Ascot High School Department

Mathematics Department

Grade 9 NSC Curriculum

September 2025 - 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 9 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.

Unit Title	Previous Knowledge: Check that students can:	Standard	Key Skills	Specific Objectives: Students should be able to:	Duration	Assessment	Resources
Numbers	Describe different types of numbers in the real number system (Natural, Whole, Integer, Rational, Irrational); Compare and order a set of numbers;	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.	• classify • order • describe • calculate • compare • share findings • work in groups • solve problems • represent fractions • investigate fractions • draw diagrams • investigate real numbers • classify real numbers • share and compare • discuss • approximate numbers • explore "rules of divisibility" • navigate digital	Perform the four basic operations, including multiple operations, on real numbers. Identify the invisible math rules in expressions containing multiple operations. Apply the invisible math rules correctly in problems.	1 week 1 week	● Homework Ongoing ● Classwork Ongoing ● End of unit Test ● Games ● Projects ● Journals	Counters Charts Videos Projector

				content.			
Unit Title	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**
Making Rules, Equations and Inequalities, Simplification	Perform the four operations on integers; Compute using fractions.	Employ algebraic reasoning through the use of expressions, equations and formulae to interpret, model and solve problems involving unknown quantities	Work in groups Problem-solve Use key terms correctly Determine methods Model expressions Model equations Simplify expressions	Identify, add and subtract like and unlike terms; Simplify algebraic expressions by grouping like terms. Solve two step linear equations using: I. flow diagrams; II. the balancing method	1 week 1 week	● Homework Ongoing ● Classwork Ongoing ● End of unit Test ● Games ● Projects ● Journals	Balance scale Cartridge paper Whiteboard Tape Observation sheet Containers with water, oil and soda (or any two water based mixture)
Unit Title **Numbers**	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**

Indices	Perform the four basic operations on numbers; Distinguish between the types of numbers; Approximate.	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	State the meaning of a^m, where a and m are whole numbers; Evaluate the expressions $a^m, a^m \times b^n, \frac{a^m}{b^n}$ where a, b, m, n, are whole numbers; Simplify expressions using the following laws of indices: Law of multiplication, law of division, zero power, power of one, power to power.	1 week 1 week	• Homework Ongoing • Classwork Ongoing • End of unit Test • Games • Projects • Journals	• Textbook • Worksheets • Manipulatives • Mobile device • Speaker • Projector
Unit Title **Algebra**	**Previous Knowledge:** Check that students can:	**Standard**	**Key Skills**	**Specific Objectives:** Students should be able to:	**Duration**	**Assessment**	**Resources**
Distributive Property, Algebraic Fractions, Factorization &	• Identify, add and subtract like and unlike terms; • Use the laws of indices;	Employ algebraic reasoning through the use of expressions, equations and formulae to	Apply distributive property, Group like terms, simplify like	Use the distributive property to simplify expressions including the laws of indices;	1 week	• Homework Ongoing • Classwork	Algebra tiles Geogebra software Teacher-generated worksheets

Unit Title	Previous Knowledge: Check that students can:	Standard	Key Skills	Specific Objectives: Students should be able to:	Duration	Assessment	Resources
Simultaneous Equations Numbers	● Solve simple linear equations;	interpret, model and solve problems involving unknown quantities.	terms, expand binomial expressions, Work in groups, Engage in class discussion	Apply the distributive property to multiply two binomial expressions; Find the highest common factors of two or more numbers. Factorize simple algebraic expressions where there is a simple algebraic common factor other than 1.	1 week 1 week 1 week	Ongoing ● End of unit Test ● Games ● Projects ● Journals	Internet Computer

Sets	Check that students can: Define and Identify a set, equivalent sets, finite and infinite sets; • Associate the number of members in a set with the properties of that set;	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.	• Explore • Deduce • Record • Arrange • Select • Simulate • Analyze • Observe • Categorize	Use the language of sets (including disjoint, null, complement and subsets); Identify and give examples of well-defined sets; List all the possible subsets of given sets. Determine the number of subsets of a given set; Illustrate data using Venn diagrams (at most two intersecting sets within the universal set); Obtain and interpret information from Venn Diagrams.	Objectives 1-2 Practical (on going) 1 week 1 week	● Practical ● End of unit Test ● Games ● Journals	Assortment of objects, Worksheets, Internet, Computer, Accessories

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