



**basic education**

Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA

**ANNUAL NATIONAL ASSESSMENT 2015  
ASSESSMENT GUIDELINES  
MATHEMATICS  
GRADE 5**

## **INTRODUCTION**

The 2015 cycle of Annual National Assessment (ANA 2015) will be administered in all public and designated<sup>1</sup> independent schools in September 2015. During this period all learners in Grades 1 - 9 will write nationally set tests in Language and Mathematics. The results will be used to report progress related to achieving the goals set in the *Action Plan 2014, Towards Schooling 2025*.

The ANA tests will be written during the third school term and therefore the Department of Basic Education (DBE) has developed Assessment Guideline documents for each grade and subject (Language and Mathematics) that outline the minimum curriculum content that must be covered by all learners prior to the writing of the test. The Assessment Guidelines set the limits of the scope of work that will be covered in the test for each grade and subject. The ANA 2015 Assessment Guidelines have been designed in line with the Curriculum and Assessment Policy Statement (CAPS).

## **INTERMEDIATE PHASE: Grade 5**

In Grade 5, the test will cover work that is prescribed for the **first three terms** of the school year. It is important to note that the ANA 2015 Assessment Guidelines do not imply that the delimited scope is all that must be taught and learnt during the school year. Instead, the Assessment Guidelines provide the basic minimum curriculum that must have been covered by the end of the third school term. There will only be one non-routine question in the paper.

For this grade the Assessment Guidelines are arranged in three columns. The content area to be assessed is specified in the first column, the topics are listed in the second column and the specific skills/competencies to be assessed are indicated in the third column.

Teachers are expected to use these Guidelines together with the CAPS to ensure that all the topics that will be assessed have been covered.

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<sup>1</sup> "Designated" independent schools are those that will apply and register either their Grade 3 or Grade 6 learners to participate in ANA for purposes of securing State subsidy.

CONTENT AREA	TOPIC	SKILLS AND COMPETENCIES
<b>NUMBERS, OPERATIONS AND RELATIONSHIPS</b>	Whole numbers Counting Ordering Comparing Representing numbers to at least 6-digit numbers Place value of digits  Addition Subtraction  Multiplication Division	<ul style="list-style-type: none"> <li>• The learner will be assessed on understanding the place value of digits to count forwards and backwards in whole number intervals up to at least 10 000</li> <li>• Ordering, comparing and representing numbers to at least 6-digit numbers</li> <li>• Recognizing the place value of digits in whole numbers to at least 6 digit numbers.</li> <li>• Rounding off to the nearest 5, 10, 100 and 1 000</li> <li>• Addition and subtraction of whole numbers of at least 5 digits. Breaking up numbers into hundreds, tens and units. Expanded notation.</li> <li>• Multiplication of at least whole 3-digit by 2-digit numbers</li> <li>• Division of at least whole 3-digit by 2-digit numbers</li> <li>• The learner needs to know multiples of 2-digit whole numbers to at least 100. Multiples of 10, 100 and 1000 as well.</li> <li>• Learners have to determine factors of 2-digit whole numbers to at least 100 and use addition and subtraction as inverse operations.</li> <li>• The learner needs to recognize and use the commutative, associative and distributive properties of whole numbers</li> <li>• The learner will be assessed on solving problems involving whole numbers, also in financial and measurement contexts</li> <li>• Grouping and equal sharing.</li> </ul>
	Common fractions	<ul style="list-style-type: none"> <li>• Addition and subtraction of common fractions with the same denominators and of mixed numbers.</li> <li>• Operations with fractions of whole numbers.</li> <li>• Recognize, describe and use the equivalence of fractions</li> <li>• Recognize and use equivalent forms of common fractions (fractions in which one denominator is a multiple of another)</li> </ul>
<b>PATTERNS, FUNCTIONS AND ALGEBRA</b>	Number sentences (introduction to algebraic expressions)	<ul style="list-style-type: none"> <li>• Investigate and extend numeric patterns looking for relationships or rules of patterns, sequences not only with a constant difference</li> <li>• The learner needs to apply the rule or pattern to find specified terms in a sequence</li> </ul>

CONTENT AREA	TOPIC	SKILLS AND COMPETENCIES
		<ul style="list-style-type: none"> <li>Determine input values, output values and rules for the patterns and relationships using tables</li> </ul>
	Geometric patterns	<ul style="list-style-type: none"> <li>Investigate and extend geometric patterns looking for relationships or rules of patterns represented in physical or diagram form sequences not limited to a constant difference</li> </ul>
	Numeric patterns	<ul style="list-style-type: none"> <li>The learner is to investigate and extend or fill in missing numbers in sequences involving a constant difference and look for rules in patterns.</li> <li>Solving and completing number sentences by inspection, trial and improvement</li> </ul>
<b>SPACE AND SHAPE (GEOMETRY)</b>	2-D shapes Properties of 2-D shapes	<ul style="list-style-type: none"> <li>Recognize, visualize and name 2-D shapes in the environment and geometric setting, focusing on regular and irregular polygons - triangles, squares, rectangles, other quadrilaterals, pentagons, hexagons, heptagons and circles</li> <li>Similarities and differences between squares, rectangles and other quadrilaterals as well as other 2-D shapes</li> <li>Describe, sort and compare 2-D shapes in terms of straight and curved sides, number of sides, lengths of sides, angles in shapes, limited to: right angles, angles smaller than right angles, angles greater than right angles</li> <li>Recognize and describe angles in 2-D shapes: right angles, angles smaller than right angles, angles greater than right angles</li> </ul>
	Properties of 3-D objects	<ul style="list-style-type: none"> <li>Recognize, visualize and identify 3-D objects in the environment and geometric settings, focusing on rectangular prisms, triangular prisms, cubes and other objects such as cylinders, cones and pyramids</li> <li>Describe, sort and compare 3-D objects in terms of shape of faces, number of faces, flat and curved surfaces</li> </ul>
	Symmetry	Recognize, draw and describe line(s) of symmetry in 2-D shapes and draw symmetrical reflections
	Viewing objects	The learner links the position of the viewer to views of single everyday objects or collections of objects or everyday scenes. Side views, views from the top, front and back and on paper. Identify simple every day objects from different views

CONTENT AREA	TOPIC	SKILLS AND COMPETENCIES
<b>MEASUREMENT</b>	Length	<ul style="list-style-type: none"> <li>The learner is assessed in solving problems in measurement contexts involving length, distance, etc.</li> <li>Conversions include converting between any of the following units: millimeters, (mm), centimeters (cm), meters (m), kilometers (km)</li> <li>Assessment is done on conversions limited to whole numbers and common fractions such as a half or quarter</li> </ul>
	Mass	<ul style="list-style-type: none"> <li>Calculations and problem-solving involving mass in contexts involving mass</li> <li>Converting between grams(g) and kilograms(kg), limited to examples of whole numbers and common fractions</li> </ul>
	Capacity Volume	<ul style="list-style-type: none"> <li>Calculations and problem solving involving capacity/volume</li> <li>Converting between liters and milliliters</li> </ul>
	Time	<ul style="list-style-type: none"> <li>Calculations and problem solving time in contexts</li> <li>Calculation of time intervals where time is given in seconds, minutes, hours, days and /or weeks</li> </ul>
	Temperature	<ul style="list-style-type: none"> <li>Reading temperature on pictures of thermostats</li> <li>Calculations and problem-solving related to temperature include: Calculating temperature differences limited to positive whole numbers</li> </ul>
<b>DATA HANDLING</b>	Collecting and organizing data	<ul style="list-style-type: none"> <li>Collect, read and interpret data involving tally marks, frequency and tables of recorded data.</li> <li>Order data from smallest group to largest group of represented data</li> </ul>
	Represented data  Analyzing  Interpreting	<ul style="list-style-type: none"> <li>Learners need to analyse data by answering questions related to data categories</li> <li>Data sources and reporting. Examine data to determine the most frequently occurring score in the data set (mode)</li> <li>Calculations in contexts</li> </ul>