GRADE 2

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.

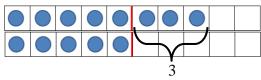
a. Pre-number concepts by a ten frame (Grade 1)

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

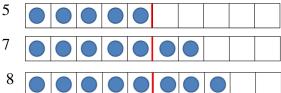
- Matching (one-to-one correspondence)
- Sorting



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.

 $8 + \square = 10$,

 $10-8=\square$

8 + 2 = \square







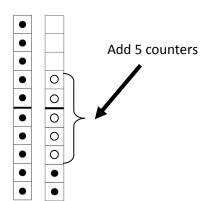
b. Make-a-ten method (Grade 1)

'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.

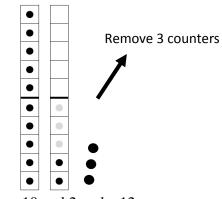
• Addition without carrying and subtraction without borrowing. There is no change in the tens place.

1) 12 + 5

2) 15 - 3



10 and 7 make 17.



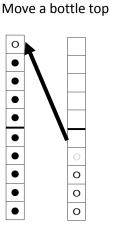
10 and 2 make 12.

Addition with carrying and subtraction with borrowing.

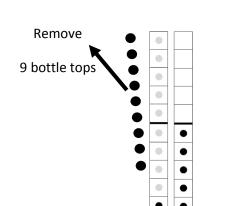
3)9+4

4) 15 – 9

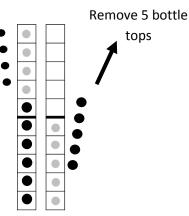
Remove 4 bottle tops



10 and 3 make 13.



1 and 5 make 6.

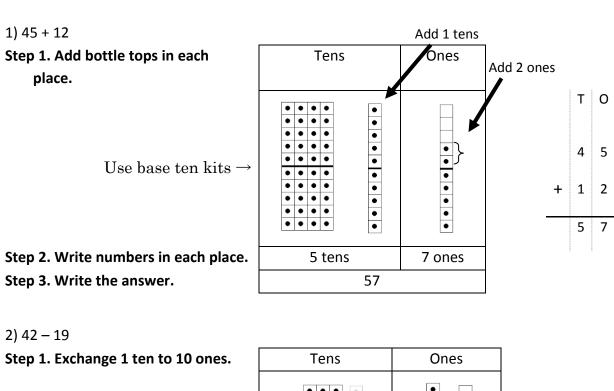


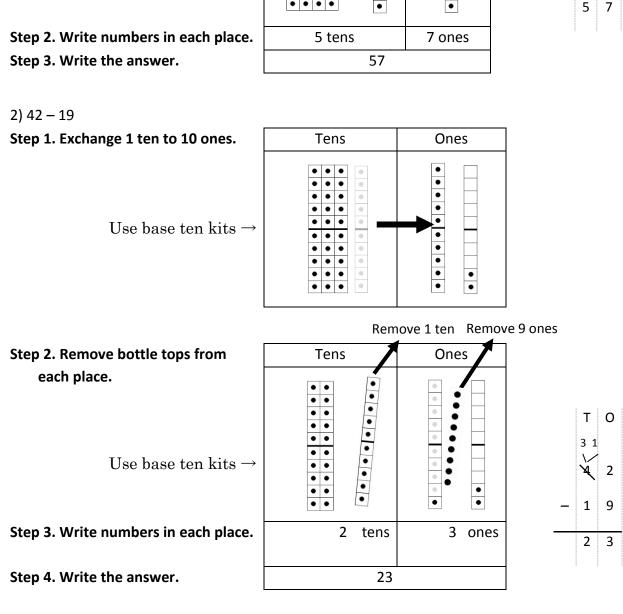
5 and 1 is 6.

