basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

ANNUAL NATIONAL ASSESSMENT 2015
ASSESSMENT GUIDELINES
MATHEMATICS
GRADE 4

INTRODUCTION

The 2015 cycle of Annual National Assessment (ANA 2015) will be administered in all public and designated[1] 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 provided 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 4

In Grade 4, 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 grade 4 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 concepts and skills in the third column.

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

[1] "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	TOPICS	CONCEPTS AND SKILLS
NUMBERS, OPERATIONS AND RELATIONSHIPS	**Whole numbers** Counting Ordering Comparing Representing Place value of digits Addition Subtraction Multiplication Division	• Count forwards and backwards in 2s, 3s, 5s, 10s, 25s, 50s, 100s between 0 and at least 10 000 • Order, compare and represent numbers to at least 4-digit numbers • Recognize the place value of digits in whole numbers to at least 4-digit numbers • Round off to the nearest 10, 100, 1 000 • Addition and subtraction of whole numbers of at least 4 digits • Multiplication of at least whole 2-digit by 2-digit numbers • Division of at least whole 3-digit by 1-digit numbers • Use a range of techniques to perform and check written and mental calculations of whole numbers including: - estimation; - building up and breaking down numbers; - rounding off and compensating; - doubling and halving; - using a number line; - addition and subtraction as inverse operation; - multiplication and division as inverse operations • Multiples of 1-digit numbers to at least 100 • Recognize and use the commutative, associative, and distributive properties with whole numbers • Solve problems in contexts involving whole numbers, including financial contexts

CONTENT AREA	TOPICS	CONCEPTS AND SKILLS
	Common Fractions	• Compare and order common fractions with different denominators (halves; thirds, quarters; fifths; sixths; sevenths; eighths) • Describe and compare common fractions in diagram form • Recognize, describe and use the equivalence of division and fractions • Recognize and use equivalent forms of common fractions (fractions in which one denominator is a multiple of another)
PATTERNS, FUNCTIONS AND ALGEBRA	**Numeric patterns**	• Investigate and extend numeric patterns looking for relationships or rules of: - number sequences involving a constant difference or ratio • Describe observed relationships or rules in learner's own words
	Geometric patterns	• Investigate and extend geometric patterns looking for relationships or rules of patterns represented in : - physical or diagram form,; - sequences not limited to a constant difference or ratio
SPACE AND SHAPE	**Properties of 2-D shapes**	• Recognize, visualize and name 2-D shapes in the environment and geometric settings: - regular and irregular polygons,; - triangles, squares, rectangles, other quadrilaterals, pentagons, hexagons and circles
	Properties 3-D objects	• Recognize, visualize and name 3-D objects in the environment and geometric settings, focusing on: - rectangular prisms; - spheres,; - cylinders and pyramids • Describe, sort and compare 3-D objects in terms of: - shapes of faces; - flat and curved surfaces

CONTENT AREA	TOPICS	CONCEPTS AND SKILLS
	Symmetry	• Recognize, draw and describe line(s) of symmetry in 2-D shapes
	Transformations	• Identify 2-D shapes in a tessellated pattern
	Viewing objects	• Identify everyday objects from different views
MEASUREMENT	**Length**	• Solve problems in contexts involving length. • Conversions include converting between: - millimetres *(mm) and* centimetres (*cm);* - centimetres (cm) and metres *(m*); - metres (*m)* and kilometres *(km)*
	Capacity / Volume	• Problems in contexts involving capacity/volume
	Time	• Write time in 12-hour and 24-hour formats on both analogue and digital instruments in hours, minutes and seconds. • Instruments include clocks and watches • Problems in contexts involving time • 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
DATA HANDLING	**Collect and organize data**	• Collect data and use tally marks and tables to record data
	Representing data	• Draw a variety of graphs to display and interpret data including : - pictographs (one-to-one correspondence between data and representation)
	Analyzing data	• Analyze data by answering questions related to the data.