

How is water important to life?

Students learn about the water cycle and the importance of water to our communities.

Learning Intentions

1. Where is water in our lives?
2. How does water sustain life?
3. What is the story of the water cycle?
4. Where does our drinking water come from?
5. Some communities do not have clean drinking water. How can we help?
6. What are some ways that we can conserve and protect water?

Blackline Masters

- Learning Intention 1: *Water Walk – School, Water Walk – Outdoors, and Water Walk - Home*
- Learning Intention 2: *Who needs water in my community?*
- Learning Intention 2: *Weekly Weather Record*

Curricular Connections

Refer to the “Curriculum” drop-down option under the “Learn” tab of the Great Bear Rainforest Education and Awareness website.

Curriculum Alignment: Great Bear Rainforest Education and Awareness Trust

<https://greatbearrainforesttrust.org/curriculum/>

Learning Intention 1

Where is water in our lives?

Water is all around us and it plays an important role in our lives no matter where we live. Students will read about water and explore the places we can find visible and hidden water in our school and community, and how our experiences are similar and different to people in other communities.

Experiences and Observations

Read

How We Use Water

Nunavummi Reading Series (Inuit) by Inhabit Education.

https://www.strongnations.com/store/item_display.php?i=7736&f=1482

Water! Water! Water!

Children's book by Nancy Elizabeth Wallace

<https://www.chapters.indigo.ca/en-ca/books/water-water-water/9781477847305-item.html>

Discuss

- How do we use water at home and school?
- Where can we notice, label, and describe water that we use?

Water Walk in the School

Take students for a water walk in the school for them to observe where they can find water in their surroundings.

- Wonder together: Where do we find water in the school?
 - ◆ Examples that might be found include fountains, sinks, art class, water bottles, bathrooms.
- Document student findings
 - ◆ Students can bring clipboards and paper to document their findings on the go, or can fill in the graphic organizer (included) when back in class
 - ◆ You and/or the students can bring a camera or computer tablet to take photos of the water examples you find.

Water Walk in the School Community

Take students for a water walk in the school's surrounding spaces, such as school gardens, around the perimeter of the school, and possibly beyond for them to observe where they can find water in their surroundings.

Take students into the community with the intention of finding water along the way.

- How has water shaped the local environment? (Examples may refer to soil and rock erosion and deposition).
- How do the seasons impact the presence or absence of water?
- Examples of "found water" may include puddles, drains, ponds and waterways, snow and other condensation, areas affected by erosion or deposition, and water in plants and animals.
- Document student findings
 - ◆ Students (or teachers with student direction) can photograph their findings. In nature, photograph the findings rather than collect them.
 - ◆ Students can bring clipboards and paper or a graphic organizer (included) to document their findings.

Reminder: have students dress for the weather and ask for family volunteers to join you for your walk.

Read

i? siwłkw nkwancinəm k'əl suli? / The Water Sings to Suli?

Syilx story by H. Hall that shows Indigenous Peoples' view that water is a living thing.

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/water-sings-suli>

See also:

New Zealand river granted same legal rights as human being

After 140 years of negotiation, Maori tribe wins recognition for Whanganui river, meaning it must be treated as a living entity

<https://www.theguardian.com/world/2017/mar/16/new-zealand-river-granted-same-legal-rights-as-human-being>

This river in Canada is now a 'legal person'

Indigenous communities are leading worldwide push to recognise legal 'personhood' rights of rivers, lakes and mountains.

<https://www.aljazeera.com/news/2021/4/3/this-river-in-canada-now-legal-person>

Possible Topics/Key Vocabulary

- Erosion
- Deposition
- Differentiating between ponds, lakes, streams, creeks, marsh, rivers, etc. during the water walk (specific to regional geography)

Reflections on Learning

Making Learning Visible—Learning Stories

Take photos during your water walk so students can reflect on them and share them with families later.

Class Lists and Learning Intentions

Bring a list of student names with two columns to check. Are students engaging, demonstrating curiosity, and making observations? Check each student as you notice their engagement. If you haven't connected with a student, how can you make sure to connect with them next time and ask some prompting questions?

Water Walk worksheets: Students reflect on how they use water at home and school.

Create a map of the water walk: Students draw where they found water.

Class project: Create a class book or individual book inspired by *How We Use Water*.

Suggested Resources

Books

How We Use Water

Nunavummi Reading Series (Inuit) by Inhabit Education.

https://www.strongnations.com/store/item_display.php?i=7736&f=1482

i? siwłkw nkwancinam k'al suli? / The Water Sings to Suli?

