PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)

2021 - 2023

MATHEMATICS

GRADE 6 TERM 2

Helping teachers and learners to catch up with learning losses, master new content and acquire skills for the future.

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basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL EDUCATION COLLABORATION TRUST

Read to Lead
A Reading Nation is a Leading Nation

NDP 2030

- Please note that a Maths structured learning programme that includes daily lesson plans, big books, reading worksheets and classroom resources is available for download from www.nect.org.za

- This is a zero-rated website, so there are no data costs for downloads.

- This document can be used independently of the structured learning programme.

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ABOUT THE PLANNER AND TRACKER

This 2022 Revised Recovery Curriculum and Assessment Planner and Tracker is provided by the National Education Collaboration Trust (NECT) on behalf of the Department of Basic Education (DBE)! We hope that this programme provides you with additional skills, methodologies and content knowledge that you can use to teach your learners more effectively.

WHAT IS NECT?

In 2012 our government launched the National Development Plan (NDP) to eliminate poverty and reduce inequality by the year 2030. Improving education is an important goal in the NDP which states that 90% of learners will pass Maths, Science and languages with at least 50% by 2030. This is an ambitious goal for the DBE to achieve on its own, so the NECT was established in 2015 to assist in improving education.

The NECT has successfully brought together groups of people interested in education so that we can work collaboratively to improve education. These groups include the teacher unions, businesses, religious groups, trusts, foundations and NGOs.

PURPOSE OF PLANNER AND TRACKER

1) To mediate the amendments of the trimmed and re-organised 2022 Annual Teaching Plan including School-Based Assessments for Mathematics Grade 6.
2) To ensure that meaningful teaching continues during the remaining teaching time as per the school calendar for TERM 2.
3) To assist teachers with guided pacing and sequencing of curriculum content and assessment.
4) To enable teachers to cover the core skills and knowledge in each grade within the available time.
5) To assist teachers with planning for the different forms of assessment.
6) To ensure learners are adequately prepared for the subsequent year/s in terms of skills, knowledge, attitudes and values.

PREAMBLE

It must be emphasized that 2021 mathematics content coverage by teachers were impacted by COVID-19. Schools were particularly disrupted by the fact that learners only attended school for 50% of the time and had to endure variations of the rotation system implemented in the schools. Disruption in schools has also meant disruption in different forms of assessment, so it has been hard to fully pin down exactly how much the school closures and transitions in and out of virtual learning have affected students' mathematical learning, but the evidence so far doesn't bode well.

Curriculum coverage in 2022 must be viewed and implemented in term 2, in the light of some contextual realities that includes the following:

1) 2021 was an abnormal year in terms of content coverage. Learners have progressed to a higher grade level without learning all the core skills required for that grade.
2) Some learners were not in school for most of 2020 and for most of 2021.
3) Mathematics is almost always formally learned at school. Many of our parents are often less well-equipped to help their children with mathematics, at a time when parent support can be even more crucial to student progress. This means that the burden falls directly on our teachers.

4)   Broader stress and trauma related to the pandemic may worsen existing mathematics anxiety in some students, and mathematics anxiety can exacerbate students' other stress while in class.

Awareness of the above challenges and the consequent assumptions that emerge out of it, is crucial for the implementation of the Revised ATPs emphasizing the recovery of skills not yet mastered in mathematics. This Planner and Tracker is in alignment with the theme of recovery of skills not learnt and covers the following:

1) aims to ensure that the critical skills, knowledge, values and attitudes outlined in the ATPs are covered over this time period.
2) Curriculum Reorganisation and Trimming for this term purports to reduce the envisaged curriculum to manageable core content , skills, knowledge, attitudes and values to enhance deep and meaningful learning.
3) Create opportunities through adjusted ATPs to strengthen pre-knowledge, consolidation, revision, and deeper learning.
4) The Planner and Tracker clearly define the core knowledge, skills, attitude to be taught and assessed more specifically to guide and support teachers.
5) It also aligns curriculum content and assessment to the available teaching time. Entrench assessment for learning as a Pedagogical Approach to address the learning losses.
6) Be used as planning tool to inform instruction during the remaining school terms.

ADJUSTED SCHOOL CALENDAR

SCHOOL TERMS	DATES	TEACHING DAYS
Term 1	10 January - 17 March	47 (10 weeks)
Term 2	**5 April – 24 June**	**53 (12 weeks) – 6 holidays**
Term 3	19 July – 30 September	54 (11 weeks) – 2 holidays
Term 4	11 October - 14 Dec	47 (10 weeks)

NOTES:
- TEACHING APPROACH in this term assumes that ALL learners are attending schools and the Rotation system may not be implemented meaning that schools may implement normal timetable.
- NECT TERM 2 Planner and Tracker has 53 teaching and learning days, of which 15 days are used for formative and summative Assessment days.
- NECT Term 2 Planner and Tracker focuses on Deep learning through assessment for learning - There is no time for assessment that does not inform the way forward. Teachers should consolidate, revise and remediate through error analysis that leads to skills mastery.

MANAGING TIME ALLOCATED IN THE TRACKER

- The tracker for each term contains details of work to be covered over 60 lessons per term, six per week for ten weeks.
- The CAPS prescribes **six hours** of Mathematics per week in Grade 6.
- Each school will organise its timetable differently, so the programme of lessons is based on work in the Learner's Book and DBE workbook, which should take just over an hour per day to complete.

- You might have to divide the sessions in the programme slightly differently to accommodate the length of the lessons at your school.
- Depending on the pace at which your learners work, and how much support is needed,
- you might also have to supplement the set activities by using other resources to ensure that the full six hours allocated to teaching Mathematics is used constructively.
- The breakdown of work to be done each week corresponds to the 'annual teaching plan and programme of assessment' drawn up by the Provincial Department of Education; however, the tracker gives a more detailed outline of what should be taught each day.
- This tracker is designed for a term that is 12 weeks long.
- In most weeks, one lesson is set aside for you to catch up on work not done in the previous five lessons, or to provide remedial support or enrichment.
- The formal teaching programme, the project, some revision, and the term test should be completed by the end of Week 10.

REMEMBER: The teacher should employ group teaching based on principles of differentiation – cater for the needs of every learner by making sure every learner masters the fundamental skills in mathematics. The teacher is also mindful to plan well for effective assessment for learning to inform the remediation and teaching, through the skills mastery approach applied in this Planner and Tracker.

LINKS TO THE DBE WORKBOOKS
The tracker gives links to worksheets in the DBE workbooks relevant to the content described for each day. The worksheets are referred to by worksheet number and page number. These workbooks should be used in conjunction with the Learner's Book activities. You should review the suggested worksheets before each lesson and decide how best to use them – for teaching, revision, extension or consolidation, in class or for homework.

TEACHING TIME
Since there are 6 hours allocated for Mathematics per week, the following is a suggested plan for daily lessons.

WEEK: 6 hours	
Consolidation of Concepts – skills mastery and other New Concept – class activity	10 min 50 min

CONTENT COVERAGE

TERM 2	Week 1 4 days	Week 2 5 days	Week 3 3 days	Week 4 5 days	Week 5 5 days	Week 6 5 days	Week 7 5 days	Week 8 5 days	Week 9 5 days	Week 10 4 days	Week 11 5 days
Hours per week	5 hrs.	6 hrs.	3 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	5 hrs.	6 hrs.
Hours per topic	6 hrs		9 hrs		6 hrs		15 hrs	2 hrs.	12 hrs		5 hrs.	6 hrs.
Topics, concepts and skills	**NUMBER SENTENCES** • Write number sentences to describe problem situations • Solve and complete number sentences by: – inspection – trial and improvement • Check solutions by substitution	**NUMERIC PATTERNS** **Investigate and extend patterns** • Investigate and extend numeric patterns looking for relationships or rules of patterns: – sequences involving a constant difference or ratio – of learner's own creation – represented in tables • Describe observed relationships or rules in learner's own words **Input and output values** • Determine input values, output values and rules for the patterns and relationships using: – flow diagrams – tables **Equivalent forms** • Determine equivalence of different descriptions of the same relationship or rule presented: – verbally – in a flow diagram – by a number sentence		**GEOMETRIC PATTERNS** **Investigate and extend patterns** • Investigate and extend numeric patterns looking for relationships or rules of patterns: – represented in physical or diagram form – sequences involving a constant difference or ratio – of learner's own creation • Describe observed relationships or rules in learner's own words **Input and output values** • Determine input values, output values and rules for the patterns and relationships using: – flow diagrams – tables **Equivalent forms** • Determine equivalence of different descriptions of the same relationship or rule presented: – verbally – in a flow diagram – by a number sentence		**COMMON FRACTIONS** **Describing and ordering fractions:** • Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** • Addition and subtraction of common fractions in which one denominator is a multiple of another • Addition and subtraction of mixed numbers • Fractions of whole numbers **Solving problems** • Solve problems in contexts involving common fractions, including grouping and sharing **Percentages** • Find percentages of whole numbers **Equivalent forms:** • Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	**FORMAL ASSESSMENT TASK** **INVESTIGATION** • Numeric and Geometric Patterns • Common Fractions	**DECIMAL FRACTIONS** **Recognizing, ordering and place value of decimal fractions** • Count forwards and backwards in decimal fractions to at least two decimal places • Compare and order decimal fractions to at least two decimal places • Place value of digits to at least two decimal places **Calculations with decimal fractions** • Addition and subtraction of decimal fractions of at least two decimal places • Multiply decimal fractions by 10 and 100 **Solving problems** • Solve problems in context involving decimal fractions **Equivalent forms:** • Recognize equivalence between common fraction and decimal fraction forms of the same number • Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number		**REVISION**	**FORMAL ASSESSMENT TASK** **TEST** All Term 1 and Term 2 topics

