PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)

MATHEMATICS

GRADE 6 TERM 1

2022

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

Department of Basic Education 222 Struben Street, Pretoria

Call Centre: 0800 202 933 callcentre@dbe.gov.za

Switchboard: 012 357 3000

basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL EDUCATION COLLABORATION TRUST

Read to Lead

CONTENTS

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 1.
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 1, 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 1 Planner and Tracker has 47 teaching and learning days, of which 15 days are used for formative and summative Assessment days.
- NECT Term 1 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 10 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 9.

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 1	Week 1 3 days	Week 2 5 days	Week 3 5 days	Week 4 5 days:	Week 5 5 days	Week 6 5 days	Week 7 5 days	Week 8 5 days	Week 9 4 days	Week 10 3 days
Hours per week	3 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	6 hrs.	5 hrs.	3 hrs.
Hours per topic	3 hrs.	6 hrs.	12 hrs.		12 hrs.		2 hrs	12 hrs.		6 hrs.
Topics, concepts and skills	REVISION OF GRADE 5 WEEK	**WHOLE NUMBERS:** **Counting, ordering, comparing, representing and place value (6 – 9 digit numbers)** • Order, compare and represent numbers up to at least 9-digit numbers • Represent prime numbers to at least 100 • Recognize the place value of digits in whole numbers to at least 9-digit numbers • Round off to the nearest 5, 10, 100 and 1 000	**ADDITION AND SUBTRACTION:** **Number range for calculations** • Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** • Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding, subtracting in columns – building up and breaking down numbers – rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator **Properties of whole numbers** • Recognize and use the commutative; associative; distributive properties of whole numbers • 0 in terms of its additive property **Solving problems** • Solve problems involving whole numbers and decimal fractions, including: – financial contexts – mmeasurement contexts	**WHOLE NUMBERS: Multiplication** **Number range for calculations** • Multiplication of at least whole **4-digit by 3-digit numbers** • Multiple operations on whole numbers with or without brackets **Calculation techniques include** • Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – multiplying in columns – building up and breaking down numbers – doubling and halving – using multiplication and division as inverse operations – using a calculator **Number range for multiples and factors** • Multiples of 2-digit and 3-digit numbers • Factors of 2-digit and 3-digit whole numbers • Prime factors of numbers to at least 100 **Properties of whole numbers** • Recognize and use the commutative; associative; distributive properties of whole numbers • 1 in terms of its multiplicative property **Solving problems** • Solve problems involving whole numbers and decimal fractions, including: – financial contexts – measurement contexts • Solve problems involving whole numbers, including: – comparing two or more quantities of the same kind (ratio) – comparing two quantities of different kinds (rate)	**FORMAL ASSESSMENT TASK** **ASSIGNMENT** Counting, ordering, comparing, representing and place value Addition and subtraction Multiplication	**WHOLE NUMBERS: Division** **Number range for calculations** • Division of at least whole 4-**digit by 3-digit numbers** • Multiple operations on whole numbers with or without brackets **Calculation techniques** • Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – between multiplication and division – long division – building up and breaking down numbers – doubling and halving – using multiplication and division as inverse operations – using a calculator **Number range for multiples and factors** • Multiples of 2-digit and 3-digit numbers • Factors of 2-digit and 3-digit whole numbers • Prime factors of numbers up to at least 100 **Properties of whole numbers** • Recognize and use the commutative; associative; distributive properties of whole numbers • 1 in terms of its multiplicative property **Solving problems** • Solve problems involving whole numbers and decimal fractions, including: – financial contexts – measurement contexts • Solve problems involving whole numbers, including: – comparing two or more quantities of the same kind (ratio) – ccomparing two quantities of different kinds (rate) grouping and equal sharing with remainders	**FORMAL ASSESSMENT TASK** **TEST** All topics

CORE QUESTIONS	DID ALL LEARNERS MASTER 2021 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 1: Implement DBE Baseline assessments or see exemplar in Planner and Tracker or any similar diagnostic – Based on 2021 Grade 5 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.

10 – 14 January 2022

Week 1					
Lesson	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
1	No Learners at School				
2	No learners at school				
3	Revision: Diagnostic	Baseline: (Revision, consolidation of Grade 5 skills)			
4	Revision: Remediation	Baseline: Remediation – error analysis			
5	Revision	Base ten counting Place value – working with numbers Writing in expanded form Write numbers in words	Bk 1 No. R1a (pp. ii & iii) No. R1b (pp. iv & v) No. R2a (pp. vi & vii) No. R2b (pp. viii & vix)		
6	Revision	Complete number patterns Addition and subtraction of numbers Counting backwards and forwards Working with multiples Complete number boards Multiplication of numbers Estimating numbers	Bk 1 No. R3a (pp. x & xi) No. R3b (pp. xii & xiii) No. R4a (pp. xiv & xv) No. R4b (pp. xvi & xvii)		

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: • Base ten counting • Place value – working with numbers • Writing in expanded form • Write numbers in words • Complete number patterns • Addition and subtraction • of numbers	What will you change next time? Why? **Struggling Learners Names:** **HOD:** **Date:**

• Counting backwards and forwards • Working with multiples • Complete number boards • Multiplication of numbers • Estimating numbers	

17 - 21 January 2022

Week 2					
Lesson	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
7	WHOLE NUMBERS: Counting, ordering, comparing and representing, and place value of digits -Order, compare and represent numbers to at least 9-digit numbers	Counting and representing numbers Matching numbers	Bk 1 No. 1a (pp. 2–3) No. 1b (pp. 4-5)		
8	WHOLE NUMBERS: Counting, ordering, comparing and representing, and place value of digits -Recognize the place value of digits in whole numbers to at least 9-digit numbers	Apply place value to write numbers Use expanded notation Give value of underlined digit	Bk 1 No. 2 (pp. 6-7) No. 3 (pp. 8-9)		
9	WHOLE NUMBERS: Counting, ordering, comparing and representing, and place value of digits -Order, compare and represent numbers to at least 9-digit numbers -Recognize the place value of digits in whole numbers to at least 9-digit numbers	Use expanded notation Apply place-value columns Write numbers in words	Bk 1 No. 25a (pp. 76-77) No. 25b (pp. 78-79)		
10	WHOLE NUMBERS: Counting, ordering, comparing and representing, and place value of digits -Round off to the nearest 5, 10, 100 and 1 000	Round off to nearest 10 using number lines Round off to nearest 100 using number lines Round off to nearest 1000 using number lines Round off to nearest 5 using number lines, clocks	Bk 1 No. 26 (pp. 80-81) No. 27 (pp. 82-83)		
11	WHOLE NUMBERS: Counting, ordering, comparing and representing, and place value of digits -Represent prime numbers to at least 100	List prime numbers List composite numbers Use the prime factor tree	Bk 1 No. 28 (pp. 84-85)		
12	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: • Counting and representing numbers • Matching numbers • Apply place value to write numbers • Use expanded notation • Give value of underlined digit • Use expanded notation • Apply place-value columns • Write numbers in words • Round off to nearest 10 using number lines			What will you change next time? Why? **Struggling Learners Names?** **HOD:**		