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Water! Water! Water!

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Articles

New Zealand river granted same legal rights as human being

After 140 years of negotiation, Maori tribe wins recognition for Whanganui river, meaning it must be treated as a living entity

<https://www.theguardian.com/world/2017/mar/16/new-zealand-river-granted-same-legal-rights-as-human-being>

This river in Canada is now a 'legal person'

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<https://www.aljazeera.com/news/2021/4/3/this-river-in-canada-now-legal-person>

Extensions

Invite students to take their families on water walks and compare their findings!

Read or build on the reading of *How We Use Water* - Nunavummi Reading Series (Inuit) by Inhabit Education to create your own class book about how we use water.

Water Walk - School

Name: _____ Date: _____

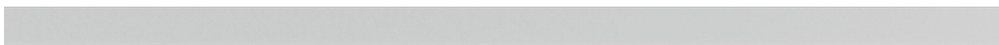
Take a walk around the classroom and school. Where can you find water?



Water Walk - Outside

Name: _____ Date: _____

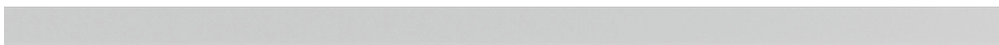
Take a walk outside! Where can you find water?



Water Walk - Home

Name: _____ Date: _____

Take a walk at home! Where can you find water?



Learning intention 2

How does water sustain life?

Students learn that water is essential to all life. Water is a need, water is a home, water connects us.

Experiences and Observations

Wonder

What do plants and animals need to live?

- Food/nutrition
- Water
- Shelter/safety/protection
- Sunlight
- Space
- Temperature regulation: some animals sweat to regulate their temperature

Wonder and Watch

How does water in the Great Bear Rainforest sustain life?

- Watch the GBR video and discuss the different types of water that students see.
- Discuss with the students:
 - ◆ How does the water nurture the special plants and animals in the rainforest?
 - ◆ How are bodies of water like oceans, rivers, lakes, creeks a home for plants and animals?
 - ◆ What kinds of structural and behavioural adaptations do the plants and animals have to live here?

Read

kəxntim sʃanix^w k'əl nix^wtɪtk^w acx^wə'l'x^walt / We Go With Muskrat to Those Living (Sylix- about animals in the Okanagan Lake)

- ◆ Muskrat introduces a diverse set of underwater creatures in this book. Although the class won't meet these creatures on their walk today (most likely), what animals might they find on the water walk?

Water Walk

Who needs water to live?

- You can take your students out with this new lens of looking not just for water visible to the eye, but instead all the beings that rely on water to survive. Alternatively, this could also be a conversation referring to your previous water walk, rather than taking a new walk.
- This is an opportunity to compare what you noticed about the GBR with our community.
- Today's intentions involve wondering about:
 - ◆ Identify plants and animals that need water in our community.
 - ◆ How much precipitation do we get in our community?
 - ◆ What kinds of plants and animals do we find here? Are they the same or different?
- Reflection drawing of: Who needs water in my community? (see blackline master, *Who needs water in my community?*)
- Fill out a weather tracker to track rain/precipitation, weather, and temperature (see blackline master, *Weekly Weather Record*).
- Create a class wonder wall.
- Literacy connection: Read *Water Rolls, Water Rises* by Pat Mora.

Possible Topics/Key Vocabulary

- Hydration
- Sweat
- Adaptations
- Structural Adaptations
- Behavioural adaptations
- Needs
- Habitat

Reflections on Learning

Class Lists and Learning Intentions

Use a checklist to document how students are engaging with your learning goals!

Reflections

A “wonder wall” full of student wonderings can indicate students’ understanding of the topic so far and can lead them toward their project-based inquiries later.

Project-based Learning

Possible extension could be having students create a water habitat for an animal.

Suggested Resources

kəxntim sʃanix^w k’əl nix^wtɪtk^w acx^wəɫx^walt / We Go With Muskrat to Those Living Underwater

Sylix story written by Harron Hall and illustrated by Ron Hall about animals in the Okanagan Lake

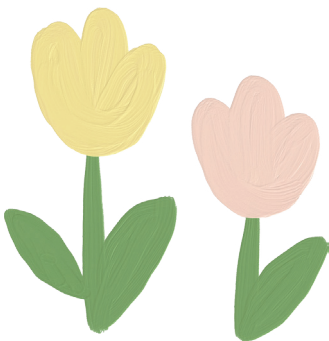
<https://focusedresources.ca/en/k-12-evaluated-resource-collection/we-go-muskrat-those-living-under-water>

Water Rolls, Water Rises

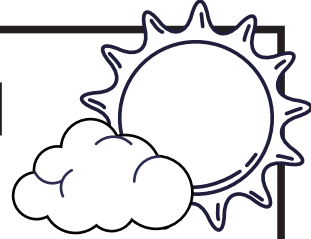
Children’s book by Pat Mora

<https://www.patmora.com/books/water-rolls-water-rises/>

Who needs water in my community?



