**Abbreviated Lesson Plan Template**

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| Grade/Class: 8 | Time Required 5x50 minute classes |
| Curriculum Area(s): Strand E: Earth and Space Systems – Water Systems<br>Language — Strand C: Writing | Strand: Science A & E; Language C |

**NOTES:**

This cross-curricular culminating project integrates expectations from both Science and Language. It serves as the final summative assessment for Strand E: Earth and Space Systems – Water Systems and addresses key expectations from Strand C: Writing. The project spans five instructional periods, with each day including a focused mini-lesson and structured work time. Because the learning goals, success criteria, differentiation strategies, and assessment methods remain consistent throughout, the entire five-day sequence is presented within a single lesson plan, while the daily mini-lessons vary to guide students through the research, writing, and revision process.

**Overall Expectation(s)**

**Science**

A1. STEM Investigation and Communication Skills

use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures

E1. Relating Science and Technology to Our Changing World

assess the impact of human activities and technologies on the sustainability of water resources

E2. Exploring and Understanding Concepts

demonstrate an understanding of the characteristics of Earth's water systems and of factors that affect these systems

**Language**

C1. Knowledge about Texts

apply foundational knowledge and skills to understand a variety of texts, including digital and media texts, by creators with diverse identities, perspectives, and experience, and demonstrate an understanding of the patterns, features, and elements of style associated with various texts forms and genres

C2. Comprehension Strategies

apply comprehension strategies before, during, and after reading, listening to, and viewing a variety of texts, including digital and media texts, by creators with diverse identities, perspectives, and experience, in order to understand and clarify the meaning of texts

C3. Critical Thinking in Literacy

apply critical thinking skills to deepen understanding of texts, and analyze how various perspectives and topics are communicated and addressed in a variety of texts, including digital, media, and cultural texts

**Related Specific Expectation(s)**

**Science E1.1** Assess the social and environmental impact of the scarcity of fresh water, and propose a plan of action to help address fresh water sustainability issues.
**Science E2.1** Identify factors that affect the sustainability of water resources in Canada and around the world, taking different perspectives into account, including those of First Nations, Métis, and Inuit communities, and describe ways in which they can be protected.
**Science E2.2** Identify factors, including climate change, that affect the availability and quality of water on Earth, and explain their impact on local and global water systems.
**Science E2.3** Describe the impact of water use and management practices on local and global water systems, and explain how human actions can reduce negative impacts and enhance positive ones.
**Science E2.4** Explain how the characteristics of water make it a unique and vital resource on Earth, and how the roles of water in systems are interconnected.

**Science A1.5** Communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes.

**Language C1.1** Read and comprehend various complex texts, using knowledge of words, grammar, cohesive ties, sentence structures, and background knowledge.
**Language C2.1** Identify and explain prior knowledge from various sources, including personal experiences and learning in other subject areas, that they can use to make connections and understand new texts.
**Language C2.6** Summarize and synthesize the important ideas and supporting details in complex texts, and draw effective conclusions.
**Language C3.3** analyze complex texts, including literary and informational texts, by evaluating, synthesizing, and sequencing relevant information and formulating conclusions

**Learning Goals**

- I can investigate how human actions affect water systems and propose realistic actions to protect water resources.
- I can read and understand complex informational texts about water issues.
- I can summarize, organize, and clearly communicate my findings through writing and visuals.
- I can collaborate effectively and meet deadlines for a multi-day project.

**Success Criteria**

- I understand the project purpose, structure, and expectations.
- I can locate and comprehend relevant information from provided resources.
- I can write clear, organized paragraphs with supporting details and transitions.
- I can create a visual (map or graph) that helps explain my topic.
- I can submit a complete, polished project including research notes, references and reflection.

**Lesson Outline**

**Day 1 – Project Launch & Research Templates**
**Minds On (approx. 15 min)**

- Introduce Water Under Pressure as the culminating project for Science Strand E and Language Strand C.
- Explain the project purpose: students investigate a real-world water issue, analyze causes and effects, and communicate solutions through writing and visuals.
- Review the three topics:
    1. Road Salt in the Region of Waterloo
    2. Clean Water Access in Indigenous Communities
    3. Water Use and Artificial Intelligence (AI) – explain that AI is a new and exciting issue with more technical reading; all topics are equally valid, so choose what feels interesting and manageable.
- Outline expectations: each student writes three sections, creates one visual (map or graph), and writes one individual reflection. Marks are individual for most par,, but the piecing together of the final product is a collaborative joint effort.
- Show how to use the research templates (Source and Notes Sheet and Collecting Facts and Details Sheet) under the document camera.
- Demonstrate summarizing one short article into bullet-point notes in students' own words.
- Point students to the shared Google Slides resource decks (24 vetted links per topic; some identified as useful for maps/graphs or videos). Remind students that videos require headphones.