CORE QUESTIONS	DID ALL LEARNERS MASTER 2021 AND TERM 1 CORE SKILLS?	NEW CONCEPTS/CONTENT

RECOMMEN-DATION	1. Implement at least two Skills Mastery (SM) formative assessments every week. 2. Consolidation of Concepts – 10 minutes – twice a week apply 5-item SM assessments. 3. Teacher – can use SM as individual, pair, small group, or whole class activity. 4. Aim – to consolidate, remediate and work towards mastery. 5. Record – monitor learners who have learning gaps in the REFLECTION section of the Tracker	NEW CONCEPTS/CONTENT

WEEKLY PLANNER AND TRACKER

RECOMMENDATION

BASELINE TERM 2: Implement DBE Baseline assessments or see exemplar in Planner and Tracker or any similar diagnostic – Based on 2021 Grade 5 and term 1 core skills. Teachers are encouraged to use the exemplar, based on what content they have completed. Meaning teachers can select different items in the diagnostic for their purposes. Teachers could also use week 1 to do revision from the DBE workbooks, as shown in the Planner and Tracker

WHEN: Day 1, allow learners to complete individually and/or work with ability groups based on your classroom context. Day 2 is set aside for remediation purposes.

NUMBER OF ITEMS: Grade 6 = 20 items – depending on your context and ability groups

ITEM BANK: Items can also be drawn from previous:
1) BASELINE/READINESS assessment, 2) Assessment Resources in this TRACKER or 3) the DBE Item Bank and 4) PREPARATION: Test, Marking Guideline/s, Marksheet and apparatus.

5 – 8 April 2022 (four-day week)

Week 1					
Lesson	**ATP Content**	**concepts, skills**	**DBE workbook 1**	**Resou rces**	**Dat e**
1	HOLIDAYS				
2	Revision: Diagnostic	Baseline: (Revision, consolidation of Term 1 and Grade 5 core skills)			
3	Revision: Remediation	Baseline: Remediation – error analysis			
4	NUMBER SENTENCES Write number sentences to describe problem situations. Solve and complete number sentences by: -inspection - trial and improvement. Check solutions by substitution	Give meanings to multiplication words. Give multiples of selected numbers. Complete times grids. Write times sums based on visual prompts. Multiply using different methods.	No. R4a (pp. xiv, xv) No. R4b (pp. xvi, xvii)		
5	NUMBER SENTENCES Write number sentences to describe problem situations. Solve and complete number sentences by: -inspection - trial and improvement. Check solutions by substitution	Give meanings to division words. Give factors of selected numbers. Complete patterns in given table. Write division sums from visual prompts. Write number sentences by breaking down numbers and compute.	No. R5a (pp. xviii, xix) No. R5b (pp. xx, xxi)		
6	NUMBER SENTENCES Write number sentences to describe problem situations. Solve and complete number sentences by: -inspection - trial and improvement. Check solutions by substitution	Complete number sentences by substituting shapes with numbers. Match number sentences to note equality. Change the number sentences to make it true.	No. R6 (pp. xxii, xxiii)		

Notes for the teacher.
1. The Baseline Assessment can be administered one-on one or to a group of at least 5 learners at a time – it is an assessment FOR learning.
2. The onus is on the teacher to prepare substantial activities for the rest of the learners while the Baseline Assessment is being administered.
3. Prepare well - study the Baseline Assessment i.e. familiarise yourself with the apparatus and templates that must be used.

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Give meanings to multiplication words. • Give multiples of selected numbers. Complete times grids. • Write times sums based on visual prompts. • Multiply using different methods. • Give meanings to division words. • Give factors of selected numbers. Complete patterns in given table. • Write division sums from visual prompts. • Write number sentences by breaking down numbers and compute. • Complete number sentences by substituting shapes with numbers. • Match number sentences to note equality. • Change the number sentences to make it true.	What will you change next time? Why?
	Struggling Learners Names:
	HOD: **Date:**

11 – 14 April 2022 (four-day week)

	Week 2				
Less on	ATP Content	concepts, skills	DBE workbook 1	Res our ces	Dat e
7	NUMBER SENTENCES Write number sentences to describe problem situations. Solve and complete number sentences by: -inspection - trial and improvement. Check solutions by substitution	Complete number sentences by using place value. Write number sentences in words. Break down numbers using expanded notation.	No. 2 (pp. 8, 9)		
8	NUMBER SENTENCES Write number sentences to describe problem situations. Solve and complete number sentences by: -inspection - trial and improvement. Check solutions by substitution	Apply number properties to complete the equations. Compute the number sentences. Substitute and show equations are true. Make your own number sentences.	No. 4 (pp. 10, 11) No. 5 (pp. 12, 13)		
9	NUMERIC PATTERNS**: Investigate and extend patterns** - Investigate and extend numeric patterns looking for relationships or rules of patterns – sequences involving a constant difference or ratio– of learner's own creation. Describe observed relationships or rules for sequences involving constant difference or ratio in learner's own words	Identify patterns. Extend patterns. Complete patterns.	No. R3a (pp. x, xi)		
10	NUMERIC PATTERNS**: Investigate and extend patterns** - Investigate and extend numeric patterns looking for relationships or rules of patterns – sequences involving a constant difference or ratio– of learner's own creation. Describe observed relationships or rules for sequences involving constant difference or ratio in learner's own words	Apply multiples and factors to patterning. Create patterns using multiples and factors. Give the rules for each pattern. Identify patterns. Extend patterns. Complete patterns.	No. 24a (pp. 72)		
11	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				
12	PUBLIC HOLIDAY				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Complete number sentences by using place value. • Write number sentences in words. • Break down numbers using expanded notation. • Apply number properties to complete the equations. • Compute the number sentences. Substitute and show equations are true. • Make your own number sentences. • Identify patterns. Extend patterns. Complete patterns. • Apply multiples and factors to patterning. • Create patterns using multiples and factors. • Give the rules for each pattern.	What will you change next time? Why? **Struggling Learners Names?** **HOD:** **Date:**

19 – 22 April 2022 (four-day week)

	Week 3				
Lesson	**ATP content**	**concepts, skills**	**DBE Workbook 1**	**Resources**	**Date**
13	PUBLIC HOLIDAY				
14	NUMERIC PATTERNS: **Input and output values**- Determine input values, output values and rules for patterns and relationships:– flow diagrams– tables. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally– in a flow diagram – by a number sentence	Complete input/output table. Complete the flow diagram.	No. 24a (pp. 73)		
15	NUMERIC PATTERNS: **Input and output values**- Determine input values, output values and rules for patterns and relationships:– flow diagrams– tables. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally– in a flow diagram – by a number sentence	Complete input/output table. Complete the flow diagram. Write the number sentences	No. 24b (pp. 74)		
16	NUMERIC PATTERNS: **Input and output values**- Determine input values, output values and rules for patterns and relationships:– flow diagrams– tables. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally– in a flow diagram – by a number sentence	Complete input/output table. Complete the flow diagram. Write the number sentences. Complete the number sentences Simplify using distributive property	No. 30 (pp. 88)		
17	NUMERIC PATTERNS: **Input and output values**- Determine input values, output values and rules for patterns and relationships:– flow diagrams– tables. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally– in a flow diagram – by a number sentence	Simplify using distributive property. Breaking down numbers to multiply.	No. 30 (pp. 89)		
18	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				
	Reflection				

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Complete input/output table. • Complete the flow diagram. • Write the number sentences • Complete the number sentences • Simplify using distributive property • Breaking down numbers to multiply.	What will you change next time? Why? **Struggling Learners names:** **HOD:** **Date:**

25 – 29 April 2022 (four-day week)

