PLANNER & TRACKER FOR RECOVERY ANNUAL TEACHING PLAN (ATP)

MATHEMATICS

GRADE 7 TERM 1

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

2022

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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 7.
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 50 lessons per term, five per week for ten weeks.
- The CAPS prescribes **four and a half hours** of Mathematics per week in Grade 7.

- 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 about an hour per day to complete. Perhaps, at end of week 30 minutes – will be great if this is also an hour.
- 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 four and a half 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 – at the end of the week - for you to catch up on work not done in the previous four 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 **4 and $\frac{1}{2}$** hours allocated for Mathematics per week, the following is a suggested plan for daily lessons.

WEEK: 4 and $\frac{1}{2}$ 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	2.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	4.5 hrs	3.5 hrs	3 hrs
Hours per topic	2.5 hrs.	13.5 hrs.			4.5 hrs	2 hrs.	9 hrs	4 hrs.	2 hrs.	3 hrs
Topics, concepts and skills	REVISION	**WHOLE NUMBERS** • Revise the following: ○ Ordering and comparing whole numbers ○ Properties of operations with whole numbers ○ Calculations using all operations with whole numbers **Calculation techniques** • Use a range of strategies to perform and check written and mental calculations of whole numbers including: – long division – adding, subtracting and multiplying in columns – estimation – rounding off and compensating – using a calculator **Multiples and factors** • List prime factors of numbers to at least 3-digit whole numbers • Find the LCM and HCF of whole numbers by inspection or factorisation **Solving problems** • Solve problems involving whole numbers, including: – Comparing of two or more quantities of the same kind (ratio) – Comparing two quantities of different kinds (rate) – Sharing in a given ratio where the whole is given			**EXPONENTS:** **Mental calculations** • Determine squares to at least 12^2 and their square roots • Determine cubes to at least 6^3 and their cube roots **Comparing and representing numbers in exponential form** • Compare and represent whole numbers in exponential form: $a^b = a \times a \times a \times \ldots$ for b number of factors **Calculations using numbers in exponential form** • Recognize and use the appropriate laws of operations with numbers involving exponents and square and cube roots • Calculations involving all four operations using numbers in exponential form, limited exponents up to 5, and square and cube roots	FORMAL ASSESSMENT TASK **ASSIGNMENT** • Whole numbers • Exponents	**COMMON FRACTIONS:** **Ordering, comparing and simplifying common fractions** • Extend to thousandths **Calculations with fractions** • Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. • Multiplication common fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another. **Calculation techniques** • Convert mixed numbers to common fractions in order to perform calculations with them • Use knowledge of multiples and factors to write fractions in the simplest form before or after calculations. • Use knowledge of equivalent fractions to add and subtract common fractions **Percentages** • Calculate the percentage of part of a whole • Calculate percentage increase or decrease of whole numbers **Solving problems** • Solve problems in contexts involving common fractions and mixed numbers, • including grouping and sharing; and finding fractions of whole numbers • Solve problems in contexts involving percentages	**DECIMAL FRACTIONS:** **Ordering and comparing decimal fractions** • Count forwards and backwards in decimal fractions to at least 3 decimal places • Place value of decimals to at least 3 decimal places • Order and compare decimal fractions to at least 3 decimals • Rounding off decimal fractions to at least 2 decimal places	REVISION	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 3: Implement DBE Diagnostic – see exemplar in Planner and Tracker – or any similar diagnostic – Based on 2021 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.

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 7 = 15 - 20 items – depending on your context and ability groups

ITEM BANK: Items can be 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 6 skills)			
4	Revision: Remediation	Baseline: Remediation – error analysis			
5	Revision	Place value – working with numbers Representing 9-digit numbers Compare and order numbers Identify prime numbers Identify composite numbers List factors of numbers	Bk 1 No. R1a (pp. ii & iii) No. R2a (pp. iv & v) No. R2b (pp. vi & vii) No. R3 (pp. viii & vix)		

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: • Place value – working with numbers • Representing 9-digit numbers • Compare and order numbers • Identify prime numbers • Identify composite numbers • List factors of numbers	What will you change next time? Why? **Struggling Learners Names:** **HOD:** **Date:**

17 - 21 January 2022

Week 2					
Lesson	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
6	WHOLE NUMBERS: Revise the following: -Ordering and comparing whole numbers - Properties of operations with whole numbers- Calculations using all operations with whole numbers	Rounding off numbers to nearest 5, 10, 100, 1000 Calculate using all operations	Bk 1 No. R4 (pp. x – xi)		
7	WHOLE NUMBERS: Revise the following: -Ordering and comparing whole numbers - Properties of operations with whole numbers- Calculations using all operations	Rounding off numbers to nearest 5, 10, 100, 1000 Calculate using all	Bk 1 No. R5a (pp. xii – xiii)		

	with whole numbers	operations			
8	WHOLE NUMBERS: Revise the following: -Ordering and comparing whole numbers - Properties of operations with whole numbers- Calculations using all operations with whole numbers	Calculate using all operations Apply different methods	Bk 1 No. R5b (pp. xiv – xv)		
9	WHOLE NUMBERS **Calculation techniques** - Use a range of strategies to perform and check written and mental calculations of whole numbers including:– long division– adding, subtracting and multiplying in columns– estimation – rounding off and compensating– using a calculator	Apply commutative property for + and x. Substitute to show given equations are equal. Use diagrams to illustrate comm prop. Apply associative property for + and x. Use substitution to illustrate assos prop.	Bk 1 No. 1 (pp. 2 – 3)		
10	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: • Rounding off numbers to nearest 5, 10, 100, 1000 • Calculate using all operations • Apply different methods • Apply commutative property for + and x. • Substitute to show given equations are equal. • Use diagrams to illustrate comm prop. • Apply associative property for + and x. • Use substitution to illustrate assos prop. • Apply distributive property for x. • Use rectangular arrays to show distributive prop. • Substitute to show given equations are equal.	What will you change next time? Why? **Struggling Learners Names?** **HOD:** **Date:**

24 – 28 January 2022

Week 3

Lesson	ATP content	concepts, skills	DBE workbook	Resources	Date
11	WHOLE NUMBERS **Calculation techniques** - Use a range of strategies to perform and check written and mental calculations of whole numbers including:– long division– adding, subtracting and multiplying in columns– estimation – rounding off and compensating– using a calculator	Apply commutative property for + and x. Substitute to show given equations are equal. Use diagrams to illustrate comm prop. Apply associative property for + and x. Use substitution to illustrate assos prop.	Bk 1 No. 2 (pp. 4 – 5)		
12	WHOLE NUMBERS **Calculation techniques** - Use a range of strategies to perform and check written and mental calculations of whole numbers including:– long division– adding, subtracting and multiplying in columns–	Apply distributive property for x. Use rectangular arrays to show distributive prop. Substitute to show given equations are equal.	Bk 1 No. 3 (pp. 6 – 7)		

	estimation – rounding off and compensating– using a calculator	Use zero as identity of addition. Use one as identity of multiplication. Choose correct property to solve equations			
13	WHOLE NUMBERS **Calculation techniques** - Use a range of strategies to perform and check written and mental calculations of whole numbers including:– long division– adding, subtracting and multiplying in columns– estimation – rounding off and compensating– using a calculator	Apply distributive property for x. Use rectangular arrays to show distributive prop. Substitute to show given equations are equal. Use zero as identity of addition. Use one as identity of multiplication. Choose correct property to solve equations	Bk 1 No. 4 (pp. 8 – 9)		
14	WHOLE NUMBERS **Multiples and factors**-List prime factors of numbers to at least 3-digit whole numbers -Find the LCM and HCF of whole numbers by inspection or factorisation	Write multiples of numbers. List prime factors. List factors. Calculate HCF Use a number board to list multiples of numbers. Calculate the LCM	Bk 1 No. R6 (pp. xvi – xvii)		
15	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:

- Apply commutative property for + and x.
- Substitute to show given equations are equal.
- Use diagrams to illustrate comm prop.
- Apply associative property for + and x.
- Use substitution to illustrate associative prop.
- Apply distributive property for x.
- Use rectangular arrays to show distributive prop.
- Use zero as identity of addition.
- Use one as identity of multiplication.
- Choose correct property to solve equations
- Write multiples of numbers.
- List prime factors.
- List factors.
- Calculate HCF
- Use a number board to list multiples of numbers.
- Calculate the LCM

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
16	WHOLE NUMBERS **Multiples and factors**-List prime factors of numbers to at least 3-digit whole numbers -Find the LCM and HCF of whole numbers by inspection or factorisation	Write multiples of numbers. List prime factors. List factors. Calculate HCF Use a number board to list multiples of numbers. Calculate the LCM	Bk 1 No. 5 (pp. 10 – 11)		
17	WHOLE NUMBERS **Multiples and factors**-List prime factors of numbers to at least 3-digit whole numbers -Find the LCM and HCF of whole numbers by inspection or factorisation	Check divisibility by certain numbers given. List factors and check divisibility. List multiplication sums using factors. List common factors and the highest common factor.	Bk 1 No. 6 (pp. 12 – 13)		
18	WHOLE NUMBERS **Solving problems** - Solve problems involving whole numbers, including:– Comparing of two or more quantities of the same kind (ratio) – Comparing two quantities of different kinds (rate)– Sharing in a given ratio where the whole is given.	Write ratios as fractions. Write ratios as percentages. Solve real context problems.	Bk 1 No. 7 (pp. 14 – 15)		
19	WHOLE NUMBERS **Solving problems** - Solve problems involving whole numbers, including:– Comparing of two or more quantities of the same kind (ratio) – Comparing two quantities of different kinds (rate)– Sharing in a given ratio where the whole is given.	Find unit rates of quantities. Give examples of rate usage in real life. Solve real context problems.	Bk 1 No. 8 (pp. 16 – 17)		
20	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: • Write multiples of numbers. • List prime factors and List factors. • Calculate HCF • Calculate the LCM • Check divisibility by certain numbers given. • List factors and check divisibility. • List multiplication sums using factors. • List common factors and the highest common factor. • Write ratios as fractions. • Write ratios as percentages. • Solve real context problems. • Find unit rates of quantities. • Give examples of rate usage in real life.	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
21	EXPONENTS: **Mental calculations** - Determine squares to at least 12^2 and their square roots- Determine cubes to at least 6^3 and their cube roots	Identify square patterns. Calculate squares. Write squares as multiplication sentences. Identify base and exponents. Write as cube numbers Write cubes as multiplication sums. Count the number of unit cubes in a diagram. Estimate solutions then calculate	Bk 1 No. 14a (pp. 28 -29) No. 14b (pp. 30 – 31)		
22	EXPONENTS: **Mental calculations** - Determine squares to at least 12^2 and their square roots - Determine cubes to at least 6^3 and their cube roots	Write the square number and the root to diagrams. Use the symbol for root. Calculate square roots Write in ascending order Calculate cube roots Use the symbol cube root.	Bk 1 No. 15a (pp. 32 -33) No. 15b (pp. 34 – 35)		
23	EXPONENTS **Comparing and representing numbers in exponential form**-Compare and represent whole numbers in exponential form: ab = a × a × a × … for b number of factors	write multiplication sums in exponential form. Calculate powers of 10 to 9^{th} power. Expand statements	Bk 1 No. 16 (pp. 36 – 37) No. 17 (pp. 38 – 39)		
24	EXPONENTS **Calculations using numbers in exponential form -** Recognize and use the appropriate laws of operations with numbers involving exponents and square and cube roots**-**Calculations involving all four operations using numbers in exponential form, limited exponents up to 5, and square and cube roots	Estimate and calculate exponents. Create number sentences and calculate Extend patterns Expand the exponential notation Use a calculator to answer	Bk 1 No. 18 (pp. 40 – 41) No. 19 (pp. 42 – 43)		
25	Complete and consolidate the week's assessment and work. **FORMAL ASSESSMENT - PROJECT**				

Reflection

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Identify square patterns. • Calculate squares. • Write squares as multiplication sentences. • Write cubes as multiplication sums. • Count the number of unit cubes in a diagram. • Estimate solutions then calculate • Write the square number and the root to diagrams. • Calculate square roots • Calculate cube roots • write multiplication sums in exponential form. • Calculate powers of 10 to 9th power. • Estimate and calculate exponents.	What will you change next time? Why? **Struggling Learner names:** **HOD:** **Date:**

• Create number sentences and calculate • Expand the exponential notation • Use a calculator to answer	

14 – 18 February 2022

Week 6					
Less	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
26	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				
27	ASSESSMENT TASK ASSIGNMENT Whole numbers and exponents				
28	ASSESSMENT TASK ASSIGNMENT Whole numbers and exponents				
29	COMMON FRACTIONS: **Ordering, comparing and simplifying common fractions-**Extend to thousandths **Calculations with fractions -** Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. **-** Multiplication common fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another.	Complete equivalent fractions. Apply LCM Complete the fraction patterns. Complete fraction sums Adding fractions with different denominators. Subtracting fractions with different denominators	Bk 1 No. R7a (pp. xxviii - xix) No. R7b (pp. xx - xxi)		
30	Assessment activity: Catch-up on work not completed; 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: • Complete equivalent fractions. • Apply LCM • Complete the fraction patterns. • Complete fraction sums • Adding fractions with different denominators. • Subtracting fractions with different denominators	What will you change next time? Why? **Struggling Learners Names:** **HOD:** **Date:**

21 – 25 February 2022

Week 7					
Day	**ATP Content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**