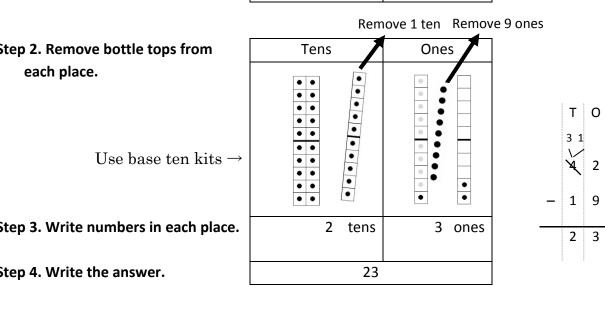
Column method by base ten kits [concrete objects] (Grade 2, 3)

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.

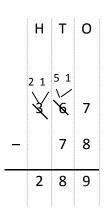
1) 384 + 139

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	□□□
		00000 0000	
Step 2. Since 4 - exchange 10 on		es place exceeds 10, (carrying).	Step 4. Write the answer.
н	Т	0	<u> </u>
		\$ 000	□□□
		00000 0000	
			5 2 3 The answer is 523.

	Н	Т	0
	1	1	
		8	
+		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
		'	`	*	00000 000 00
Step 2. Since we exchange 1 ten		· 8 in the ones place,	Step 5. 15 – 7 =	8 in the tens p	place.
H	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.	
H	Т	0	H	Т	0
	 	0000000		<u> </u>	0000000
	,	00000 000 00		 	00000 000 00
	I	I	2	8	9
			The answer is 2	289.	1



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

ТО

$$2)42 - 19$$

	4	5
+	1	2
		7
	5	0

1

2

0

3

3

$$0:5+2=7$$

Ο:	12	_ a	- 2
U.	12	- 9	– 5

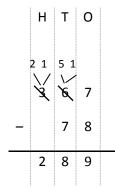
Grade 3

3 9

	Т	0
	1	
	2	6
+	3	6 8
		4

	T	0	
_	71	O 1 7	
	18	1	
-	4	7	
		4	

	Т	0
1	1	
	8	4
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

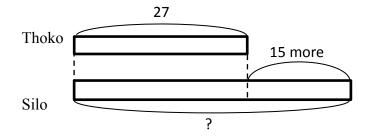
Step 1. Understand the problem.

- 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	To practise adding and subtracting 2-digit numbers using the column method.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table (<i>learners make one in their classwork books</i>).	
Tue	2	To introduce the column method of addition with carrying in the ones place using a base ten kit.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table.	
Wed	3	To practise addition of 2-digit numbers with carrying using the column method. Use commutative property to check the answer.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table.	
Thur	4	To solve addition problems with carrying on a number line.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table.	
Fri	5	Consolidation of work done this week.	Learner Activity Book	
		isy to understand or do? What will you a set for the week? If not, how will you get	do to support or extend learners? Did	earners find You complete
		sy to understand or do? What will you d	do to support or extend learners? Did	-
all the	work s	sy to understand or do? What will you d	do to support or extend learners? Did	-

Weel	k 2					
Day	LP	Lesson objective	Lesson Resources	Date completed		
Mon	6	Assessment	Assessment activity in teacher's resources.			
Tue	7	To solve addition problems with carrying in context by interpreting a bar diagram.	n/a.			
Wed	8	To write and solve number sentences.	n/a.			
Thur	9	Assessment	Assessment activity in teacher's resources.			
Fri	10	Consolidation of work done this week.	Learner Activity Book			
What	will you	ı change next time? Why?				
HOD_		Date				

Week	3			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	11	To solve subtraction problems with borrowing.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table.	
Tue	12	To practise subtraction problems with borrowing and check the answer using addition.	Printed tens (see <i>Printable Resources</i>), bottle tops and place value table.	
Wed	13	To solve subtraction problems with borrowing on the number line.	subtraction problems with g. Printed tens (see Printable Resources), bottle tops and place value table. Printed tens (see Printable Resources), bottle tops and place value table. Printed tens (see Printable Resources), bottle tops and place value table. Printed tens (see Printable Resources), bottle tops and place value table. Subtraction problems with gon the number line. Assessment activity in teacher's resources.	
Thur	14	Assessment	n. value table. problems with n/a. Assessment activity in teacher's resources. k done this Learner Activity Book nat went well? What did not go well? What did the learners find What will you do to support or extend learners? Did you complete	
Fri	15	Consolidation of work done this week. Learner Activity Book		
Reflect	ion			
difficult	t or eas	sy to understand or do? What will you d	o to support or extend learners? Did y	•
HOD		Date		

