SECTION 4: ASSESSMENT

4.1. Introduction

Assessment is a continuous planned process of identifying, gathering and interpreting information regarding the performance of learners, using various forms of assessment. It involves four steps: generating and collecting evidence of achievement; evaluating this evidence; recording the findings and using this information to understand and thereby assist the learner's development in order to improve the process of learning and teaching. Assessment should be both informal and formal. In both cases regular feedback should be provided to learners to enhance their learning experience. This will assist the learner to achieve the minimum performance level of 40% to 49% required in Mathematics for promotion purposes.

4.2. Types of assessment

The following types of assessment are very useful in mathematics; as a result teachers are encouraged to use them to serve the purpose associated with each.

Baseline assessment: mathematics teachers who might want to establish whether their learners meet the basic skills and knowledge levels required to learn a specific Mathematics topic will use baseline assessment. Knowing learners' level of proficiency in a particular Mathematics topic enables the teacher to plan her/his Mathematics lesson appropriately and to pitch it at the appropriate level. Baseline assessment, as the name suggests, should therefore be administered prior to teaching a particular Mathematics topic. The results of the baseline assessment should not be used for promotion purposes.

Diagnostic assessment: It is not intended for promotion purposes but to inform the teacher about the learners' Mathematics problem areas that have the potential to hinder performance. Two broad areas form the basis of diagnostic assessment: content-related challenges where learners find certain difficulties to comprehend, and psycho- social factors such as negative attitudes, Mathematics anxiety, poor study habits, poor problem-solving behaviour, etc. Appropriate interventions should be implemented to assist learners in overcoming these challenges early in their
school careers.

Formative assessment: Formative assessment is used to aid the teaching and learning processes, hence assessment ***for*** learning. It is the most commonly used type of assessment because it can be used in different forms at any time during a Mathematics lesson, e.g. short class works during or at the end of each lesson, verbal questioning during the lesson. It is mainly informal and should not be used for promotion purposes. The fundamental distinguishing characteristic of formative assessment is constant feedback to learners, particularly with regard to learners' learning processes. The information provided by formative assessment can also be used by teachers to inform their methods of teaching.

Summative assessment: Contrary to the character of formative assessment, summative assessment is carried out after the completion of a Mathematics topic or a cluster of related topics. It is therefore referred to as assessment ***of*** learning since it is mainly focusing on the product of learning. The results of summative assessment are recorded and used for promotion purposes. The forms of assessment presented in Table 4.1 are examples of summative assessment.

4.3. Informal or daily assessment

Assessment for learning has the purpose of continuously collecting information on learner performance that can be used to improve their learning.

Informal assessment is a daily monitoring of learners' progress. This is done through observations, discussions, practical demonstrations, learner-teacher conferences, informal classroom interactions, etc. Informal assessment may be as simple as stopping during the lesson to observe learners or to discuss with learners how learning is progressing. Informal assessment should be used to provide feedback to learners and to inform planning for teaching, but need not be recorded. It should not be seen as separate from the learning activities taking place in the classroom.

Self-assessment and peer assessment actively allow learners to assess themselves. This is important as it allows learners to learn from, and reflect on their own performance. The results of the informal daily assessment tasks are not formally recorded unless the teacher wishes to do so. The results of daily assessment tasks are not taken into account for promotion purposes.

4.4. Formal assessment

Formal assessment comprises School-Based Assessment (SBA) and End of the Year Examination. Formal assessment tasks are marked and formally recorded by the teacher for promotion purposes. All Formal Assessment tasks are subject to moderation for the purpose of quality assurance and to ensure that appropriate standards are maintained. The SBA component may take various forms. However, **tests, examinations, projects, assignments** and **investigations** are recommended for Mathematics. The Intermediate Phase Mathematics minimum formal programme of assessment tasks are outlined in Table 4.1

