Subject Guide Overview

Unit Title	Key Concepts	Related Concepts	Global Context	Statement of Inquiry	Approaches to Learning	Objectives	Content - Summary of unit
Transformations and Linear Equations	Form	Patterns Space	Globalization & Sustainability **Exploration: Design and Scale**	Form is used to enhance understanding of patterns and space through design and scale.	Thinking In order for students to know and understand mathematics in real-life contexts, students must use creative thinking to generate novel ideas by brainstorming new ideas.	A..Knowing & Understanding i,ii,iii D.Applying Mathematics in real-life contexts I,ii,iii,iv,v	Use a scale factor to find the dimensions of a reduction of a real-world object in preparation for applying scale factors to dilations. Write and solve a linear equation in one variable in order to solve a real-world problem.
Relationships and Functions	Relationships	Models and Representation	Identities & Relationships **Exploration: Moral Reasoning and ethical judgment**	Moral Reasoning and Ethical Judgment can be improved by using models to represent relationships	Research Skills In order for students to communicate and understand mathematics in real-life contexts, students must use literacy skills to create information that helps them identify solutions and make informed decisions.	C. Communicating i,ii,iii D..Applying Mathematics in real-life contexts i,ii,iii,iv,v	Relate right triangles to the coordinates of a line going through the origin, and compare persistent features of the triangles to persistent features of the line. Explain how a mathematical relationship represented by a written description can also be represented by a table or graph Students will visually display a relationship between two variables
Scatter Plots and Probability	Logic	Validity	Fairness and development **Exploration: Inequality, difference and inclusion**	Logic is a powerful tool for evaluating the validity of inequality, difference, and inclusion in our society.	Communication Skills In order for students to communicate and investigate patterns, students must use communication skills such as reading and writing to make inferences and draw conclusions.	B. Investigating Patterns i,ii,iii,iv,v C.Communicating i,ii,iii	Use a scatter plot to identify an association and make a prediction.Find and compare sample space and probabilities of compound events using a table, a tree diagram, and an organized list.Use theoretical probability and proportional reasoning to make a prediction about a simple or compound event, and make a qualitative prediction.
Exponents, Triangles, and Scientific Notation	Relationships	Systems	Globalization & Sustainability **Exploration: human impact on Environment**	Relationships and the changes that affect them can help us understand human impact on environmental systems.	Thinking In order for students to know and understand patterns, students must use critical thinking skills to analyse issues and interpret data.	A..Knowing & Understanding i,ii,iii B. Investigating Patterns i,ii,iii,iv,v	Determine if a number is rational. Decompose regular polygons into triangles, and identify the relationship between the number of sides of the polygon and the number of triangles formed. Use the Laws of Exponents to write a number as a whole number times a power of 10.