• Round off to nearest 100 using number lines • Round off to nearest 1000 using number lines • Round off to nearest 5 using number lines, clocks • List prime numbers • List composite numbers • Use the prime factor tree	**Date:**

24 – 28 January 2022

Week 3					
Lesson	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
13	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** -Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding, subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator	Finding differences between numbers. Order numbers Adding 10, 100, 1000, 10000. Fill in missing numbers. Use expanded method Use partial sums	Bk 1 No. 6a (pp.14-15)		
14	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** -Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding, subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator	Finding differences between numbers. Order numbers Adding 10, 100, 1000, 10000. Fill in missing numbers. Use expanded method Use partial sums	Bk 1 No. 6b (pp. 16-17)		
15	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** -Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding, subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator	Finding differences between numbers. Order numbers subtracting 10, 100, 1000, 10000. Fill in missing numbers. Use expanded method Use partial differences	Bk 1 No. 7a (pp. 18-19)		
16	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** -Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: –	Finding differences between numbers. Order numbers subtracting 10, 100, 1000, 10000. Fill in missing numbers.	Bk 1 No. 7b (pp. 20-21)		

	estimation – adding, subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator	Use expanded method Use partial differences			
17	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** -Addition and subtraction of whole numbers with at least 5-digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding, subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator	Add and subtract from a given number. Use inverse operations Add numbers Subtract numbers Add and subtract in context	Bk 1 No. 8a (pp. 22-23)		
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: • Finding differences between numbers. • Order numbers • Adding 10, 100, 1000, 10000. • Fill in missing numbers. • Use expanded method • Use partial sums • subtracting 10, 100, 1000, 10000. • Use partial differences • Add and subtract from a given number. • Use inverse operations • Add numbers • Subtract numbers • Add and subtract in context • Balancing equations • Use properties to find perimeters. • Use properties to solve equations • Substitute and solve the sums • Solve using values for objects • Use the math properties to solve	What will you change next time? Why? **Struggling Learners names:** **HOD:** **Date:**

31 January – 4 February 2022

Week 4					
Day	**ATP Content**	**CAPS content, concepts, skills**	**DBE workbook**	**Resources**	**Date**
19	WHOLE NUMBERS: Addition & Subtraction **Number range for calculations** - Addition and subtraction of whole numbers with at least 5- digit and 6-digit numbers **Calculation techniques** - Using a range of techniques to perform and check written and mental calculations with whole numbers including: – estimation – adding,	Add and subtract from a given number. Use inverse operations Add numbers Subtract numbers Add and subtract in context	Bk 1 No. 8b (pp. 24-25)		

	subtracting in columns –building up and breaking down numbers –rounding off and compensating – using a number line – using addition and subtraction as inverse operations – using a calculator				
20	WHOLE NUMBERS: Addition & Subtraction **Properties of whole numbers** - Recognize and use the commutative; associative; distributive properties of whole numbers - 0 in terms of its additive property	Balancing equations Use properties to find perimeters. Use properties to solve equations Substitute and solve the sums	Bk 1 No. 4 (pp. 10-11)		
21	WHOLE NUMBERS: Addition & Subtraction **Properties of whole numbers** - Recognize and use the commutative; associative; distributive properties of whole numbers - 0 in terms of its additive property	Solve using values for objects Use the math properties to solve	Bk 1 No. 5 (pp. 12-13)		
22	WHOLE NUMBERS: Addition & Subtraction **Solving problems -s**olve problems involving whole numbers and decimal fractions, including: **-**financial contexts -measurement contexts	Spending and saving money Solve real context problems	Bk 1 No. 55 (pp. 146 - 147)		
23	WHOLE NUMBERS: Addition & Subtraction **Solving problems -s**olve problems involving whole numbers and decimal fractions, including: **-**financial contexts -measurement contexts	Finding capacity Solve capacity in real contexts	Bk 1 No. 64 (pp. 164 - 165)		
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: • Add and subtract from a given number. • Use inverse operations • Add numbers • Subtract numbers • Add and subtract in context • Balancing equations • Use math properties to find perimeters. • Use math properties to solve equations • Substitute and solve the sums • Solve using values for objects • Use the math properties to solve • Spending and saving money • Solve real context problems • Finding capacity • Solve capacity in real contexts	What will you change next time? Why? **Struggling Learners Names**: **HOD:** **Date:**

7 – 11 February 2022

Week 5					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**

25	WHOLE NUMBERS: Multiplication: Number range for calculations -Multiplication of at least whole 4-digit by 3-digit numbers - Multiple operations on whole numbers with or without brackets	Identify multiplication words. Complete multiplication boards Write out multiples of numbers Use distributive prop. Use partial products	Bk 1 No. R4a (pp.xiv – xv) No. 4b. (pp. xvi – xvii)		
26	WHOLE NUMBERS: Multiplication: Number range for calculations Properties of whole numbers -Recognize and use the commutative; associative; distributive properties of whole numbers - 1 in terms of its multiplicative property	Applying properties of maths Matching number sums with properties	Bk 1 No. R6 (pp. xxii – xxiii) No. 4 (pp. 10 – 11) No. 5 (pp. 12 – 13)		
27	WHOLE NUMBERS: Multiplication: Solve problems involving whole numbers, including: -comparing two or more quantities of the same kind (ratio) -comparing two quantities of different kinds (rate)	Apply ratio concept by comparing objects Use ratio symbol Apply rate concept Use the “per” symbol	Bk 1 No. 7a (pp. xxiv – xxv) No. 7b (pp. xxvi – xxvii)		
28	WHOLE NUMBERS: Multiplication: Number range for multiples and factors - Multiples of 2-digit and 3-digit numbers -Factors of 2-digit and 3-digit whole numbers - Prime factors of numbers to at least 100	List prime numbers List composite numbers Use the prime factor tree. Use breaking down numbers Use column method	Bk 1 No. 28 (pp. 84 – 85)		
29	WHOLE NUMBERS: Multiplication: Calculation techniques include- Using a range of techniques to perform and check written and mental calculations with whole numbers including:-estimation -multiplying in columns - building up and breaking down numbers -doubling and halving-using multiplication and division as inverse operations-using a calculator	Use distributive property. Use grid method Compare the easier flow-diagram Use breaking down numbers	Bk 1 No. 29 (pp. 86 – 87) No. 30 (pp. 88 – 89)		
30	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? ARE THEY ABLE TO: • Identify multiplication words. • Complete multiplication boards • Write out multiples of numbers • Use distributive prop. • Use partial products • Applying properties of maths • Matching number sums with properties • Apply ratio concept by comparing objects • Use ratio symbol • Apply rate concept	What will you change next time? Why? **Struggling Learner names:** **HOD:** **Date:**

