

JULY	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- NUMBER</p> <p>AOI- Human Ingenuity</p> <p>Significant Concepts- We depend on numbers everyday and we need to understand number systems and how to use them. Estimation is a way to get an approximate answer.</p> <p>Recapitulation of Revision of numbers- number names-Indian and International, place, place value</p> <p>Prime, composite, even odd nos. natural, whole nos.</p> <p>Properties of numbers (closure, commutative, associative, distributive)</p> <p>Four mathematical operations for whole nos.</p> <p>Properties of whole nos.</p> <p>Students should –</p> <ol style="list-style-type: none"> 1. Interpret decimal notation and place value; multiply and divide by 10, 100, 1000. 2. Order decimals, including measurements, changing these to the same units 3. Round whole numbers to the nearest 10, 100 or 1000 and decimals, including measurements, to the nearest whole number or one decimal place 4. Use the order of operations to work out simple calculations (BODMAS) 5. Recognize negative numbers as positions on a number line; add & subtract integers 6. Recognize multiples, factors, common factors and primes 7. Find the lowest common multiple and Greatest common divisor in simple cases 8. Recognize squares of whole numbers to at least 20x20, and the corresponding square roots <p>MYP Unit Question - What do numbers convey?</p>	<p>Topic-1</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA D</p> <p>Reflection in Mathematics</p>	<p>Topic - 1</p> <p>Inquirer</p> <p>Knowledgeable</p> <p>Thinker</p> <p>Reflective</p>	<p>Topic- 1</p> <p>Focus on-</p> <p>Organisation</p> <p>Information literacy</p> <p>Transfer</p> <p>Reflection</p>	<p>Topic-1</p> <p>Connected to-</p> <p>Sciences,</p> <p>Humanities</p>

	What are the strategies to make a reasonable estimate?				
AUG	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC-ALGEBRA- EXPRESSIONS, EQUATIONS & SIMPLE FUNCTIONS, SEQUENCES, FORMULAE AND SUBSTITUTION</p> <p>AOI- Human Ingenuity</p> <p>Significant Concepts- Mathematical expressions represent relationships and they can be expressed using variables. Patterns can be generalised. Number patterns and relationships can be expressed using variables.</p> <p>Students should -</p> <ol style="list-style-type: none"> 1. use letters to represent unknown numbers or variables 2. understand like and unlike terms 3. understand power notation 4. Construct simple algebraic expressions 5. simplify linear expressions 6. be able to do addition and subtraction of algebraic expression by column method 7. simplification of algebraic expression using brackets (simple expressions) 8. Construct and solve simple equations in one variable 9. Represent simple functions using words, symbols and mappings 10. generate coordinate pairs that satisfy a linear equation, where y is given explicitly in terms of x; plot the corresponding graphs, recognise straight line graphs parallel to the x or y axis 11. Generate sequences from spatial patterns and describe the general term in simple cases 12. Find a term-to-term rule and the nth term rule for a sequence of numbers 13. Derive and use simple formulae 	<p>Topic - 2</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA B</p> <p>Investigating Pattern</p> <p>CRITERIA C</p> <p>Communication in Mathematics</p> <p>CRITERIA D</p> <p>Reflection in Mathematics</p>	<p>Topic - 2</p> <p>Inquirer</p> <p>Knowledgeable</p> <p>Thinker</p> <p>Communicator</p> <p>Reflective</p>	<p>Topic - 2</p> <p>Focus on-</p> <p>Organisation</p> <p>Information literacy</p> <p>Thinking</p> <p>Transfer</p> <p>Collaboration</p> <p>Communication</p> <p>Reflection</p>	<p>Topic-2</p> <p>Connected to-</p> <p>Sciences</p>

	14. Substitute real numbers for letters in a formula MYP Unit Question - How is an equation like a balance scale? What strategies can be used to continue a sequence? Why are variables used?				
SEP.	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- CO-ORDINATES SHAPES AND GEOMETRIC REASONING</p> <p>AOI- Human Ingenuity</p> <p>Significant Concepts- Coordinate system is used to fix a point. Transforming an object does not change its attributes</p> <p>Students should -</p> <ol style="list-style-type: none"> 1. Read and plot coordinates of points determined by geometric information in all four quadrants. 2. Identify, describe, visualize and draw 2-D shapes in different orientations. 3. Use the notation and labeling conventions for points, lines, angles and shapes. 4. Name and identify side, angle and symmetry properties of special quadrilaterals and triangles, and regular polygons with 5,6 and 8 sides. 5. Recognise and describe common solids and some of their properties. 6. Recognise line and rotation symmetry in 2-D shapes, draw lines of symmetry and complete patterns with two lines of symmetry, identify the order of rotation symmetry. 7. Transform 2-D shapes by reflection in a given line, rotation about a given point, translation <p>MYP Unit Question- How is the location of a point on a grid described? How does a shape look when translated, rotated or reflected?</p>	<p>Topic- 3</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA B</p> <p>Investigating Patterns</p>	<p>Topic - 3</p> <p>Inquirer</p> <p>Knowledgeable</p> <p>Thinker</p> <p>Reflective</p>	<p>Topic- 3</p> <p>Focus on-</p> <p>Organisation</p> <p>Information literacy</p> <p>Thinking</p> <p>Transfer</p>	<p>Topic- 3</p> <p>Connected to-</p> <p>Physics, Arts</p>

