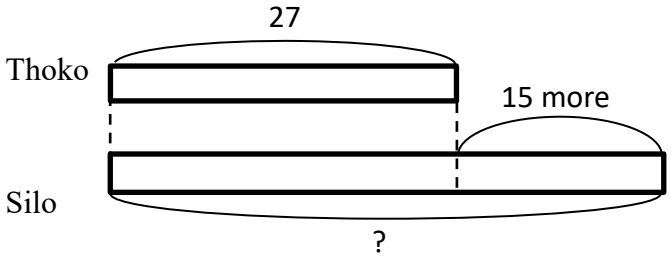
Step 1. Understand the problem.

1. Write the word problem on the chalkboard
2. Read the problem.
3. Let learners read the problem until they read it fluently.
4. Underline the number.
5. Underline the question with a wavy line.
6. Let 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 number sentence.

Step 3. Carry out the plan.

1. Find the answer of the number sentence.

Step 4. Look back.

1. Compare the learners' solutions.
2. Do the corrections.
3. Let learners record all the work.

Week 1

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	1	Reinforce the concept of sharing division.	Bottle tops, multiplication cards 1-6 times tables (see Term 2 *Printable Resources*).	
Tue	2	Reinforce the concept of division.	Bottle tops, multiplication cards 7-9 times tables (see Term 2 *Printable Resources*).	
Wed	3	Reinforce the concept of division.	n/a	
Thur	4	Assessment	Assessment activity in teacher's resources.	
Fri	5	Develop an understanding of halving and use it to solve division problems.	n/a	

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?

HOD _____ Date _____

Week 2

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	6	Assessment activity in teacher's resources.	Paper strips.	
Tue	7	Use understanding of halving to solve fraction problems.	n/a	
Wed	8	Division of multiples of ten by single-digit numbers.	Printed tens (see *Printable Resources*).	
Thur	9	Assessment	Assessment activity in teacher's resources.	
Fri	10	Division of two-digit numbers by single-digit numbers.	Printed tens (see *Printable Resources*), ten frames, bottle tops.	

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?

HOD _____ Date _____

Week 3

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	11	Develop an understanding of division (grouping) with a remainder.	Bottle tops.	
Tue	12	Develop an understanding that the remainder must always be smaller than the divisor.	Bottle tops.	
Wed	13	Develop an understanding of division (sharing) with a remainder.	Bottle tops.	
Thur	14	Assessment	Assessment activity in teacher's resources.	
Fri	15	Check the answers to division problems by multiplying the divisor and quotient, and then adding the remainder.	Bottle tops.	

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?

HOD _____ Date _____

Week 4

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	16	Practice division with a remainder.	Bottle tops.	
Tue	17	Practice division with a remainder in context.	Bottle tops.	
Wed	18	Assessment	Assessment activity in teacher's resources.	
Thur	19	Represent data in a tally table.	n/a	
Fri	20	Collect, organise and represent data in a bar graph and analyse data from representations.	Pictures of T-shirts cut from old magazines/advert flyers (6 green, 10 yellow, 8 blue, 12 pink).	

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?

HOD _____ Date _____

Week 5

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	21	Represent data in a table with tallies. Represent data in a graph.	n/a	
Tue	22	Draw a bar graph from data collected using a tally table.	n/a	
Wed	23	Analyse data from representations provided (in tables and bar graphs).	n/a	
Thur	24	Analyse data from representations provided (in tables and bar graphs).	n/a	
Fri	25	Assessment	Assessment activity in teacher's resources.	

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?

HOD _____ Date _____

Week 6

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	26	Estimate, measure, compare, order and record the capacity of litre objects.	Empty 1, 2, 2.5, 3, and 5 litre containers (collect), old newspaper adverts for pictures of products.	
Tue	27	Estimate and measure the capacity of various containers using cups and teaspoons as informal units of measurement.	Teaspoon, cup, margarine tub and jam tin (for demonstration), lots of small empty containers and teaspoons to use in group work.	
Wed	28	To understand that a standard cup is 250 ml and that a teaspoon is 5 ml.	Collect containers with the following capacities for this lesson: 300 ml, 500 ml, 1 l, 2 l, 3 l, 5 l.	
Thur	29	Compare, order and record the capacity of objects in litres and millilitres.	Empty 1, 2, 2.5, 3, and 5 litre containers (collect), 1 *l* jug, 500 ml bottle and a standard cup (250 ml).	
Fri	30	Assessment	Assessment activity in teacher's resources.	