• Use the “per” symbol • List prime numbers • List composite numbers • Use the prime factor tree. • Use breaking down numbers • Use column method • Use distributive property. • Use grid method • Compare the easier flow-diagram	

14 – 18 February 2022

Week 6					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
31	WHOLE NUMBERS: Multiplication: Calculation techniques include- Using a range of techniques to perform and check written and mental calculations with whole numbers including:-estimation -multiplying in columns - building up and breaking down numbers -doubling and halving-using multiplication and division as inverse operations-using a calculator	Multiply using expanded approach. Use distributive method. Use vertical column method	Bk 1 No. 31 (pp. 90 – 91)		
32	WHOLE NUMBERS: Multiplication: Calculation techniques include- Using a range of techniques to perform and check written and mental calculations with whole numbers including:-estimation -multiplying in columns - building up and breaking down numbers -doubling and halving-using multiplication and division as inverse operations-using a calculator	Multiply by rounding off Rounding numbers to nearest 10, 100, 1000 Multiply by rounding off the second number.	Bk 1 No. 32 (pp. 92 – 93)		
33	WHOLE NUMBERS: Multiplication: Number range for multiples and factors - Multiples of 2-digit and 3-digit numbers - Factors of 2-digit and 3-digit whole numbers - Prime factors of numbers to at least 100	Use prime numbers Break down composite into prime. Count factors List factors of numbers	Bk 1 No. 43 (pp. 116 – 117)		
34	WHOLE NUMBERS: Multiplication: Solve problems involving whole numbers and decimal fractions, including: -financial contexts - measurement contexts	Saving and spending money. Save money problems in real contexts.	Bk 1 No. 55 (pp. 146 – 147)		
35	WHOLE NUMBERS: Multiplication: Solve problems involving whole numbers and decimal fractions, including: -financial contexts - measurement contexts	Calculate capacity of objects. Find the volume.	Bk 1 No. 63 (pp. 162 – 163)		
36	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? ARE THEY ABLE TO:	What will you change next time? Why? **Struggling Learners Names:**
• Multiply using expanded approach. • Use distributive method. • Use vertical column method • Multiply by rounding off • Rounding numbers to nearest 10, 100, 1000 • Multiply by rounding off the second number. • Use prime numbers • Break down composite into prime. • Count factors • List factors of numbers • Saving and spending money. • Save money problems in real contexts. • Calculate capacity of objects. • Find the volume.	**HOD:** **Date:**

21 – 25 February 2022

Week 7					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
37	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				
38	Revision on work covered				
39	ASSESSMENT TASK ASSIGNMENT Counting, ordering, comparing, representing and place value. Addition and subtraction Multiplication				
40	ASSESSMENT TASK ASSIGNMENT Counting, ordering, comparing, representing and place value. Addition and subtraction Multiplication				
41	ASSESSMENT TASK ASSIGNMENT Counting, ordering, comparing, representing and place value. Addition and subtraction Multiplication				
42	Complete and consolidate the week's assessment and work. **FORMAL ASSESSMENT TASK**				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT ARE THEY ABLE TO MASTER:	What will you change next time? Why? **Struggling Learners Names:**				
	HOD: **Date:**				

28 February – 4 March 2022

Week 8					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
43	WHOLE NUMBERS: **Division** **Number range for calculations**: -Division of at least whole 4- digit by 3-digit numbers - Multiple operations on whole numbers with or without brackets	Identify division words. Write out factors of numbers Use distributive prop.	Bk 1 No R5a (pp. xviii – xix) No. 5b (pp. xx – xxi)		
44	WHOLE NUMBERS: **Division** **Number range for calculations**: -Division of at least whole 4- digit by 3-digit numbers - Multiple operations on whole numbers with or without brackets	Apply BODMAS Simplify by removing brackets first	Bk 1 No R47 (pp. 126 – 127)		
45	WHOLE NUMBERS**: Division** **Calculation techniques:** Using a range of techniques to perform and check written and mental calculations with whole numbers including:**-**estimation **-**between multiplication and division **-**long division -building up and breaking down numbers -doubling and halving- using multiplication and division as inverse operations-using a calculator	Grouping and sharing numbers. Making groups of numbers equal. Calculate groups of different sizes Use divisibility rules Connecting division to addition and multiplication	Bk 1 No 40a (pp. 108 – 109) No. 40b (pp. 110 – 111)		
46	WHOLE NUMBERS**: Division** **Calculation techniques:** Using a range of techniques to perform and check written and mental calculations with whole numbers including:**-**estimation **-**between multiplication and division **-**long division -building up and breaking down numbers -doubling and halving- using multiplication and division as inverse operations-using a calculator	Grouping and sharing numbers/objects. Making groups of numbers equal. Calculate groups of different sizes Use divisibility rules Grouping on the number line	Bk 1 No 44a (pp. 118 – 119) No. 44b (pp. 120 – 121)		
47	WHOLE NUMBERS**: Division** **Calculation techniques:** Using a range of techniques to perform and check written and mental calculations with whole numbers including:**-**estimation **-**between multiplication and division **-**long division -building up and breaking down numbers -doubling and halving- using multiplication and division as inverse operations-using a calculator	Apply divisibility rules Estimate first, then calculate. Draw pics to help with calculations. Share equally and note remainders. Apply long division	Bk 1 No 45 (pp. 122 – 123) No. 46 (pp. 124 – 125)		
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? Struggling Learners Names:
• Identify division words. • Write out factors of numbers • Use distributive prop. • Apply BODMAS • Simplify by removing brackets first • Making groups of numbers equal. • Calculate groups of different sizes • Use divisibility rules • Connecting division to addition and multiplication • Grouping and sharing numbers/objects. • Making groups of numbers equal. • Calculate groups of different sizes • Grouping on the number line • Estimate first, then calculate. • Draw pics to help with calculations. • Share equally and note remainders. • Apply long division	**HOD:** **Date:**

7 – 11 March 2022

Week 9					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
49	WHOLE NUMBERS**: Division** Solve problems involving whole numbers, including:-comparing two or more quantities of the same kind (ratio) -comparing two quantities of different kinds (rate).	Apply rate concept Complete a table based on rate. Solve real problems using rate.	Bk 1 No. 41 (pp. 112 – 113)		
50	WHOLE NUMBERS**: Division** Solve problems involving whole numbers, including:-comparing two or more quantities of the same kind (ratio) -comparing two quantities of different kinds (rate).	Apply ratio concept Draw pictures to show ratios. Solve real problems using ratio.	Bk 1 No. 42 (pp. 114 – 115)		
51	WHOLE NUMBERS**: Division** Number range for multiples and factors-Multiples of 2-digit and 3-digit numbers -Factors of 2-digit and 3-digit whole numbers -Prime factors of numbers to at least 100	List prime factors. List composite numbers. List factors and number factors.	Bk 1 No. 43 (pp. 116-117)		
52	WHOLE NUMBERS**: Division** Solving problems- Solve problems involving whole numbers and decimal fractions, including: -financial contexts - measurement contexts	Solve capacity and volume problems Solve using measuring stick with decimals	Bk 1 No. 48 (pp. 128 – 129) No. 49 (pp. 130 – 131)		
53	Revision on covered work				
54	Revision on covered work				
Reflection					
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? WHAT SKILLS ARE THEY ABLE TO MASTER?	What will you change next time? Why?				

