



EDUCATION FOR INNOVATION

(E4I)

GRADES 1-8

A RESOURCE

TO CULTIVATE

AND CELEBRATE

CANADA'S

CULTURE OF

INNOVATION

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LEARNING EXPERIENCES OVERVIEW

Experience	LESSON SYNOPSIS	LEARNING STRATEGIES	ASSESSMENT STRATEGIES & TOOLS	APPENDICES
1. WHAT IS INNOVATION?	Learners will demonstrate an understanding of the concept of innovation by developing a working definition.	Small Group Activity Word Sort Graphic Organizer Metacognitive Reflection	Strategy: Graphic Organizer Exit Ticket Tool: Rating Scale	<ul style="list-style-type: none"> • Canadian Innovations (Appendix 1A) • Innovation vs. Invention Graphic Organizer (Appendix 1B) • Exit Ticket (Appendix 1C) • What is Innovation? Rating Scale (Appendix 1D)
2. WHAT ARE THE IMPACTS OF INNOVATIONS?	Learners will explore the impact of Canadian innovations in preparation for determining the impact of their own innovation.	Small Group Discussion Numbered Heads Collaborative Activity Metacognition Reflection Graphic Organizer	Strategy: Placemat Group Activity Impact of Innovations Activity Sheet Exit Ticket Tool: Rating Scale	<ul style="list-style-type: none"> • <i>Innovation Nation</i> Chapter Chart (Appendix 2A) • <i>Ingenious</i> Chapter Chart (Appendix 2B) • <i>Ingenious</i> Innovations Chart organized by Themes (Appendix 2C) • Placemat Group Activity (Appendix 2D) • Impact of Innovations (Appendix 2E) • Exit Ticket (Appendix 2F) • What is the Impact of Innovation? Assessment (Appendix 2G)
3. WHAT IS AN INNOVATION CENTRE?	Learners will develop and explore the Innovation Centre. They will also inquire about past and present Canadian innovations.	Self-Guided Inquiry Internet Technologies Graphic Organizer	Strategy: Innovation Exploration Activity Sheet Tool: Rating Scale	<ul style="list-style-type: none"> • QR Code Activity Example (Appendix 3A) • Innovation Exploration (Appendix 3B, 3C) • Educator Rating Scale (Appendix 3D)

Experience	LESSON SYNOPSIS	LEARNING STRATEGIES	ASSESSMENT STRATEGIES & TOOLS	APPENDICES
4. WHAT ARE THE QUALITIES OF INNOVATORS?	Learners will identify and recognize the qualities of innovators by examining examples of Canadian innovators.	<p>Word Wall</p> <p>Learning Centres</p> <p>Metacognition Reflection</p> <p>Oral Presentation</p> <p>Graphic Organizer</p>	<p>Strategy:</p> <p>Expert Groups</p> <p>Innovator Exploration Activity Sheet</p> <p>Tool:</p> <p>Self-Evaluation of Innovator Qualities Rating Scale</p>	<ul style="list-style-type: none"> • Innovator Exploration (Appendix 4A, 4B) • Evaluating Your Own Innovator Qualities (Appendix 4C, 4D) • Who is an Innovator? Rating Scale (Appendix 4E)
5. WHAT IS AN INNOVATION CYCLE?	Learners will examine the phases of the Innovation Cycle as well as the various aspects and questions within each phase.	<p>Four Corners Activity</p> <p>Group Discussion</p> <p>Self-Correcting Activity</p>	<p>Strategy:</p> <p>Four Corners Activity</p> <p>Innovation Cycle Aspect Strips</p> <p>Tool:</p> <p>Observation Chart</p>	<ul style="list-style-type: none"> • How can YOU be an Innovator? (Appendix 5A) • Phases and Aspects of the Innovation Cycle (Appendix 5B) • <i>Innovation Nation</i> Graphic of Innovation Cycle (Appendix 5C) • Graphic of Innovation Cycle (Appendix 5D) • Graphic of Innovation Cycle with aspects (Appendix 5E) • Innovation Cycle Aspects Strips (Appendix 5F) • Observation Chart (Appendix 5G)
6. WHAT IS AN INNOVATION PROJECT?	Learners will become familiar with the expectations of their Innovation Projects and discuss project possibilities.	<p>Group Discussion</p> <p>Brainstorming</p> <p>Graphic Organizer</p>	<p>Strategy:</p> <p>Innovation Brainstorming Activity Sheet</p> <p>Innovation Project Outline</p> <p>Tool:</p> <p>Anecdotal Notes</p> <p>Innovation Project Rubric</p>	<ul style="list-style-type: none"> • Innovation Project Outline (Appendix 6A, 6B) • Innovation Project Sheet (Appendix 6C, 6D) • Innovation Brainstorming Assessment (Appendix 6E)