Table 4.1: Requirements for Formal Assessment: Intermediate Phase Mathematics

	TERM 1		TERM 2		TERM 3		TERM 4
Form of assessment	Assignment	Test	Investigation	Examination	Project	Test	Examination
Marking guideline	Memo	Memo	Memorandum and/or Rubric	Memo	Rubric	Memo	Memo
Number of papers	1	1	1	1	1	1	1
Min Total marks: Gr 4	25	25	25	50	25	25	50
Gr 5	25	25	25	60	25	25	60
Gr 6	25	25	25	75	25	25	75
SBA Weighting (75%)	15%	10%	20%		20%	10%	
End of year exam (25%)				12,5%			12,5%
Term weight (for reporting purpose)	100%		100%		3 100%		
Duration		1hr		1 ½ hours		1 hr	1 ½ hours
Content areas covered				CA 1, 2, 3, 4, 5			CA 1, 2, 3, 4, 5
Content /concepts coverage	Gr 4: CAPS, p. 34 Gr 5: CAPS, P 122 Gr 6: CAPS p. 212						
Skills and knowledge	Gr 4: CAPS, p. 35 – 65 Gr 5; CAPS , p 123 – 153 Gr 6; CAPS , p 213 – 238		Gr 4: CAPS, p. 66 – 85 Gr 5; CAPS , p 154 – 173 Gr 6; CAPS , p 239 - 256	Gr 4: CAPS, p. 35 – 85 Gr 5; CAPS, p 123 – 173 Gr 6; CAPS , p 213 - 256	Gr 4: CAPS. p. 35 – 103 Gr 5; CAPS , p 123 – 193 Gr 6; CAPS , p 213 - 275		Gr 4; CAPS, p. 86 - 119 Gr 5; CAPS , p 123 – 194 Gr 6; CAPS , p 257 - 289

- There is reduction of assessment tasks from nine to seven.
- Calculation **of Term weight** for reporting of 100% - Add marks of two tasks and calculate the percentage.
- June and November exam weight add up to 25% and the Assignment , Investigation, Project and two tests weight add up to 75% SBA
- One paper are prescribed in the June and November examinations for the Intermediate Phase
- The weight of tests are 10% as this form of assessment are done under controlled conditions

Tests and **examinations** are individualised assessment tasks and should be carefully designed to ensure that learners demonstrate their full potential in Mathematics content. The questions should be carefully spread to cater for different cognitive levels of learners. Tests and examinations are predominantly assessed using a memorandum.

The assignment, as is the case with tests and examinations, is mainly an individualised task. It can be a collection of past questions, but should focus on more demanding work as any resource material can be used, which is not the case in a task that is done in class under supervision.

Projects are used to assess a range of skills and competencies. Through projects, learners are able to demonstrate their understanding of different Mathematics concepts and apply them in real-life situations. Caution should, however, be exercised not to give projects that are above learners' cognitive levels. The assessment criteria should be clearly indicated on the project specification and should focus on the Mathematics involved and not on duplicated pictures and facts copied from reference material. Good projects contain the collection and display of real data, followed by deductions that can be substantiated.

I**nvestigation** promotes critical and creative thinking. It can be used to discover rules or concepts and may involve inductive reasoning, identifying or testing patterns or relationships, drawing conclusions, and establishing general trends. To avoid having to assess work which is copied without understanding, it is recommended that whilst initial investigation could be done at home, the final write-up should be done in class, under supervision, without access to any notes. Investigations are assessed with rubrics, which can be specific to the task, or generic, listing the number of marks awarded for each skill. These skills include:

- organizing and recording ideas and discoveries using, for example, diagrams and tables.
- communicating ideas with appropriate explanations
- calculations showing clear understanding of mathematical concepts and procedures.
- generalizing and drawing conclusions,

The forms of assessment used should be appropriate to the age and cognitive level of learners. The design of these tasks should cover the content of the subject and designed to achieve the broad aims of the subject. Appropriate instruments, such as rubrics and memoranda, should be used for marking. Formal assessments should cater for a range of cognitive levels and abilities of learners as shown in Table 4.2:

Table 4.2: Cognitive levels

<table>
<tr><th colspan="3">Description and Examples of Cognitive levels</th></tr>
<tr><th>Cognitive levels</th><th>Description of skills to be demonstrated</th><th>Example</th></tr>
<tr><td>Knowledge (≈25%)</td><td>• Estimation and appropriate rounding of numbers
• Straight recall
• Identification and direct use of correct formula
• Use of mathematical facts
• Appropriate use of mathematical vocabulary</td><td>Grade 4
1. Write down the next three numbers in the sequence: $103; 105; 107;$ ....
2. Replace the Δ with the correct values to make the number sentence true.
$43 + \Delta = 43$

Grade 5
1. Determine the factors of 64.
2. How many lines of symmetry does the rectangle have?