• Apply rate concept • Complete a table based on rate. • Solve real problems using rate. • Apply ratio concept • Draw pictures to show ratios. • Solve real problems using ratio. • List prime factors. • List composite numbers. • List factors and number factors. • Solve capacity and volume problems • Solve using measuring stick with decimals	**HOD:** **Date:**

14 – 17 March 2022 (Four-day week)

Week 10					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
55	FORMAL ASSESSMENT TASK Test All topics				
56	FORMAL ASSESSMENT TASK Test All topics				
57	FORMAL ASSESSMENT TASK Test All topics				
58	FORMAL ASSESSMENT TASK Test All topics				
59	END OF TERM				
60	END OF TERM				

Reflection	
Identify some skills that need revising during the next term in 2022	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	**Formal Assessment Task:** **Assignment**
6	**Tuesday** Skills mastery Assessment 9 **Thursday** Skills mastery Assessment 10	
7	**Tuesday** Skills mastery Assessment 11 **Thursday** Skills mastery Assessment 12	
8	**Tuesday** Skills mastery Assessment 13 **Thursday** Skills mastery Assessment 14	
9	**Tuesday** Skills mastery Assessment 15 **Thursday** Skills mastery Assessment 16	TEACHERS REVISION PROGRAMME
10		**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: EXEMPLAR

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.

1. Fill in <, >, or = in the underlined space so that the number sentence is correct:
   a) 5×3 ____ $1\,500 \div 100$ (1)
   b) $(2 \times 10\,000) + (8 \times 1\,000) + (5 \times 100) + (6 \times 10) + (3 \times 1)$ _____ 25 863 (1)

2. Calculate $250 - (32 \times 0) + (60 \div 5 \times 1)$

   .....

   .....

   ..... (3)

3. What is the value of the underlined digit in the following numbers:
   a) 9<u>6</u>7 677 ..... (1)
   b) <u>3</u>25 632 117 ..... (1)

4. The following table gives the population of some of the municipalities in South Africa in 2011:

MUNICIPALITY	POPULATION IN 2011
Nelson Mandela Bay (Port Elizabeth)	776 225
Johannesburg	4 434 827
uMhlathuze (Richards Bay and Empangeni)	252 968
eThekwini (Durban)	3 442 361
Ga-Segonyana (Kuruman)	93 651

www.statssa.gov.za

   a) Write the population of Johannesburg in words.

      .....

      ..... (1)

   b) Arrange the populations of the 5 municipalities in descending order.

      .....

      ..... (3)

   c) Which municipalities have a population of less than half-a-million?

      .....

      .....

(2)

5. Calculate: $3\frac{1}{8} - 2\frac{1}{2}$

.....

.....

.....

..... (4)

6. Thandi must choose between a half of 154 Smarties or a quarter of 280 Smarties. (3)

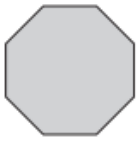
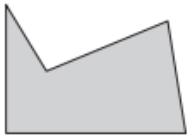
Which choice will give her the most Smarties?
Show your working out.

.....

.....

7. Complete the table showing two polygons

a)

	Type of Polygon	Number of acute angles Number of obtuse angles
	Type of Polygon	Number of acute angles Number of right angles Number of reflex angles

(4)

8. Mr Radebe has R50 000.
He buys a fridge for R33 999.

Fridge R33 999

Television set R16 850

a) Does he have enough money to buy a television set which costs R16 850?

Show all your calculations in the space below. (2)

b) How much money will he have over or will he be short of? (2)

SOLUTIONS AND MEMORANDUM

	EXPECTED ANSWERS	Marks and comments	COGNITIVE LEVELS
1a	= ✓	1	K
1b	< ✓	1	K
2	250 – (32 × 0) + (60 ÷ 5 × 1) = 250 – 0 ✓ + 12 ✓ = 262 ✓	3	RP
3a	60 000 or 6 TTh or 6 × 10 000 ✓	1	K
3b	300 000 000 or 3 HM or 3×100 000 000 ✓	1	K
4a	Four million, four hundred and thirty four thousand, eight hundred and twenty seven ✓	1	K
4b	93 651 252 968 776 225 3 442 361 4 434 827 ✓ for the order being ascending ✓✓ for getting the numbers in the correct order	3	RP
4c	uMhlathuze (Richards Bay and Empangeni) ✓ Kuruman ✓	2	K

	EXPECTED ANSWERS	Marks and comments	COGNITIVE LEVELS
5	$3\frac{1}{8} - 2\frac{1}{2}$ $= \frac{25}{8} - \frac{5}{2}$ ✓✓ (one for each improper fraction) $= \frac{25}{8} - \frac{20}{8}$ ✓ (one for $\frac{20}{8}$) $= \frac{5}{8}$ ✓ (one for answer)	4	RP
	OR		
	$3\frac{1}{8} - 2\frac{1}{2}$ $= 3 + \frac{1}{8} - 2 + \frac{1}{2}$ ✓ (one for splitting up) $= 2 + 1 + \frac{1}{8} - 2 - \frac{4}{8}$ ✓ (one for changing $\frac{1}{2}$) $= 2 + \frac{9}{8} - 2 - \frac{4}{8}$ ✓ (one for changing 1) $= \frac{5}{8}$ ✓ (one for answer)		
	OR		
	$2\frac{1}{3} + \frac{1}{2} = 3$ ✓ (one for adding on $\frac{1}{2}$) $3 + \frac{1}{8} = 3\frac{1}{3}$ ✓ (one for adding on $\frac{1}{8}$) $\frac{1}{2} + \frac{1}{8}$ $= \frac{4}{8} + \frac{1}{8}$ ✓ (one for converting $\frac{1}{2}$ to $\frac{4}{8}$ or for adding over a common denominator) $= \frac{5}{8}$ ✓ (one for answer)		

	EXPECTED ANSWERS	Marks and comments	COGNITIVE LEVELS
6	One half of 154 Smarties $= \frac{154}{2}$ = 77 ✓ One quarter of 280 Smarties $= \frac{280}{4}$ = 70 ✓ One half of 154 Smarties gives more ✓	3	C
7a	NAME OF POLYGON: Octagon ✓ — No. of acute angles: 0 ✓; No. of obtuse angles: 8 ✓	3	RP
7b	NAME OF POLYGON: Pentagon ✓ — No. of acute angles: 3 ✓; No. of right angles: 1 ✓; No. of reflex angles: 1 ✓	4	RP
8a	R50 000 – R33 999 R16 111 ✓ for the correct answer He won't have enough money for a TV ✓	2	P
8b	R16 850 – R16 111 R 739 ✓ for the correct answer He is short of R739 ✓	2	P