31	COMMON FRACTIONS: **Ordering, comparing and simplifying common fractions-**Extend to thousandths **Calculations with fractions -** Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. **-** Multiplication common fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another.	Complete fraction wall. Complete fraction patterns Complete the number lines Identify proper, improper or mixed fractions. Complete equivalent fractions Apply LCM	Bk 1 No. 30 (pp. 74 - 75) No. 31 (pp. 76 - 77)		
32	COMMON FRACTIONS: **Ordering, comparing and simplifying common fractions-**Extend to thousandths **Calculations with fractions -** Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. **-** Multiplication common fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another.	Simplify fractions. Find the HCF Write in simplest form Add fractions with same denominator Add fractions with different denominators Describe the adding process in words	Bk 1 No. 32 (pp. 78 - 79) No. 33 (pp. 80 - 81)		
33	COMMON FRACTIONS: **Calculation techniques** - Convert mixed numbers to common fractions in order to perform calculations with them - Use knowledge of multiples and factors to write fractions in the simplest form before or after calculations. -Use knowledge of equivalent fractions to add and subtract common fraction	Compare adding & multiplying fractions. Multiply fractions Compare fractions Simply equations by equating the sides.	Bk 1 No. 34 (pp. 82 - 83) No. 35 (pp. 84 - 85)		
34	COMMON FRACTIONS: **Calculation techniques** - Convert mixed numbers to common fractions in order to perform calculations with them - Use knowledge of multiples and factors to write fractions in the simplest form before or after calculations. -Use knowledge of equivalent fractions to add and subtract common fraction	Multiplying whole numbers with fractions. Multiply improper or mixed fractions Simply equations by equating the sides. Multiply and simplify	Bk 1 No. 36 (pp. 86 - 87) No. 37 (pp. 88 - 89)		
35	Assessment Activity: Consolidate and revise – assess learners fraction understanding, remediate for understanding – use SM Activities				

Reflection

DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Complete fraction wall. • Complete fraction patterns • Complete the number lines • Identify proper, improper or mixed fractions. • Complete equivalent fractions • Apply LCM • Find the HCF • Add fractions with same denominator • Add fractions with different denominators • Compare adding & multiplying fractions. • Multiply fractions • Simply equations by equating the sides.	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**
36	COMMON FRACTIONS: **Solving problems** - Solve problems in contexts involving common fractions and mixed numbers, - including grouping and sharing; and finding fractions of whole numbers - Solve problems in contexts involving percentages	Solve fraction problems in real contexts	Bk 1 No. 38 (pp. 90 - 91) No. 39 (pp. 92 - 93)		
37	COMMON FRACTIONS: **Percentages** - Calculate the percentage of part of a whole - Calculate percentage increase or decrease of whole numbers	Explain fractions, decimals and percentages. Convert from fraction to decimal Calculate percentages of numbers	Bk 1 No. 40 (pp. 94 – 95)		
38	COMMON FRACTIONS: **Percentages** - Calculate the percentage of part of a whole - Calculate percentage increase or decrease of whole numbers	Apply percentage increase Apply percentage decrease	Bk 1 No. 41 (pp. 96 – 97)		
39	DECIMAL FRACTIONS: **Ordering and comparing decimal fractions -** Count forwards and backwards in decimal fractions to at least 3 decimal places**-** Place value of decimals to at least 3 decimal places **-** Order and compare decimal fractions to at least 3 decimals - Rounding off decimal fractions to at least 2 decimal places	Use decimal fractions on the number line. Complete table by adding and subtracting. Write in expanded notation	Bk 1 No. R8a (pp. xxii – xxiii) No. R8b (pp. xxiv – xxv)		
40	Complete and consolidate the week's assessment and work				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Solve fraction problems in real contexts • Explain fractions, decimals and percentages. • Convert from fraction to decimal • Calculate percentages of numbers • Apply percentage increase • Apply percentage decrease • Use decimal fractions on the number line. • Complete table by adding and subtracting. • Write in expanded notation	What will you change next time? Why? Struggling Learners Names: **HOD:** **Date:**

7 – 11 March 2022

Week 9					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
41	DECIMAL FRACTIONS: **Ordering and comparing decimal fractions -** Count forwards and backwards in decimal fractions to at least 3 decimal places**-** Place value of decimals to at least 3 decimal places **-** Order and compare decimal fractions to at least 3 decimals - Rounding off decimal fractions to at least 2 decimal places	Explain different methods Use place value to expand decimals. Write in prescribed order Give value of underlined digit	Bk 1 No. 42 (pp. 98 – 99) No. 43 (pp. 100 – 101)		

		Writing common fractions as decimals			
42	DECIMAL FRACTIONS: **Ordering and comparing decimal fractions -** Count forwards and backwards in decimal fractions to at least 3 decimal places**-** Place value of decimals to at least 3 decimal places **-** Order and compare decimal fractions to at least 3 decimals - Rounding off decimal fractions to at least 2 decimal places	Complete number lines Complete number order Extend number patterns Round off to the nearest tenth Add decimals Subtract decimals	Bk 1 No. 44 (pp. 102 – 103) No. 45 (pp. 104 – 105)		
43	DECIMAL FRACTIONS: **Ordering and comparing decimal fractions -** Count forwards and backwards in decimal fractions to at least 3 decimal places**-** Place value of decimals to at least 3 decimal places **-** Order and compare decimal fractions to at least 3 decimals - Rounding off decimal fractions to at least 2 decimal places	Multiply decimals and check using a calculator. Dividing decimals	Bk 1 No. 46 (pp. 106 – 107) No. 47 (pp. 108 – 109)		
44	REVISION				
45	REVISION				

Reflection	
DID ALL THE LEARNERS LEARN THE WEEKLY SKILLS? ARE THEY ABLE TO: • Explain different methods • Use place value to expand decimals. • Write in prescribed order • Give value of underlined digit • Writing common fractions as decimals • Extend number patterns • Round off to the nearest tenth • Add and subtract decimals • Multiply decimals and check using a calculator. • Dividing decimals	What will you change next time? Why? **HOD:** **Date:**

14 – 17 March 2022 (Four-day week)

Week 10					
Day	**ATP content**	**concepts, skills**	**DBE workbook**	**Resources**	**Date**
46	FORMAL ASSESSMENT TASK: Test All topics				
47	FORMAL ASSESSMENT TASK: Test All topics				
48	FORMAL ASSESSMENT TASK: Test All topics				
49	FORMAL ASSESSMENT TASK: Test All topics				
50	END OF TERM				

Reflection	
Identify some skills that need revising during the next term:	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
- The Skills mastery assessments – aimed at consolidating, revising and remediating skills already covered this 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 the lesson plans. Teachers may wish to group the items or use them individually.

Week	Informal Assessment (End of week) and Skills Mastery Activities (Tuesdays and Thursdays)	Formal Assessment Activities (End of week) – 2 FORMAL ASSESSMENTS: 1) Assignment 2) Test
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	Formal Assessment Task: Assignment
7	**Tuesday** Skills mastery Assessment 11 **Thursday** Skills mastery Assessment 12	
8	**Tuesday** Skills mastery Assessment 13 **Thursday** Skills mastery Assessment 14	
9	No Assessment – 4-day week **Tuesday** Skills mastery Assessment 15	

	Thursday Skills mastery Assessment 16	
10		**FORMAL ASSESSMENT 2 – Test (All Topics)**

Exemplar Written Assessment ITEMS with marking memos.