OCT.	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- MEASUREMENT & CONSTRUCTION, ANGLE PROPERTIES</p> <p>AOI- Human Ingenuity</p> <p>Significant Concepts- Measurement of lines & angles; construction of angles, triangles, squares, rectangles & regular polygons; to understand and find unknown angles in a given situation: about a line, about a point, in between 2 parallel lines</p> <p>Students should - (Revision of lines, line segment, ray, parallel and perpendicular lines, angles and its types, triangles and types of triangles)</p> <ol style="list-style-type: none"> 1. Use a protractor to construct or measure an angle 2. Construct a triangle using a ruler and protractor given the length of the base and the sizes of the base angles 3. Construct a triangle using a ruler and compasses only given the lengths of the three sides. 4. Construct squares, rectangles, regular polygons. 5. Identify and calculate the missing angles on a straight line and the angles around a point 6. Identify parallel and perpendicular lines and understand the rules that apply to these lines 7. recognize and use the angle properties of triangle, quadrilateral 8. Solve simple geometrical problems by using side and angle properties to identify equal lengths or calculate unknown angles, and explain reasoning. <p>MYP Unit Question- How are geometric figures constructed? How can we establish a relationship between angles?</p>	<p>Topic - 4</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA C</p> <p>Communication in Mathematics</p>	<p>Topic - 4</p> <p>Inquirer</p> <p>Knowledgeable</p> <p>Thinker</p> <p>Communicator</p>	<p>Topic - 4</p> <p>Focus on -</p> <p>Organisation</p> <p>Information literacy</p> <p>Collaboration</p> <p>Communication</p>	<p>Topic- 4</p> <p>Connected to-</p> <p>Physics, Arts</p>

NOV.	GRADE 6 (MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- LENGTH, MASS AND CAPACITY; TIME AOI- Environments Significant concepts- To measure objects around us and to convert one unit to another, To read 12 hour and 24 hour clock, to understand flight/ bus/ train timetables Students should - 1. Choose suitable units of measurement to estimate, measure, calculate and solve problems in everyday contexts. 2. Know abbreviations for and relationships between metric units; convert between different units. 3. Read the scales on a range of analogue and digital measuring instruments. 4. Draw and interpret graphs in real life contexts involving more than one stage, e.g. travel graphs. 5. Know the relationships between units of time; understand and use the 12-hour and 24-hour clock systems; interpret timetables; calculate time intervals. MYP Unit Question- Why do we need to convert between different units of measurement? Which are the different ways of reading time? What is the importance of time in our lives?</p>	<p>Topic-5 CRITERIA A Knowledge and Understanding CRITERIA D Reflection in Mathematics</p>	<p>Topic - 5 Inquirer Knowledgeable Thinker Reflective</p>	<p>Topic- 5 Focus on- Organisation Information literacy Transfer Reflection</p>	<p>Topic- 5 Connected to- Sciences</p>
DEC.	<p>GRADE 6(MATHEMATICS) TOPIC- AREA AND PERIMETER OF RECTANGLES; CUBES AND CUBOIDS AOI- Environments Significant concepts- Area and perimeter of a rectangle and compound shapes made from rectangles. Surface area and volumes of cubes and cuboids Students should - 1. Know the abbreviations for and relationships</p>	<p>Topic- 6 CRITERIA A Knowledge and Understanding CRITERIA D Reflection in Mathematics</p>	<p>Topic - 6 Inquirer Knowledgeable Thinker Reflective</p>	<p>Topic- 6 Focus on- Organisation Information literacy Transfer Reflection</p>	<p>Topic- 6 Connected to- Humanities, Sciences</p>

	<p>between square meters, square centimeters and square millimeters.</p> <p>2. Derive and use formulae for the area and perimeter of a Rectangle; calculate the perimeter and area of compound shapes made from rectangles.</p> <p>3. Derive and use the formula for the volume of a cuboids; calculate volumes of cuboids.</p> <p>4. Calculate the surface area of cubes and cuboids from their nets.</p> <p>MYP Unit Question- If you could redecorate your house any way you wanted, how much carpeting, paint, or wallpaper would you need to buy?</p>				
JAN.	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- HANDLING DATA</p> <p>AOI- Health and Social Education</p> <p>Significant Concepts- Graphs convey data in a concise way. Calculation of mean, median, mode and range for a data. .Finding probability of simple events. Introduction to set theory.</p> <p>Students should -</p> <ol style="list-style-type: none"> 1. Decide which data would be relevant to an enquiry and collect and organise the data. 2. Design and use a data collection sheet or questionnaire for a simple survey. 3. Construct and use frequency tables to gather discrete data, grouped where appropriate in equal class intervals 4. Draw and interpret: bar-line graphs and bar charts, frequency diagrams for grouped discrete data, simple pie charts, and pictograms 5. Calculate the mean (including from a simple frequency table), median, mode and range of a set of data. 6. Compare two simple distributions using the range and the mode, median or mean. 	<p>Topic - 7</p> <p>CRITERIA A Knowledge and Understanding</p> <p>CRITERIA B Investigating Pattern</p> <p>CRITERIA C Communication in Mathematics</p> <p>CRITERIA D Reflection in Mathematics</p>	<p>Topic - 7</p> <p>Inquirer Knowledgeable Thinker Communicator Reflective</p>	<p>Topic - 7</p> <p>Focus on- Organisation Information literacy Thinking Transfer Collaboration Communication Reflection</p>	<p>Topic- 7</p> <p>Connected to- Humanities</p>