Day	LP	Lesson objective	Lesson Resources	Date completed	
Mon	16	To solve subtraction problems with borrowing in context.	n/a.		
Tue	17	To solve subtraction problems with borrowing in context.	n/a		
Wed	18	To write and solve number sentences.	n/a.		
Thur	19	To practise subtraction with borrowing.	n/a.		
Fri	20	Consolidation of work done this week.	Learner Activity Book		
What v	will you	ı change next time? Why?			
HOD_		Date			

Week	5			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	21	Assessment	Assessment activity in teacher's resources.	
Tue	using bar diagrams. 24 To solve word problems using bar diagrams. 25 Consolidation of work done this week.		Bottle tops.	
Wed	23	To solve subtraction word problems using bar diagrams.	Bottle tops.	
Thur	24	To solve word problems using bar	Bottle tops.	
Fri	25	Consolidation of work done this	Learner Activity Book	
Reflect	ion			
difficult	t or eas work se	nd make a note of: What went well? Wey to understand or do? What will you a set for the week? If not, how will you get change next time? Why?	lo to support or extend learners? Did y	-
HOD_		Date		

	6			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	26	To practise solving word problems using bar diagrams.	Bottle tops.	
Tue	27	To find the original number in a word problem using subtraction.	n/a.	
Wed	28	To find the original number in a word problem using addition.	n/a.	
Thur	29	word problem using addition. Assessment activity in teach resources.		
Fri	30		Learner Activity Book	
difficult all the v	or eas	sy to understand or do? What will you o	do to support or extend learners? Did y	•
HOD		Date		

Day	LP	Lesson objective	Lesson Resources	Date completed		
Mon c		To compare the capacity of various containers using non-standard units (estimation and measurement).	Plastic spoons, polystyrene/plastic cups, plastic bottles, water, sand.			
Tue	32	To measure the capacity of various containers using the standard unit of capacity (litre).	Clean, empty household containers: 1 litre, 2 litre, 1,5 litre, 5 litre (make sure the containers are cleaned out and don't have any traces of the content), water, sand.			
Wed	33	To solve simple addition and subtraction capacity problems. Empty 1 <i>l</i> , 2 <i>l</i> , 2,5 <i>l</i> , 3 <i>l</i> , and 5 <i>l</i> containers.				
Thur	34	To estimate and measure the capacity of various containers using the standard unit of capacity (litre).	Empty bottles with a capacity of 1 <i>l</i> , 2 <i>l</i> , and 3 <i>l</i> , 1 litre measuring jug, cup, water.			
Fri	35	Consolidation of work done this week.				
		sy to understand or do? What will you d et for the week? If not, how will you get		-		
		· ·	o to support or extend learners? Did y	-		
all the	work s	· ·	o to support or extend learners? Did y	-		