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 SKILLS PER 5-ITEM ASSESSMENT

SM Assessment 1	**Growing patterns** **Fill in the missing numbers** **Use a rule to complete a number sequence** **Number sequences: mixed review** **Division and Multiplication**
SM Assessment 2	**Complete the table for each sequence: Find the pattern** **Which number in the pattern comes next?** **Flow Diagram**
SM Assessment 3	**Write numerals and in words** **Write numbers in correct form looking at place value** **Activities to consolidate the Bonds and factors.** **Focus: Repeated addition, leading to multiplication.**
SM Assessment 4	**Rainbow factor method: Using 8** **Multiplication** **Word Problem: Addition**
SM Assessment 5	**HCF** **Label the fraction showing numerator and denominator** **Fill in the missing answers – fractions**
SM Assessment 6	**Addition, subtraction, multiplication and division terms** **Compare decimals** **Order fractions with like numerators or denominators** **Order fractions** **Find smaller or larger fractions**
SM Assessment 7	**Write the next 3 numbers in the patterns given** **Find intervals in number sentences** **Addition patterns over increasing place values** **Choose numbers with a particular sum** **Addition: Fractions**
SM Assessment 8	**Find the lowest common denominator** **Multiples of 5** **Round off up to a million** **Word sum: Money – find difference in price** **Fractions on a number line**
SM Assessment 9	**Division and multiplication** **Associative Property** **Multiple choice: Next number in the pattern** **Word Problem** **Fill in bigger >, smaller < or equal =**
SM Assessment 10	**Prime or composite** **Identify factors** **Prime factorisation**
SM Assessment 11	**Factor tree** **Exponents: Identify the base number and the index** **True and False: Prime**

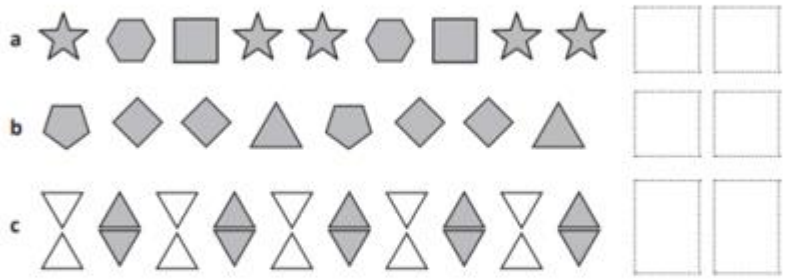
SM Assessment 12	**Draw the hands on the second clock showing the time 25min later** **Make drawings to show multiplication grouping** **Number Operations** **Definitions: addition, subtraction, multiplication and division** **Flow Diagram**
SM Assessment 13	**Exponential form: Addition up to 3 digits** **Write a number in each column: Place value** **Add 300 each time to increase the pattern** **Addition up to 3 digits** **Subtraction up to 4 digits**
SM Assessment 14	**Estimation: Multiplication and grouping** **Flow Diagram: Find the rule** **Find the value of an object to make the sum true**
SM Assessment 15	**Addition, Subtraction Mental Maths** **Find the difference of up to 5-digit numbers** **Adding fractions** **Time: Analogue – 24 hours** **Ratio**
SM Assessment 16	**Identify what fraction is shaded in the objects given** **Number line: Find the fraction** **Equivalent fractions** **Fill in bigger >, smaller < or equal =** **Understanding decimals on a number line**
SM Assessment 17	**Adding fractions to make a whole** **Adding fractions with the same denominator** **Word sum** **Writing fractions in mixed number form**
SM Assessment 18	**Multiple choice based on division** **Arrange the list from least to greatest** **Scientific notation** **Division: Find the reminder**
SM Assessment 19	**Flow diagram: Addition. Find the output** **Multiplication and Division** **Solve the word problems**
SM Assessment 20	**Fill in bigger >, smaller < or equal =** **Number operations** **Write in words** **Patterns**

SKILLS MASTERY EXEMPLARS

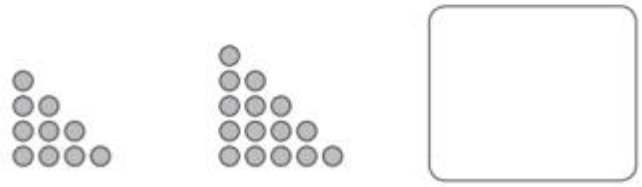
Skills Mastery (SM) Assessment 1

Number Assessment

1. Look at these repeating patterns. Draw the next two shapes.



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

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?

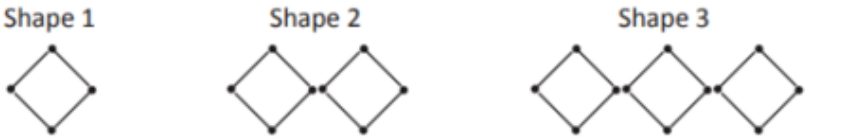
Flowers	1	2	3	4	5	10
Number of petals	7	14				

SM Assessment 2

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 number	1	2	3	4	5	10
Number of matchsticks	4					

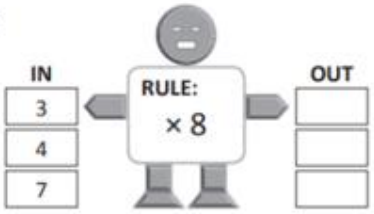
2.

Write the number in words.

_____

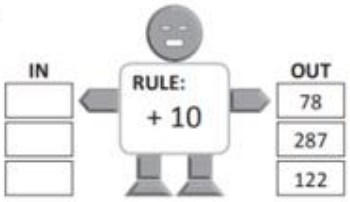
3. Complete the following flow diagram.

a



4.

b



5. **Complete these function tables according to the rule:**

a

Rule: × 8 + 1								
IN	8	2	3	5	7	9	4	6
OUT	65							

SM Assessment 3

Number Assessment

1. **Express the following in numerals. Remember to leave a space after each period.**

   (a) Thirty-two thousand four hundred one _____

   (b) Ninety thousand twelve _____

2. **Write the following in words.**

   (a) 34 567 _____

   (b) 87 900 _____

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

   (a) 56 908 _____

   (b) 67893 _____

   (c) 10000 _____

4.

Statements	Numeral	Words
600 less than 14 000		
10 more than 23 897		

5.

2 and 3 are factors of 6

Circle the number that is **NOT** a factor of the given number.

