



Water Gallery Writing and Performance Lesson 13

Grade 8, Science and Technology

Critical Learning

- Reasons why communication is important in science and technology.
- Ways of communicating science information and ideas for a variety of purposes to a variety of audiences.
- Characteristics of a variety of forms of communication.

Guiding Questions

- Why is communication important to science and technology?
- What kinds of information do scientists and technologists communicate?
- How is science and technology information communicated?

Curriculum Expectations

Developing Investigation and Communication Skills

2. investigate factors that affect local water quality
- 2.6** Use appropriate science and technology vocabulary, including water table, aquifer, potable, and freshwater, in oral and written communication
- 2.7** Use a variety of forms (e.g. oral, written, graphic, multimedia) to communicate with different audiences for a variety of purposes

Learning Goals

- Students will be able to:
- prepare two pieces for the Water Gallery using their Water Portfolio as a resource and a RAFTS to plan and guide writing about science
 - produce Water Gallery pieces that represent sound science information about a water topic; use science vocabulary accurately; and communicate effectively to an intended audience

Instructional Components and Context

Readiness

- Content knowledge from this unit
- Scientific inquiry and research skills
- Collaborative skills

Terminology

- Terminology from the word wall

Materials

- **RAFTS**
- **Word Wall**
- Water Portfolio
- Access to computers and the Internet
- **Water Gallery Performance Task instruction pages**
- **Water Gallery Performance Task Rubric**

Minds On (Elicit and Engage)

Pause and Ponder

Whole Group → Refining the Water Gallery

Using a **RAFTS** strategy, facilitate a discussion about the Water Gallery, clarifying students' role(s), purpose, intended audience, overall format, and topics. Refer to the **Water Gallery Performance Task** outlined in Lesson 4.

Investigation and Research Teams → Determining Essential Information

Using their Water Gallery couplet/topic as a starting point, their Water Portfolios, and the **word wall** as resources, teams brainstorm science content that is essential to include in their water gallery pieces for their topic. Teams report out to the class.

Share lesson learning goals.

Action! (Explore and Explain)

Investigation and Research Teams → Revising Water Gallery Piece #1

Teams circulate the Water Gallery pieces from Lesson 6. Using the **rubric**, each member comments on the strengths and areas for improvement with respect to the science content.

Individuals revise their pieces. As these are circulated again, each member comments on the strengths and areas for improvement with respect to communication.

Investigation and Research Teams → Writing Process Water Gallery Piece #2

Using their Water Portfolios as a resource, teams brainstorm effective ways of communicating their topic information in the second piece. Suggestions should include both prose forms and graphic forms.

Individuals self-select a second form and draft their second piece. As these pieces are circulated, the team members use the rubric to give feedback on science content and on effective communication. Individuals revise the piece based on feedback.

A_{as}L Peers provide feedback, using the rubric as a guide.

D1 Provide guided practice for individuals or small groups, as necessary.

Consolidation (Elaborate, Evaluate, Extend)

Whole Group → The Water Gallery

Investigation and Research Teams set up the Water Gallery. Individuals write or prepare oral explanations of why their pieces are important to the Water Gallery. Students share their explanations when guests tour the Gallery.

Individual → Reflecting on the Unit

Students individually assess (1) the success of the Water Gallery, its strengths, and what they would do differently next time, and (2) the strengths of their own contributions, their challenges, and next steps. They refer to the rubric in their self-assessments.

A_{as}L Students explain reasons for their Water Gallery choices and self-assess their strengths and challenges.

A_{of}L Students' pieces are evaluated using the rubric.

Minds On

Word Wall

A word wall is a wall, chalkboard or bulletin board listing key words that will appear often in a new unit of study, printed on card stock and taped or pinned to the wall/board. The word wall is usually organized alphabetically.

See **Think Literacy: Cross-Curricular Approaches, Grades 7-12**.



Water Gallery Performance Task

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In this unit of study, you will take the role of scientist.

You will:

- conduct scientific inquiry and research on a water-related topic
- communicate with a specific audience, using a graphic form
- communicate with a different specific audience, using a prose form

Steps

1. **Select your topic**, using the couplets from the **Water is Life** resource to identify your focus.
2. **Record information** and ideas related to your topic from each lesson on water. Record this information in your portfolio. This task is ongoing throughout the unit.
3. **Gather information** from two self-selected sources of information.
4. **Select your way of communicating** from a Choice Board. You will have studied and practised each of these forms.
 - Comic strip
 - Informal essay
 - Picture book
 - Slide presentation
 - Position statement
 - Science magazine article
 - Storyboard for a flash animation, picture book
 - News report
 - Mind map
 - Slide presentation
 - Podcast
 - Public Service Announcement (PSA)
 - Science report
 - Web page

5. **Use a RAFTS graphic organizer** to clarify your role, your audience, your goal, form of communication, and topic (content).