Week 8 Date Day LP **Lesson objective Lesson Resources** completed 36 Assessment Assessment activity in teacher's Mon resources. To measure the mass of a variety of Balancing scale, objects to 37 compare mass (e.g. board duster, objects using kilograms. box of crayons, etc.), bathroom Tue scale, packaged items to compare and add given masses, (500 g bag of rice, 1 kg bag of rice, tea, mielie meal, etc.). To measure and estimate the mass of Pictures of/products with a mass of 38 250 g, 500 g, 1 kg and 2 kg, a variety of objects. bathroom scale, objects with a Wed mass of 1 kg, 5 kg, 10 kg and 20 39 To solve simple addition and Pictures of/products with a mass of Thur subtraction problems involving 500 g, 1 kg, 2 kg, 5 kg and 10 kg. mass. Consolidation of work done this 40 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	9			
Day	LP	Lesson objective	Lesson Resources	Date completed
Mon	41	Assessment	Assessment activity in teacher's resources.	
Tue	42	To solve word problems which involve two increases which need to be calculated one at a time.	Bottle tops.	
Wed	43	To solve word problems with two increases by making a ten.	Bottle tops.	
Thur	44	To solve addition and subtraction word problems by choosing the most efficient strategy.	Bottle tops.	
Fri	45	Consolidation of work done this week.	Learner Activity Book	
Reflect	ion			
difficult	t or eas	nd make a note of: What went well? Wey to understand or do? What will you do to the week? If not, how will you get change next time? Why?	o to support or extend learners? Did y	•
HOD_		Date		

10									
LP	Lesson objective	Lesson Resources	Date completed						
46	To solve addition word problems using brackets to simplify number sentences.	Bottle tops.							
47	Assessment	resources.							
48	To solve word problems by looking at the difference.	ddition word problems kets to simplify number Assessment activity in teacher's resources. Ford problems by looking n/a. Frence. Froblems looking at the nt. Figure of: What went well? What did not go well? What did the learners find and or do? What will you do to support or extend learners? Did you complete							
49 To solve problems looking at the first amount.									
50	Consolidation of work done this week.	Learner Activity Book							
ion		,							
or eas	et for the week? If not, how will you a	lo to support or extend learners? Did y	-						
	Date								
	LP 46 47 48 49 50 ion bout a or easwork se	LP Lesson objective 46 To solve addition word problems using brackets to simplify number sentences. 47 Assessment 48 To solve word problems by looking at the difference. 49 To solve problems looking at the first amount. 50 Consolidation of work done this week. ion bout and make a note of: What went well? We are easy to understand or do? What will you are work set for the week? If not, how will you get work set for the week? If not, well you get will you change next time? Why?	Lesson Resources To solve addition word problems using brackets to simplify number sentences. Assessment To solve word problems by looking at the difference. To solve problems looking at the first amount. Consolidation of work done this week. South and make a note of: What went well? What did not go well? What did the learner activity and the learner set for the week? If not, how will you get back on track?						

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 6
 - a. Written: Addition (10 marks)
- 2. Week 4 Lesson 9
 - a. Written: Addition (15 marks)
 - b. Oral and practical: Base ten kit (7 marks)
- 3. Week 5 Lesson 14
 - a. Written: Subtraction (12 marks)
- 4. Week 6 Lesson 21
 - a. Written: Subtraction (12 marks)
 - b. Oral and practical: Problem solving (7 marks)
- 5. Week 7 Lesson 29
 - a. Written: Addition and subtraction (15 marks)
- 6. Week 8 Lesson 36
 - a. Written: Measurement: Capacity (20 marks)
 - b. Oral and practical: Measurement: Capacity (7 marks)
- 7. Week 9 Lesson 41
 - a. Written: Measurement: Mass (10 marks)
 - b. Oral and practical: Measurement: Mass (7 marks)
- 8. Week 10 Lesson 47
 - a. Written: Word problems (15 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.

	ξZ	ξZ	ar Z	ξZ	ξZ	a z	ξZ	ξZ	2 7	\$ 3	ρος	\$ 3	p 0 ₹	- ⊠ 7	Ţ.	
TASK/TOPIC/COMPONENT	Number: Written	Number: Written	Number: Oral and practical	Number: Written	Number: Written	Number: Oral and practical	Number: Written	Number: Written	TOTAL FOR NUMBER	Measurement: Written	Measurement: Oral and practical	Measurement: Written	Measurement: Oral and practical	TOTAL FOR MEASUREMEN T	Term Total	
Week	2	2	2	3	5	5	6	10		8	8	9	9			
(Out of) marks	10	15	7	12	12	7	15	15	93	20	7	10	7	44	137	
LEARNER NAME AND SURNAME																