The exemplar items can be used as a 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 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 assessments is to be done in addition to oral and practical assessment to carry out meaningful continuous assessment throughout the term.
- You need to plan when you will do a written 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: EXEMPLAR

Surname:		
Name:	**Date:** _____	_____ **55**
Date of birth:		

INSTRUCTIONS TO LEARNERS:

1. Answer all the questions in the spaces provided.
2. No calculators may be used.
3. Show ALL calculations where necessary.
4. Time: 60 minutes.
5. Total: 55 marks.

NUMBER OPERATIONS AND RELATIONSHIPS **(8 marks)**

1. Complete
   a) The hundreds digit in 395 491 is _____ (1)

   b) The value of digit 5 in 4 356 869 is _____ (1)

2. Arrange the given numbers in descending order of size:
   212 143 123 243 413 123 342 123

   _____ (2)

3. Write the following number in words: 234 709

   _____ (1)

4. Thabo rounded the number of marbles to the nearest 5. His answer was 340.
   Write down 2 possible numbers for the actual number of marbles.

   _____ (2)

5. Calculate the value of p if $2p + 12 = 58$ (1)
   A. 22 B. 12 C. 18 D. 23

MULTIPLES AND FACTORS OF WHOLE NUMBERS **(9 marks)**

6. Write down the multiples of 7 between 44 and 54.

   _____ (1)

7. List all the factors of 225.

_____ (2)

8. 1 , 2 , 4 , 16 and 32 are 5 of the 6 factors of 32. Write down the missing factor.

_____ (1)

9. List two whole numbers that I can multiply to get to 125?

_____ (2)

10. Find the Lowest Common Multiple of 12 and 36.

_____ (1)

11. Write down the factors of 57 which lie between 1 and 57

_____ (2)

PRIME NUMBERS **(5 marks)**

12. List all the prime numbers between 27 and 35.

_____ (2)

13. Write down all the even numbers less than 100 that are prime numbers.

_____ (1)

14. From these numbers: 5; 33; 27; 72; 36; 61; 81; 45; choose:
    a) A prime number

    _____ (1)

    b) A number which is the product of two prime numbers

    _____ (1)

ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION OF WHOLE NUMBER **(14 marks)**

15. A supermarket sold 1 625 407 orange lollipops, 68 945 green lollipops, 2 165 001 yellow lollipops and 770 239 red lollipops. **(Show ALL calculations)**

a) How many lollipops were sold altogether? (3)

b) How many more yellow lollipops than red lollipops were sold? (2)

16. Calculate using columns.

a) R3 423 567 + R766 678 + R2 378 487 (3)

b) 3 032 512 – 1 753 769

(2)

17. Calculate the product of 7 876 and 393.

(2)

RATIO AND RATE **(5 marks)**

18. **(Show ALL calculations)**

18.1 A normal, healthy adult heart beats about 78 beats per minute. How many times will a heart beat in half an hour?

(1)

18.2 Lionel works for 40 minutes at his homework. Cindy works for 2 hours at her homework.

Lionel says: The ratio of our times is 40 : 2. that is 20 : 1.

Cindy says: No! That ratio says that you worked much, much longer at your homework than I did. That is not true. I worked much longer than you did!

a) Do you agree with Cindy? Or would you help Lionel understand what is wrong with what he said?(1) (1)

_____

_____

b) What is the ratio of the times that they spent on their homework?

_____ (2)

19. Complete the number sentence to make the following sentence true:

125 x ____ = 123 250 (1)

EXPONENTS **(4 marks)**

20. First estimate and then calculate and simplify the answers: (Show ALL your calculations)

a) $5^2 + 1^2 + 3^3$ (2)	b) $4^3 \div \sqrt{64}$ (3)

SHAPE AND SPACE

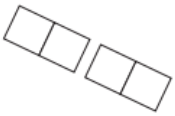
21. A parallelogram with at least one angle equal to 90° is called a … . (1)

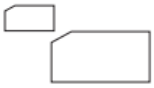
A. Kite B. Rhombus C. Trapezium D. Rectangle

22. **Study and compare the 4 pairs of diagrams below and state whether each pair is SIMILAR or CONGRUENT.** (4)

a. 

b. 

c. 

d. 

23. Draw an EQUILATERAL and a RIGHT ANGLED TRIANGLE and list two of the properties of each:

a) Equilateral triangle	(4)

b) Right angled triangle	(4)

24. List all the similarities between a RECTANGLE and a SQUARE (4)

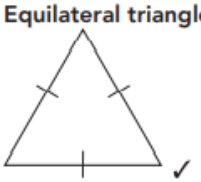
SOLUTIONS AND MEMORANDUM

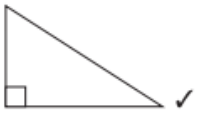
Question	Marks	Cognitive levels
NUMBER, OPERATIONS AND RELATIONSHIPS (8 marks)		
1. Complete	**(2)**	RP
a) 4 Hundreds ✓	1	RP
b) 50 000 ✓	1	S
2. Arrange in descending order	**(2)**	S
413 123 ✓	$\frac{1}{2}$	
342 123 ✓	$\frac{1}{2}$	
212 143 ✓	$\frac{1}{2}$	
123 243 ✓	$\frac{1}{2}$	RP
3. Write 234 709 in words	**(1)**	K
Two hundred and thirty four thousands, seven hundred and nine ✓		
4. Possible number of marbles	Any two	RP
338 339 340 341 342 ✓✓	**(2)**	PS
5. Calculate the value	**(1)**	K
D. 23 ✓		
MULTIPLES AND FACTORS OF WHOLE NUMBERS (9 marks)		
6. Multiples of 7 between 44 and 54	**(1)**	K
49 ✓		
7. Factors of 225	**(2)**	RP
1; 3; 5; 9; 15; 25; 45; 75; 225 ✓✓		
8. Missing factor of 32	**(1)**	K
8 ✓		
9. Two whole numbers	**(2)**	K
1 and 125 OR 5 and 25 ✓✓		
10. LCM of 12 and 36	**(1)**	RP
36 ✓		
11. Factors of 57 between 1 and 57	**(2)**	RP
3 ✓ and 19 ✓		
PRIME NUMBERS (5 marks)		
12. Between 27 and 35	**(2)**	C
29 ✓ and 31 ✓	(1) / (1)	S / RP
13. All prime even numbers	**(1)**	K
2 ✓		
14. Choose from 5; 33; 27; 72; 36; 61; 81; 45	**(2)**	
a) Prime number – 61 ✓	(1)	RP
b) Product of prime numbers – 57 ✓	(1)	PS

Question	Marks	Cognitive levels
ADDITION, SUBTRACTION, MULTIPLICATION, AND DIVISION (14 marks)		
15. How many lollipops sold		
a) Lollipops sold = 4 629 592 1 625 407 68 945 2 165 001 + 770 239 ✓ **4 629 592 ✓✓**	**(3)**	RP
b) Yellow and red lollipops 2 165 001 − 770 239 **1 394 762 ✓✓**	**(2)**	RP
16. Calculate		
a) R 3 423 567 R 766 678 + R 2 378 487 ✓ R **6 568 732 ✓✓**	**(3)**	RP
b) 3 032 512 − 1 753 769 **1 278 743 ✓✓**	**(2)**	RP
17. Product of 7 876 and 393	**(4)**	
7 876 ✓ x 393	(1)	C
23 628 708 840 ✓ + 2 362 800 ✓ **3 095 268** ✓	(3)	RP