Possible communication goals are:

- increasing awareness
- increasing understanding
- engaging the audience in water issues, e.g., through entertainment
- persuading the audience to become responsible water consumers

Possible audiences are:

- students aged 5-8 years
- students in another science class
- local politician, e.g., member of parliament or city councilor
- school administrators
- parents
- general public in the local area
- teachers in the school
- a Canadian scientist, e.g., David Suzuki
- an organization, e.g., World Wildlife Fund

6. **Collaborate with your Inquiry and Research Team** members to ensure that each of you is successful. Team members will collaborate on inquiry and research during the unit and take responsibility for helping each team member be successful, for example, by providing support and feedback to each other, to get some feedback on your draft so that you can make necessary improvements.

Water Gallery Performance Task

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RAFTS

Question Prompts		Your Response
Role	What is your role? What part are you playing? What are the habits of mind, attitudes, knowledge, and skills that a person in this role needs to have?	
Audience	Who is the intended audience? What does the audience already know? What attitude does the audience have? What does the audience need to know?	
Form	What is the most appropriate way to communicate your information and ideas to a specific audience? What are the characteristics of the form? What are its features?	
Topic	What is the form of communication about? What are the most important concepts and facts? What can't be answered?	
Strong Verb	What change in audience knowledge, attitudes, and actions do you want? What verb best expresses what you hope to achieve? For example, increase awareness, persuade, engage.	

Water Gallery Performance Task Rubric

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	Level 1	Level 2	Level 3	Level 4
<p>Knowledge and Understanding</p> <ul style="list-style-type: none"> Demonstrate an understanding of the characteristics of the earth's water systems and the influence of water systems on a specific region 	Explains characteristics of the earth's water systems and the influence of water systems on a specific region with limited understanding	Explains characteristics of the earth's water systems and the influence of water systems on a specific region with some understanding	Explains characteristics of the earth's water systems and the influence of water systems on a specific region with considerable understanding	Explains characteristics of the earth's water systems and the influence of water systems on a specific region with a high degree of understanding
<p>Thinking</p> <ul style="list-style-type: none"> Use scientific inquiry/research skills with Assess the impact of human activities and technologies on the sustainability of water resources 	<p>Uses scientific inquiry/research skills with limited effectiveness</p> <p>Evaluates the impact of human activities and technologies on water resource sustainability with limited insight</p>	<p>Uses scientific inquiry/research skills with some effectiveness</p> <p>Evaluates the impact of human activities and technologies on water resource sustainability with some insight</p>	<p>Uses scientific inquiry/research skills with considerable effectiveness</p> <p>Evaluates the impact of human activities and technologies on water resource sustainability with considerable insight</p>	<p>Uses scientific inquiry/research skills with a high degree of effectiveness</p> <p>Evaluates the impact of human activities and technologies on water resource sustainability with a high degree of insight</p>
<p>Communication</p> <ul style="list-style-type: none"> Use a variety of forms (e.g. oral, written, graphic, multimedia) to communicate with different audiences for a variety of purposes Use appropriate science and technology vocabulary, including water table, aquifer, potable, and freshwater, in oral and written communication 	<p>Uses a graphic form to communicate with a specific audience for a particular purpose with limited effectiveness</p> <p>Uses a prose form to communicate with a specific audience for a particular purpose with limited effectiveness</p> <p>Uses appropriate science and technology vocabulary with limited accuracy and frequency</p>	<p>Uses a graphic form to communicate with a specific audience for a particular purpose with some effectiveness</p> <p>Uses a prose form to communicate with a specific audience for a particular purpose with some effectiveness</p> <p>Uses appropriate science and technology vocabulary with some accuracy and frequency</p>	<p>Uses a graphic form to communicate with a specific audience for a particular purpose with considerable effectiveness</p> <p>Uses a prose form to communicate with a specific audience for a particular purpose with considerable effectiveness</p> <p>Uses appropriate science and technology vocabulary with considerable accuracy and frequency</p>	<p>Uses a graphic form to communicate with a specific audience for a particular purpose with a high degree of effectiveness</p> <p>Uses a prose form to communicate with a specific audience for a particular purpose with a high degree of effectiveness</p> <p>Uses appropriate science and technology vocabulary with a high degree of accuracy and frequency</p>