GRADE 3

Mathematics

Teacher Toolkit: CAPS Planner and Tracker

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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	Explain everything.
and discover something on their own and to keep	
quiet while they are thinking/working individually.	
Plan the lesson with enough time to let learners	Rush learners into saying/doing something by saying
deepen their own thinking. Be patient!	'quick, quick'.
Share a variety of answers/thinking with all the	Erase/remove incorrect answers.
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.	
Ask learners 'why did you think so', either if their	
answer is correct or not correct.	Say 'No', 'Wrong', 'Next', 'Right', 'Yes', 'Correct',
Assist learners to discover why and where she/he	etc. immediately after learners give the answer.
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)			0

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

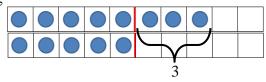
a. Pre-number concepts by a ten frame (Grade 1)

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

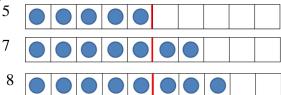
- Matching (one-to-one correspondence)
- Sorting



Comparing



• Ordering



Subitising

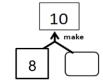




All the following problems are based on the same concept. Manipulating concrete objects in a ten frame helps learners to visualise the concept.

- $8 + \Box = 10$,
- $10 8 = \square$,
- 8 + 2 = \square





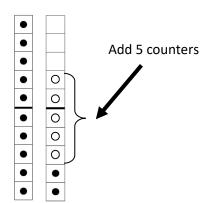


b. Make-a-ten method (Grade 1)

'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

2) 15 - 3





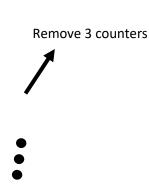
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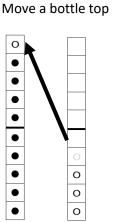
10 and 7 make 17.

- 10 and 2 make 12.
- Addition with carrying and subtraction with borrowing.

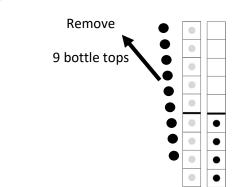
3)9+4

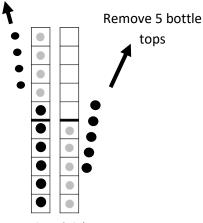
4) 15 - 9

Remove 4 bottle tops



10 and 3 make 13.





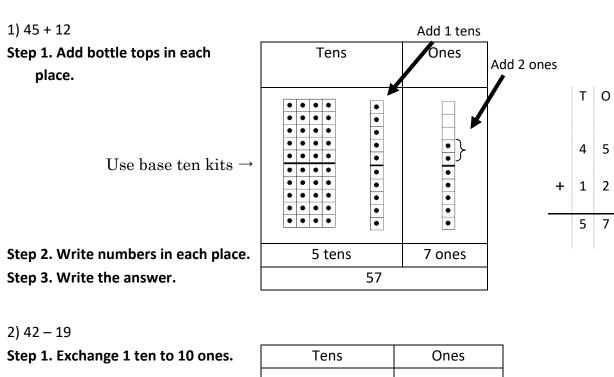
1 and 5 make 6.

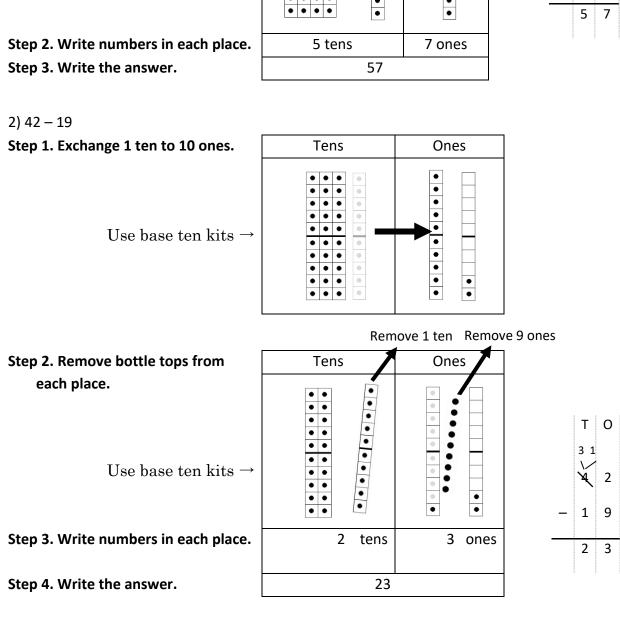
5 and 1 is 6.

