BIG IDEAS

Combinatorics provides efficient strategies for counting.	Understanding the characteristics of a variety of functions helps in modelling data.	Logical reasoning helps us pose, organize, and defend arguments.	Using spatial relationships, we can create, measure, and describe objects in geometry.	Stories can be told using mathematical evidence and reasoning.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Reasoning and analyzing** • Use **reasoning and logic** to analyze and apply mathematical ideas • **Estimate** reasonably • Demonstrate **fluent and flexible thinking** of number • Use tools or technology to analyze relationships and test conjectures • **Model** mathematics in contextualized experiences **Understanding and solving** • Develop, demonstrate, and apply **conceptual understanding** of mathematical ideas • **Visualize** to explore and illustrate mathematical concepts and relationships • Apply **flexible strategies** to solve problems in both abstract and contextualized situations • Engage in problem-solving **experiences** that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures **Communicating and representing** • Communicate mathematical thinking in **many ways** • Use mathematical vocabulary and language to contribute to mathematical **discussions** • **Represent** mathematical ideas in a variety of ways • Explain and justify mathematical ideas	*Students are expected to know the following:* • transformations with iterations to create fractals • graphical **representations** of polynomial, logarithmic, exponential, and sinusoidal functions • **regressions** • regression **analysis** • set theory and conditional statements • **combinatorics** • **odds, probability,** and expected value • mathematics as a tool when conducting **research**

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Learning Standards (continued)

Curricular Competencies	Content
Connecting and reflecting • **Reflect** on mathematical thinking • Use mathematics to support personal choices • Connect mathematical concepts to each other and to **other areas and personal interests** • **Incorporate** First Peoples worldviews and perspectives to **make connections** to mathematical concepts	

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