Weekly Weather Record



Weather symbols:

sunny	cloudy	rainy	storm	snow	windy
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Complete the table below for one week:

Day	Temperature	Rainfall	Weather
MON			
TUES			
WED			
THUR			
FRI			



Learning Intention 3

What is the story of the water cycle?

Students learn about the water cycle.

Experiences and Observations

Read

Water Is Water: A Book About the Water Cycle by Miranda Paul.

Learning the stages of the water cycle: Water is in a continuous cycle, providing nourishment for life.

1. Show a “Water cycle” Image and Talk About Each Stage

Sun

The water cycle is driven by the energy from the sun warming the earth.

Evaporation

The warmth of the sun causes water from lakes, rivers, and oceans to evaporate and turn from a liquid to a gas. The water vapour (gas) rises into the air.

Condensation

The water vapor cools as it rises and turns into water droplets, forming a cloud.

Precipitation

Water droplets in a cloud join and eventually become too big and heavy and fall from the clouds in the sky. Precipitation can fall as rain, snow, or hail.

Runoff

After the precipitation falls, it flows down towards the ocean and collects in rivers, lakes, and streams. Some of it collects underground as well.

Extension of Terms

- Sublimation: the process of snow and ice changing into water vapor (gas) in the air without first melting into water.
- Transpiration: the process of water movement through a plant and its evaporation from aerial parts, such as leaves, stems, and flowers.
- The water droplets follow paths through the cycle and have been doing so for billions of years.

2. Water Cycle Walk

Take your students outdoors to find stages of the cycle, on rainy, snowy, sunny, foggy days), and during different times of day (morning dew versus afternoon dryness)

3. Ways to Reinforce Concepts of the Water Cycle

Play the [water cycle game](#) and create stories inspired by it.

- This game helps students understand how water droplets move through specific stages.
- Rather than write down each station, students can gather beads at each stage and then use the beads to tell their story at the end!

4. Story Workshop—Make Stories About the Water Cycle Using Loose Parts

Students have their water cycles photographed or filmed in real time or using stop motion so that they can add their voice and/or labels.

5. Water Cycle Sheet with Labels

These can be cut or written and have various levels of complexity.

Possible Topics/Key Vocabulary

- Water cycle
- Precipitation
- Evaporation
- Condensation
- Runoff

Reflections on Learning

Making Learning Visible—Learning Stories

- Document each stage of the story workshop process—photos of story-making creations, oral storytelling and/or explaining, adding written labels, or writing and drawing about the water cycle.

Project-based Learning

- Create models of the water cycle using loose parts and label digitally or with paper labels.

Suggested Resources

The Incredible Journey (PDF)

With a roll of the die, students simulate the movement of water within the water cycle.

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

Try This: See the Water Cycle in a Bag

https://www.youtube.com/watch?v=VZB44_X0pFw

Water Cycle Experiment for Kids: Evaporation-Condensation-Precipitation

<https://www.youtube.com/watch?v=cIWxjOOqZeI>

Water Is Water: A Book About the Water Cycle

Children's book by Miranda Paul

<https://mirandapaul.com/water-is-water/>

Extension

Urban Water Cycle

Explore the urban water cycle in this resource. In what ways is the information provided the same as or different from the initial water cycle diagram explored?

<https://education.nationalgeographic.org/resource/urban-water-cycle-infographic/>

Try This: See the Water Cycle in a Bag

https://www.youtube.com/watch?v=VZB44_X0pFw

Water Cycle Experiment for Kids: Evaporation-Condensation-Precipitation

<https://www.youtube.com/watch?v=clWxjOOqZel>

Learning Intention 4

Where does our drinking water come from?

Students will explore videos and maps of the GBR and local watersheds to have a deeper understanding of where our water comes from.

Experiences and Observations

Read

sk̓p'lk'mitkw / Water Changeling

This is a Slyix perspective about the path water takes from the mountain tops to the rivers.

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/water-changeling>

Watch

Mountain to tap: how water gets from the mountains to your home

<http://www.metrovancouver.org/welovewater/water-source/Pages/default.aspx>

Map the Local and GBR Watershed

- Students find both their watershed map and the GBR watershed map online. Discuss the flow from the source, through the creeks, streams, into rivers and beyond.
- Remind students about the First Nations who have lived here since time immemorial on the unceded land and waterways we are learning about (for more about this, see the activity plan, Where in the World Do We Live? — Learning Intention 4)

Experience: the Watershed

- If it's possible, take your class on a virtual or in-person tour and workshop of watersheds.

Watershed Initiatives Map

<https://watershedsbc.ca/map/>

- Take a tour of a water treatment plant.
- Invite local public works to speak to your class about what happens to the water that goes down our drains.
- Connections to local Indigenous issues in Canada with the picture book, *Nibi's Water Song* (suggested reading in Learning Intention 5)

Possible Topics/Key Vocabulary

- Treatment
- Watershed
- Interconnections

Reflections on Learning

Create and label a watershed map.

Suggested Resources

BC Metro Vancouver Watershed Tours

<http://www.metrovancouver.org/events/watershed-tours/Pages/default.aspx>

Capital Regional District (CRD) Watershed Tours

<https://www.crd.bc.ca/service/public-tours/watershed-tours>

Pacific Streamkeepers Federation

<https://www.pskf.ca/>

Stream Keepers organizations throughout B.C. (search the Web for further information)

Extension

Explore Goal #6: Water from the the UN Goals for Sustainability

Water and Sanitation (United Nations Department of Economic and Social Affairs—Sustainable Development)

<https://sdgs.un.org/topics/water-and-sanitation>

Learning Intention 5

Some communities do not have clean drinking water. How can we help?

Students will have the opportunity to learn about water accessibility in Canada and around the world. They will be able to use their voices and words to advocate for change in their communities and country. This activism lens can extend into other important environmental issues such as protecting conservation lands.

Experiences and Observations

Read

Nibi's Water Song

Children's book by S. Tenasco.

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/nibis-water-song>

- Discuss needs versus wants. What are essential needs? (Clean water, nutritious food, shelter, clothing, education, love.)
- Ask students: What is Nibi's experience trying to access water? How does that make Nibi feel? How would you feel?

Watch

Watch the video of Autumn Peltier, Water Protector, as she addresses the United Nations.

Autumn Peltier, 13-year-old water advocate, addresses UN

Autumn is an Anishinaabe Indigenous rights advocate from the Wiikwemkoong First Nation on Manitoulin Island, Ontario, and she has a special role in her community as a water protector.

<https://www.youtube.com/watch?v=zg60sr38oic>

Write or draw a letter to the government to advocate for access to clean water for all communities, especially Indigenous Communities. A letter template is available at the link below.

Water is a Human Right

Council of Canadians letter template for students to send a letter concerning Canadian Prime Minister Justin Trudeau’s commitment to end drinking water advisories on First Nations reserves by 2021.

<https://canadians.org/wp-content/uploads/2017/04/FNwaterdrop-school.pdf>

- In your writing, include the traditional territories, watershed, and city you learn in together.
- Writing can be simple:
 - ◆ “Every child deserves clean water.”
 - ◆ “Please help all communities have clean water.”

Possible Topics/Key Vocabulary

- Needs vs. wants
- Advocacy
- Activism
- Protection
- Human rights
- The rights of children

Reflections on Learning

Making learning visible—learning stories

Document your class’s process of writing letters and delivering them through the mail.

Letter Writing

Are students able to express their feelings and concern?

Reflections

During and after writing their letter, how do students feel about their own power to make change?

Suggested Resources

How Students and Teachers Can Take Action for Clean Water in First Nations

Council of Canadians website

<https://canadians.org/analysis/how-students-and-teachers-can-take-action-clean-water-first-nations/>

I Have the Right to Be a Child

Children's book by Alain Serres

https://houseofanansi.com/products/i-have-the-right-to-be-a-child?_pos=1&_sid=0f696382e&_ss=r

Water is a Human Right

Council of Canadians letter template for students to send a letter concerning Canadian Prime Minister Justin Trudeau's commitment to end drinking water advisories on First Nations reserves by 2021.

<https://canadians.org/wp-content/uploads/2017/04/FNwaterdrop-school.pdf>

The Water Princess Water Filter STEM Challenge

<https://carlyandadam.com/thecarlyandadam/the-water-princess-water-filter-stem-challenge>

Extensions

Read

The Water Princess

Children's book by Susan Verde and Georgie Badiel

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/water-princess>

- Discuss clean water challenges around the world.

I Have the Right to Be a Child

Children's book by Alain Serres

https://houseofanansi.com/products/i-have-the-right-to-be-a-child?_pos=1&_sid=0f696382e&_ss=r

- Discuss the rights of children.
- Have students indicate where in their community water is available for refilling their water bottles or for those in need. Clean drinking water is essential to life and isn't available everywhere. Have students map where there is accessible free clean water for those who may need it (underhoused, travelers, and so on.).

Learning Intention 6

What are some ways that we can conserve and protect water?

Indigenous Water Protectors have been leading the way for environmental activism. Students will read and watch stories of Indigenous Water Protectors and reflect on ways they can take action in their own communities in big and small ways.

Experiences and Observations

Read

We Are Water Protectors

Children's book by Carole Lindstrom

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/we-are-water-protectors>

Watch

Watch *The Water Walker* or listen to true stories of the Water Walkers.

Nibi (Water) Song

Recording of Nibi song on the Mother Earth Water Walk website.

http://www.motherearthwaterwalk.com/?attachment_id=2244

The Water Walker

Nanaboozhoo reads *The Water Walker*, written and illustrated by Joanne Robertson.

<https://www.youtube.com/watch?v=1p7hDhMtdCo>

Water Walkers

University of British Columbia lesson plan from the Decolonizing Teaching Indigenizing Learning series.

<https://indigenizinglearning.educ.ubc.ca/water-walkers/>

Watch the video about Autumn Peltier (different from the video in Learning Intention 5)

On National Child Day, meet clean water activist Autumn Peltier

CBC video about Autumn Peltier.

<https://www.youtube.com/watch?v=A33XRMLBbOc>

- How have Indigenous groups protected water over the years? How can we protect water?
- How can we conserve water in our lives?
- If you created a list in Learning Intention 1, you could use that water inventory of all the ways you use water in a day. Then, see how you could conserve water by doing things like turning the tap off while you brush your teeth, having shorter showers, and watering garden plants near the roots.

Watch and learn the Water Song (shared with permission, for everyone to learn). Learn the words and sing together.

Sing the Water Song

<https://www.youtube.com/watch?v=KC2FHciQ0sU>

Create an action plan for home and school.

- Students could share this plan and teach other students and teachers in the school.

Possible Topics/Key Vocabulary

- Conservation
- Respect
- Responsibility
- Water Protectors
- Protection

Reflections on Learning

Reflections

- Ask students to respond to the stories and videos they have seen. Ask: What did you notice, wonder, and think? What were you inspired by? How could you take action?

Project-based Learning

- Make a poster on water conservation in your school.
- Create a device to help in water conservation.

Suggested Resources

Autumn Peltier, 13-year-old water advocate, addresses UN

Autumn is an Anishinaabe Indigenous rights advocate from the Wiikwemkoong First Nation on Manitoulin Island, Ontario, and she has a special role in her community as a water protector.

<https://www.youtube.com/watch?v=zg60sr38oic>

kʷu cəxʷəntim təl stunx isckʷuls / Lessons From Beaver's Work (Print Resource)

Sylix- teaches the importance of watersheds and protecting water

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/lessons-beavers-work>

Sing the Water Song

<https://www.youtube.com/watch?v=KC2FHciQ0sU>

Water Walkers

University of British Columbia lesson plan from the Decolonizing Teaching Indigenizing Learning series.

<https://indigenizinglearning.educ.ubc.ca/water-walkers/>

Extension

- Create a rain garden at your school.
- Educate your school community on ways they can conserve water.
- Explore water restrictions in town and in local First Nations communities to understand why these are necessary at certain times of the year.
- Participate in a virtual H2Whoa Presentation by Planet Protector Academy.

H2WHOA!!

Free B.C. initiative to help get students excited about protecting water in their community with small actions they can take.

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/lessons-beavers-work>

Read

Read *k^{wu} cə́x̣wəntim təl stunx isck'wuls* / Lessons From Beaver's Work

k^{wu} cə́x̣wəntim təl stunx isck'wuls / *Lessons From Beaver's Work (Print Resource)*

Sylx- teaches the importance of watersheds and protecting water

<https://focusedresources.ca/en/k-12-evaluated-resource-collection/lessons-beavers-work>



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