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?

HOD _____ Date _____

Week 7

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	31	Describe and compare the characteristics of 3-D objects.	An assortment of 3-D shapes collected from home (e.g. boxes, cones, cylinders, etc.), old newspapers/magazines/advertisements.	
Tue	32	Describe 3-D objects in terms of the2-D shapes that make up the faces of 3-D objects.	An assortment of 3-D shapes collected from home, e.g. boxes, cones, cylinders, etc.	
Wed	33	Observe and build 3-D objects.	Nets (See *Printable Resources*), an assortment of 3-D objects collected from home (e.g. boxes, cones, cylinders, etc.).	
Thur	34	Assessment	Assessment activity in teacher's resources.	
Fri	35	Observe and draw given 3-D objects.	An assortment of 3-D shapes collected from home (e.g. boxes, cones, cylinders, etc.).	

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?

HOD _____ Date _____

Week 8

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	36	Recognise, name and compare 3-D objects.	An assortment of 3-D shapes collected from home (e.g. boxes, cones, cylinders, etc.).	
Tue	37	Assessment	Assessment activity in teacher's resources.	
Wed	38	Revise key concepts taught during the year in order to prepare learners for Grade 4.	n/a	
Thur	39	Revise key concepts taught during the year in order to prepare learners for Grade 4.	Multiplication cards (see Term 2 *Printable Resources*).	
Fri	40	Revise key concepts taught during the year in order to prepare learners for Grade 4.	n/a	

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?

HOD _____ Date _____

Term 4 Assessment

The assessment for the term is designed into the lesson plans. Oral, practical and written assessment activities sequenced into the plans and located in the numbered lesson sequence.

The assessment that will be found in the lesson plans is the following:

1. Week 1 - Lesson 4
    a. Written: Number and operations - Division (18 marks)

2. Week 2 - Lesson 9
    a. Written: Number and operations - Division (26 marks)

3. Week 3 - Lesson 14
    a. Written: Number and operations - Division (28 marks)

4. Week 4 - Lesson 18
    a. Written: Number and operations - Division (18 marks)
    b. Practical: Number and operations - Division (7 marks)

5. Week 5 - Lesson 25
    a. Written: Data Handling (16 marks)
    b. Oral: Data Handling (7 marks)

6. Week 6 - Lesson 30
    a. Written: Measurement - Capacity (10 marks)
    b. Oral and practical: Capacity (7 marks)

7. Week 7 - Lesson 34
    a. Written: Space and shape (18 marks)
    b. Oral and practical: Space and shape (7 marks)

8. Week 8 - Lesson 37
    a. Written: Space and shape (10 marks)

The mark sheet on the following page can be used to record the marks achieved by learners for the various assessment activities throughout the term and to calculate the final marks to be entered into SA SAMS for the Term 4 Assessment Task.

GRADE 3 MATHEMATICS TERM 4: Suggested formal assessment mark record sheet

TASK/TOPIC/COMPONENT	Number: Written	Number: Written	Number: Written	Number: Written	Number: Oral and Practical	**TOTAL FOR NUMBER**	Measurement: Oral and Practical	Measurement: Written	**TOTAL FOR MEASUREMENT**	Space and shape: Practical	Space and shape: Written	Space and shape: Written	**TOTAL FOR SPACE AND SHAPE**	Data Handling: Written	Data Handling: Oral and Practical	**TOTAL FOR DATA HANDLING**	**Term Total**
Week	1	2	3	4	4		6	6		7	7	8		5	5		
(Out of) marks	18	26	28	18	7	97	7	10	17	7	18	10	35	16	7	23	172
LEARNER NAME AND SURNAME																	