RATIO AND RATE (5 marks)		
18.1 Heartbeat of an adult – 78 beats/minute		
Number of heartbeats in half hour = 78 x 30 ✓½ = 780 x 3 = **2 340** ✓½	**(1)**	CPA
18.2 Ratio of times	**(3)**	
a) Cindy is correct. We cannot compare minutes with hours. ✓	(1)	CPA
b) Cindy worked 120 minutes. ✓ 40:120 = 1:3 ✓	(2)	RP
19. Complete number sentence = 123 250 ÷ 125 = 986 ✓ OR 986 ✓ 125 | 123 250 −1125 −1075 1000 75 50	**(1)**	CP

Question	Marks	Cognitive levels
EXPONENTS (4 marks)		
20. Estimate and Calculate	**(4)**	
a) $16^2 + 1^3 - 2^2$ = 256 + 1 – 4 ✓ = 257 – 4 = 253 ✓	(1) (1)	CP RP
b) $4^3 \div \sqrt{64}$ = 64 ÷ 8 ✓ = 8 ✓	(1) (1)	CP RP
SHAPE AND SPACE (30 marks)		
21. Parallelogram with at least one angle equal to 90° D. Rectangle ✓	**(1)**	K
22. Similar or congruent	**(4)**	RP
a) similar ✓	(1)	
b) congruent ✓	(1)	
c) similar ✓	(1)	
d) congruent ✓	(1)	

23	a)	**Equilateral triangle**  All sides are equal ✓ All angles equal 60° ✓	**(3)** (1) drawing (2) properties	RP

Question			Marks	Cognitive levels
	b)	**Right angled triangle**  Has one angle that equals 90° ✓ The other two angles are less than 90° each ✓	**(3)** (1) drawing (2) properties	RP
24.		**Similarities of a RECTANGLE and a SQUARE**	**(4)**	RP
		They are both quadrilaterals ✓	(1)	
		They each have 4 right angles ✓	(1)	
		Opposite sides are parallel ✓	(1)	
		Opposite sides are equal ✓	(1)	

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 ASSESSMENTS

SM Assessment 1	**Write the number in digits** **Give the value of the underlined digits up to 6 digits** **Prime numbers** **Using a 9-digit number to make five different numbers in a given range** **Number operations: Changing from words to numbers**
SM Assessment 2	**Rounding off** **List the factor pairs of a specific number** **Highlight the odd numbers** **Division and multiplication** **Bigger, smaller or equal – integers**
SM Assessment 3	**Show a fraction on a given number line** **Fill in the missing values** **Round off to the nearest 10 up to 6 digits** **Time: Understanding 24-hour time** **Number line: Subtract and fill in numbers up to 5 digits**
SM Assessment 4	**Write these numbers in words** **Rounding off up to ten thousand** **Know your multiples up to 100 and 150** **Arrange numbers from smallest to biggest**
SM Assessment 5	**Rounding off to the nearest five up to ten-thousands** **Add and subtract money amounts** **Fill in missing numbers in a table. Place Value** **Make largest number with one-digit number series**
SM Assessment 6	**Place value up to 6 digits** **Decimal fractions: converting to percentage** **Fill in bigger, smaller or equal** **Add fractions with the same denominator**

	Number operations
SM Assessment 7	**State true or false: About division** **Divisibility rules** **Division patterns with zeroes** **Estimate products Number patterns – find the tenth value in the sequence** **Solve an equation** **Word sum - Divisibility rules**
SM Assessment 8	**Find the next shape in a repeating pattern** **Complete a repeating pattern** **Determine the rule** **Calculate and add numbers up to 7 digits** **Word sum: Ratios** **Find the sum of given numbers**
SM Assessment 9	**Sort factors of expressions** **Identify equivalent expressions** **Find the value of *a*** **Addition: up to 7-digit numbers**
SM Assessment 10	**Rounding off to the nearest 10 000** **Convert metres to kilometres** **Use the digits to make the highest number** **Decimal fractions: Order from the biggest to the smallest** **Flow diagram: Multiplication and subtraction**
SM Assessment 11	**Prime numbers and multiples of 10** **Place value: up to 9 digits** **Money: Calculating profit** **Find the value of *x*** **Rounding off to the nearest 100 000**
SM Assessment 12	**Capacity in *ml and l*** **Complete in expanded notation form. Use 9 digits to make the smallest number and biggest number** **Find a number between two 5 digit numbers** **Pascal's triangle: Find the missing number**
SM Assessment 13	**Write the words in numbers** **Look at the equation and write a number in digits** **Estimation** **Fill in missing numbers in the expanded vertical addition** **Word problem**
SM Assessment 14	**Complete by adding missing numbers** **Write a 9 digit number in expanded notation** **Which number is represented on the number line?** **Place value**
SM Assessment 15	**Number sequences: find the difference and describe a pattern given three numbers in a sequence** **Find and understand the *rule* of a flow diagram** **Answer units of measurement**
SM Assessment 16	**Converting units of capacity** **Write an equation for commutative property of multiplication** **Make the statement true: Associative property** **Distributive property of multiplication** **Divisible activity**

SM Assessment 17	**Word problem: Money – profit/loss** **Estimate: Exponents** **Square root: write in descending order** **Rounding off up to 5 digits**
SM Assessment 18	**Find the median of the set numbers** **Write decimals as fractions** **Constant difference in consecutive terms** **Patterns: find the *nth* term**
SM Assessment 19	**4-digit addition sums** **Percentage** **Fill in the missing numbers in a number equation** **Flow diagram: Subtraction** **Convert mm/cm/m and km**
SM Assessment 20	**Find the rule that will generate the value of *y* from the values of *x*** **Word Problem** **What is the sum of all the factors of a specific number?** **Algebraic expressions**

SKILLS MASTERY EXEMPLARS

Skills Mastery (SM) Assessment 1

Number Assessment

1. **Write the numbers in digits.**

   1.1. two hundred and thirty-five thousand, six hundred and eleven

   _____

   1.2. eight hundred thousand, eight hundred and eighty-eight

   _____

2. **Give the values of the underlined digits.**

   2.1. 3̲47 685 _____

   2.2. 8̲04 967 _____

3. **Think about prime numbers.**

   3.1. What is a prime number?

   _____

   3.2. What is the only even prime number? _____

4. **Use any digits to make five different 9-digit numbers smaller than 999 999 999 but bigger than 500 000 000.**

   a. _____
   _____
   _____
   _____
   _____

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

   a. One million six hundred and thirty two thousand five hundred and eighty one.