Week 4					
Lesson	ATP Content	CAPS content, concepts, skills	DBE Workbook 1	Resources	Date
19	GEOMETRIC PATTERNS **Investigate and extend patterns**- Investigate and extend geometric patterns looking for relationships or rules of patterns:– represented in physical or diagram form – sequences not limited to a constant difference or ratio – of learner's own creation. Describe observed relationships or rules in learner's own words	Identify growing patterns in shapes. Describe the patterns using the shape or parts of the shape. Extend the geometric pattern. Draw the shape that completes the pattern.	No. 35 (pp. 98, 99)		
20	GEOMETRIC PATTERNS **Investigate and extend patterns**- Investigate and extend geometric patterns looking for relationships or rules of patterns:– represented in physical or diagram form – sequences not limited to a constant difference or ratio – of learner's own creation. Describe observed relationships or rules in learner's own words	Describe the hexagon pattern. Use a table of values to predict the nth pattern. Extend the geometric pattern. Draw the shape that completes the pattern.	No. 36 (pp. 100, 101)		
21	PUBLIC HOLIDAY				
22	GEOMETRIC PATTERNS **Input and output values** - Determine input values, output values and rules for the patterns and relationships using flow diagrams. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally – in a flow diagram – by a number sentence	Investigate and compare patterns. Extend the geometric pattern. Complete the table Complete the different shapes in the pattern.	No. 37 (pp. 102)		
23	GEOMETRIC PATTERNS **Input and output values** - Determine input values, output values and rules for the patterns and relationships using flow diagrams. **Equivalent forms** - Determine equivalence of different descriptions of the same relationship or rule presented: – verbally – in a flow diagram – by a number sentence	Extend the geometric pattern. Complete the table Compare answers with new patterns.	No. 37 (pp. 103)		
24	Assessment Activity: Consolidate and revise – assess learners understanding, remediate for understanding – use SM Activities				
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Identify growing patterns in shapes. • Describe the patterns using the shape or parts of the shape. • Extend the geometric pattern. • Draw the shape that completes the pattern. • Describe the hexagon pattern. • Use a table of values to predict the nth pattern. • Investigate and compare patterns. Complete the table • Complete the different shapes in the pattern. • Compare answers with new patterns.	What will you change next time? Why? **Struggling Learners Names**: **HOD:** **Date:**

3 – 6 May 2022 (four-day week)

	Week 5				
Day	ATP Content	concepts, skills	DBE workbook 1	Resources	Date
25	PUBLIC HOLIDAY				
26	COMMON FRACTIONS **Describing and ordering fractions:** Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** Addition and subtraction of common fractions in which one denominator is a multiple of another-Addition and subtraction of mixed numbers-Fractions of whole numbers	Use the fraction strips. Use a ruler to calculate fractions of a length. Identify equality of fractions. Convert fractions into decimals.	No. R8a (pp. xxviii, xxix)	Cut out 4	
27	COMMON FRACTIONS **Describing and ordering fractions:** Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** Addition and subtraction of common fractions in which one denominator is a multiple of another-Addition and subtraction of mixed numbers-Fractions of whole numbers	Give fraction meaning to rands and cents. Use a diagram to represent rands and cents.	No. R8b (pp. xxx, xxxi)		
28	COMMON FRACTIONS **Describing and ordering fractions:** Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** Addition and subtraction of common fractions in which one denominator is a multiple of another-Addition and subtraction of mixed numbers-Fractions of whole numbers	Give fraction meaning to parts of a whole. Solve fraction problems in context	No. R9 (pp. xxxii, xxxiii)		
29	COMMON FRACTIONS **Describing and ordering fractions:** Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** Addition and subtraction of common fractions in which one denominator is a multiple of another-Addition and subtraction of mixed numbers-Fractions of whole numbers	Describe proper, improper, mixed & common fractions. Calculate part of a whole. Write common factor for the coloured parts.	No. 9a (pp. 26, 27)		
30	Complete and consolidate the week's assessment and work. **FORMAL ASSESSMENT TASK**				
	Reflection				
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Use the fraction strips. • Use a ruler to calculate fractions of a length. • Identify equality of fractions. Convert fractions into decimals.		What will you change next time? Why? **Struggling Learners Names**:			

		HOD:
• Give fraction meaning to rands and cents. • Use a diagram to represent rands and cents. • Give fraction meaning to parts of a whole. • Solve fraction problems in context • Describe proper, improper, mixed & common fractions. • Calculate part of a whole. • Write common factor for the coloured parts.		**Date:**

9 – 13 May 2022

Week 6					
Day	**ATP Content**	**concepts, skills**	**DBE workbook 1**	**Resources**	**Date**
31	COMMON FRACTIONS **Describing and ordering fractions:** Compare and order common fractions, including specifically tenths and hundredths **Calculations with fractions:** Addition and subtraction of common fractions in which one denominator is a multiple of another-Addition and subtraction of mixed numbers-Fractions of whole numbers	Calculate part of a whole. Write common factor for the coloured parts. Identify whole numbers and proper fraction in a mixed fraction using diagrams.	No. 9b (pp. 28, 29)		
32	COMMON FRACTIONS **Equivalent forms:** - Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Use the fraction board and name fractions that are equal. Complete fraction sums using the fraction board.	No. 10a (pp 30, 31)		
33	COMMON FRACTIONS **Equivalent forms:** - Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Use fraction circle to show equivalence. Use fraction board to show equivalence. Complete fraction sums using visual prompts.	No. 10b (pp 32, 33)		
34	COMMON FRACTIONS **Equivalent forms:** - Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Compare fractions with different denominators. Use fraction lines to find equivalent ratios. Observe what happens to the denominator and numerator.	No. 10c (pp 34, 35)		
35	COMMON FRACTIONS **Equivalent forms:** - Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Adding fractions. Subtracting fractions. Use a diagram to add and subtract. Adding with different denominators. Subtracting with different denominators	No. 11 (pp 36, 37)		

| 36 | Assessment activity: remediation of concepts which some learners have not fully understood | | |

Reflection

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO:	What will you change next time? Why?
• Calculate part of a whole. • Write common factor for the coloured parts. • Identify whole numbers/proper fraction in a mixed fraction using diagrams. • Use the fraction board and name fractions that are equal. • Complete fraction sums using the fraction board. • Use fraction circle to show equivalence. • Compare fractions with different denominators. • Use fraction lines to find equivalent ratios. • Observe what happens to the denominator and numerator. • Adding fractions. Subtracting fractions. • Use a diagram to add and subtract. • Adding with different denominators. • Subtracting with different denominators	**Struggling Learners Names:** **HOD:** **Date:**

16 – 20 May 2022

Week 7					
lesson	**ATP Content**	**concepts, skills**	**DBE workbook 1**	**Resources**	**Date**
37	COMMON FRACTIONS **Equivalent forms:** - Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators (fractions in which one denominator is a multiple of another) - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Write equivalent fractions for given fractions. Find the LCM for adding & subtracting fractions.	No. 12 (pp 38, 39)		
38	COMMON FRACTIONS **Solving problems** - Solve problems in contexts involving common fractions, including grouping and sharing	Solve fractions using proportional sharing. Solve using diagrams and number lines.	No. 13 (pp. 40, 41)		
39	Revision: Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
40	**ASSESSMENT TASK ASSIGNMENT** INVESTIGATIONS: Multiplication, Division & Numeric patterns.				
41	**ASSESSMENT TASK ASSIGNMENT** INVESTIGATIONS: Multiplication, Division & Numeric patterns.				
42	**ASSESSMENT TASK ASSIGNMENT** INVESTIGATIONS: Multiplication, Division & Numeric patterns.				
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT ARE THEY ABLE TO MASTER: • Write equivalent fractions for given fractions. • Find the LCM for adding & subtracting fractions. • Solve fractions using proportional sharing. • Solve using diagrams and number lines.	What will you change next time? Why? **Struggling Learners Names:**
	HOD: **Date:**

23 – 27 May 2022

Week 8					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
43	COMMON FRACTIONS **Percentages** - Find percentages of whole numbers	Determine the meaning of %. Give fraction of square as %. Given a fraction, find the percentage.	No. 14 (pp. 42, 43)		
44	COMMON FRACTIONS **Percentages** - Find percentages of whole numbers	Match the fraction, decimal and percentages that are equal. Complete the table given a visual prompt to find the fraction, % & decimal.	No. 15 (pp. 42, 43)		
45	COMMON FRACTIONS **Solving problems** - Solve problems in contexts involving common fractions, including grouping and sharing - Solve problems in context involving decimal fractions	Apply fractions through measurement. Mark capacity on the measuring cup. Determine fraction of lines and distances.	No. 48 (128, 129)		
46	COMMON FRACTIONS **Solving problems** - Solve problems in contexts involving **common fractions**, including grouping and sharing - Solve problems in context involving **decimal fractions**	Apply fractions through measurement. Mark capacity on the measuring cup. Determine fraction of lines and distances. Determine common and decimal fractions in a table.	No. 49 (130, 131)		
47	DECIMAL FRACTIONS - **Recognizing, ordering and place value of decimal fractions -** Count forwards and backwards in decimal fractions to at least two decimal places**-** Compare and order decimal fractions to at least two decimal places **-** Place value of digits to at least two decimal places **Calculations with decimal fractions** - Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Determine common and decimal fractions in a table. Work with fractions of kilograms. Make own word sums based on a diagram.	No. 50a (pp. 132, 133)		
48	Revision and consolidation				
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER?	What will you change next time? Why?
• Determine the meaning of %. • Give fraction of a square as %. • Given a fraction, find the percentage. • Match the fraction, decimal and percentages that are equal. • Complete the table given a visual prompt to find the fraction, % & decimal. • Apply fractions through measurement. • Mark capacity on the measuring cup. • Determine fraction of lines and distances. • Determine common and decimal fractions in a table. • Work with fractions of kilograms. • Make own word sums based on a diagram.	Struggling Learners Names: **HOD:** **Date:**

