Year 2 Mathematics

Subject Group Overview

Unit title	Key concept	Related Concept(s)	Global context & Exploration	Statement of inquiry	MYP subject specific objectives and strands	Content (topics, knowledge, skills)
Unit A: Ratios and Proportional Reasoning	Logic	Equivalence Change	CG: Scientific and Technical Innovation Ex: models	Using logic to determine equivalence and change through real life models.	A,D: (all strands)	-Determining proportional reasoning and converting measurements within unit rates -Determining proportional reasoning through a table and a graph -Constant Rate of Change -Complex Fractions
Unit B: Rational Numbers	Logic	Measurement Quantity	CG: Globalization and sustainability Ex: Human impact on the environment	Quantities represented in different ways help us understand changes in our environment.	A, C, D: All strands	-Add, subtract, multiply, and divide integers -Identify and graph integers -Identify and understand absolute value -Write fractions as decimals -Write decimals as fractions -Compare and order rational numbers -Add, subtract, multiply, and divide fractions
Unit C: Expressions and Equations	Relationships	Euqivalence Measurement	CG: Scientific and Technical Innocation Ex: Processes and solutions	Understanding relationships of equivalence and measurement help process solutions.	A, B, C: All strands	-Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

						-Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. -Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form. -Apply properties of operations to calculate with numbers in any form, convert between forms as appropriate, and assess the reasonableness of answers using mental computations and estimation strategies. -Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. -Know the formulas for the area and circumference of a circle and use them to solve problems -Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

						-Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
Unit D: Percent and Proportional Relationships	Relationships	Equivalence Quantity	CG: Scientific and Technical Innovation Ex: Models	Quantity and equivalence are modeled through relationships.	A, D: All strands	-Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. -Recognize and represent proportional relationships between quantities. -Use proportional relationships to solve multistep ratio and percent problems. -Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. -Apply properties of operations to calculate with numbers in any form, convert between forms as appropriate, and assess the reasonableness of answers using mental computations and estimation strategies.

Unit E: Statisitcs and Probability	Relationships	Pattern	CG: Scientific and Technical Innovation Ex: Risk	Patterns and relationships help us calculate risk.	A, B: All strands	-Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. -Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. -Examine, explain, and give generalizations about a population from a sample -Determine if the sample is valid with supporting inferences.
Unit F: Geometry	Form	Measurement Representation	CG: Scientific and Technical Innovation Ex:	Measurement and representation drive the creation of form.	B, C: All strands	-Use the properties of shapes and angles to solve for missing angles in complex figures -Construct triangles from three measures of angles or sides. -Notice when the conditions determine a unique triangle, more than one triangle, or no triangle.