Grade 6
1. Write down the prime numbers that are factors of 36
2. What is the value of the underlined digit in 29 0<u>7</u>2?</td></tr>
<tr><td>Routine procedures (≈45%)</td><td>• Perform well-known procedures
• Simple applications and calculations which might involve many steps
• Derivation from given information may be involved
• Identification and use (after changing the subject) of correct formula
• Generally similar to those encountered in class</td><td>Grade 4
1. Determine the value for $\Delta\ if\ \Delta + 4 = 10$
2. Solve the number sentence. Show how you got the answer.
28 + 8 x 9 = Δ + 5

Grade 5
1. Use three different techniques of calculating 488 16

2. Jane was counting by fours. She said: 8, 12, 16, 20. What number should she say next?

Grade 6
1. Calculate $1\frac{1}{5} + \frac{3}{10} - \frac{1}{2}$
2. Balls are arranged in groups as indicated in the table below. Complete the table by filling in the missing number in the shaded block.
<table><tr><td>Group</td><td>1</td><td>2</td><td>3</td><td>9</td><td></td></tr><tr><td>Number of balls</td><td>3</td><td>5</td><td>7</td><td>19</td><td>51</td></tr></table></td></tr>
<tr><td>Complex procedures (≈20%)</td><td>• Problems involving complex calculations and/or higher order reasoning
• Investigate elementary axioms to generalize them into proofs for straight line geometry, congruence and similarity
• No obvious route to the solution
• Problems not necessarily based on real world contexts
• Making significant connections between</td><td>Grade 4
1. Peggy is 4 years old and Jock is 8 years old. Determine the ratio between their ages. Write the ratio in simplest fractional form.
2.How many quarter- hour turns of the hand are there between 1:00pm and 3:00 pm?</td></tr>
</table>

	different representations • Require conceptual understanding	 **Grade 5** 1. Investigate the properties of the rectangles and squares to identify similarities and differences. 2.Josh is rounding off numbers to the nearest 100. 2.1 Write a number for Josh that is less than 200 and rounds to 200. 2.2 Write a number other than 500 that is more than 200 and rounds to 500. **Grade 6** 1. There were 20 sweets in the packet. William and his friend ate $\frac{2}{5}$ of the sweets. How many sweets are left? 2. What is the amount of profit made when a car is bought for R120 000 and sold at profit of 30%.
Problem solving (≈10%)	• Unseen, non-routine problems • Higher order understanding and processes are often involved • Might require the ability to break the problem down into its constituent parts • Problems based on real world contexts	**Grade 4** 1. The sum of three consecutive whole numbers is 27. Find the numbers. 2. Chickens and sheep are kept in a pen. The total number of animals is 10. The total number of legs is 34. How many are chickens and how many are sheep? **Grade 5** 1. Heidi divided a certain number by 16. She found an answer 246 with a remainder of 4. What is the number? 2. At Malelane station, a train arrives every 50 minutes. The first train stops at 7:00. How many trains have stopped at the station just before 11:00? **Grade 6** 1. Busi has a bag containing 6 coloured balls: 1 blue ball ; 2 red balls and 3 yellow balls. She puts her hand in the bag and draws a ball. What is the chance that she will draw a red ball? Write the answer in simplest fractional form. 2. Leon interviewed 50 Grade 6 learners about their kind of TV show, 41 said they like comedy, 35 said they enjoy action films and 30 said they like both. How many of the learners like neither?

Table 4.3 Examination Guidelines

Grade 4 (1)

TOPICS	JUNE EXAMINATION CONCEPTS	%	Marks 50
1.1 Whole numbers (Properties)	Counting , ordering, comparing, representing and place value (Up to 4 digit number)	**50%**	**25**
	Addition and subtraction up to 4 digit numbers		
	Multiplication Up to 2 digits by 2 digits Division up to 3 by 1		
1.2 Common Fractions	Solve problems Describe and order fractions Calculations with fractions Equivalent form		
2. Patterns, Functions and Algebraic 2.1 Numeric Patterns	Concepts, skills and number range Investigate and extend patterns • Investigate and extend numeric patterns looking for relationships or rules of patterns: - sequences involving a constant difference or ratio - of learner's own creation • Describe observed relationships or rules in learner's own words Input and output values Determine input values, output values and rules for patterns and relationships using flow diagrams Equivalent forms Determine equivalence of different descriptions of the same relationship or rule presented: • in a flow diagram • by a number sentence	**10%**	**5**
2.2 Geometric patterns	Investigate and extend patterns • Investigate and extend geometric patterns looking for relationships or rules of patterns - represented in physical or diagram form - sequences involving a constant difference - of learner's own creation • Describe observed relationships or rules in learner's own words Input and output values • Determine input values, output values and rules for the patterns and relationships using flow diagrams Equivalent forms • Determine equivalence of different descriptions of the same relationship or rule presented		