30 May – 3 June 2022

Week 9					
Day	**ATP content**	**concepts, skills**	**DBE workbook 1**	**Reso urces**	**Dat e**
49	DECIMAL FRACTIONS - **Recognizing, ordering and place value of decimal fractions -** Count forwards and backwards in decimal fractions to at least two decimal places**-** Compare and order decimal fractions to at least two decimal places **-** Place value of digits to at least two decimal places **Calculations with decimal fractions** - Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Determine common and decimal fractions in a table. Use the table or diagram to decide the colour fraction. Compare and order decimals.	No. 50b (pp. 134, 135)		
50	DECIMAL FRACTIONS - **Recognizing, ordering and place value of decimal fractions -** Count forwards and backwards in decimal fractions to at least two decimal places**-** Compare and order decimal fractions to at least two decimal places **-** Place value of digits to at least two decimal places **Calculations with decimal fractions** - Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Determine common and decimal fractions in a table. Use the table or diagram to decide the colour fraction. Compare and order decimals. Write mixed fractions as decimal fractions	No. 52 (pp. 140, 141)		
51	DECIMAL FRACTIONS - **Recognizing, ordering and place value of decimal fractions -** Count forwards and backwards in decimal fractions to at least two decimal places**-** Compare and order decimal fractions to at least two decimal places **-** Place value of digits to at least two decimal places **Calculations with decimal fractions** - Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Determine common and decimal fractions in a table. Use the table or diagram to decide the colour fraction. Compare and order decimals. Write mixed fractions as decimal fractions	No. 53 (pp. 142, 143)		
52	COMMON FRACTIONS/DECIMAL FRACTIONS **Solving problems** - Solve problems in contexts involving **common fractions,**	Apply fractions through measurement. Mark capacity on the measuring cup.	No. 51a (136, 137)		

	including grouping and sharing - Solve problems in context involving **decimal fractions**	Determine common and decimal fractions in a table.			
53	COMMON FRACTIONS/DECIMAL FRACTIONS **Solving problems** - Solve problems in contexts involving **common fractions**, including grouping and sharing - Solve problems in context involving **decimal fractions**	Apply fractions through measurement. Mark capacity on the measuring cup. Determine <,> between measuring units like ml and fraction of a litre. Solve money problems.	No. 51b (138, 139) No. 55 (pp. 146, 147)		
54	Assessment activity: remediation of concepts which some learners have not fully understood				

Reflection		
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER? • Determine common and decimal fractions in a table. • Use the table or diagram to decide the colour fraction. • Compare and order decimals. • Write mixed fractions as decimal fractions • Apply fractions through measurement. • Mark capacity on the measuring cup. • Determine <,> between measuring units like ml and fraction of a litre. • Solve money problems.	What will you change next time? Why? **HOD** **Date:**

6 – 10 June 2022

Week 10					
Lesson	ATP content	concepts, skills	DBE workbook	Resources	Date
55	DECIMAL FRACTIONS **Equivalent forms**:- Recognize equivalence between common fraction and decimal fraction forms of the same number - Recognize equivalence between common fraction, decimal fraction and percentage forms of the same number	Use time an express in decimal form. Show equivalence between fraction time and decimal fraction time. Convert from fraction to decimal and vice-versa.	No. 54 (pp. 144, 145)		
56	DECIMAL FRACTIONS **Calculations with decimal fractions** -Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Adding and subtracting decimals. Find the difference between decimals. Complete decimal number patterns. Adding and subtracting decimals using the algorithm. Write decimals in words.	No. 56 (pp. 148, 149) No. 57 (pp. 150, 151)		
57	DECIMAL FRACTIONS **Calculations with decimal fractions** -Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Adding and subtracting decimals using guides as provided. Breaking down decimals as per place value.	No. 58 (pp. 152, 153)		
58	DECIMAL FRACTIONS **Calculations with decimal fractions** -Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Use place value of digits to at least two decimal places. Write decimals in expanded form then add or subtract. Count in halves.	No. 59 (pp. 154, 155)		

59	DECIMAL FRACTIONS **Calculations with decimal fractions** -Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Compare and order decimals to at least two decimal places. Complete decimals on the number line. Write in descending or ascending order.	No. 60 (pp. 156, 157)		
60	Assessment activity: remediation of concepts which some learners have not fully understood and enrichment cards for the learners who are on track				

Reflection		
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER? • Use time and express in decimal form. • Show equivalence between fraction time and decimal fraction time. • Convert from fraction to decimal and vice-versa. • Adding and subtracting decimals. Find the difference between decimals. • Complete decimal number patterns. • Adding and subtracting decimals using the algorithm. • Write decimals in words. • Adding and subtracting decimals using guides as provided. • Breaking down decimals as per place value. • Use place value of digits to at least two decimal places. • Write decimals in expanded form then add or subtract. Count in halves. • Compare and order decimals to at least two decimal places. • Complete decimals on the number line. • Write decimals in descending or ascending order.		What will you change next time? Why? **Struggling Learners Names:**

13 – 15 June 2022 (three-day week)

Week 11					
Day	**ATP content**	**concepts, skills**	**DBE workbook 1**	**Resources**	**Date**
61	DECIMAL FRACTIONS **Calculations with decimal fractions** -Addition and subtraction of decimal fractions of at least two decimal places -Multiply decimal fractions by 10 and 100	Multiply decimals. Multiply decimals using the number line. Multiply decimals by 1, 10 & 100.	No. 61 (pp. 158, 159)		
62	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
63	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
64	**Revision of term 1 and 2:** Catch-up on work not completed; remediation of concepts which weaker learners have not fully understood and enrichment cards for the learners who are on track				
65	PUBLIC HOLIDAY				
66	PUBLIC HOLIDAY				
Reflection					

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER? • Multiply decimals. • Multiply decimals using the number line. • Multiply decimals by 1, 10 & 100.	What will you change next time? Why? **Struggling Learners Names:**

20 – 24 June 2022

Week 12					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
67	FORMAL ASSESSMENT TASK Test All topics				
68	FORMAL ASSESSMENT TASK Test All topics				
69	FORMAL ASSESSMENT TASK Test All topics				
70	FORMAL ASSESSMENT TASK Test All topics				
71	FORMAL ASSESSMENT TASK Test All topics				
72	END OF TERM				
Reflection					
	What will you change next time? Why? **Struggling Learners Names:**				

ASSESSMENT RATIONALE AND RESOURCES

Assessment Term Plan

The assessment term plan gives an overview of

1) how the formal and informal assessment programme fits into the weekly lesson plans.
2) How the skills mastery assessments fit into the weekly lesson plans

Note:

• There are two FORMAL Assessment tasks: 1) Assignment and 2) Test on all topics.
• The Skills mastery assessments – aimed at consolidating, revising and remediating skills covered last year - are added at the end of the document.
• Written assessment tasks are to be selected and marked by teachers in appropriate lessons according to their lesson plans. Teachers may wish to group the items or use them individually.

Week	**Skills Mastery Activities (Tuesdays and Thursdays)**	**Formative Assessment Activities: Aimed to enhance Revision Programme**

1	Baseline Assessment	Baseline Assessment
2	**Tuesday** Skills mastery Assessment 1 **Thursday** Skills mastery Assessment 2	
3	**Tuesday** Skills mastery Assessment 3 **Thursday** Skills mastery Assessment 4	
4	**Tuesday** Skills mastery Assessment 5 **Thursday** Skills mastery Assessment 6	
5	**Tuesday** Skills mastery Assessment 7 **Thursday** Skills mastery Assessment 8	
6	**Tuesday** Skills mastery Assessment 9 **Thursday** Skills mastery Assessment 10	
7	**Tuesday** Skills mastery Assessment 11 **Thursday** Skills mastery Assessment 12	**Formal Assessment Task:** **Assignment**
8	**Tuesday** Skills mastery Assessment 13 **Thursday** Skills mastery Assessment 14	
9	**Tuesday** Skills mastery Assessment 15 **Thursday** Skills mastery Assessment 16	
10	**Tuesday** Skills mastery Assessment 17 **Thursday** Skills mastery Assessment 18	
11	**Tuesday** Skills mastery Assessment 19	
12		**FORMAL ASSESSMENT TASK – Test on all topics**

Exemplar Written Baseline Assessment ITEMS with marking memos.