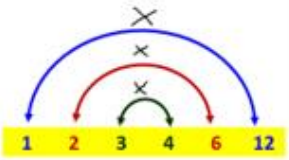
(a) Factors of 14 = 1, 2 , 4, 7, 14

(b) Factors of 16 = 1, 2, 4, 6, 8, 16

SM Assessment 4

Number Assessment

1. **1. Listing factors using a rainbow**



2. Use the rainbow factors and arrays to show the factors of the numbers below:

(a) 8

3. Insert the missing factor in each below.

36

□ × 36 = 36

2 × □ = 36

□ × 12 = 36

4 × □ = 36

□ × 6 = 36

The factors of 36 are _____

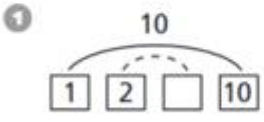
_____

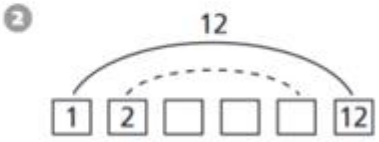
4. Mrs. Paul has 40 books to donate to classrooms at school. How many books will each classroom get if there are?

(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.**





SM Assessment 5

List the HCF of 10 and 16

Factors of 10 = 1, 2, 5, 10

Factors of 16 = 1, 2, 4, 8, 16

Common factors =

Factors of 10 = 1, 2, 5, 10

Factors of 16 = 1, 2, 4, 8, 16

HCF = 2

Number Assessment

1. List the HCF of 18 and 20

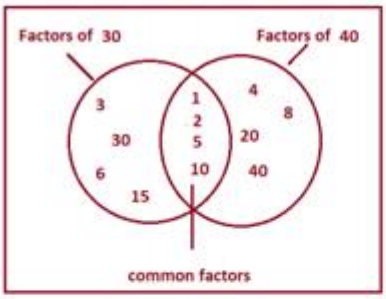
Factors of 18 _____

Factors of 20 _____

Common factors _____

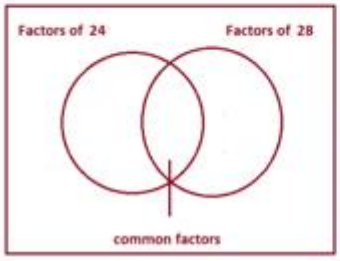
HCF of 18 & 20 = _____

2. Find the HCF of 30 and 40.



HCF = 10

Use the Venn diagram below; insert the factors of 24 and 28 and find the HCF.



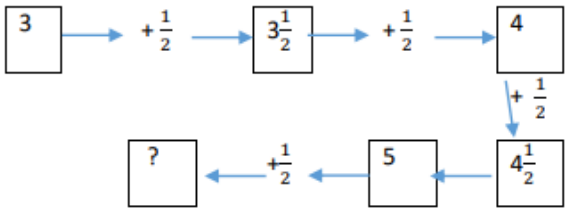
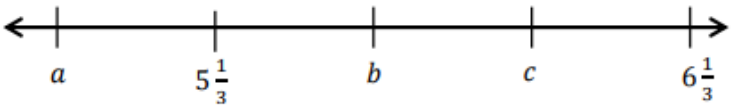
HCF =

3. $\frac{4}{10}+\frac{3}{10}+\frac{2}{10}$

4. $3\frac{4}{5}-\frac{3}{5}$

5. $4\frac{1}{4}+\_\_\_=5\frac{2}{4}$

SM Assessment 6

Number	Assessment
1.	If you put $\frac{5}{10}$ and $\frac{3}{10}$ of a loaf together, what part of a whole loaf do you get?
2.	If you have $\frac{5}{8}$ of a loaf and you eat $\frac{2}{8}$ of the loaf, what part of a whole loaf do you have left?
3.	
4.	Write the number that completes the number sentence. $10 - \_\_\_ = 9\frac{5}{6}$
5.	30. Determine the value of a and b on the number line. 

SM Assessment 7

Number	Assessment
1.	**1. Write the next 3 numbers in each number pattern.** a. 2, 4, 6, 8, 10, 12, 14, 16, … b. 3, 6, 9, 12, 15, 18, 21, …
2.	**2. Write down the number patterns which starts with a:** a. 5 and 3 is added each time b. 3 and 9 is added each time
3.	**3. Find the interval in each of these patterns.** a. 6, 8, 10, 12, 14, ... b. 15, 13, 11, 9, 7, ...
4.	$\frac{1}{10}$ of $\_\_\_\_\_ = 60$
5.	(a) $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \square$

SM Assessment 8

PRACTICE EXAMPLE 1

Find the LCM of 3 and 4.

Multiples of 3 = 3, 6, 9, 12, 16 ... (use skip counting or multiplication facts)

Multiples of 4= 4, 8, 12, 16, 20 ...

Common multiples:

Multiples of 3 = 3, 6, 9, (12), (16)...

Multiples of 4= 4, 8, (12), (16), 20 ...

LCM of 3 and 4 = 12 (this is the smaller of the two numbers)

Number Assessment

1. (a) State the LCM of 4 and 8.

Multiples of 4 =

Multiples of 8 =

Common multiples:

LCM of 4 and 8 =

2. Colour the group of numbers below that shows multiples of 5.

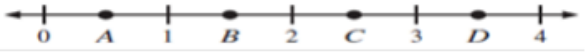
4, 10, 13, 17	7, 27, 37, 47	20, 15, 40, 25	53, 55, 58, 51	50, 20, 80, 10

3. **Complete. Round off as requested:**

	100	1 000	1 000 000	5
254 659	5.1	5.2	5.3	5.4

4. A second hand car dealer has three cars in his showroom. Their **prices** are as follows: R34 500, R39 999 and R22 999. Calculate the total value of the three cars. (3)

5. Which letter indicates $\frac{3}{2}$?



_____

SM Assessment 9

Number	Assessment
1.	1. Solve (without a calculator). **a.** $1{,}035 \div 23$ **b.** 492×832
2.	The next number in the number sequence 213 972 ; 214 972 ; 215 972 ; …, is … A 215 072 B 216 982 C 216 972 D 214 072
3.	Fill in the missing number in each number sentence: 12.1 70 x 8 = 10 x _____ 12.2 17 + 13 + 104 = 13 + 17 + _____ + 4
4.	Emma bought firework rockets. Some rockets exploded into 3 stars and some made 4 stars. How many rockets of each kind were fired to make 15 stars altogether?
5.	**Answer <, > or =** a. 194 578 _____ 184 587 b. 14 680 _____ 15 680 c. 10 900 _____ 10 090

SM Assessment 10

Number Assessment

1. **Complete the table below by:**

   (i) Listing the factors for the given numbers

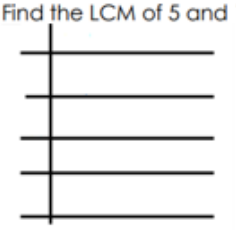
   (ii) Placing a tick to show whether the number is prime or composite.

Number	Factors	Prime	Composite
9			
11			
14			

2. Write two differences between prime and composite numbers.

	Prime Numbers	Composite Numbers
1.		
2.		

