GRADE 3

# Mathematics <br> Teacher Toolkit: <br> CAPS Planner and Tracker 

2019 TERM 2

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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

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

## 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.


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.

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

| 10 |  |
| :---: | :---: |
| 8 |  |



## 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) $15-3$


- Addition with carrying and subtraction with borrowing.

3) $9+4$
4) $15-9$
Remove 4 bottle tops
Move a bottle top


10 and 3 make 13.


1 and 5 make 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 $\rightarrow$

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 $\rightarrow$


Remove 1 ten Remove 9 ones
Step 2. Remove bottle tops from each place.

Use base ten kits $\rightarrow$

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) $384+139$


2) $367-78$

| H T 0 <br> $\square \square \square\|\|\|\|\mid$ 000000  |  |
| :---: | :---: |
| Step 2. Since we can't do 7-8 in the ones place, exchange 1 ten into 10 ones (borrowing). <br> H <br> T <br> 0 | Step 5. 15-7 = 8 in the tens place. |
| $\square \square \square$ | $0000000$ <br> 000 |
| Step 3. 17-8=9 in the ones place. | Step 6. Write the answer. |
| $\square$ $\square$ |  |
|  | 2 8 9 <br> The answer is 289.   |



## 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) $45+12$
2) $42-19$


## Grade 3

3) $26+38$
4) $81-47$

5) $384+139$
6) $367-78$


## 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 $\underline{27}$ sweets.
Silo has $\underline{15}$ 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 <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 1 | Learn multiplication tables up to the <br> 5 times table. | Multiplication table (see Printable <br> Resources), enlarged <br> multiplication table (for use by the <br> teacher), multiplication cards (see <br> Printable Resources). |  |
| Tue | 2 | Represent multiplication pictorially <br> using an array diagram. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Wed | 3 | Learn the structure of the 6 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Thur | 4 | Learn the structure of the 6 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Fri | 5 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Reflat |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 2

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 6 | Learn the structure of the 7 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Tue | 7 | Learn the structure of the 7 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Wed | 8 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Thur | 9 | Learn the structure of the 8 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Fri | 10 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Reflection |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 3

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 11 | Learn the structure of the 9 times <br> table by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Tue | 12 | Learn the structure of the 8 and 9 <br> times tables by identifying patterns. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Wed | 13 | Identify the rule of the 1 times table. | Array diagram (see Printable <br> Resources), enlarged array diagram <br> (for use by the teacher), <br> multiplication cards (see Printable <br> Resources). |  |
| Thur | 14 | Solve problems using doubling and <br> repeated addition. |  |  |
| n/a. |  |  |  |  |
| Fri | 15 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Refl |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 4

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 16 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Tue | 17 | Develop an understanding of the <br> commutative law of multiplication. | Array diagram (see Printable <br> Resources), multiplication table <br> (see Printable Resources), <br> enlarged array diagram and <br> multiplication table (for use by the <br> teacher), multiplication cards (see <br> Printable Resources). |  |
| Wed | 18 | Consolidate understanding of the <br> patterns (rules) in multiplication. | Multiplication table (see Printable <br> Resources), enlarged <br> multiplication table (for use by the <br> teacher), bottle tops, multiplication <br> cards (see Printable Resources). |  |
| Thur | 19 | Develop an understanding of the <br> patterns (rules) associated with <br> multiplying by 10. | n/a. |  |
| Fri | 20 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Reflection |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 5

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 21 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Tue | 22 | Develop an understanding of the <br> patterns (rules) associated with <br> multiplying by 0. | Multiplication table (see Printable <br> Resources). |  |
| Wed | 23 | Develop an understanding of the <br> distributive law. | Multiplication table (see Printable <br> Resources). |  |
| Thur | 24 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Fri | 25 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Refler\| |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 6

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 26 | To tell the time using analogue and <br> digital clocks. | Analogue and digital clocks. |  |
| Tue | 27 | To measure and compare the <br> 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 <br> describe lengths of time in days or <br> weeks or months. | This year's calendar (find your <br> own). |  |
| Fri | 30 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Reflat |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 7

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 31 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Tue | 32 | Describe, sort and compare circles. | String and sticks. |  |
| Wed | 33 | Describe, sort and compare <br> triangles. | String and sticks, scrap paper, <br> advertisement flyers (collect and <br> bring from home). |  |
| Thur | 34 | Describe, sort and compare squares. | String and sticks. |  |
| Fri | 35 | Consolidation of work done this <br> week. | Learner Activity Book |  |

## 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 $\qquad$ Date $\qquad$

## Week 8

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

## Week 9

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 41 | To recognise and draw line of <br> symmetry in 2-D geometrical and <br> non-geometrical shapes. | Scrap paper cut into squares and <br> rectangles. |  |
| Tue | 42 | To identify and draw lines of <br> symmetry in 2-D geometrical and <br> non-geometrical shapes. | One large cut-out paper circle, <br> square, rectangle and triangle (for <br> demonstration). |  |
| Wed | 43 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Thur | 44 | To describe, create and extend <br> geometric patterns. | Shape cut outs (2) (see Printable <br> Resources). |  |
| Fri | 45 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| Reflect |  |  |  |  |

## 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 $\qquad$ Date $\qquad$

## Week 10

| Day | LP | Lesson objective | Lesson Resources | Date <br> completed |
| :--- | :--- | :--- | :--- | :--- |
| Mon | 46 | To create and describe simple <br> patterns where the number, size or <br> position of shapes in each stage <br> changes in a predictable way. | Plastic spoons, matchsticks, etc. <br> (bring objects from home), <br> learner's stationery or books <br> (objects to use to make patterns). |  |
| Tue | 47 | To describe and create patterns <br> where the size and shape changes in <br> a predictable way. | Shape cut-outs (2) (see Printable <br> Resources). |  |
| Wed | 48 | Geometric patterns. | n/a. |  |
| Thur | 49 | Assessment | Assessment activity in teacher's <br> resources. |  |
| Fri | 50 | Consolidation of work done this <br> week. | Learner Activity Book |  |
| 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 $\qquad$ Date $\qquad$

## 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: Suggested formal assessment mark record sheet

| TASK/TOPIC/COMPONENT |  |  |  |  | $\begin{aligned} & 2 \\ & \frac{2}{3} \\ & \frac{1}{0} \\ & \frac{0}{7} \\ & \sum_{1}^{1} \\ & \vec{F} \\ & 0 \end{aligned}$ |  |  |  |  |  |  |  |  |  |  | $\left.\begin{array}{ll} n & n \\ \hline \end{array}\right]$ | $\begin{aligned} & \text { - } \\ & \vdots \\ & 3 \\ & -1 \\ & \underline{0} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |  |
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| LEARNER NAME AND SURNAME |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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