

QUILLS

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

The Water Cycle

(Activity adapted from *Project Wet*):

https://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf

- A. To prepare, teachers will need to print a copy of the handout below and match the instructions to the appropriate station.
- B. 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.

- o Students line up and the person at the front rolls a die. The worksheet below instructs students where to go next. If the card says 'stay,' they move to the back of the line.
- o Students should carry a notebook with them to track which stations they go to.
- C. Teacher leads discussion.

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





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Soil

 Plant – water is absorbed by plant roots
St. Lawrence River – the soil is saturated, so water runs off into the river
Ground Water – water is pulled by gravity; it filters into the soil
Clouds – heat energy is added to the water, so the water evaporates and goes to the clouds
Clouds – heat energy is added to the water, so the water evaporates and goes to the clouds
Stay – heat energy is added to the water, a puddle or adheres to soil particle)

Plant

Clouds – water leaves the plant
through the process of transpiration
Clouds – water leaves the plant
through the process of transpiration
Clouds – water leaves the plant
through the process of transpiration
Clouds – water leaves the plant
through the process of transpiration
Stay – water is used by the plant and
stays in the cells
Stays in the cells



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St. Lawrence River	Clouds
1: Pond – water flows into a lake	1: Soil – water condenses and falls on soil
2: Ground Water – water is pulled by gravity;	2: Lake Ontario – water condenses and
it filters into the soil	falls into the lake
3: Lake Ontario – water flows into Lake	3: Lake Ontario – water condenses and
Ontario	falls into the lake
4: Animal – an animal drinks water	4: Pond – water condenses and falls into
5: Clouds – heat energy is added to the water,	a nearby pond
so the water evaporates and goes to the clouds	5: Pond – water condenses and falls into
6: Stay – water remains in the current of the	a nearby pond
river	6: Stay – water remains as a water
	droplet clinging to a dust particle
Lake Ontario	Pond
1: Clouds – heat energy is added to the water,	1: Ground Water – water is pulled by
so the water evaporates and goes to the clouds	gravity; it filters into the soil
2: Clouds – heat energy is added to the water,	2: Animal – an animal drinks the water
so the water evaporates and goes to the clouds	3: St. Lawrence River – water flows
3: Stay – water remains in the lake	into a river
4: Stay – water remains in the lake	4: Clouds – heat energy is added to the
5: Stay – water remains in the lake	water, so the water evaporates and goes to
6: Stay – water remains in the lake	the clouds
	5: Stay – water remains in the pond
	6: Stay – water remains in the pond



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Animal	Ground Water
1: Soil – water is excreted through feces and	1: St. Lawrence River – water filters
urine	into the St. Lawrence
2: Soil – water is excreted through feces and	2: Lake Ontario – water filters into the
urine	lake
3: Clouds – water is respired or evaporated	3: Lake Ontario – water filters into the
from the body	lake
4: Clouds – water is respired or evaporated	4: Stay – water stays underground
from the body	5: Stay – water stays underground
5: Clouds – water is respired or evaporated	6: Stay – water stays underground
from the body	
6: Stay – water is incorporated into the body	