	<p>7. Understand and use the probability scale from 0 to 1.</p> <p>8. Find probabilities based on equally likely outcomes in simple contexts.</p> <p>9. Identify all the possible mutually exclusive outcomes of a single event.</p> <p>10. Use experimental data to estimate probabilities.</p> <p>11. Compare experimental and theoretical probabilities in simple contexts.</p> <p>12. Use language, notation and Venn diagrams to describe sets and represent relationships between sets.</p> <p>13. use notations like $n(A)$</p> <p>MYP Unit Question- What data display is appropriate for a given set of data? Which measure of central tendency (mean, median, mode or range) will be best suitable for a particular data? How can I use probability to make wise decisions?</p>				
FEB	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC-FRACTIONS, DECIMALS AND PERCENTAGES</p> <p>AOI- Human Ingenuity</p> <p>Significant Concepts- Fractions, decimals and percents express a relationship between two numbers</p> <p>Students should -</p> <ol style="list-style-type: none"> Understand percentage as the number of parts in every 100; use fractions and percentages to describe parts of shapes, quantities and measures. Recognise the equivalence of simple fractions, decimals and percentages. Simplify fractions by cancelling common factors and identify equivalent fractions; change an 	<p>Topic- 8</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA B</p> <p>Investigating Patterns</p> <p>CRITERIA C</p> <p>Communication in Mathematics</p>	<p>Topic - 8</p> <p>Inquirer Knowledgeable Thinker Communicator Reflective</p>	<p>Topic- 8</p> <p>Focus on- Organisation Information literacy Thinking Communication Collaboration Transfer Reflection</p>	<p>Topic- 8</p> <p>Connected to- Sciences Humanities</p>

	<p>improper fraction to a mixed number, and vice versa; convert terminating decimals to fractions.</p> <p>4. Compare two fractions by using diagrams, or by using a calculator to convert the fractions to decimals</p> <p>5. Add and subtract two simple fractions; find fractions of quantities (whole no. answers); multiply a fraction by an integer</p> <p>6. Multiply and divide decimals with one and/or two places by single digit numbers.</p> <p>7. Calculate simple percentages of quantities (whole no. answers) and express a smaller quantity as a fraction or percentage of a larger one.</p> <p>8. calculate inverse percentage (simple questions)</p> <p>9. calculate profit and loss and their percentage (simple questions)</p> <p>10 calculate simple interest – direct questions using formula</p> <p>MYP Unit Question- How are common fractions, decimals & percents alike and different?</p>				
MARCH	GRADE 6(MATHEMATICS)	OBJECTIVE	LEARNER PROFILE	ATL	INTERDISCIPLINARY
	<p>TOPIC- RATIO AND PROPORTION; DIVISION AND FRACTIONS OF A QUANTITY</p> <p>AOI- Human Ingenuity</p> <p>Significant concepts- Equivalent fractions and ratios, direct proportion, dividing a quantity in a given ratio, use of fractions & percentages in real life.</p> <p>Students should-</p> <ol style="list-style-type: none"> 1. Use percentages to represent and compare different quantities. 2. Use ratio notation, simplify ratios and divide a quantity into two parts in a given ratio 3. Recognize the relationship between ratio and proportion 	<p>Topic- 9</p> <p>CRITERIA A</p> <p>Knowledge and Understanding</p> <p>CRITERIA D</p> <p>Reflection in Mathematics</p>	<p>Topic - 9</p> <p>Inquirer</p> <p>Knowledgeable</p> <p>Thinker</p> <p>Reflective</p>	<p>Topic- 9</p> <p>Focus on-</p> <p>Organisation</p> <p>Information literacy</p> <p>Transfer</p> <p>Reflection</p>	<p>Topic- 9</p> <p>Connected to-</p> <p>Sciences</p> <p>Humanities</p>

<p>4. Use direct proportion in context; solve simple problems involving ratio and direct proportion</p> <p>5. Know that in any division where the dividend is not a multiple of the divisor there will be a remainder which can be expressed as a fraction of the divisor</p> <p>6. Calculate simple percentages and fractions of quantities.</p> <p>7. Know when to round up or down after divisions when the context requires a whole number answer.</p> <p>MYP Unit Question- How can I use percentages & fractions in real life?</p>				
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--