   _____

SM Assessment 2

Number Assessment

1. **Round the numbers off to the nearest 10:**

a. 18 _____

b. 21 _____

c. 376 _____

2. List the factors of 24 in factor pairs.

_____

3. **Highlight the odd numbers.**

248 365 8 744 705 000 16 921

4.

42 ÷ 7 = _____	7 × _____ = 56	48 ÷ 4 × 6 = _____
_____ × 6 = 54	6 × 6 = _____	54 ÷ 9 = 30 ÷ _____

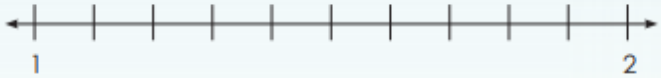
5. **Fill in +, −, × or ÷ to complete the rules in the flow diagrams.**

SM Assessment 3

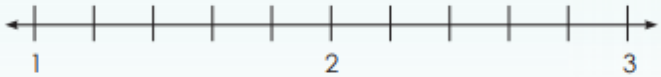
Number Assessment

1. **Show the following on the number lines.**

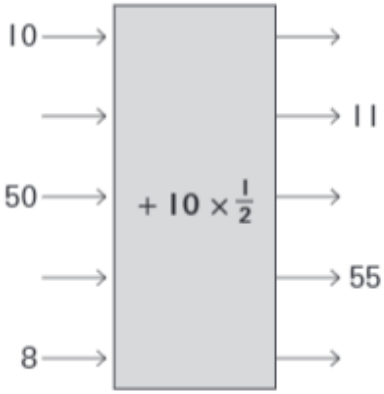
a. One and a half



b. Two and one quarter



2. **Fill in the missing values.**



3. **Round off to the nearest 10. Circle the digit which you look at when deciding whether to round up or down to the nearest 10. Complete the sentences.**

a. 345 882 is between 345 880 and 345 890 and would be rounded to 345 880.

b. 278 947 is between _____ and _____ and rounded to _____.

4. **Write the times as 24-hour times. Include the morning and evening times.**

_____

_____

5. Copy and complete each number line.

a.

SM Assessment 4

Number Assessment

1. Write these numbers in words.

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

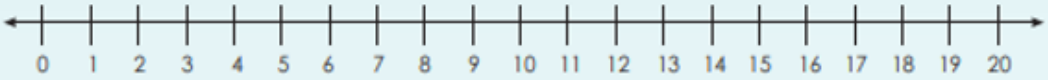
2. Round off

		ten	hundred	thousand
a.	92			
b.	348			
c.	2 871			

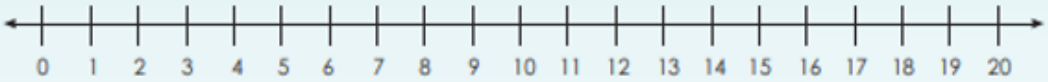
3.

Number	x 100	x 200	x 300	x 400	x 500	x 600	x 700	x 800	x 900
100									
150									

4. a. Multiples of 2 and 4.



b. Multiples of 3 and 6.



5. Arrange these numbers from smallest to biggest.

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

Underline the even numbers in green.

SM Assessment 5

Number Assessment

1. 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

2. Copy and complete the table by rounding off to the nearest 5, 10, 100 and 1 000.

Number	≈ 5	≈ 10	≈ 100	≈ 1 000
346 154	346 155	346 150	346 200	346 000
705 496				

3. **Write the following in expanded notation.** **Example:** 456 = 400 + 50 + 6

a. 678 _____ b. 937 _____

c. 1735 _____ d. 1 753 _____

4. 

5. $6\frac{1}{4} - 2\frac{2}{4}$

$= (5 + 1 + \frac{1}{4}) - (2 + \frac{2}{4})$

$= (5 + \frac{5}{4}) - (2 + \frac{2}{4})$

$= (5 - 2) + (\frac{5}{4} - \frac{2}{4})$

$= 3\frac{3}{4}$

e. $8\frac{3}{5} - 4\frac{4}{5}$

= _____

= _____

= _____

= _____

= _____

SM Assessment 6

Number Assessment

1. a. 44 321 b. 233 339 c. 929 956

	9	

2.

Common Fraction	Decimal Fraction	Percentage
$\frac{1}{2}$	0,5	50%
$\frac{7}{10}$		

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

a. 85% ☐ 85%

b. $\frac{4}{10}$ ☐ 0,4

c. $\frac{4}{10}$ ☐ 40%

4. **Add the following.**

a. $\frac{3}{6} + \frac{2}{6} =$ b. $\frac{3}{10} + \frac{5}{10} =$

5. Fill in the missing information.

a. $\frac{1}{4}$ ☐ $\frac{1}{4}$ = ☐ b. ☐ $\frac{1}{5} = \frac{3}{5}$

SM Assessment 7

Number Assessment

1. **Say if the following is true or false:**

a. All whole numbers that end in 0 or 5 are divisible by 10. ☐

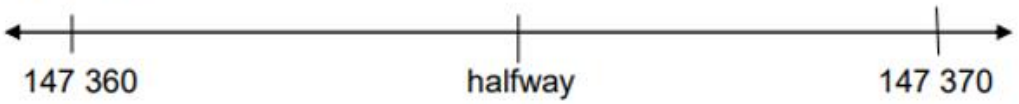
2. The next number in the **sequence** **3; 9; 27; …** will be …

A 125.
B 36.
C 81.
D 30.

3. **Estimate and then calculate the following:**

a. 2 500 ÷ 40 = ☐

4. Which number on a number line is **halfway** between 147 360 and 147 370?



A 147 375
B 147 385
C 147 365
D 147 355

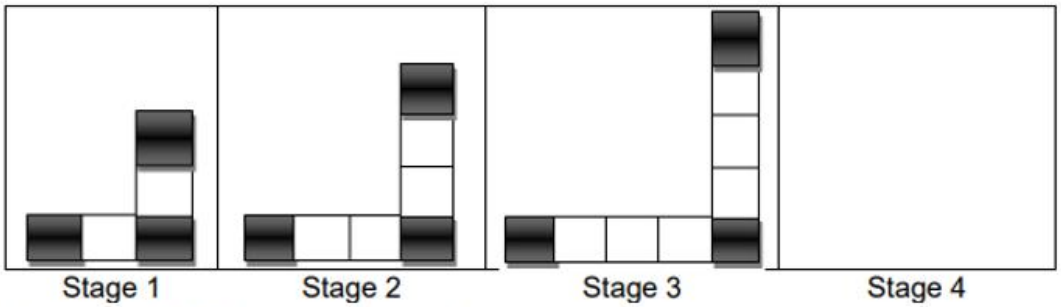
5. Farm workers picked 324 587 pears during the morning. After lunch they picked more pears. By the end of the day, they had 866 463 pears.

How many pears did they pick after lunch?

