Year Plan for *Mathematics* grade 7 (MYP2)

unit no.	Unit title	Time	Key concept	Related concept	Global context	Statement of Inquiry	Objectives	ATL skills	Content	Textbook page reference additional Resources
1	Ratios and proportion	15 hours	Logic	Equivalence, Quantity and Simplification	Identities and relationships	Using a logical process to simplify quantities and establish equivalence can help analyse competition and cooperation.	1.Defining and simplifying ratios. 2.Dividing a quantityin a given ratio. 3.Defining proportion and demostrating proportional relationship. 4.Representing proportional relationships using tables, equations and graphs. 5.Finding the constant of proportionality for a proportional relationship. 6.Applying mathematical strategies to solve problems using proportional reasoning.	1. **Organizational skills:** Create plans to prepare for summative assessments. 2. **Affective skills:** Practice positive thinking.	1.Simplifying ratios 2.Equivalent ratios 3. Solving proportions 4.Recognizing proportional relationships	Page 4 - 41
2	Probability	15 hours	Logic	Representation, Systems and Justification	Personal and cultural expression	A logical system of representation can help explore and analyse games that humans play.	1.Representing the likelihood of an event as fraction, decimal and percentage. 2.Modeling sample spaces in organized lists, tables and tree diagrams. 3.Calculating the theoretical probability of an event. 4.Designing and conducting simulations to calculate the experimental probability of an event.	1.**Critical-thinking skills:**Evaluate and manage risk. 2.**Communication skills:**Organize and depict information logically.	1.Events and outcomes 2.Representing the sample space 3.Representing probability numerically 4.Calculating probability 5.Complementary events 6.Types of probability 7.Simulations	Page 44 - 87
3	Integers	15 hours	Form	Quantity and Representation	Orientation in space and time.	Being able to represent different forms of quantities has helped humans explore and describe our planet.	1.Defining, comparing and ordering integers. 2.Defining and evaluating the absolute value of a number. 3.Performing the operations of multiplication, division, addition and subtraction with integers. 4.Applying mathematical strategies to solve problems involving integers. 5.Plotting points on the Cartesian plane.	1.**Transfer skills:** Make connections between subject groups and disciplines. 2.**Reflection skills:** Consider personal learning strategies.	1.What is an integer? 2.Absolute value 3.The coordinate grid 4.Multiplication and division 5.Addition and subtraction 6.Multiple operations	Page 88 - 137
4	Algebraic expressions and equations	15 hours	Form	Simplification and Equivalence	Scientific and technical innovation	Producing equivalent forms through simplification can help to clarify, solve and create puzzles and tricks.	1.Defining polynomials based on the number of terms. 2.Writing and simplifying algebraic expressions. 3.Writing and solving algebraic equations and inequalities. 4.Applying mathematical strategies to solve problems involving algebraic equations. 5.Representing inequalities on a number line.	1.**Communication skills:** Make inferences and draw conclusions. 2.**Creative-thinking skills:** Apply existing knowledge to generate new ideas, products or processes.	1.Describing expressions 2.Simplifying expressions 3.Writing expressions 4.Solving equations 5.Writing equations 6.Equations in cryptology 7.Representing inequalities 8.Solving inequalities	Page 140 - 183
5	2D and 3D geometry	15 hours	Relationships	Generalization and Measurement	Orientation in space and time.	Generalizing relationships between measurements can help explore the information of human and natural landscapes.	1.Finding the perimeter and area of 2-dimensional shapes, including circles and trapezoids. 2.Finding the surface area and volume of 3-dimensional shapes, including prisms. 3.Solving problems involving 2D and 3D shapes.	1.**Transfer skills:** Apply skills and knowledge in unfamiliar situations. 2.**Communication skills:** Make effective summary notes for studying.	1.Trapezoid 2.Regular polygons 3.Circles 4.Surface area of regular prisms 5.Volume of rectangular prisms 6.Volume of other prisms.	Page 184 - 223

#	Topic	Hours	Key concept	Related concept	Global context	Statement of inquiry	Objectives	ATL skills	Content	Pages
6	Univariate data	15 hours	Form	Representation and justification	Fairness and development	Different forms of representation can help ustify conclusions regarding access to equal opportunities.	1.Representing data using stem-and-leaf plots and box-and-whisker plots. 2.Calculating measures of central tendency and measures of dispersion. 3.Choosing the best method to represent data. 4.Analysing data and drawing conclusions.	1.**Information literacy skills:**Process data and report results. 2.**Collaboration skills:** Practise empathy	1.Stem-and-leaf plots 2.Mode 3.Median 4.Mean 5.The effect of outliers 6.Range 7.Quartiles 8.Box-and-whisker plots	Page 258 - 301
7	Fractions, decimals, and percentages	20 hours	Form	Representation and Quantity	Scientific and technical innovation Exploration: ingenuity and progress	Representing quantities in equivalent forms may enhance ingenuity and progress	1.Investigation - Terminating versus repeating decimals and their denominator as fractions (B) 2.Cooking activity- Baking with fractions (D)	Social (Collaboration skills) 1.delegate and share responsibility for decision-making 2.Build consensus 3.Make fair and equitable decisions	1.Conversion between different forms of numbers- fractions, decimals and percentages 2.Using the four number operations with fractions and decimals 3.Find the greatest common divisor and least common multiple 4.Percentage increase and decrease	
8	Rates	10 hours	Relationships	Equivalence and Measurement	Globalization and sustainability	Establishing relationships of equivalence between measurements illustrates the interconnectedness of human-made systems.	1.Defining rate and unit rate 2.Converting between different units of measurement and between different currencies 3.Defining and recognizing a constant rate of change 4.Applying mathematical strategies to solve problems using rates and unit rates	1.Creative-thinking skills - Make guesses, ask 'what if' questions and generate testable hypotheses 2.Critical-thinking skills - Draw reasonable conclusions and generalizations	1.Converting measurements 2.Converting currencies 3.Unit rates 4.Problem-solving with rates 5.Exploring rate of change	Page 226 - 255