3. Find the LCM of 5 and 15 using repeated division.



2	12, 18
2	6, 9
3	3, 9
3	1, 3
	1,1

LCM of 12 and 18 = 2 x 2 x 3 x 3 = 36

4. **Solve this riddle. Explain your answers.**

I am a multiple of 6. I am also a multiple of 4. I am less than 30. Who am I?

_____ or _____ [2 possibilities]

5. Complete the table below by inserting the first 6 multiples of each number. The first one is done for you.

Number	1st	2nd	3rd	4th	5th	6th
6	6	12	18	24	30	36
20						
4						
11						
15						

Use the table and state the:

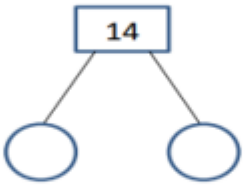
(a) LCM of 6 and 15. _____

(b) LCM of 4 and 20. _____

SM Assessment 11

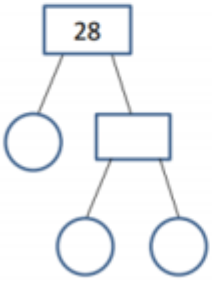
Number Assessment

1. Complete the factor trees below.

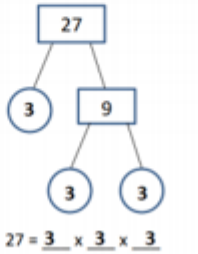


14 = ___ x ___

2.

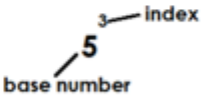


28 = ___ x ___ x ___



27 = 3 x 3 x 3

3^3 (index form)



Index form =

3. Mark X on the number below that has only two factors.

6	17	21	27	30

4. Write **TRUE** or **False** at the end of each statement.

All prime numbers are odd. _____

All composite numbers are divisible by 2. _____

The number of prime numbers between 0 and 10 is 4. _____

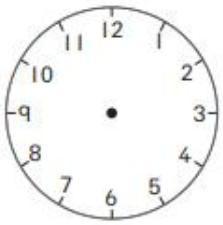
5. State **ONE** reason why 1 is not used on the factor tree.

_____

SM Assessment 12

Number Assessment

1. Draw the hands on the second clock so the time is 25 minutes later.



2. **Write the times in minutes and seconds.**

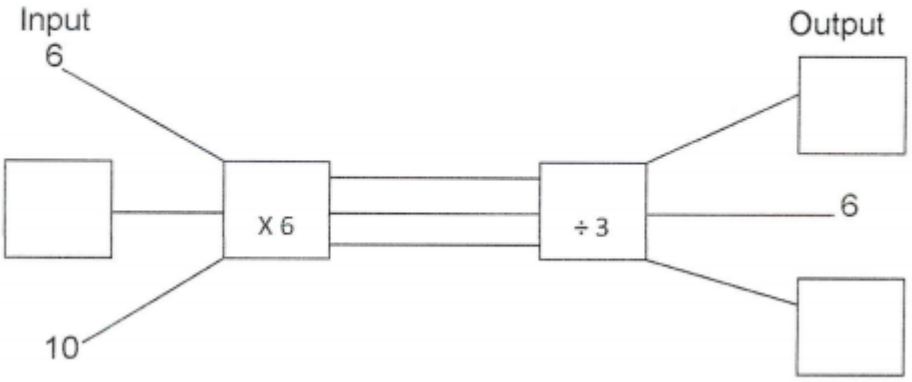
525 seconds _____

3. Which number consists of the following:
6H + 4Th + 2T + 9Tth + 5U

A. 49 625 B. 94 265 C. 49 265 D 94 625

4. Which number comes next in the number pattern 46, 51, 57, 64,
A. 83 B. 69 C. 72 D. 75

5. 2.1 Complete the flow diagram by writing down the answer



SM Assessment 13

Number Assessment

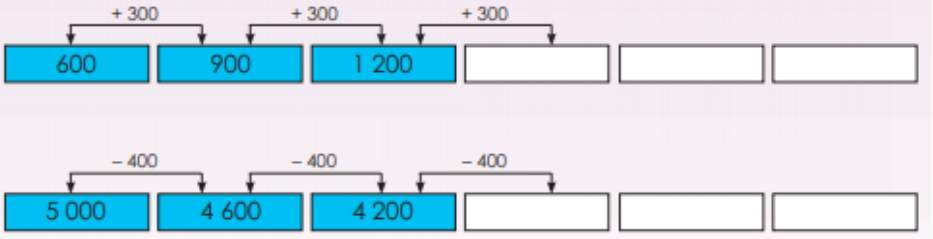
1. 3 0 0 0 + 1 0 0 + 4 0 = _____

_____

2. **2. Write the number in the correct column:**

		Thousands	Hundreds	Tens	Units
a.	387		3	8	7
b.	704				

3. **Complete the pattern**



4. a. 654 + 43 = b. 572 + 317 =

Examples:

Example 1:

5 783 + 129

= 5 000 + 700 + 80 + 3 + 100 + 20 + 9

= 5 000 + 800 + 100 + 12

= 5 000 + 900 + 10 + 2

= 5 912

5. a. 7 182 – 61 = b. 7 546 – 431 =

Example 1:

8 342 – 2 131

= (8 000 – 2 000) + (300 – 100) + (40 – 30) + (2 – 1)

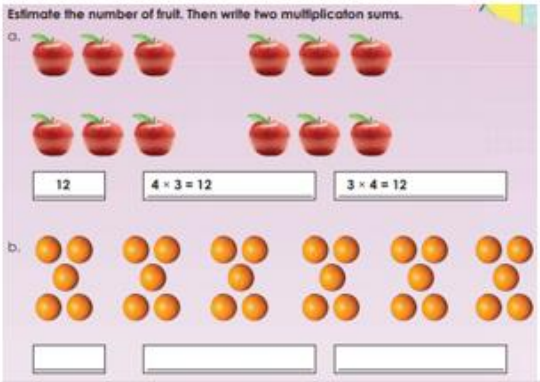
= 6 000 + 200 + 10 + 1

= 6 211

SM Assessment 14

Number Assessment

1.



2.

a. 24 x 3 =

b. 52 x 9 =

56 x 5
= (50 + 6) x 5
= (50 x 5) + (6 x 5)
= 250 + 30
= 280

3.

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	36	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

a. 24 ÷ 6 = 4 or 24 ÷ 4 = 6

b.

4.

5.

What is the value of the in each of these?

a. 7 + 2 = + 7

b. 3 + 9 = + 3

SM Assessment 15

Number Assessment

1.

Colour the cards

Use different colours to colour in those cards that have the same answer.

6 + 8	7 + 3	2 x 9	6 x 8	3 x 7
9 x 2	9 + 2	6 + 5	5 + 6	2 + 9
7 x 3	8 x 6	8 + 6	3 + 7	6 – 5

2. Find the difference between 65 872 and 54 195.

3. $6\frac{1}{4} + 2\frac{2}{4} =$

4. What is the time on the clock below in 24 hours?

5.