SM Assessment 8

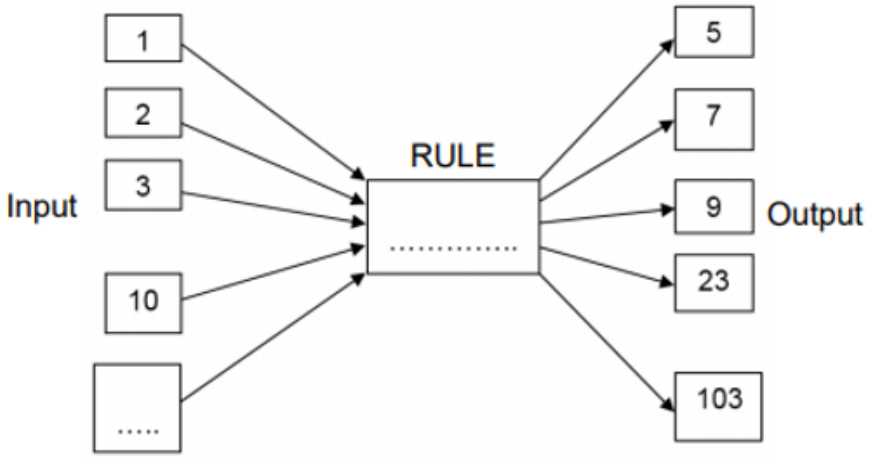
Number Assessment

1. Look at the following pattern.



Draw stage 4 in the space provided.

2. Determine the rule in the following flow diagram.



3. 19 634 567 + 1 456 369 + 54 603 =...

4. Two friends, John and Thabo, earned R400. Thabo worked for longer, so they agreed to share the money in the ratio 3:5.
How much money will each of them get?

5. What is the sum of 200, 300, 150 and 250?

A. 900 B. 1000 C. 850 D. 950

SM Assessment 9

Number Assessment

1. Mike bought 57 jellybeans. Which statement **is CORRECT**?

A. He can divide the beans equally into three groups.

B. He can divide the beans equally into groups of 7.

2. **Determine if the following expressions are equivalent to each other. Insert an = if they are the same and ≠ if they are not.**

a. (2 + 5) x 3 ____ (2 x 3) + (5 x 3)

b. 4 – 2 ____ 2 – 4

3. 30 x (40 + 50) = (30 x 40) + (30 x 50)

4. **What is the value of a ?**

825 × 100 = 100 × a a =

(350 + 250) + 10 000 = 350 + (250 + a) a =

5. Which number is 12 million **more than** 375 826 307?

A 363 826 307
B 253 826 307
C 387 826 307
D 375 946 195

SM Assessment 10

Number Assessment

1. Round 49 287 off to the **nearest 10 000**.

2. **Convert the following:**

a. 3 000 m = _____ km

b. 200 m = _____ km

3. Use the digits below to answer the following questions.

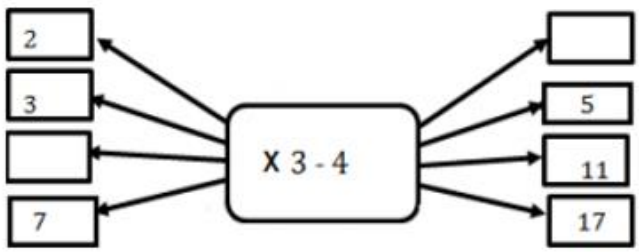
5 7 2 9

The biggest 4 digit number you can make is:

4. Order the following **decimal fractions** from the **biggest to the smallest.**

0,5; 0,050; 0,75; 0,570

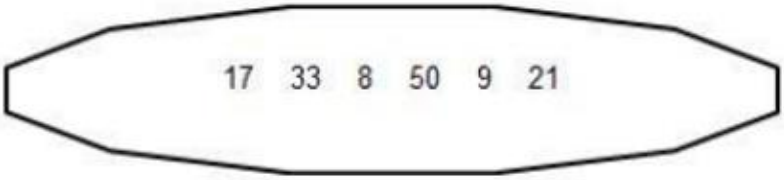
5. Complete the flow diagram by filling in the missing numbers:



SM Assessment 11

Number Assessment

1.



A prime number: _____

A multiple of 10: _____

2. What is the value of the underlined digit in 82 3<u>9</u>4 782?

_____

3. Twenty articles cost R120 and are sold for R7,50 each. Calculate the total profit.

_____

4. Find the value of x in the following:

$x \div 4 = 36 \div 3$

$x =$ _____

5. Round 347 659 off to the nearest 100 000.

A 300 000

B 348 000

C 350 000

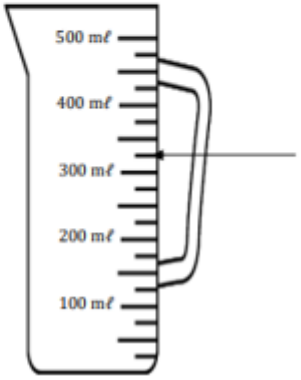
D 400 000

SM Assessment 12

Number Assessment

1. What capacity does the arrow on the jug indicate?

A 310 mℓ
B 325 mℓ
C 320 mℓ
D 3,1 ℓ



2. **Write in expanded notation. Use the digits 1 to 9 to make five different 9-digit numbers smaller than 500 000 000 but bigger than 200 000 000.**

a. _____
b. _____
c. _____
d. _____
e. _____

3. **Between what two ten-thousands do the following numbers lie:**

a. 14 789 | 14 000 | 15 000
b. 13 472 | | |
c. 12 234 | | |
d. 15 893 | | |

4. a. 44 321 b. 233 339 c. 929 956

	9	

5. Pascal's triangle. What is the missing number?

A. 6 B. 4 C. 5 D. 8

SM Assessment 13

Number Assessment

1. Write the number in digits.
Two hundred and eighty three thousand one hundred and sixty-four.

_____

2. Which number is represented by

(4 x 100 000) + (30 x 10 000) + (900) + (7 tens) + 5

_____

3. Estimate the answers by rounding off to the nearest 100.
1 676 + 14 234

4. Fill-in the missing numbers in the expanded vertical addition of

65 432 + 8 581 + 34 794.

65 432	=	60 000	+	5 000	+	400	+	[ ]	+	2
+ 8 581	=		+	8 000	+	[ ]	+	80	+	1
+34 794	=	30 000	+	4 000	+	700	+	90	+	4
Total	=	90 000	+	17 000	+	1 600	+	2 00	+	7

= 90 000 + 10 000 + 7 000 + 1 000 + [ ] + 200 + 7

= 100 000 + [ ] + 800 + 7

= 108 807

5. **Five pieces of chain must be jointed into a long chain. How many rings should be opened and closed? [2]**

_____

SM Assessment 14

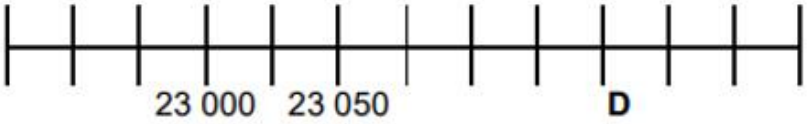
Number Assessment

1. Complete:

   3 567 439 = (3 × _____) + (5 × _____) + (6 × _____) + 7 000 + 400 + 39

2. Write 42 631 627 in expanded notation.

3. Which number is represented by the **D** on the following number line?



4. What is the place value of the underlined digit in 76 <u>4</u>90 213?

   A Hth

   B TTh

   C TM

   D M

5. Which number between 12 and 144 is a multiple of 12?

   A 12

   B 96

   C 106

SM Assessment 15

Number Assessment

1.

