Year 1 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: Arithmetic Operations including Dividing by a Fraction	Logic	Equivalence Pattern	GC: Orientation in Space and Time Exploration:	Using logic enhances the ability to determine equivalence and patterns in arithmetic operations.	A: All strands (assessed 2x- once in performance assessment, once in paper/pencil) D: All strands	• Find the greatest common factor of two whole numbers less than or equal to 100 • Use the least common multiple of two whole numbers less than or equal to 12 • Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor.
Unit B: Ratios and Unit Rates	Relationships	Equivalence Simplification	GC: Identities and Relationships Exploration: Competition and Cooperation	Competitive and Cooperative relationships are influenced through the evaluation of simplification and equivalence.	A: All strands B: All strands C: All strands D: All strands	• Understand the concept of a ratio • Use ratio language to describe a ratio relationship between two quantities. • • Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, • • Use rate language in the context of a ratio relationship. • Use ratio and rate reasoning to solve real-world and mathematical problems • Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the

						coordinate plane. • Use tables to compare ratios. • Solve unit rate problems including those involving unit pricing and constant speed. • Find a percent of a quantity as a rate per 100 • Solve problems involving finding the whole, given a part and the percent. • Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. • Understand the concept of Pi as the ratio of the circumference of a circle to its diameter.
Unit C: Rational Numbers	Relationships	Equivalence Representation	GC: Scientific and Technical Innovation Exploration: Opportunity and Risk	Realtionships can be represented, analyzed and justified for equivalency. (Done in MYP Boot Camp- in Managebac.)	A: All strands B: All strands	• Understand a rational number as a point on the number line. • Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. • Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line • Recognize that the opposite of

						the opposite of a number is the number itself, e.g., -(-3) = 3, and that 0 is its own opposite. • Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane. • Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. • Find and position integers and other rational numbers on a horizontal or vertical number line diagram • Find and position pairs of integers and other rational numbers on a coordinate plane. • Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. • Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
Unit D: Expressions and Equations	Logic	Model Representation	GC: Scientific and Technical Innovation Exploration: Process solution	Using logical processes and usual representations are used to find solutions to real world problems.	A: All strands B: All strands	• Write and evaluate numerical expressions involving whole-number exponents. • Write, read, and evaluate expressions in which letters stand for numbers. • Write expressions that record

						operations with numbers and with letters standing for numbers. • Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. • Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. • Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
Unit E: Area, Surface Area and Volume	Form	Measurement Space	GC: Personal and Cultural Expression Exploration: Creation	Measurement and space drive the creation of form.	A: All strands D: All strands	• The connection between packing a figure with unit cubes and connecting that to the formula. • Understand that V=*lwh* is the same as V=B*h* • Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths. • Show that the volume is the same as would be found by multiplying the edge lengths of the prism. • Apply the formulas V = lwh and V

						= Bh to find volumes of a right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems
Unit F: Statistics	Relationships	Model Representation	GC: Scientific and Technical Innovation Exploration:	Models used to represent relationships vary on the data presented.	A: All strands C: All strands	• Display numerical data in plots on a number line, including dot plots, histograms, and box plots. • Summarize numerical data sets in relation to their context, such as by: • Report the number of observations. • Describe the nature of the attribute under investigation, including how it was measured and its units of measurement. • Give quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation). • Describe any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. • Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.