The exemplar items can be used as a baseline diagnostic pre-assessment, but can be used, later in the term, as a post-assessment to monitor learning.

The skills mastery items can be used as a secondary formative assessment, both to monitor progress in learning skills and mastery of skills. For example, the teacher can select 5 items from the first

three Skills Mastery Assessments (a selection from 15 items) and use it for end of week assessments. End-of-week days have been planned for this purpose, as well as for consolidating the learning of the week's content.

- Written formative assessments is to be done in addition to oral and practical assessment to carry out meaningful continuous assessment throughout the term, aimed at learning skills
- You need to plan when you will do a written formative assessment. We suggest you do it at the end-of week.
- The questions provided in the exemplar and Skills Mastery Assessments are taken from past written assessment papers and assessments generally, that were previously in the lesson plans. We suggest you use selected items as smaller written assessment tasks. This aligns better with the curriculum objective of continuous assessment.
- There is one lesson "slot" per week that is assigned for you to catch up or consolidate the lesson plan content covered in the week's lessons. This lesson should also be used for the purpose of carrying out written assessment tasks or to complete oral or practical tasks for that week.

ITEM BANK FOR BASELINE ASSESSMENT: EXEMPLARS

Surname:	_____
Name:	Boy Girl
Date of birth:	_____
School:	
Province:	
EMIS no.:	Date: _____ _____

INSTRUCTIONS TO LEARNERS:
1. Time: 60 minutes.
2. Answer all the questions in the spaces provided.
3. No calculators may be used.

EXEMPLAR 1

1. Write the following number in digits:

    Nine hundred and one million, two hundred and twenty thousand, four hundred and fifteen.

    _____

    _____ (1)

2. Write as a single number: 6 000 000 000 + 800 000 000 + 900 000 + 70 + 3

    _____

    _____ (1)

3. Which number is 10 000 more than 888 644?

    _____

    _____ (1)

4. Write down all the factors of 45.

    _____

    _____ (3)

5. Estimate the answer to 5 642 x 745

    _____

    _____ (3)

6. Use the vertical column method to find the answer to 334 x 21

      334

    x 21

    _____

    _____

    _____ (3)

7. A car uses 8 ℓ of petrol to cover 100 km. What distance will the car travel on 24 ℓ of petrol?

    _____

    _____ (2)

8. John gets paid R125 per hour.

    How much will John get paid for working for 3½ hours?

    _____

    _____ (2)

9. Find the product of two prime numbers which is greater than 21 but less than 30.

_____

_____ (3)

10. Twice a number is 72. What is half the number?

_____

_____ (2)

SOLUTIONS AND MEMORANDUM

Questions	Marks	Cognitive level
1. Nine hundred and one million, two hundred and twenty thousand, four hundred and fifteen = 901 220 415 ✓	(1)	K
2. 6 000 000 000 + 800 000 000 + 900 000 + 70 + 3 = 6 800 900 073 ✓	(1)	K
3. 888 644 + 10 000 = 898 644 ✓	(1)	RP
4. 1 x 45 = 45; 3 x 15 = 45; 5 x 9 = 45 So the factors of 45 are 1; 3; 5; 9; 15 and 45 ✓✓✓	(3)	RP
5. 5 642 x 745 ≈ 6 000 ✓ x 700 ✓ = 4 200 000 ✓ OR 5 642 x 745 ≈ 5 600 x 700 = 3 920 000 OR 6 642 x 745 ≈ 6 000 x 750 = 4 500 000	(3)	RP

6.   3 3 4
  x   2 1
    3 3 4 ← 1 x 334 ✓
  6 6 8 0 ← 20 x 334 ✓
  7 0 1 4 ✓
	(3)	RP

7. A car uses 8 ℓ of petrol to cover 100 km. The car uses 3 x 8 ℓ = 24 ℓ of petrol to cover 3 x 100 km ✓ = 300 km ✓	(2)	RP
8. John will get paid R125 + R125 + R125 + (R125 ÷ 2) ✓ = R375,00 + R62,50 = R437,50 ✓	(2)	CP

9. The two prime numbers between 21 and 30 are 23 and 29 ✓
The product is 667 ✓✓
    2 9
  x 2 3
   8 7 ← 3 x 29
 5 8 0 ← 20 x 29
 6 6 7
	(3)	CP

2 x □ = 72 So the number is 72 ÷ 2 = 36 ✓ Half the number = 36 ÷ 2 = 18 ✓	(2)	PS

EXEMPLAR 2

Circle the correct answer.

1. Write 19 470 in words:

   A. Nine thousand, seven hundred and four

   B. Nineteen thousand and forty seven

   C. One hundred and ninety-four thousand and seventy

   D. Nineteen thousand, four hundred and seventy   (1)

2. Which number would be rounded off to 6 000 when rounded off to the nearest thousand?

   A. 1 608   B. 5 468   C. 5 864   D. 6 609   (1)

3. Find the difference between the two values of the sevens in the number 2 715 763.

   The difference is:

   A. 700 700   B. 700 300   C. 699 300   D. 2 015 063   (1)

4. The total amount of money collected by a shop for the sale of T-shirts was R10 000. Each T-shirt sold for R40.

   What was the total number of T-shirts sold by the shop?

   A. 100

   B. 220

   C. 250

   D. 400   (1)

5. Write down the value of 20 000 000 + 900 000 000 + 600 000

   _____ (1)

6. Fill in the correct relationship sign (<, =, or >) between the two numbers.

   926 million .... 900 000 000 + 2 000 000 + 600 000   (1)

7. Write this decimal fraction in digits: nine units and six hundredths.

   _____

   _____ (1)

8. Arrange these decimals in descending order: 1,02; 1,1; 1,01; 1,11; 1,001

   _____

   _____ (2)

9. Round 36,87 off to the nearest tenth.

   _____ (1)

10. Calculate 400 000 000 ÷ 10 000

    _____

    _____ (1)

11. Calculate 3 214 x 245 using the column method.

$$3\ 214$$
$$\times\ \ \ 245$$

_____

_____

_____

_____

_____ (4)

12. Calculate 9 264 ÷ 12 using long division.

12 $\overline{)\ 9\ 264}$

_____

_____

_____

_____

_____ (4)

13. Write $\frac{7}{20}$ as a decimal.

_____

_____ (1)

14. Divide 540 by 6, then add 1 and multiply the answer by 6.

_____

_____

_____

_____

_____ (2)

15. The product of two numbers is 49.

What is the greatest possible sum of the two numbers?

_____

_____

_____

_____

_____ (2)

16. This pattern is made up of white blocks and shaded blocks.

Pattern 1   Pattern 2   Pattern 3   Pattern 4
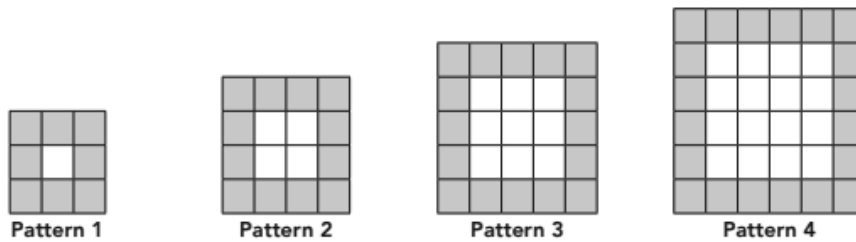
a) Complete the following table:

Pattern number	Number of white blocks	Number of shaded blocks
1	1	8
2	4	12
3	9	
4		

(3)

b) Suppose this pattern continues. How many white blocks are there be in Pattern 5?

_____

_____

_____ (1)

c) Write down a rule that could be used to find the number of white blocks in any pattern number.

_____

_____

_____ (2)

SOLUTIONS

Note: The last column in the memorandum shows the cognitive level for each question in the test. The levels are:

K	Knowledge: straight recall; use of mathematical facts and vocabulary; rounding off.
RP	Routine procedure: perform well known procedures; simple applications.
CP	Complex procedure: problems involving complex calculations and/or higher order reasoning.
PS	Problem solving: non-routine problems; higher order understanding and processes.
More information about these levels can be found in the CAPS (p. 296).	