Look at the number sequence 125, 250, 375, 500.

a. What is the difference between the numbers. _____

_____

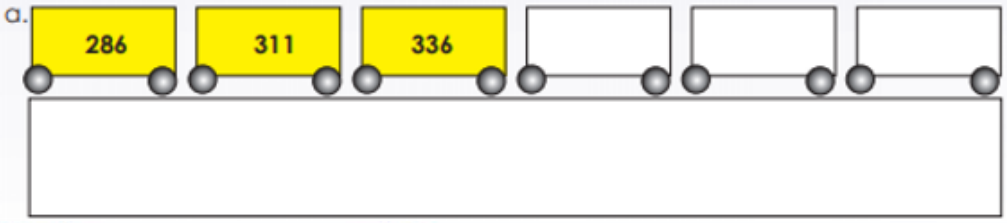
b. Describe the pattern. _____

_____

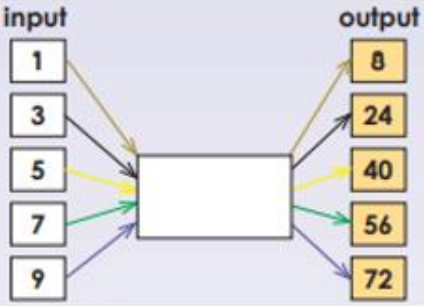
2.

Give the next three numbers of the sequence. Describe the pattern.

a.



3.



i) What would you write in the empty box?

_____

ii) What do we call it?

_____

4.

I will measure in ___ and ___.

5.

Draw the following lines with your ruler.

a. 9 cm

b. 6,3 cm

SM Assessment 16

Number Assessment

1.

Answer the following questions on capacity.

a. How many ml are in a litre? ____

b. How many ℓ are in a kl? ____

c. How many ml are in a kl? ____

2.

Write an equation to show how each diagram illustrates the commutative property of multiplication.

a. 

b. 

3.

1. Use the associative property of addition or multiplication to make the statements true.

Example: (5 + 1) + 3 = 5 + (1 + 3) (addition)

(5 × 1) × 3 = 5 × (1 × 3) (multiplication)

a. (6 + 2) + 4 = (6 + 2) + 4 = 6 + (2 + 4) Solve it: 12 = 12

b. (7 + 3) + 1 = ____ ____

c. 8 × (10 × 4) = ____ ____

d. 4 × (5 × 2) = ____ ____

4.

Use the distributive property of multiplication to make these statements true.

Example: 4 × 5 + 4 × 3 = (4 × 5) + (4 × 3) = 4(5 + 3)

a. 3 × 2 + 3 × 5 = ____ Calculate it: 3 | 2 | 5 → 6 + 15 = 21

b. 6 × 1 + 6 × 4 = ____ + =

c. 3 × 2 – 3 × 1 = ____ + =

5.

1. Tick whether the numbers are divisible by 2, 3, 4, 5 or 10. You can have more than one answer.

	2	3	4	5	10
a. 376	✔				
b. 7 232					
c. 9 050					
d. 6 312					
e. 2 355					

SM Assessment 17

Number Assessment

1. On Saturdays you hire a stall at the local flea–market for R50. You are buying juice for R1,50 each and selling them for R2,50 each. Last Saturday it was cold and you only managed to sell 40. I made a profit / loss of _____ (amount).

2. You are buying fruit directly from the market and sell it to your neighbours, friends and family. Last weekend you bought 3 boxes of bananas. Each box contained 12 bunches of 12 bananas each. Each box cost you R75. You managed to sell 80 % of the bananas at 65c each The rest of the bananas got too ripe and you sold them at a discount of 80 %. I made a profit / loss of _____ (amount).

3. **First estimate and then calculate the answers.**

a. $2^2 + 3^3 - 1^3 =$ b. $5^3 - 4^3 + 3^3 =$

4. **Write the following in descending order:**

$\sqrt{25}, 2^2, \sqrt{16}, \sqrt{100}, 9^2$

5.

	Round off to the nearest 10	Round off to the nearest 100	Round off to the nearest 1 000
a. 2			
b. 7			
c. 48			
d. 781			
e. 345			
f. 2 897			

SM Assessment 18

Number Assessment

1. **Use the set of numbers below to answer the question.**

35	20	30	25	20

What is the median of the list of numbers?

A. 30
B. 20
C. 25
D. 26

2. The mean of 9 , 15 , 9 , 15 , 17, 17 , 11 , 18 , 15 , 19 is

3. Write the decimals as fractions.

a. 0,1748	**b.** −0,00483	**c.** 2,043928

4. **1. What is the constant difference between the consecutive terms?**

a. 6; 10; 14; 18 b. 12; 21; 30; 39 c. 15; 18; 21; 24

5. Consider the pattern: 9; 14; 19; 24;.....
Determine the rule the n^{th} term to describe the above pattern.

SM Assessment 19

Number Assessment

1. a. 5,326 + 4,542 =

2.

Answer the following:

a. What is 50% of R1,00?

b. What is 0,5 of R1,00?

3.

1. Complete the following:

a. $4 - \square = 0$

b. $\square + 15 = 15$

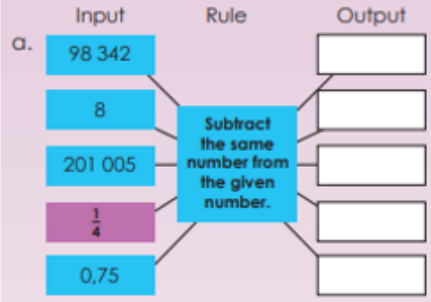
c. $100\,000 \times \square = 100\,000$

d. $\square - 299\,999 = 0$

e. $\square \times 1 = 84\,934$

4.

Complete the flow diagram.



5.

		mm	cm	m	km
i.	9 cm				
ii.	3 m				
iii.	2 km				
iv.	10,5 m				
v.	3 600 mm				

SM Assessment 20

Number Assessment

1. Which rule will generate the values of y from the values of x?

x	1	2	3	4
y	−4	−1	4	11

A Subtract 5 from the cube of x.

B Subtract 8 from the square of $x + 1$.

C Add 7 to x.

D Subtract 5 from the square of x.

2. The AquaZoo aquarium will put a maximum of 15 fish in each display tank. How many tanks will they need to display 565 fish?

F at least 36 tanks

G at least 37 tanks

H exactly 37.67 tanks

I at least 38 tanks

3. What is the sum of all the factors of 15?

a) 9

b) 15

c) 23

d) 24

4. $\mathbf{2^3 + 2^2 = 4^5}$

$\mathbf{3x^5 . 4x^2 = 12x^{10}}$

$(3ab)^2 = 6a^2b^2$

5. Simplify.

-3 + 8 - 1 - 7 + 12 + 1