What is the ratio of yellow flowers to purple flowers? _____

What is the ratio of pink flowers to purple flowers? _____

What is the ratio of yellow flowers to white flowers? _____

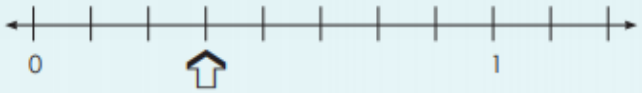
SM Assessment 16

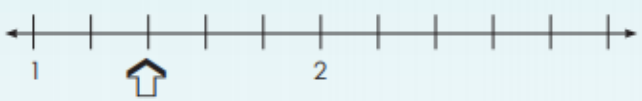
Number Assessment

1. **What fraction of the pictures below have been coloured?**

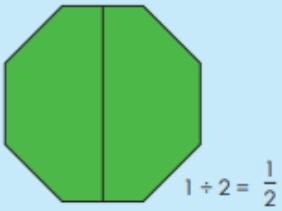
a.  b.  c.  d. 

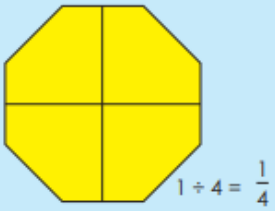
2. **What fraction does the arrow show?**

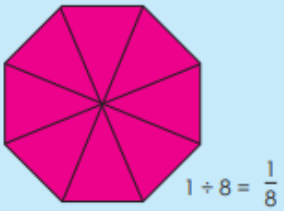
a. 

b. 

3. **Look at the fractions and the sums. Talk about it.**







. Using the above diagrams, write an equivalent fraction for:

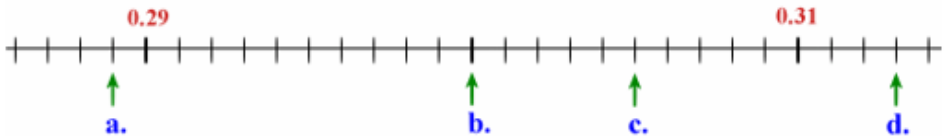
a. $\frac{1}{2} = \frac{2}{4}$ b. $\frac{3}{4} = \square$ c. $\frac{4}{8} = \square$

d. $\frac{2}{4} = \square$ e. $\frac{2}{2} = \square$ f. $\frac{6}{8} = \square$

4. **Fill in < or >.**

a. $\frac{6}{12} < \frac{2}{3}$ b. $\frac{1}{2} \square \frac{2}{6}$ c. $\frac{9}{12} \square \frac{1}{2}$

5. Write the decimals indicated by the arrows.

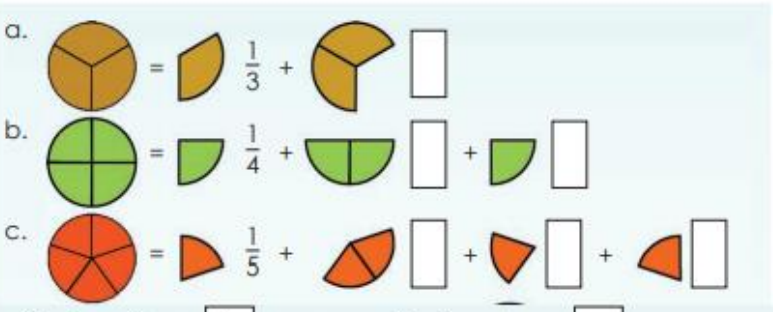


a. _____ **b.** _____ **c.** _____ **d.** _____

SM Assessment 17

Number Assessment

1.



2.

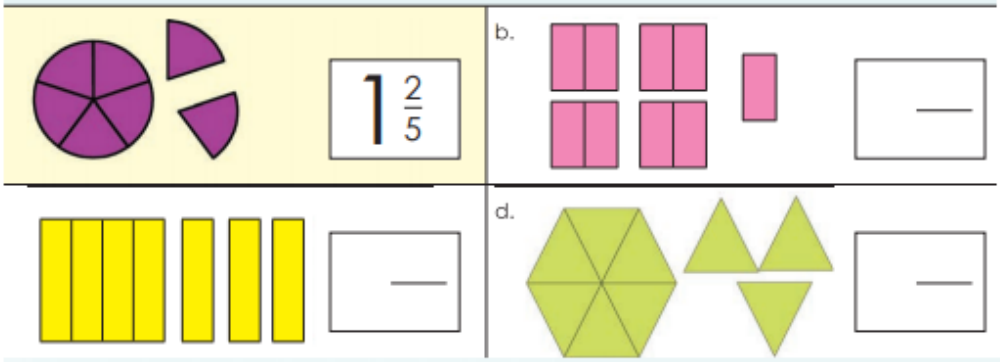
a. $\frac{1}{4} + \frac{2}{4} = \boxed{\frac{3}{4}}$ b. $\frac{6}{10} + \frac{2}{10} = \square$ c. $\frac{7}{8} - \frac{3}{8} = \square$

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:



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. Mrs. Perkins makes study guides for her class of 21 students. She uses 252 sheets of paper. How many sheets of paper are in each study guide?

   A. 12 sheets
   B. 231 sheets
   C. 273 sheets
   D. 5,292 sheets

2. Which list is in order from least to greatest?

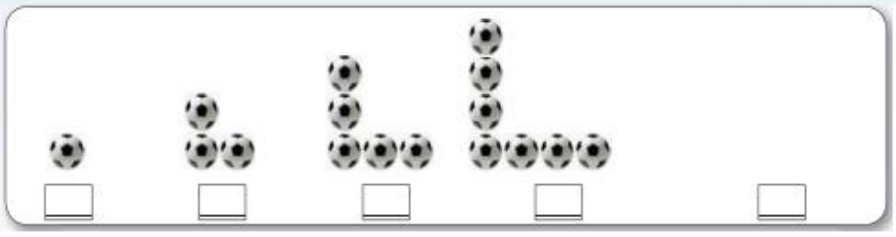
   A. 1,000; 1,010; 1,009
   B. 1,010; 1,011; 1,100
   C. 1,100; 1,010; 1,001
   D. 1,010; 1,100; 1,001

3. What is 3.8 × 10?

   A. 0.38
   B. 3.80
   C. 38
   D. 380

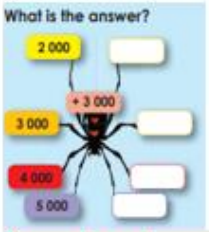
4. **Say in each case whether there is a remainder or not, and if there is, then what it is. Show all your calculations in a writing book or on a piece of paper.**

   a. 338 ÷ 13 = b. 460 ÷ 26 = c. 873 ÷ 58 =

5. 

SM Assessment 19

Number Assessment

1. 

2.

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

3.

	500	475	450	425	400	375	350	325	300	275
÷ 25										

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. **What number comes next? Try this!**

5 → 50 → 500 → 5 000 → ?

3 → 36 → 432 → 5184 → ?