	• in a flow diagram • by a number sentence		
2.3 Number Sentences Introduction of	Write number sentences to describe problem situations Solve and complete number sentences by: - Inspection - Trial and improvement - Substitution		
3 Space & Shape 3.1 Properties of 2-d shapes	Shapes learners need to know and name • Regular and irregular polygons: - triangles - squares, rectangles - other quadrilaterals - pentagons - hexagons • Circles The characteristics which learners use to distinguish, describe, sort and compare shapes • straight and/curved sides • number of sides	**15%**	**8**
3.2 Properties of 3-d objects	Objects learners need to know and name • rectangular prisms • spheres • cylinders • cones • square-based pyramids characteristics which learners use to distinguish, describe, sort and compare objects • shapes of faces • flat and curved surfaces Further activities to focus learners on characteristics of objects		
3.3 Symmetry	Recognize, draw and describe line of symmetry in 2-D shapes		
4 Measurement 4.1 Length	Practical measuring of 2-d shapes and 3-d objects by • estimating • measuring • recording • comparing and ordering Measuring instruments	**15%**	**7**

	rulers, metre sticks, tape measures, trundle wheels Units millimetres (*mm*), centimetres (*cm*), metres (*m*), kilometres (*km*) Calculations and problem-solving related to length Solve problems in contexts related to length Conversions include converting between • millimetres (*mm*), and centimetres (*cm*) • centimetres (*cm*) and metres (*m*) • metres (*m*) and kilometres (*km*) Conversions are limited to whole numbers and fractions		
4.4 Time	Reading time and time instruments Read, tell and write time in 12-hour and 24-hour formats on both analogue and digital instruments in: • hours • minutes • seconds Instruments include clocks and watches Reading calendars Calculations and problem solving with time include • Calculation of the number of days between any two dates within the same or consecutive years • Calculation of time intervals where time is given in minutes or hours only History of time Knows how time was measured and represented in ancient times		
5 Data Handling 5.1 Collecting and organising data	Collect data using tally marks and tables for recording	**10%**	**5**
5.2 Representing data	Draw a variety of graphs to display and interpret data including: • pictographs (one-to-one representation) • bar graphs		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented in • words • pictographs • bar graphs		

	• pie charts Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs		
		100%	**50**

Grade 4 (2)

TOPICS	NOVEMBER EXAMINATION CONCEPTS	%	Marks 50
1.1 Whole numbers (Properties)	Counting , ordering, comparing, representing and place value (Up to 4 digit number)	**50%**	**25**
	Addition and subtraction up to 4 digit numbers		
	Addition and subtraction up to 4 digit numbers		
	Multiplication Up to 2 digits by 2 digits Division up to 3 by 1		
1.2 Common Fractions	Solve problems Describe and order fractions Calculations with fractions Equivalent forms		
2 . Patterns, Functions and Algebraic 2.1 Numeric Patterns	Concepts, skills and number range Investigate and extend patterns Input and output values Equivalent forms	**10%**	**5**
2.2 Geometric patterns	Investigate and extend patterns Input and output values Equivalent forms		
2.3 Number Sentences	Write number sentences to describe problem situations Solve and complete number sentences by: - Inspection - Trial and improvement - Check the solution by substitution		
3. Space & Shape 3.1 Properties of 2-D shapes	Shapes learners need to know and name • Regular and irregular polygons: - triangles - squares, rectangles - other quadrilaterals - pentagons - hexagons • Circles The characteristics which learners use to distinguish, describe, sort and compare shapes • straight and/curved sides • number of sides	**15%**	**8**
3.2 Properties of 3-D objects	Objects learners need to know and name • rectangular prisms • spheres		

