Ascot High School Department

Mathematics Department

Grade 8 NSC Curriculum

September - December 2025

Introduction:

Based on the philosophy that mathematics is all around us and that everyone uses and understands some mathematics, the Mathematics Curriculum for Grade 8 is designed to:

- build students' learning and numeracy skills by exploring and applying the model of the 4Cs (creativity, critical thinking, collaboration and communication), while gaining knowledge of the content area;
- correct, where necessary, and build upon the knowledge of students through activities related to everyday life, applying mathematical principles of investigating, reasoning, estimating, forming conjectures and testing them, and through meaningful communication;
- expand knowledge through the formation of new concepts while establishing the inter-relatedness of mathematics with other disciplines;
- enable the development of attitudes of self-awareness and self-confidence, appreciation of enquiry, independent thinking, willingness to share, and cooperation with others in the pursuit of knowledge.
- help students' build life skills in order for them to be; flexible, productive, have good initiatives, exercise healthy habits, be a good leader and to be able to develop their social skills; by implementing the concept of the National Goals (Jamaicans are empowered to achieve their fullest potential, The Jamaican society is secure, cohesive and just, Jamaica's economy is prosperous, Jamaica has a healthy natural environment) while gaining knowledge of the content areas.

Unit Title	Previous Knowledge: Check that students can:	Standard	Key Skills	Specific Objectives: Students should be able to:	Duration	Assessment	Resources	Remarks
Numbers								
Fractions	• Least Common multiples. • Highest Common Factors • Four basic operations	Use the basic operations, number relationships, patterns, number facts, calculators and software to compute and estimate in order to solve real world problems involving fractions, percentages and decimals	• Sequence • Identify patterns • Compute • Investigate • Make observations • Research • Present • Review • Convert • Estimate	1. Revise: a) Multiplication and division of whole numbers (up to 3 digits) b) Equivalent Fractions c) Writing Fractions representing diagrams with shaded regions 2. Compare and order a set of Fractions. 3. Perform the four basic operations on fractions. (No more than 3 fractions in a given problem)	2 weeks	• Homework Ongoing • Classwork Ongoing • End of unit Test • Games • Projects • Journals	• Textbook • Worksheets • Manipulatives • Mobile device • Speaker • Projector • Electricity	
Indices	• Perform the four basic operations on numbers; • Distinguish between the types of numbers; • Approximate.			1. State the meaning of, where a and m are whole numbers; 2. Evaluate the expressions $a^m, a^m \times b^n, \frac{a^m}{b^n}$ where $a, b, m, n,$ are whole numbers;				

Standard Form and Significant Figures				3. Write numbers greater than 1 but less than 10 in standard form ($A \times 10^n$; where A and n are real numbers.) 4. Write a number to a given number of decimal places and significant figures;	2 weeks			
Unit Title **Geometry**	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**	
Parallel and Transversal Lines	● State the relationships between and object and its image in a plane when it undergoes a translation in that plane; ● State the relationships between an object	Explore paths, geometric shapes, and space and make generalization about geometric relationships within the environment	● Draw lines ● Measure angles ● Observe relationships between angles ● Describe relationships ● Arrange	1. Identify and use the following concepts: Investigate the relationship among angles formed by: a) a transversal and two or more parallel lines; b) intersecting non-parallel lines;	**2 weeks**	● Homework Ongoing ● Classwork Ongoing ● End of unit Test ● Games	● Textbook ● Worksheets ● Manipulatives ● Mobile device	

Transformations	and its image in a plane when it is reflected in a line in that plane; ● State the relationships between an object and its image in a plane when it is rotated about a point (the centre of rotation) in that plane; ● Identify and use angle, side and symmetry properties of triangles and quadrilaterals.			2. Sketch different views (top, side, etc.) of solids making use of unseen (dotted) lines; 3. Perform translations and identify images of objects, where the translation vector is given.	2 weeks	● Projects ● Journals	● Speaker ● Projector ● Electricity ● Ruler ● Graph Paper	**Introduce students to the Cartesian plane and its features, Plot and connect points to create shapes**
Unit Title **Algebra**	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**	
Making Rules	• Formulate rules from their knowledge of arithmetic Properties; • Define and identify	Employ algebraic reasoning through the use of expressions, equations and formulae to	• Engage in activities • Problem-solve • Write inequalities • Represent	1. Change the subject of a simple formula e.g., C=2πr, making r the subject gives ; $r = \frac{c}{2\pi}$	2 weeks	● Homework Ongoing ● Classwork Ongoing	● Textbook ● Worksheets ● Manipulatives	*To be removed and placed in another section of the syllabus.

Equations & Inequalities	variables, terms, constant, coefficient, expression, equation and operations; • Identify, add and subtract like and unlike terms.	interpret, model and solve problems involving unknown quantities.	inequalities on number lines • Solve linear inequalities • Represent solutions on number lines	2. Write inequalities to illustrate word problems;		• End of unit Test • Games • Projects Journals	• Mobile device • Speaker • Projector • Electricity	
Simplification				3. Illustrate inequalities on a number line; 4. Solve simple linear inequalities and represent the solution on a number line.	2 weeks			

ASSESSMENTS:
A unit test will be done at the end of each unit. For each sub-topic students will be assessed using graded class work and homework assignments along with any other form of assessment the teacher may devise.

Homework : 10% of the overall grade for the semester
Class Work : 10% of the overall grade for the semester
Sessional Test 1: 20%
Practical: 20%
End of Term Exam : 40% of the overall grade for the semester