

BIG IDEAS

Design for the life cycle includes consideration of social and **environmental impacts**.

Design choices 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>Applied Design</p> <p><i>Understanding context</i></p> <ul style="list-style-type: none"> Engage in a period of user-centered research and empathetic observation Participate in reciprocal relationships throughout the design and production process <p><i>Defining</i></p> <ul style="list-style-type: none"> Establish a point of view for a chosen design opportunity Identify potential users, intended impact, and possible unintended negative consequences Make decisions about premises and constraints that define the design and production <p><i>Ideating</i></p> <ul style="list-style-type: none"> Generate ideas and add to others' ideas to create possibilities, and prioritize them for prototyping Critically analyze how competing social, ethical, and sustainability considerations impact design solutions to meet global needs Work with users throughout the design process <p><i>Prototyping</i></p> <ul style="list-style-type: none"> Identify and apply sources of inspiration and information Choose an appropriate form, scale, and level of detail for prototyping, and plan procedures for prototyping multiple ideas 	<p><i>Students are expected to know the following:</i></p> <ul style="list-style-type: none"> design and production opportunities colour output for image development in pre- and post-production environments elements and principles of design as communication tools design for the life cycle intellectual property use and its ethical, moral, and legal considerations, including cultural appropriation work flow management through production processes concept development to enhance or change the project industry standard technologies ethical sourcing of materials and implications and outcomes of their use limitations of chosen materials hierarchy and delegation of roles in production team environment supply chain constraints

Learning Standards (continued)

Curricular Competencies	Content
<ul style="list-style-type: none"> • Analyze the design for the life cycle and evaluate its impacts • Construct prototypes, making changes to tools, materials, and procedures as needed • Record iterations of prototyping <p>Testing</p> <ul style="list-style-type: none"> • Identify feedback most needed and possible sources of feedback • Develop an appropriate test of the prototype • Collect feedback to critically evaluate design and make changes to design processes and production • Iterate the prototype or abandon the design idea <p>Making</p> <ul style="list-style-type: none"> • Identify appropriate tools, technologies, materials, processes, and time needed for production • Use project management processes when working individually or collaboratively to coordinate production <p>Sharing</p> <ul style="list-style-type: none"> • Share progress while creating to increase feedback, collaboration, and, if applicable, marketing • Decide on how and with whom to share or promote product, creativity, and, if applicable, intellectual property • Critically reflect on their design thinking and processes, and identify new design goals • Assess ability to work effectively both as individuals and collaboratively while implementing project management processes <p>Applied Skills</p> <ul style="list-style-type: none"> • Apply safety procedures for themselves, co-workers, and users in both physical and digital environments • Identify and assess skills needed for design and production interests, and develop specific plans to learn or refine them over time • Develop competency and proficiency in task-specific skills involving manual dexterity and software processes 	<ul style="list-style-type: none"> • materials organization, sequencing, and quality control measures • future career options in production and manufacturing • interpersonal skills, including ways to interact with clients • financial planning, including economic impacts of production • appropriate use of technology, including digital citizenship, etiquette, and literacy

Learning Standards (continued)

Curricular Competencies	Content
<p>Applied Technologies</p> <ul style="list-style-type: none"> • Explore existing, new, and emerging tools, technologies, and systems to evaluate suitability for their design and production interests • Evaluate impacts, including unintended negative consequences, of choices made about technology use • Analyze the role technologies play in societal change • Examine how cultural beliefs, values, and ethical positions affect the development and use of technologies 	