Experience	LESSON SYNOPSIS	LEARNING STRATEGIES	ASSESSMENT STRATEGIES & TOOLS	APPENDICES
7. HOW IS AN INNOVATION IDEA DEVELOPED?	Learners will continue to develop their innovation idea using the innovation resources provided.	Small Group-Guided Learning Conferencing Graphic Organizer	Strategy: Innovation Package Activity Sheets Tool: Group Reflection Rubric Educator Rubric	<ul style="list-style-type: none"> • Innovation Package (Appendix 7A, 7B) • Group Assessment (Appendix 7C, 7D) • Educator Assessment (Appendix 7E)
8. HOW IS AN INNOVATION TESTED AND IMPROVED?	Learners will develop a plan to test the effectiveness and impact of their innovation and create a plan to address any challenges.	Scientific Method Interviews Metacognition Reflection	Strategy: Testing Interview and Survey Activity Sheets Exit Ticket Tool: Rating Scale	<ul style="list-style-type: none"> • Sample of Innovation Testing - <i>Innovation: Child-proof Match Container</i> (Appendix 8A) • Innovation Testing Template (Appendix 8B, 8C) • Sample Interview Template (Appendix 8D, 8E) • Sample Survey Template (Appendix 8F, 8G) • Exit Ticket (Appendix 8H) • Rating Scale/ Assessment (Appendix 8I)
9. HOW IS AN INNOVATION IMPLEMENTED?	Learners will develop an Implementation Plan for the project including a budget, marketing, distribution, and communication.	Group Discussions Planning Roles For Group Members	Strategy: Implementation Plan Activity Sheets Innovation Presentation Activity Sheets Tool: Innovation Presentation Checklist Innovation Project Rubric	<ul style="list-style-type: none"> • Innovation Implementation Plan (Appendix 9A) • Innovation Presentation Checklist (Appendix 9B, 9C) • Innovation Implementation Plan Self Checklist (Appendix 9D) • Innovation Implementation Plan Peer Checklist (Appendix 9E)
10. WHAT IS AN INNOVATION CELEBRATION?	Learners will plan, host and participate in an Innovation Celebration, sharing their innovations.	Oral Presentation Media/Visual Presentation	Strategy: Innovation Celebration Presentation Tool: Innovation Project Rubric	<ul style="list-style-type: none"> • Task List (Appendix 10A) • Sample Invitation (Appendix 10B)

LEARNING EXPERIENCE 1

What is Innovation?

Background

Innovation is a word that is often used in the media, yet it may not be well understood. Innovation usually describes ideas and improvements in areas such as science, business, and technology, but it also pertains to the arts, health care, sports, entertainment, education, food, social services, and governance.

Almost any object or idea that humans have created is the result of innovators asking simple questions, such as: *What would happen if ...? How can we ...? What if we try ...? How can we make this better?* There are many variations on the definition of innovation. For the purpose of the *Education for Innovation* resource, the following definition will be used:

INNOVATION IS THE CREATION OR IMPROVEMENT OF A PRODUCT OR PROCESS TO MAKE AN IMPACT.

For younger children, the following simplified definition can be provided:

INNOVATING IS CREATING OR IMPROVING A THING OR ACTION TO MAKE A DIFFERENCE.

Educators may post the definition of innovation for reference by learners. It is also important to clarify the difference between an invention and an innovation. Invention is the creation of a new product (thing). An innovation can be the creation of a new product (thing), but it is also the improvement of a product or process to make a positive impact. An invention is usually new, science-based and not necessarily implemented socially. An innovation is the creation or improvement of a product, or process, which has been implemented to make a positive impact. Democracy is an example of a social innovation that has changed continually over time. Artists develop new innovative processes and products with strong impacts on our world. Innovation rarely happens only once. Instead, it is a continuous process.

The activity that follows is designed to introduce the definition and process of innovation. It can be cross-curricular, addressing a number of different subjects. This activity can be adapted to meet the needs and interests of learners. Educators can use this activity to begin a unit of study in curriculum such as Science, Social Studies, Health/Physical Education, and Arts. It can also include Mathematics and Language expectations, as grade appropriate.