	• cylinders • cones • square-based pyramids Characteristics which learners use to distinguish, describe, sort and compare objects • shapes of faces • flat and curved surfaces Further activities to focus learners on characteristics of objects		
3.4 Transformations	Build composite shapes Put 2-D shapes together to create different composite 2-D shapes including some shapes with line symmetry. Tessellations Pack out 2-D shapes to create tessellating patterns including some patterns with line symmetry. Describe patterns Refer to lines, 2-D shapes, 3-D objects and lines of symmetry when describing patterns • in nature • from modern everyday life • our cultural heritage		
3.5 Viewing objects	Position and views Match different views of everyday objects Identify everyday objects from different views		
3.6 Position and movement	location and directions Locate position of objects, drawings or symbols on grid using alpha-numeric grid references Locate positions of objects on a map using alpha-numeric grid references		
4. Measurement 4.2 Mass	Practical measuring of 3-D objects by measuring instruments units	**15%**	**7**
4.3 Capacity and Volume	Practical measuring of 3-D objects by Measuring instruments units Calculations and problem-solving related to capacity/volume include:		
4.6 Perimeter, area and volume	Perimeter Measurement of area Measurement of volume		
5. Data Handling 5.1 Collecting and organising data	Collect data using tally marks and tables for recording	**10%**	**5**
	Draw a variety of graphs to display and interpret		

5.2 Representing data	data including: • pictographs (one-to-one representation) • bar graphs		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented in • words • pictographs • bar graphs • pie charts Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs		
5.4 Probability	Perform simple repeated events and list possible outcomes		
TOTAL		**100**	**50**

Grade 5 (1)

TOPICS	JUNE EXAMINATION CONCEPTS	%	Marks 60
1.1 **Whole numbers** (Properties)	Counting , ordering, comparing, representing and place value (Up to 6 digit number)	**50%**	**30**
	Addition and subtraction up to 5 digit numbers		
	Multiplication Up to 3 digits by 2 digits Division up to 4 by 2		
1.2 Common Fractions	Solve problems Describe and order fractions Calculations with fractions Equivalent form		
2**. Patterns, Functions & Algebraic** 2.1 Numeric Patterns	Concepts, skills and number range for term 1 Investigate and extend patterns Input and output values Equivalent forms	**10%**	**6**
2.2 Geometric patterns	Investigate and extend patterns Input and output values Equivalent forms		
2.3 Number Sentences	Write number sentences to describe problem situations Solve and complete number sentences Check the solution by Substitution		
3 Space & Shape 3.1 Properties of 2-d shapes	Shapes learners need to know and name The characteristics which learners use to distinguish, describe, sort and compare shapes Further activities to focus on the characteristics of shapes	**15%**	**9**
3.2 Properties of	Learners need to know and name properties of 3-D objects		

3-d objects	Characteristics which learners use to distinguish, describe, sort and compare objects		
3.3 Symmetry	Recognize, draw and describe line of symmetry in 2-D shapes		
4 Measurement **4.1 Length**	Practical measuring of 2-d shapes and 3-d objects by Measuring instruments Units	**15%**	**9**
4.3 Capacity and Volume	Practical measuring of 3-d objects by Measuring instruments Units Calculations and problem-solving related to capacity/volume		
4.4 Time	Reading time and time instruments Reading calendars Calculations and problem solving with time History of time		
5 **Data Handling** 5.1 Collecting and organising data	Collect data using tally marks and tables for recording Order Data	**10%**	**6**
5.2 Representing data	Draw a variety of graphs to display and interpret data		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs Examine ungrouped numerical data		
		100%	**60**

Grade 5 (2)

TOPICS	NOVEMBER EXAMINATION CONCEPTS	%	Marks 60
1.1 **Whole numbers** (Properties)	Counting , ordering, comparing, representing and place value (Up to 6 digit number)	**50%**	**30**
	Addition and subtraction up to 5 digit numbers		
	Multiplication Up to 3 digits by 2 digits Division up to 3 by 2		
1.2 Common Fractions	Solve problems Describe and order fractions Calculations with fractions Equivalent form		
2 **Patterns, Functions & Algebraic** 2.1 Numeric Patterns	Investigate and extend patterns Input and output values Equivalent forms	**10%**	**6**