Questions	Marks	Cognitive level
1. D: 19 470 = nineteen thousand, four hundred and seventy ✓	1	K
2. C: 5 864 ✓	1	K
3. C: 700 000 – 700 = 699 300 ✓	1	RP
4. C: no of t-shirts = R10 000 ÷ R40 = 250 ✓	1	RP

5. 20 000 000 + 900 000 000 + 600 000 = <u>920 600 000</u> ✓	1	RP
6. 926 million > ✓ 900 000 000 + 2 000 000 + 600 000	1	K
7. nine units and six hundredths = <u>9,06</u> ✓	1	K
8. . The decimals in descending order are <u>1,11; 1,1; 1,02; 1,01;</u> <u>1,001</u> (Accept also 1,110; 1,100; 1,020; 1,010; 1,001) ✓✓	2	RP
9. . 36,87 ≈ <u>36,9</u> ✓	1	K
10. . 400 000 000 ÷ 10 000 = 40 000 ✓	1	K

11. $$\begin{array}{r} 3\ 214 \\ \times\quad 245 \\ \hline 16\ 070 \leftarrow 5 \times 3\ 214\ ✓ \\ 128\ 560 \leftarrow 40 \times 3\ 214\ ✓ \\ +\ 642\ 800 \leftarrow 200 \times 3\ 214\ ✓ \\ \hline 787\ 430\ ✓ \end{array}$$	4	RP

12. $12\,)\,\overline{9\ 2\ 6\ 4}$ quotient 7 7 2 ✓ ; 8 4 ✓ ; 8 6 / 8 4 ✓ ; 2 4 / 2 4 ✓ ; 0	4	RP

13. $\frac{7}{20} = \frac{35}{100} = \underline{0,35}$ ✓	1	RP
14. 540 ÷ 6 = 90 ✓ 90 + 1 = 91 91 × 4 = <u>364</u> ✓	2	RP

15.	2	PS

PRODUCT	SUM	
7 x 7 = 49	7 + 7 = 14	✓ for working out
1 x 49 = 49	1 + 49 = 50	← greatest sum (50 > 14)

The greatest possible sum is <u>50</u> ✓

16. . a)

Pattern number	Number of white blocks	Number of shaded blocks
1	1	8
2	4	12
3	9	<u>16</u> ✓
4	<u>16</u> ✓	<u>20</u> ✓

a) (table above)	3	K
b) There will be 5 × 5 = <u>25</u> white blocks in Pattern 5 ✓	1	CP
c) Number of white blocks = (pattern number) × (pattern number) ✓✓	2	PS

SKILLS MASTERY ASSESSMENTS

Rationale

- A Skills Mastery Assessment (SMA) is one in which there is an iterative revisiting of skills, topics, subjects or themes throughout the year.
- SMA is not simply the repetition of a topic taught. It requires the deepening of it, with each successive encounter building on the previous one.
- SMA is critical in today's educational environment, especially in mathematics, where we must consistently give our learners the opportunity to revisit and practice skills they have already learned aimed at mastery.
- The traditional practice is to incorporate consolidating, revising or reviewing, through homework, morning work, small group instruction, and even after school math classes. Through SMA we are going to continuously review skills and concepts with our students.
- It makes sense that we would continue to assess their understanding on those same skills by changing the context of the question using C-P-A-W (Concrete – Pictorial – Abstract -Worded)
- When we first teach and assess a skill, many of our students have yet to master it. By incorporating a SMA activity into your classroom, you are providing your students with the opportunity to demonstrate their growth and understanding on a regular basis.
- These regular SMAs help you see where your students are always struggling. You can use the results to guide your small group instruction and customize your lessons and activities to meet the needs of your students, not just the covering of curriculum.

Implementation

- In every lesson plan there are 10 minutes set aside for consolidation and revision, meaning one could apply SMA every day for 10 minutes, before teaching a new concept for that day.
- Each SMA is using a five-item design to ensure teachers can complete it in 10 minutes.
- As a minimum, this Planner and Tracker, recommends the use of Tuesdays and Fridays, but teachers could use every day.
- Each Tuesday and Thursday you are encouraged to take 10 minutes and give a SMA to the whole class, or groups. Learners should be able to take about 5 minutes to complete – then the teacher must remediate by addressing errors, misconceptions and misunderstandings.
- Teachers could also use the data from the SMA to help plan small group lessons for the next week.
- Teachers could also pull different students for different skills until the teacher felt confident that the learners were more confident in their responses. Then next week, repeat….new set of SMAs, similar skills being assessed, new data for small group instruction.
- These daily SMAs should be seen as a progress monitoring tool as well. This will prove to be effective in letting teachers know how their most struggling students are progressing.

SKILLS MASTERY EXEMPLARS

Skills Mastery (SM) Assessment 1

Number   Assessment

1.   What is the value of the underlined digit in 34 5̲02 344?

     A   50 000
     B   500 000
     C   5
     D   5 000 000

2.   Which of the following fractions has the highest value?

$$\frac{3}{5} \; ; \; \frac{3}{4} \; ; \; \frac{4}{10} \; ; \; \frac{1}{2}$$

     A $\frac{3}{5}$

     B $\frac{3}{4}$

     C $\frac{4}{10}$

     D $\frac{1}{2}$

3.   What is $12,25 \times 10$?

     A   1,225
     B   12 250
     C   1 225
     D   122,5

4.   What is the median of the following data set?

55 ; 67 ; 75 ; 42 ; 75 ; 19 ; 88 ; 31 ; 8 ; 75 ; 12

     A   88
     B   75
     C   19
     D   55

5.   Rounding off:

Round 19 455 off to the nearest 10. _____

Number   Assessment

1.   What is the missing number in the following number sentence?

$(250 + 0 + 50) \times \square = 300$

A   600

B   1

C   0

D   6

2.   What is the next number in the following sequence?

7,5 ; 7,7 ; 7,9 ; ...

A   8,1

B   7,11

C   9,9

D   8,11

3.   Choose ONE number from the box that is being described in each statement.

30		80	
	37	9	
31		39	4

A multiple of 15: _____

A prime number between 35 and 40: _____

4.   A factor of 40: _____

5.   Fill in the missing number in the number sentence:

$378 + 10 - 6 + 6 - \ldots = 378$

Number	Assessment
1.	$348\ 143 + 594\ 845$

Number	Assessment
2.	$98\ 268 - 95\ 931$

3. $5\ 463 \times 35$

4. $7\ 557 \div 25$

5.

$$3\frac{2}{9} + 4\frac{5}{9} =$$

SM Assessment 4

Number	Assessment
1.	$\dfrac{9}{10} - \dfrac{2}{5} =$

| 2. | $\dfrac{3}{7}$ of 91 |

| 3. | $9,45 + 3,2 =$ |

| 4. | $54 \div (9 - 3) + 4 =$ |

5.   Complete the table below with an equivalent fraction, decimal fraction and percentage.

Fraction	Decimal fraction	Percentage
$\dfrac{3}{10}$	0,3	
$\dfrac{3}{4}$		75%
	0,5	50%

Number Assessment

1. Fill in the missing input and output number in the following flow diagram.

INPUT   OUTPUT

5   1
9   3
11 — 3   ÷ 2   → 4
13   □
□   9
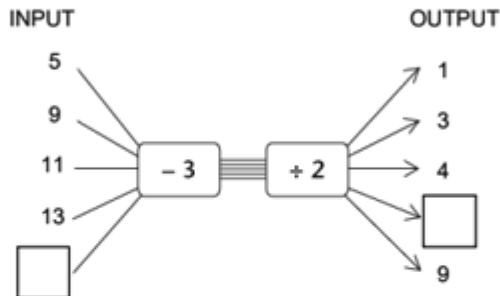
2. Complete the flow diagram below by filling in the missing rule

INPUT   OUTPUT

1   5
2   × 3   → 8
3   11
17   53
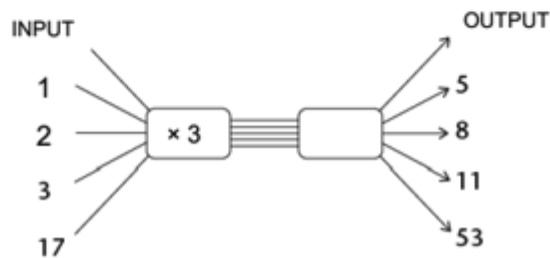
3. Examine the diagram pattern below and answer the questions that follow.

1   2   3
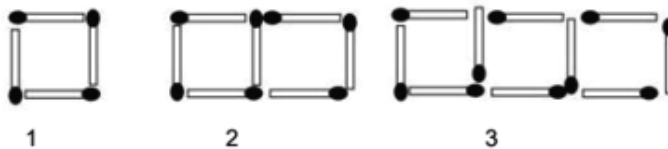
How many matches are added each time to make another square?

_____

4. Fill in the missing number in the table, based on the pattern.

Number of squares	1	2	3	10
Number of match sticks	4	7	10	

5. Draw all the lines of symmetry for the rectangle below.
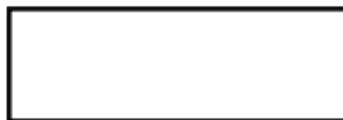
1. Look at these repeating patterns. Draw the next two shapes.

a ☆ ⬡ ◻ ☆ ☆ ⬡ ◻ ☆ ☆ ▢ ▢

b ⬠ ◇ ◇ △ ⬠ ◇ ◇ △ ▢ ▢

c ⧗ ◆ ⧗ ◆ ⧗ ◆ ⧗ ◆ ⧗ ◆ ▢ ▢
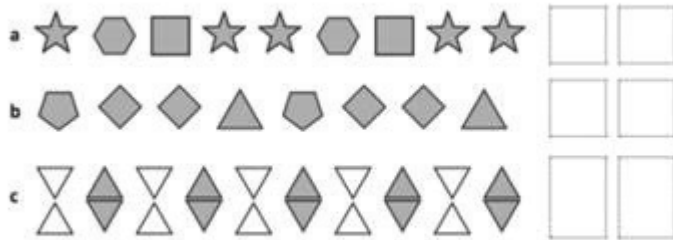
2. Draw the shape that should come next in this growing pattern.

3. Figure out the missing numbers in each pattern and write the rule.

a 72 63 ☐ 45 36 ☐   b 81 73 65 ☐ ☐ ☐
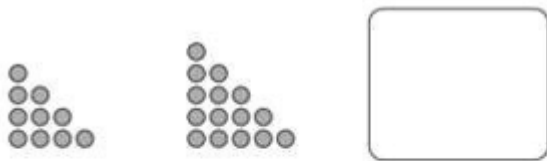
Rule: _____   Rule: _____

4. A snail crawls at a steady rate of 8 cm every 10 minutes. How far will it crawl in 25 minutes?

5. Linda received R483 for her birthday. She decided to save one third of her money, and spend the rest on a new pair of shoes. How much did her shoes cost?

Number	Assessment
1.	493 725 X 1 = _____
2.	Give the factors of 15. _____
3.	Add 116 724 and 293 271
4.	Write the following decimals in a descending order (largest to smallest). 1,22; 6,25; 1,28; 8,01; 7,01 _____
5.	Complete the pattern 2; 5; 9; 14; _____ ; _____ ; 35

SM Assessment 8

Number	Assessment
1.	What is the value of the underlined digit in 23 880 307?

A   8

B   800 000

C   8 000

D   80 000

2.   Which number is 200 000 more than 547 893?

A   567 893

B   547 895

C   747 893

D   569 893

3.   Which number sentence has the lowest value?

A $2 \times 5 + 1 \times 3 + 0$

B $2 + 5 \times 1 + 3 \times 0$

C $2 + 5 + 1 + 3 + 0$

D $2 \times 5 \times 1 \times 3 \times 0$

4. Using each of the following digits once, what is the smallest 5-digit number you can make?

3 ; 2 ; 9 ; 7 ; 0

A   32 970

B   23 970

C   2 379

D   20 379

5. Which of the following numbers would be 2nd if they were arranged from smallest to largest?

90 009, 99 009, 90 909, 90 090, 9 000

A   90 009
B   99 009
C   90 909
D   90 090

SM Assessment 9

Number	Assessment
1.	**Complete the following:**

a. 100 000 + 30 000 + 4 000 + 200 + 90 + 7 = _____

b. 100 000 + 80 000 + 2 000 + 100 + 70 + 5 = _____

2. Write these numbers in words.

a. 542 618   b. 214 037   c. 447 182

3. . What is the place value of the 3 in each of these numbers?

a. 346 514   b. 280 378   c. 983517   d. 147 832

4. . Compare these numbers. Write both numbers down and insert > < or =.

a. 155 645 * 155 654   b. 101 111 * 101 110   c. 773 575 * 773 575

5. Arrange these numbers from smallest to biggest.

a. 66 651; 65 561; 65 651; 66 156; 66 615

b. 158 158; 158 851; 185 851; 158 815; 185 581

Underline the even numbers in green.

Number   Assessment

1.   Complete the pattern below.
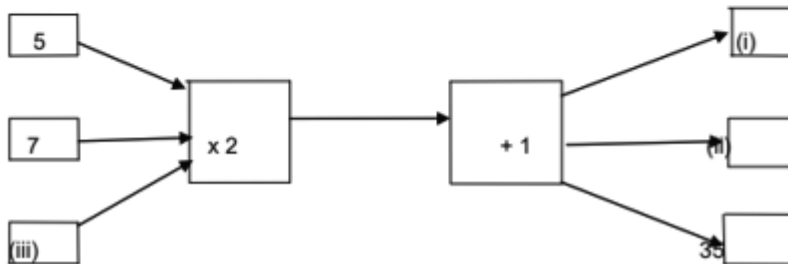
Diagram 1   Diagram 2   Diagram 3

2.

| 5 |
| 7 |
| x 2 |
| + 1 |
| (i) |
| (ii) |
| (iii) |
| 35 |

3.   Figure out the missing numbers in each pattern and write the rule.

a   72   63   [ ]   45   36   [ ]   b   81   73   65   [ ][ ][ ]

Rule: _____   Rule: _____

4.   Complete these number patterns, by following the rules written in the diamond shapes. Describe the rule underneath.

3   ⟨+5 x 2⟩   [ ]   ⟨+5 x 2⟩   [ ]   ⟨+5 x 2⟩   [ ]

The rule is _____

5.   Can you predict the number pattern below.

A flower has 7 petals. How many petals are there in a bunch of 10 flowers?

Flowers	1	2	3	4	5	10
Number of petals	7	14				

36

Number Assessment

1. Complete the table for each sequence of matchstick shapes and find the number of matchsticks needed for the 10th shape.

a
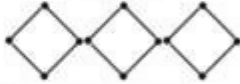
Shape 1	Shape 2	Shape 3

Shape number	1	2	3	4	5	10
Number of matchsticks	4					

2.

5 3 8 9 4

Write the number in words.

_____

3. Complete the following flow diagram.

a

IN	RULE: ×8	OUT
3		
4		
7		
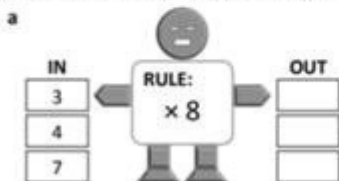
4. 1. Copy and complete each number line.

a.

12 000   11 800   11 000

213 395   213 495   213 795
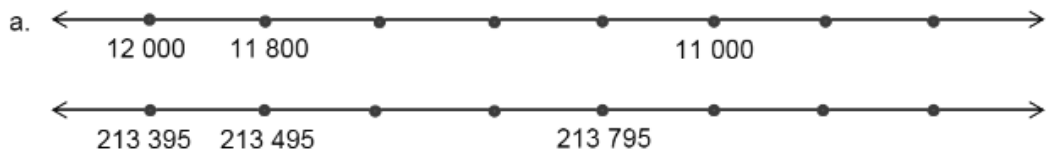
5. Write these words as numbers.

a. Two hundred and seven thousand five hundred and sixty eight.

b. Six hundred and twenty four thousand nine hundred and seventy.

SM Assessment 12

Number	Assessment
1.	What is 478 598 rounded off to the nearest 1 000?

A   479 000

B   478 000

C   479 500

D   500 000

2.   What are the 1st 5 prime numbers?

A   1 ; 2 ; 3 ; 5 ; 7

B   2 ; 3 ; 5 ; 7 ; 9

C   2 ; 3 ; 5 ; 7 ; 11

D   3 ; 5 ; 7 ; 11 ; 13

3.   Which of the numbers listed below are multiples of 3 and 4?

1 ; 2 ; 3 ; 4 ; 6 ; 8 ; 9 ; 12 ; 15 ; 16 ; 18 ; 20 ; 21 ; 24

A   12 ; 24

B   1 ; 2 ; 4

C   4 ; 8 ; 12 ; 16 ; 20 ; 24

D   12

4.   Which fraction has the highest value?

A $\frac{7}{10}$

B $\frac{2}{5}$

C $\frac{1}{2}$

D $\frac{4}{5}$

5.   Which option shows a fraction, decimal and percentage that are all equivalent?

A $\frac{5}{10}$; 0,5 ; 5%

B $\frac{1}{2}$; 0,5 ; 50%

C $\frac{1}{2}$; 1,2 ; 12%

D $\frac{1}{2}$; 0,5 ; 5%

Number   Assessment

1.   **Complete the following using the first question to guide you.**

a. 145 342 = 1 hundred thousand + 4 ten thousands + 5 thousands + 3 hundreds + 4 tens + 2 units

b. 178 901 =

c. 134 005 =

2.   **Arrange the numbers from the smallest to the biggest.**

a. 113 432, 113 234, 113 324

b. 122 221, 122 122, 122 212

c. 110 456, 100 456, 101 456

3.   **Fill in < or >.**

a. 128 394 _____ 128 349   b. 199 999 _____ 99 999

c. 199 990 _____ 199 099   d. 138 389 _____ 183 839

4.   **Complete the following using these digits:**

1 2 6 3 8 4

a. Using each digit once, make the smallest 6–digit number:

b. Using each digit once, make the largest 6–digit number:

5.   54 – 36 ÷ 9

SM Assessment 14

Number	Assessment

1. What is the next number in this sequence?

0,3 ; 0,5 ; 0,7 ; 0,9 ; ......

