

QUILLS

Queen's University Indigenous Land-Based Learning STEM
Queen's University Biological Station

Where is Water?

Organizational Info:

Title: Where is Water?

Summary: Students brainstorm where water is found and how it moves though our environment. Students then play a game to demonstrate how water moves through the water cycle using local examples.

Inquiry Question: Inquiry Question 1: According to local Indigenous groups, what is water,

where did it come from, and why is it important?

Duration: 60 minutes

Learning Environment: Classroom, outdoor **Season:** Summer, Spring, Fall, Winter, All

Materials:

Water Cycle Activity.pdf

Printed activity cards

• 6 dice

Notebooks for each student to record movement

Meta Data:

Content Type: Activity

Bundle: Water

Theme: Indigenous Knowledge Systems, Contaminants in the Environment

Subject Area: Biology, Environmental Education, Geography, Outdoor Education, Physical

Education, Science, Social Studies

Curriculum Focus: 8
Curriculum Links:

Science and Technology: B2.4, B2.5, E1.1, E1.2, E2.1

This activity demonstrates that the water cycle is more complex than the 2-dimensional cycle of evaporation, condensation, and precipitation that students should be familiar with. By understanding that water is in the ground, the air, bodies of water, animals, etc., students will build an understanding of the importance of protecting our water.

- 1. Students brainstorm the different types of water (sap, ground water, rain, etc.). Students next brainstorm places where water goes based on where students live (urban/rural-rainwater runoff, ponds, lakes, etc.).
- 2. Students review water cycle- from previous grades (grade 4).
- 3. Students complete Activity (Activity adapted from *Project Wet*): https://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf



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- To prepare, teachers will need to print a copy of the handout located in Water Cycle
 Activity.pdf and match the instructions to the appropriate station.
- o Each student represents a water molecule.
- Students are placed at 8 different stations: St. Lawrence River, Lake Ontario, animal, ground water, soil, plant, pond, clouds. There should be an even number at each station, apart from clouds, if needed.
- Students line up and the person at the front rolls a die. The worksheet instructs students where to go next. If the card says 'stay,' students move to the back of the line.
- Students should carry a notebook with them to track which stations they go to.

4. Discussion.

Discussion Prompt: How is the Indigenous notion of the interconnectedness of all beings similar to and different from Western scientific ideas related to the water cycle?

Please note that the learning represented in these activities reflects Big Idea C. in the Indigenous Knowledge Learning Bundle: "Reciprocity, Interdependence, and Holism are at the Heart of Indigenous Ways of Knowing and Being". To help your students learn more about these foundational concepts check out the Learning Activities titled: Holism, The Honorable Harvest, and Our Responsibilities found in the Indigenous Ways of Knowing and Being with the Natural World Learning Bundle (Grades 7-10). Learning also reflects Big Idea D. in the Indigenous Knowledge Learning Bundle: "Drawing on both Indigenous Ways of Knowing and Being and Western Science will Help us to Address the World's Problems". To help your students learn more about this check out the Learning Activities titled: Two-Eyed Seeing, Drawing on Two-Eyed Seeing to Seek Solutions to Real World Issues, Two-Row Wampum, and Tying it All Together found in the Indigenous Ways of Knowing and Being with the Natural World Learning Bundle (Grades 7-10).