2.2 Geometric patterns	Investigate and extend patterns Input and output values Equivalent forms		
2.3 Number Sentences	Write number sentences to describe problem situations Solve and complete number sentences Check the solution by substitution		
3 **Space & Shape** 3.1 Properties of 2-d shapes	Shapes learners need to know and name • Regular and irregular polygons: - triangles - squares, rectangles - other quadrilaterals - pentagons - hexagons • Circles The characteristics which learners use to distinguish, describe, sort and compare shapes • straight and/curved sides • number of sides	**15%**	**9**
3.2 Properties of 3-d objects	**Objects learners need to know and name** • rectangular prisms • spheres • cylinders • cones • square-based pyramids **Characteristics which learners use to distinguish, describe, sort and compare objects** • shapes of faces • flat and curved surfaces		
3.4 Transformations	**Build composite shapes** Put 2-D shapes together to create different composite 2-D shapes including some shapes with line symmetry.		
3.5 Viewing objects	Position and viewing		
3.6 Position and movement	**Location and directions** Locate position of objects, drawings or symbols on grid using alpha-numeric grid references Locate positions of objects on a map using alpha-numeric grid references		
	Tessellations Pack out 2-D shapes to create tessellating		

	patterns including some patterns with line symmetry. **Describe patterns** Refer to lines, 2-D shapes, 3-D objects and lines of symmetry when describing patterns • in nature • from modern everyday life • our cultural heritage		
4 **Measurement** 4.2 Mass	Practical measuring of 3-d objects by measuring instruments units Calculations and Problem solving	**15%**	**9**
4.3 Capacity and Volume	Practical measuring of 3-d objects by measuring instruments units Calculations and problem-solving related to capacity/volume include:		
4.6 Perimeter, area and volume	Perimeter Measurement of area Measurement of volume		
5. Data Handling 5.1 Collecting and organising data	Collect data using tally marks and tables for recording Order data	**10%**	**6**
5.2 Representing data	Draw a variety of graphs to display and interpret data		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs		
5.4 Probability	Perform simple repeated events and list possible outcomes for events		
TOTAL		**100**	**60**

Grade 6 (1)

TOPICS	**JUNE EXAMINATION** **CONCEPTS**	**%**	**Marks** **70**
1.NUMBERS, OPERATIONS AND RELATIONSHIPS 1.1 Whole numbers	**Whole numbers (Properties)** Counting , ordering, comparing, representing and place value (Up to 9 digit number)	**50%**	**35**
	Addition and subtraction up to 5 digit numbers		
	Multiplication Up to 4 digits by 2 digits Division up to 4 by 2		
1.2 Common Fractions	Describe and ordering fractions. Calculate with fractions. Solving problems. Percentages		

	Equivalent forms.		
1.3 Decimal fractions	Recognise, ordering and place value of decimal fractions. Calculations with decimal fractions. Solving problems. Equivalent forms.		
2.PATTERNS,FUNCTIONS AND ALGEBRA 2.1 Numeric Patterns	Investigate and extend patterns Input and output values Equivalent forms	**10%**	**7**
2.2 Geometric patterns	Investigate and extend patterns Input and output values Equivalent forms		
2.3 Number Sentences	Write number sentences to describe problem situations Solve and complete number sentences Check the solution by Substitution		
3.SPACE AND SHAPE 3.1 Properties of 2-d shapes	Range of shapes. Characteristics of shapes. Further activities. Angles	**15%**	**10**
3.2 Properties of 3-D objects	Range of 3-D objects Characteristics of 3-D objects. Further activities.		
3.3 Symmetry	Recognize, draw and describe line of symmetry in 2-D shapes		
4.MEASUREMENT 4.3 Capacity and Volume	Practical measuring of 3-d objects by Measuring instruments Units Calculations and problem-solving related to capacity/volume	**15%**	**11**
4.4 Time	Reading time and time instruments Reading calenders Calculations and problem solving with time History of time		
5.DATA HANDLING 5.1 Collecting and organising data	Collect data using tally marks and tables for recording Order Data	**10%**	**7**
5.2 Representing data	Draw a variety of graphs to display and interpret data		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs Examine ungrouped numerical data		
TOTAL		**100%**	**70**

Grade 6 (2)

TOPICS	NOVEMBER EXAMINATION CONCEPTS	%	Marks 70
1 **NUMBERS, OPERATIONS AND RELATIONSHIPS** 1.1 Whole numbers	Counting , ordering, comparing, representing and place value (Up to 9 digit number)	**50%**	**35**
	Addition and subtraction up to 6 digit numbers		
	Multiplication Up to 4 digits by 3 digits Division up to 4 by 3		
1.2 Common Fractions	Describe and ordering fractions. Calculate using fractions. Solving problems. Equivalent forms **Percentages** Percentages: Calculations Equivalent forms		
2.PATTERNS,FUNCTIONS AND ALGEBRA 2.1 Numeric Patterns	Investigate and extend patterns Input and output values Equivalent forms	**10%**	**7**
2.3 Number Sentences Introduction of Algebraic expressions	Write number sentences to describe problem situations Solve and complete number sentences Check the solution by substitution		
3.SPACE AND SHAPE 3.2 Properties of 2-D shapes	Learners need to know and name shapes Characteristics of shapes Further activities to focus on the characteristics of shapes Angles	**15%**	**10**
3.2 Properties of 3-D objects	Range of 3-D objects Characteristics of 3-D objects. Further activities		
3.4 Transformation	Describe patterns Enlargement and reductions		
3.5 Viewing objects	Position and viewing		
3.6 Position and movement	Location and direction		
4.MEASUREMENT 4.1 Length	Practical measuring of 2-D shapes and 3-D objects. Measuring instruments Units Calculations and problem solving related to length	**15%**	**11**
4.2 Mass	Practical measuring of 3-d objects by Solving measuring instruments Units Calculations and Problem		
4.5 Temperature	Practical measuring of temperature Measuring instruments Units Calculations and problem-solving related temperatures.		
4.6 Perimeter, area and volume	Perimeter Measurement of area		

	Measurement of volume Investigation		
4.7 History	History of measurement		
5. Data Handling 5.1 Collecting and organising data	Collect data Using tally marks and tables for recording Simple questionnaire		
5.2 Representing data	Draw a variety of graphs to display and interpret data		
5.3 Analysing, interpreting and reporting data	Critically read and interpret data represented Analyse data by answering questions related to data categories Summarise data verbally and in short written paragraphs Examine ungrouped numerical data		
5.4 Probability	Perform simple repeated events and list possible outcomes for events Count and compare the frequency of actual outcomes for a series of trials.		
TOTAL		**100%**	**70**

4.5. Recording and Reporting

Recording is a process in which the teacher documents the level of a learner's performance in a specific assessment task. It indicates the learner's progress towards the achievement of the knowledge as prescribed in the National Curriculum and Assessment Policy Statements. Records of learner performance should provide evidence of the learner's conceptual progression within a grade and her/his readiness to be promoted to the next grade. Records of learner performance should also be used to verify the progress made by teachers and learners in the teaching and learning process.

Reporting is a process of communicating learner performance to learners, parents, schools, and other stakeholders. Primary schooling is a critical period for the acquisition of foundational Mathematics skills and conceptual knowledge. Reporting of learner performance is therefore essential and should not be limited to the quarterly report card. Other methods of reporting should be explored, e.g. parents' meetings, school visitation days, parent-teacher conferences, phone calls, letters. These extreme, but worthwhile modalities will ensure that any underperformance is communicated promptly and appropriate measures of intervention are implemented collaboratively by teachers and parents. Formal reporting is done on a 7-point rating scale (see Table 4.3)

Table 4.3: Scale of achievement for the National Curriculum Statement Grades 7 - 9

Rating Code	Description of Competence	Percentage
7	Outstanding achievement	80 - 100
6	Meritorious achievement	70 - 79
5	Substantial achievement	60 - 69
4	Adequate achievement	50 - 59
3	Moderate achievement	40 - 49
2	Elementary achievement	30 - 39
1	Not achieved	0 - 29

4.6. Moderation of Assessment

Moderation refers to the process that ensures that the assessment tasks are fair, valid and reliable. Moderation should be carried out internally at school and/or externally at district, provincial and national levels. Given that the promotion of learners in the Intermediate Phase is largely dependent upon the SBA (which contributes 75%); the moderation process should be intensified to ensure that:

- learners are not disadvantaged by the invalid and reliable assessment tasks
- quality assessment is given and high but achievable standards are maintained

4.7. General

This document should be read in conjunction with:

4.7.1. *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*; and

4.7.2. National Protocol for Assessment Grades R-12.