A 0,11
B 1,11
C 1,1
D 1,01

2. If this pattern is repeated, what will the 23rd shape in the sequence be?

A

B

C

D

3. **Look at the numbers carefully below. Some numbers are written incorrectly. Rewrite the numbers correctly.**

(a) 56 908 _____

(b) 67893 _____

(c) 10000 _____

4. 395 206 + 213 671

5. **1. Round the following numbers off to the nearest ten using the number lines provided.**

a. 23 489

23480   23490

b. 78 373

78 370   78 380
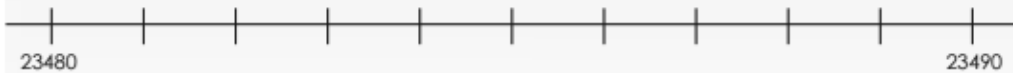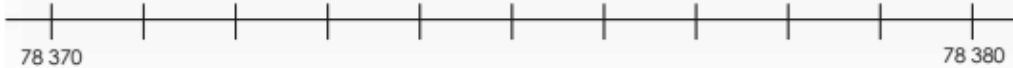
SM Assessment 15

Number	Assessment
1.	3. Round off the following to the nearest five minutes, using a clock. We have started the first one for you.

03:04 ≈ 03:05

or

15:04 ≈ |
| 2. | Calculate the following using both methods.

a. $(2 + 3) \times (5 + 1)$

b. $(4 + 2) \times (6 + 5)$ |
| 3. | Write the following numbers in expanded notation.

Examples:
- $325 = 300 + 20 + 5$
- $108 = 100 + 8$
- $7\ 642 = 7\ 000 + 600 + 40 + 2$
- $4\ 362 = 4\ 000 + 300 + 60 + 2$

a. 6 186

b. 3 425

c. 5 659

d. 2 345 |
| 4. | 666 888 − 438 207 |
| 5. | $2\frac{2}{17} + 6\frac{9}{17}$ |

SM Assessment 16

Number   Assessment

1.   Fill in the rule and missing input and output values for the following flow diagram:
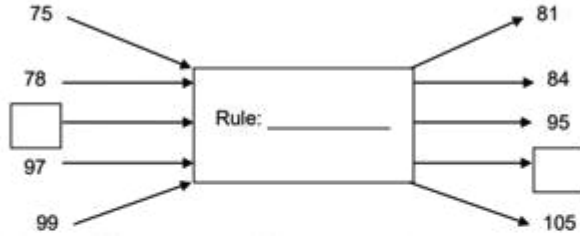
2.   Complete the table based on the pattern below:

Pattern 1   Pattern 2   Pattern 3
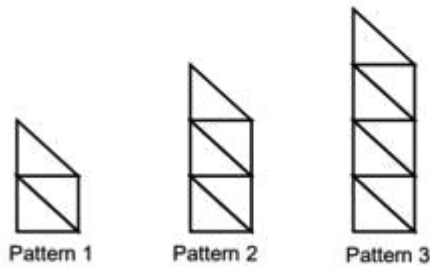
Pattern number	1	2	3	4	12	
Number of triangles	3	5	7			59

3.   Insert the missing factor in each below.

36

☐ × 36 = 36

2 × ☐ = 36

☐ × 12 = 36

4 × ☐ = 36

☐ × 6 = 36

The factors of 36 are _____
_____

4.   Mrs. Paul has 40 books to donate to classrooms at school. How many books will each classroom get if there are?

(a)   2 classrooms _____

(b)   4 classrooms _____

5.   **Write the factors for the number shown on each rainbow below.**
Draw a line to connect the pairs of factors.
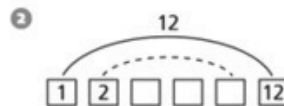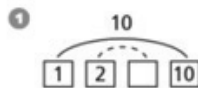
①   10   ②   12

1 2 ☐ 10   1 2 ☐ ☐ ☐ 12

Number   Assessment

1.

a. $\bigcirc = \bigcirc \quad \frac{1}{3} + \bigcirc \square$

b. $\bigcirc = \bigcirc \quad \frac{1}{4} + \bigcirc \square + \bigcirc \square$

c. $\bigcirc = \bigcirc \quad \frac{1}{5} + \bigcirc \square + \bigcirc \square + \bigcirc \square$
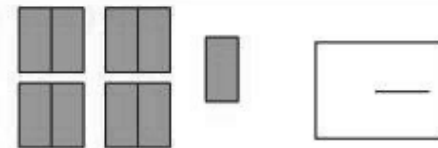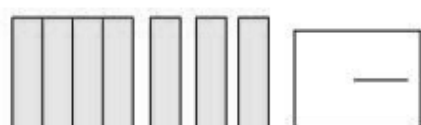
2.   a. $\frac{1}{4} + \frac{2}{4} = \boxed{\frac{3}{4}}$ b. $\frac{6}{10} + \frac{2}{10} = \boxed{}$ c. $\frac{7}{8} - \frac{3}{8} = \boxed{}$

3.

At the party I ate $\frac{2}{12}$ of a pizza, my friend had $\frac{1}{12}$ and my big brother had $\frac{4}{12}$ of the same pizza. How much pizza did we eat altogether? Show your answer. Show your answer on a separate piece of paper.

4.   Write it as a mixed number:

a. $\boxed{1\frac{2}{5}}$

b. $\boxed{\dfrac{}{}}$

c. $\boxed{\dfrac{}{}}$

d. $\boxed{\dfrac{}{}}$

5.   a. $\frac{3}{4} + \frac{1}{4} =$ b. $\frac{2}{5} + \frac{1}{5} =$ c. $\frac{4}{7} + \frac{1}{7} =$

SM Assessment 18

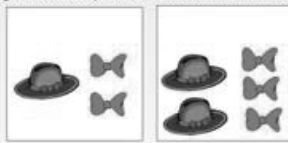| Number	Assessment
1.	3.1) 8 932 x 72 = A = _____ = _____ = _____ = _____ = _____ = _____ A = _____
2.	**Question 4: Factors and Prime numbers** 4.1) 1; 3; 5; 9 and 45 are factors of 45. Which factor of 45 is missing from the list? _____ 4.2) List all the prime numbers between 9 and 20 _____
3.	Insert the missing factor in each below. 36 □ × 36 = 36 2 × □ = 36 □ × 12 = 36 4 × □ = 36 □ × 6 = 36 The factors of 36 are _____ _____
4.	In five years' time Heidi will be exactly double the age of her brother. Her brother has just turned 3 years old. How old is Heidi today? (4)
5.	**Complete the following:** a. Change the numbers to make them equal. b. Write down an addition sum for each. c. Write a multiplication sum for each. i. 7 000, 8 000, 9 000 ii. 40 000, 50 000, 60 000 a. [ ] a. [ ] b. [ ] b. [ ] c. [ ] c. [ ]

Number Assessment
1. Add something to the second picture so that the ratio is the same for both pictures.

2.

x 12	3	4	5	6	7	8	9	10	11	12

3.

10 ÷ 2		4 ÷ 1		50 ÷ 5		2 ÷ 1		18 ÷ 2		35 ÷ 5	
45 ÷ 5		3 ÷ 1		16 ÷ 4		5 ÷ 1		12 ÷ 4		28 ÷ 4	

4. **Solve the problems.**

a. 378 children attended the sport event. Each spent R35. How much money did they spend altogether?

5.

9 999 people each had1 litre of milk each day for a week. How much milk did they drink altogether?

SM Assessment 20

Number Assessment
1. **Answer <, > or =**

a. 194 578 _____ 184 587

b. 14 680 _____ 15 680

2. **Write the following in numbers:**

a. One hundred and sixty five thousand three hundred and twenty one.

[ ]

3. **Write in words**

a. 123 633 _____

b. 105 128 _____

4.

a. 90 000 + 5 000 + 800 + 20 + 5 = _____

b. 70 000 + 1 000 + 500 + 80 + 9 = _____

5. **Complete the table below. The first one has been done for you.**

_____ is divisible by:	Circle the correct number(s).
a. 150	②③ 4 ⑤ 6 8 9 ⑩
b. 225	2 3 4 5 6 8 9 10
c. 7 168	2 3 4 5 6 8 9 10
d. 9 042	2 3 4 5 6 8 9 10
e. 35 120	2 3 4 5 6 8 9 10