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.





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.

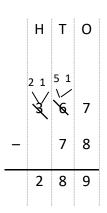
1) 384 + 139

Step 1. Draw 38	4 and 139 ve	ertically.	Step 3. Since 8 + 4 in the tens place exceeds 10,
			exchange 10 tens into 1 hundred (carrying).
H	Т	0	H T O
		0000	□□□
	III	00000 0000	
Step 2. Since 4 + exchange 10 on		es place exceeds 10, (carrying).	Step 4. Write the answer.
	т 	0 0 000	H T 0 ☐☐☐ #### ⊕000
	↓	00000 0000	

		Т	0
	1		
	3		4
+	1	3	9
	5	2	3

2) 367 – 78

Step 1. Draw 36	7.		•		7 in the tens place, ens (borrowing).
н	Т	О	H	T	O
		0000000		 	0000000
	1	'	`	*	00000 000 00
Step 2. Since we exchange 1 ten		· 8 in the ones place,	Step 5. 15 – 7 =	8 in the tens	olace.
H	T T	O	Н	Т	О
	 	0000000		‡ \	0000000
		00000 00000	`	` `	00000 000 00
Step 3. 17 – 8 =	9 in the ones	place.	Step 6. Write th	e answer.	
Н	Т	0	H	Т	0
	 	0000000		<u> </u>	0000000
	,	00000 000 00		 	00000 000 00
	I	l	2	8	9
			The answer is 2	289.	1



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

$$2)42-19$$

	4	5
+	4 1 5	5
		7
	5	7
	3	

0

1 9

$$0:5+2=7$$

O:
$$12 - 9 = 3$$

T: 30 - 10 = 20

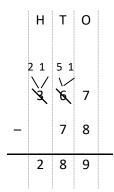
2	0	
2	3	

Grade 3

	Т	0
	1	
	2	6
_	3	6 8
	6	4

	Т	0
_	71	
	18	1
-	4	7
	3	4

			0
	1		
	3	8	4
+	1 3 1	3	9
	5	2	3



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 diagram4 steps to solve word problem

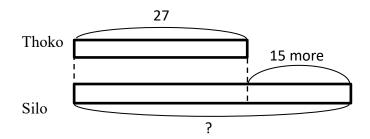
Step 1. Understand the problem.

- 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 $\underline{27}$ 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.

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	1	Learn multiplication tables up to the 5 times table.	Multiplication table (see <i>Printable Resources</i>), enlarged multiplication table (for use by the teacher), multiplication cards (see <i>Printable Resources</i>).	
Tue	2	Represent multiplication pictorially using an array diagram.	Array diagram (see <i>Printable Resources</i>), enlarged array diagram (for use by the teacher), multiplication cards (see <i>Printable Resources</i>).	
Wed	3	Learn the structure of the 6 times table by identifying patterns.	Array diagram (see <i>Printable Resources</i>), enlarged array diagram (for use by the teacher), multiplication cards (see <i>Printable Resources</i>).	
Thur	4	Learn the structure of the 6 times table by identifying patterns.	Array diagram (see <i>Printable Resources</i>), enlarged array diagram (for use by the teacher), multiplication cards (see <i>Printable Resources</i>).	
			· · · · · · · · · · · · · · · · · · ·	
	about a	Consolidation of work done this week. and make a note of: What went well? We have the second of the	_	-
Reflec	tion about a	week.	Vhat did not go well? What did the lea lo to support or extend learners? Did y	-
Reflec Think a difficula all the	about a ti or ea work s	week. and make a note of: What went well? We sy to understand or do? What will you do	Vhat did not go well? What did the lea lo to support or extend learners? Did y	-

