

BIG IDEAS

Design involves investigating, planning, creating, and evaluating.

Constructing **3D objects** often requires a 2D plan.

Transferring mathematical skills between problems requires conceptual understanding and flexible thinking.

Proportional reasoning is used to make sense of multiplicative relationships.

Choosing a tool based on required precision and accuracy is important when **measuring**.

Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to do the following:</i></p> <p>Reasoning and modelling</p> <ul style="list-style-type: none"> • 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 <p>Understanding and solving</p> <ul style="list-style-type: none"> • Develop, demonstrate, and apply conceptual understanding of mathematical ideas 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 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> • measuring: using tools with graduated scales; conversions using metric and imperial • similar triangles: including right-angle trigonometry • 2D and 3D shapes: including area, surface area, volume, and nets • 3D objects and their views (isometric drawing, orthographic projection) • mathematics in the workplace • financial literacy: business investments and loans

Learning Standards (continued)

Curricular Competencies	Content
<p>Communicating and representing</p> <ul style="list-style-type: none"> • 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 <p>Connecting and reflecting</p> <ul style="list-style-type: none"> • 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 	