**Action (≈ 40 min)**

- Assign partners.
- Pairs select a topic and divide the six project sections evenly (three each).
- Complete and sign the Partner and Section Agreement Sheet.
- Begin research using the Google Slides resources and fill in both research templates.
- Teacher circulates to support topic selection and check that students record retrieval dates and use their own words.

**Consolidation (≈ 5 min)**

- Collect and initial Partner Agreement Sheets.
- Remind that research notes must be completed by the end next period.

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**Day 2 – Paragraph Writing & Transition Words**

**Minds On (≈ 10 min)**

- Review how to build a strong paragraph: topic sentence → details → closing.
- Model a short example paragraph from a research topic and identify each part visually (e.g., colour-code).
- Introduce transition words (for example, as a result, because, however, therefore) and show how they improve flow.
- Emphasize clear topic sentences and evidence drawn from students' own notes.

**Action (≈ 45 min)**

- Students write the paragraphs for their assigned sections using their research templates and the Paragraph Organizer.
- Encourage the use of at least two transition words per paragraph.
- Teacher circulates to check structure and content accuracy and provide feedback.

**Consolidation (≈ 5 min)**

- Students highlight a topic sentence and underline one transition word in their drafts.
- Quick whole-class recap of next step: completing writing and adding visual next class.

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**Day 3 – Completing Writing & Creating Visuals**

**Minds On (≈ 5 min)**

- Review what makes a clear visual (map or graph): title, labels, units (if applicable), and source.
- Show a strong example and ask, "What makes this easy to understand?"
- Explain that visuals should come directly from their research and help the audience see the issue clearly.

**Action (≈ 50 min)**

- Students finish writing their three sections.
- Create one draft visual (map or graph) based on data or examples from their research.
- Write a 2–4 sentence caption explaining what the visual shows and include the source.
- Teacher circulates to support data choice and clarity of caption.

**Consolidation (≈ 5 min)**

- Students show work to a partner for a quick peer check
- Confirm everyone has completed writing and visual ready for assembly.

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**Day 4 – Assembly & Citation Check**

**Minds On (≈ 5 min)**

- Display the final project checklist: 3 sections, 1 visual + caption, 1 reflection, research notes, references.
- Briefly model how to write a simple reference entry from one of the provided sources.

**Action (≈ 50 min)**

- Students assemble all components into a coherent final project (posted, printed, or digital).
- Ensure section headings are clear and names are on individual parts.
- Complete reference lists using teacher-provided citation guides.
- Teacher circulates to help students finalize layout and confirm that all sections and sources are accounted for.

**Consolidation (≈ 5 min)**

- Class review of common citation errors and final organization tips.
- Remind students that projects will be submitted next class.

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**Day 5 – Final Submission & Reflection**

**Minds On (≈ 5 min)**

- Review submission expectations: 3 sections, visual + caption, reflection paragraph, research notes, reference list.
- Clarify where and how to submit (digital folder or paper hand-in).

**Action (≈ 45 min)**

- Students submit their final project.
- Write an individual reflection paragraph: “What I learned about how people affect water systems and what realistic actions could help.”
- Early finishers assist peers with formatting or read optional extension articles on local water initiatives.

**Consolidation (≈ 10 min)**

- All students must complete a google slides “self/peer assessment” which asked how they feel they worked on the project and with their partner. What mark do they feel they should earn? How did they feel their partner did? Was the work distributed fairly and equally? Did you help each other? etc.
- Teacher checks submissions for completeness and thanks students for their effort on this culminating task.

**Assessment**

- **For Learning:** Observation and conferencing during research and topic selection (Day 1).
- **As Learning:** Peer and teacher feedback during drafting and revision (Days 2–3).
- **Of Learning:** Final project rubric assessing individual sections, visual, reflection, self-reflection (on how well they believed they worked) and evidence of comprehension of research sources (Day 5).

**Differentiation / Equity**

- Provide topic summaries and sentence starters for students needing language support.
- Allow oral discussion of sources before writing for students who process verbally.
- Offer highlighted or simplified resources when required.
- Ensure inclusive partner pairings and encourage diverse perspectives.
- Integrate Indigenous worldviews through discussions of water stewardship and respect.
- Permit varied output formats (typed, handwritten, or assistive tech).

**Materials and Resources**

- Teacher introduction slides and rubric
- Partner & Section Agreement Sheet
- Research Templates (Source and Notes, Collecting Facts and Details)
- Paragraph Organizer & Transition Words handout
- Graph/map materials or digital graphing tools
- Google Slides resource decks (vetted sources per topic)
- Reflection prompt and submission checklist