

BIG IDEAS

Similar shapes and objects have proportional relationships that can be described, measured, and compared.

Optimization informs the decision-making process in situations involving extreme values.

Logical reasoning helps us discover and describe mathematical truths.

Statistical analysis allows us to notice, wonder about, and answer questions about **variation**.

Learning Standards

Curricular Competencies	Content
<i>Students are expected to do the following:</i> Reasoning and modelling • Develop thinking strategies to solve puzzles and play games • Explore, analyze, and apply mathematical ideas using reason, technology, and other tools • Estimate reasonably and demonstrate fluent, flexible, and strategic thinking about number • Model with mathematics in situational contexts • Think creatively and with curiosity and wonder when exploring problems Understanding and solving • Develop, demonstrate, and apply mathematical understanding through play, story, inquiry, and problem solving • Visualize to explore and illustrate mathematical concepts and relationships • Apply flexible and strategic approaches to solve problems • Solve problems with persistence and a positive disposition • Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures	<i>Students are expected to know the following:</i> • forms of mathematical reasoning • angle relationships • graphical analysis: – linear inequalities – quadratic functions – systems of equations – optimization • applications of statistics • scale models • financial literacy: compound interest, investments and loans

Learning Standards (continued)

Curricular Competencies	Content
Communicating and representing • Explain and justify mathematical ideas and decisions in many ways • Represent mathematical ideas in concrete, pictorial, and symbolic forms • Use mathematical vocabulary and language to contribute to discussions in the classroom • Take risks when offering ideas in classroom discourse Connecting and reflecting • Reflect on mathematical thinking • Connect mathematical concepts with each other, other areas, and personal interests • Use mistakes as opportunities to advance learning • Incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts	