

## BIG IDEAS

Products can be  
**designed for life cycle.**

Personal design interests require  
the evaluation and refinement of skills.

Tools and technologies can be adapted  
for specific purposes.

## Learning Standards

Curricular Competencies	Content
<p><i>Students are expected to be able to do the following:</i></p> <p><b>Applied Design</b></p> <p><i>Understanding context</i></p> <ul style="list-style-type: none"> <li>Conduct <b>user-centred research</b> to understand design opportunities and barriers</li> </ul> <p><b>Defining</b></p> <ul style="list-style-type: none"> <li>Choose a design opportunity and point of view</li> <li>Identify potential users, intended impact, and possible unintended negative consequences</li> <li>Make inferences about premises and <b>boundaries</b> that define the design space</li> </ul> <p><b>Ideating</b></p> <ul style="list-style-type: none"> <li>Take creative risks to identify gaps to explore as design space</li> <li>Generate ideas to create a range of possibilities and add to others' ideas in ways that create additional possibilities</li> <li>Critically analyze how competing social, ethical, and sustainability considerations impact designed solutions to meet global needs for preferred futures</li> <li>Prioritize ideas for prototyping and <b>designing with users</b></li> </ul> <p><i>Prototyping</i></p> <ul style="list-style-type: none"> <li>Identify and use a variety of <b>sources of inspiration and information</b></li> <li>Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures for prototyping multiple ideas</li> <li>Analyze the <b>design for life cycle</b></li> <li>Construct prototypes, making changes to tools, materials, and procedures as needed</li> <li>Record <b>iterations</b> of prototyping</li> </ul>	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> <li>pregnancy, including methods of conception, prenatal development, <b>medical care</b>, and methods of childbirth and delivery</li> <li>legal rights and responsibilities of various <b>caregivers</b>, including ensuring a child's welfare and safety</li> <li>stages of child development from birth to age 12, including cognitive, social, physical, and emotional development, language and speech, and the role of play</li> <li>nutritional needs and <b>feeding practices</b> for children of various ages, including <b>external influences</b> on these practices</li> <li>theories of child development, including First Peoples theories, and how and why theories change over time</li> <li>effect of <b>caregiving styles</b> on child development</li> <li>child care options available locally and internationally, and influences on these practices, including regulations, education, and funding</li> <li>community resources that offer services to children and caregivers</li> </ul>

Learning Standards (continued)

Curricular Competencies	Content
<p><i>Testing</i></p> <ul style="list-style-type: none"> <li>• Identify feedback most needed and possible <b>sources of that feedback</b></li> <li>• Develop an <b>appropriate test</b> of the prototype</li> <li>• Gather feedback from users over time to critically evaluate their design and make changes to product design or processes</li> <li>• Iterate the prototype or abandon the design idea</li> </ul> <p><i>Making</i></p> <ul style="list-style-type: none"> <li>• Identify appropriate tools, technologies, materials, processes, <b>potential funding sources</b>, and time needed for production, and where/how these could be available</li> <li>• Use project management processes when working individually or collaboratively to coordinate production</li> </ul> <p><i>Sharing</i></p> <ul style="list-style-type: none"> <li>• <b>Share</b> their progress while making to increase feedback, collaboration, and, if applicable, marketing</li> <li>• Decide on how and with whom to share or promote their <b>product</b>, creativity, and, if applicable, intellectual property</li> <li>• Critically evaluate their design thinking and processes, and their ability to work effectively both as individuals and collaboratively in a group, including the ability to implement project management processes</li> <li>• Identify new design issues, including how they or others might build on their concept</li> </ul> <p><b>Applied Skills</b></p> <ul style="list-style-type: none"> <li>• Demonstrate an awareness of safety issues for themselves, co-workers, and users in both physical and digital environments</li> <li>• Identify and evaluate their skills and skill levels, in relation to their project or design interests, and develop specific plans to learn or refine their skills over time</li> </ul> <p><b>Applied Technologies</b></p> <ul style="list-style-type: none"> <li>• Explore existing, new, and emerging tools, <b>technologies</b>, and systems and evaluate their suitability for their design interests</li> <li>• Analyze the role and impact of technologies in societal change, and the personal, social, and environmental impacts, including unintended negative consequences, of their choices of technology use</li> <li>• Analyze how cultural beliefs, values, and ethical positions affect the development and use of technologies</li> </ul>	