

## BIG IDEAS

The desire and need to learn mathematical concepts is nurtured through experiential learning.

**Visualization** is essential in making sense of contextual problems.

Contextual problems are situational, and transferring mathematical skills between problems requires conceptual understanding.

Proportional reasoning enables us to make sense of multiplicative relationships and is frequently used when analyzing contextual problems.

Measuring naturally lends itself to the use of concrete materials and of measurement skills and tools in a contextual way.

## Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <p><b>Reasoning and analyzing in a contextual environment</b></p> <ul style="list-style-type: none"> <li>Engage in <b>spatial reasoning</b></li> <li>Use <b>reasoning and logic</b> to analyze and apply mathematical ideas</li> <li><b>Estimate</b> reasonably</li> <li>Use <b>tools or technology</b> to analyze relationships and test conjectures</li> <li><b>Model</b> mathematics in contextualized experiences</li> </ul> <p><b>Understanding and solving in a contextual environment</b></p> <ul style="list-style-type: none"> <li>Develop, demonstrate, and apply <b>conceptual understanding</b> of mathematical ideas</li> <li><b>Visualize</b> to explore and illustrate mathematical concepts and relationships</li> <li>Apply <b>flexible strategies</b> to solve problems in contextualized situations</li> <li>Engage in problem-solving <b>experiences</b> that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures</li> </ul> <p><b>Communicating and representing in a contextual environment</b></p> <ul style="list-style-type: none"> <li>Communicate mathematical thinking</li> <li>Use mathematical vocabulary and language</li> <li><b>Represent</b> mathematical ideas in a variety of ways</li> <li>Explain and justify mathematical ideas</li> </ul>	<p><i>Students are expected to know applications of the following:</i></p> <ul style="list-style-type: none"> <li><b>measuring</b>, including tools with graduated scales and conversions using metric and imperial</li> <li>similar <b>triangles</b>, including right- angle trigonometry</li> <li>Pythagorean theorem</li> <li>2D and 3D shapes, including area, surface area, volume, and nets</li> <li>model and draw <b>3D objects</b> and their views (isometric drawing, orthographic projection)</li> <li><b>relationships</b> in formulae</li> <li>math <b>research project</b></li> <li>circle geometry</li> </ul>

Learning Standards (continued)

Curricular Competencies	Content
<p><b>Connecting and reflecting in a contextual environment</b></p> <ul style="list-style-type: none"> <li>• <b>Reflect</b> on mathematical thinking</li> <li>• Use mathematics to support personal choices</li> <li>• Connect mathematical concepts to each other and to <b>other areas and personal interests</b></li> <li>• <b>Incorporate</b> First Peoples worldviews and perspectives to <b>make connections</b> to mathematical concepts</li> </ul>	

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