Week 2 Date Day LP **Lesson objective Lesson Resources** completed Learn the structure of the 7 times Array diagram (see Printable 6 table by identifying patterns. Resources), enlarged array diagram (for use by the teacher), Mon multiplication cards (see Printable Resources). Learn the structure of the 7 times Array diagram (see Printable Resources), enlarged array diagram table by identifying patterns. (for use by the teacher), Tue multiplication cards (see Printable Resources). 8 Assessment Assessment activity in teacher's Wed resources. Learn the structure of the 8 times Array diagram (see *Printable* 9 table by identifying patterns. Resources), enlarged array diagram (for use by the teacher), Thur multiplication cards (see Printable Resources). Consolidation of work done this 10 Learner Activity Book Fri week. 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 Date **Lesson objective** Day LP **Lesson Resources** completed Learn the structure of the 9 times Array diagram (see *Printable* 11 table by identifying patterns. Resources), enlarged array diagram (for use by the teacher), Mon multiplication cards (see Printable Resources). Array diagram (see Printable Learn the structure of the 8 and 9 12 times tables by identifying patterns. Resources), enlarged array diagram (for use by the teacher), Tue multiplication cards (see Printable Resources). 13 Identify the rule of the 1 times table. Array diagram (see Printable Resources), enlarged array diagram Wed (for use by the teacher), multiplication cards (see Printable Resources). Solve problems using doubling and 14 n/a. Thur repeated addition. 15 Consolidation of work done this Learner Activity Book Fri week. 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 _____

	LP	Lesson objective	Lesson Resources	Date completed
Mon	16	Assessment	Assessment activity in teacher's resources.	
Tue	17	Develop an understanding of the commutative law of multiplication.	Array diagram (see <i>Printable Resources</i>), multiplication table (see <i>Printable Resources</i>), enlarged array diagram and multiplication table (for use by the teacher), multiplication cards (see <i>Printable Resources</i>).	
Wed	18	Consolidate understanding of the patterns (rules) in multiplication.	Multiplication table (see <i>Printable Resources</i>), enlarged multiplication table (for use by the teacher), bottle tops, multiplication cards (see <i>Printable Resources</i>).	
Thur	19	Develop an understanding of the patterns (rules) associated with multiplying by 10.	n/a.	
Fri	20	Consolidation of work done this week.	Learner Activity Book	
		et for the week? If not, how will you ge	t buck on truck?	
What v	vill you	i change next time? Why?	t back on track?	

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	21	Assessment	Assessment activity in teacher's resources.	
Tue	22	Develop an understanding of the patterns (rules) associated with multiplying by 0.	Multiplication table (see <i>Printable Resources</i>).	
Wed	23	Develop an understanding of the distributive law.	Multiplication table (see <i>Printable Resources</i>).	
Thur	24	Assessment	Assessment activity in teacher's resources.	
Fri	25	Consolidation of work done this week.	Learner Activity Book	
What	will you	ı change next time? Why?		

Week	x 6			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	26	To tell the time using analogue and digital clocks.	Analogue and digital clocks.	
Tue	27	To measure and compare the concepts of measuring time.	Analogue and digital clocks.	
Wed	28	To calculate elapsed time.	Analogue and digital clocks.	
Thur	29	To use calendars to calculate and describe lengths of time in days or weeks or months.	This year's calendar (find your own).	
Fri	30	Consolidation of work done this week.	Learner Activity Book	
difficult all the	ibout a t or eas work se	Ind make a note of: What went well? Very to understand or do? What will you get for the week? If not, how will you get change next time? Why?	lo to support or extend learners? Did y	•
HOD_		Date		

Week	7			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	31	Assessment	Assessment activity in teacher's resources.	
Tue	32	Describe, sort and compare circles.	String and sticks.	
Wed	33	Describe, sort and compare triangles.	String and sticks, scrap paper, advertisement flyers (collect and bring from home).	
Thur	34	Describe, sort and compare squares.	String and sticks.	
Fri	35	Consolidation of work done this week.	Learner Activity Book	
difficult	or eas	nd make a note of: What went well? We to understand or do? What will you are for the week? If not, how will you get change next time? Why?	lo to support or extend learners? Did y	-
HOD_		Date		

Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	36	Describe and compare rectangles.	String and sticks.	
Tue	37	Assessment	Assessment activity in teacher's resources.	
Wed	38	To sort and compare 2-D shapes.	Shape cut outs (1) and shape names (see <i>Printable Resources</i>), scrap paper, coloured pencils.	
Thur	39	To revise features of 2-D shapes in terms of size, colour, shape, straight sides, round sides.	Shape cut outs (2) and shape names (see <i>Printable Resources</i>).	
Fri	40	Consolidation of work done this week.	Learner Activity Book	
What	will you	ı change next time? Why?		

Day LP Lesson objective Lesson Resources Date complet
Mon symmetry in 2-D geometrical and non-geometrical shapes. 42 To identify and draw lines of symmetry in 2-D geometrical and non-geometrical shapes. Wed 43 Assessment Assessment Assessment activity in teacher's resources. Thur 44 To describe, create and extend geometric patterns. Fri 45 Consolidation of work done this week. 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 the consolidation of patterns. To describe, create and extend geometric patterns. Resources). Learner Activity Book
Tue symmetry in 2-D geometrical and non-geometrical shapes. demonstration). Wed 43 Assessment Assessment activity in teacher's resources. Thur 44 To describe, create and extend geometric patterns. Resources). Fri 45 Consolidation of work done this week. 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.
Thur 44 To describe, create and extend geometric patterns. Fri 45 Consolidation of work done this week. 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 comple
Thur 44 To describe, create and extend geometric patterns. Fri 45 Consolidation of work done this week. 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.
Fri 45 Consolidation of work done this week. 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 comple
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 comple
difficult or easy to understand or do? What will you do to support or extend learners? Did you comple
What will you change next time? Why?
HOD Date

Week	10			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	46	To create and describe simple patterns where the number, size or position of shapes in each stage changes in a predictable way.	Plastic spoons, matchsticks, etc. (bring objects from home), learner's stationery or books (objects to use to make patterns).	
Tue	47	To describe and create patterns where the size and shape changes in a predictable way.	Shape cut-outs (2) (see <i>Printable Resources</i>).	
Wed	48	Geometric patterns.	n/a.	
Thur	49	Assessment	Assessment activity in teacher's resources.	
Fri	50	Consolidation of work done this week.	Learner Activity Book	
difficult	bout a	nd make a note of: What went well? Wey to understand or do? What will you det for the week? If not, how will you get	o to support or extend learners? Did y	-
	,	change next time? Why?		
HOD		Date		

Term 2 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 2 Lesson 8
 - a. Written: Multiplication (27 marks)
 - b. Oral: Multiples (7 marks)
- 2. Week 4 Lesson 16
 - a. Written: Multiplication (20 marks)
- 3. Week 5 Lesson 21
 - a. Written: Multiplication (18 marks)
- 4. Week 6 Lesson 24
 - a. Written: Multiplication (18 marks)
- 5. Week 7 Lesson 31
 - a. Written: Measurement Time (10 marks)
 - b. Oral and Practical: Time (7 marks)
- 6. Week 8 Lesson 37
 - a. Written: Space and shape 2-D shapes (12 marks)
- 7. Week 9 Lesson 43
 - a. Written: Space and shape Symmetry (17 marks)
 - b. Oral and Practical: Space and shape Symmetry (7 marks)
- 8. Week 10 Lesson 49
 - a. Written: Geometric patterns (10 marks)
 - b. Oral and Practical: Geometric patterns (7 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 2 Assessment Task.

GRADE 3 MATHEMATICS TERM 2:	Sugg	gested	l for	mal ass	sessm	ent m	ark	reco	rd she	et							
TASK/TOPIC/COMPONENT	Number: Written	Number : Oral	Number: Written	Number: Written	Number: Written	TOTAL FOR NUMBER	Measurement:	Measurement: Oral and Practical	TOTAL FOR MEASUREMENT	Patterns: Oral	Patterns: Written	TOTAL FOR PATTERNS	Space and shape: Written	Space and shape: Written	Space and shape: Practical	TOTAL FOR SPACE AND SHAPE	Term Total
Week	2	2	4	5	5		7	7		10	10		8	9	9		
(Out of) marks	27	7	20	18	18	90	10	7	17	10	7	17	12	17	7	36	
LEARNER NAME AND SURNAME																	