

# My River My Home

An activity kit for educators about the sustainability of the Fraser River



Created by:





## Acknowledgements

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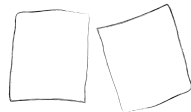
## Activity 1.2 How Much Fresh Water Do I Need?

How much water do I use in an average day, week, or month? This exercise is designed to make students more aware of their dependence on fresh water.

### What You Need:



**A few minutes per day for a week, 20-30 min for intro and conclusion**



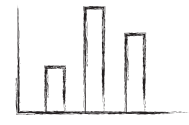
**1.2.1, 1.2.2, 1.2.3**



**2 different ribbons per student**



**Tape**



**Graph in the classroom to record results**

### What You Do:

- See instruction page to prep and make the water meter 1.2.1
- Brainstorm how people use water (bathing, cleaning, cooking, flushing toilet, drinking etc.).
- For younger students: tell a story of a person's day, and have students practice their water meters to estimate the amount of water the person uses.
- Ask students to estimate the amount of water they use throughout the day and record their estimates on the worksheet.
- Ask students to include when their clothes or dishes are washed by parents or a sibling.
- Have students compare their results to their predictions.
- As a class, compare the results.

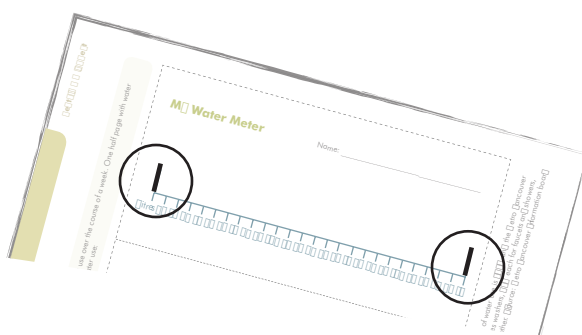
### Discussion

- How did the results compare to the prediction? How does it compare to the national or local per capita average?
- What was the class average? The most? The least? What caused the differences?
- What were some things that used a lot of water? Are there ways to reduce this water usage? (i.e. low flow appliances)
- Consider local and global differences. Do people in different countries use water differently?

### Extensions

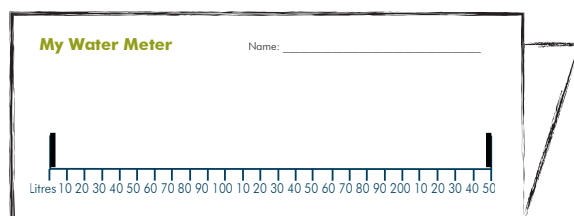
Ask students to make one change and keep track for another week. Did the class reduce water consumption? Which changes had the biggest impact? Find more resources about personal water use on the BC Government's Livingwatersmart.ca website including an electronic home water assessment.

## 1.2.1 Water Meter Prep



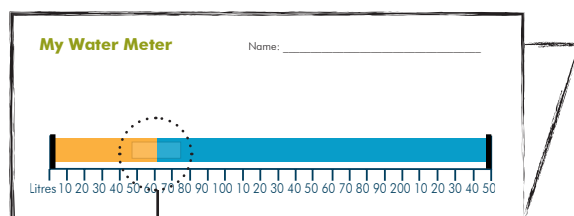
### Step 1:

Cut the ribbon slots in the water meter before giving to students.



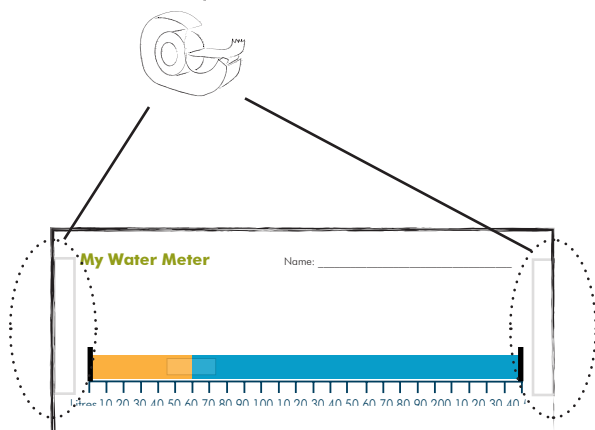
### Step 2:

Have the students cut out the water meter and fold it in half.



### Step 3:

String the two pieces of ribbon through the slots and join them together with tape on both ends.



### Step 4:

Tape the edges of the water meter together to protect the ribbons.

1.2.2 Water Meter

Use this water meter to track your water use over the course of a week.

### My Water Meter

Name: \_\_\_\_\_

Litres 10 20 30 40 50 60 70 80 90 100 10 20 30 40 50 60 70 80 90 200 10 20 30 40 50

Standard toilet 1 flush: 18 L/flush

Low flow toilet: 6 L

1 load in standard top loading washing machine: 125 L

1 load in front loading washing machine: 50 L

1 load of in a high efficiency, energy-star washing machine: 23 L

1 load of dishes in non-energy efficient dishwasher: 60 L

1 load of dishes in energy efficient dishwasher: 15 L

1 load of dishes in sink 1/2 full: about 25 L

1 load of dishes in sink if water is kept running, calculate per minute: \_\_\_\_\_ min x 6 L per min = \_\_\_\_\_ L

Running tap: about 6 L per minute

# of litres per minute of shower with a standard shower head: 15 L/minute

# of litres per minute of shower with a low flow shower head: about 8 L/minute

# of litres per bath: about 80 L

# of litres used when brushing teeth with the tap on (2 minutes): 12 L

Dripping tap: a drip every second wastes about 4 L/day

Food preparation: about 15 L/day

Drinking: up to 2 L/day

Face/hand washing: about 15 L/day

In 2013 the Canadian per capita domestic daily average of water use was 343L, and the Metro Vancouver average is 325L. 30% of this is flushing toilets, 23% clothes washers, 14% each for faucets and showers, 10% for leaks, 6% for baths, 2% is dishwashers, and 1% other. (Source: Metro Vancouver Information board at Coquitlam Reservoir)



### 1.2.3 My Water Use Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Brainstorm the ways people use water:

I predict I will use \_\_\_\_\_ litres of water in one day and \_\_\_\_\_ litres of water in one week.

Keep Track:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
_____ L	_____ L	_____ L	_____ L	_____ L	_____ L	_____ L	_____ L

Ways I used water this week:

Reflect: How do I feel about my water use?

What now? How can I reduce my water use?

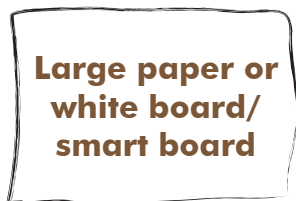
## Activity 1.5 What are my Connections to the Fraser River?

The majority of British Columbians are connected to the Fraser River basin. The basin is a vital trade and transportation corridor, a food source, a place for people to live, one of the largest salmon spawning rivers in the world and habitat for other species, a source of many jobs, and a tourism or recreational destination. In this activity, students consider their personal connections to the Fraser River.

### What You Need:



60 minutes



1.5.1

### What You Do:

- As a class, brainstorm some ways that people may be connected to the Fraser River.
- Break a class into small groups and assign each group a category (i.e., jobs). There will be overlap between the categories.
  - Basic needs (human survival): air, water, food, habitat, etc.
  - Jobs (think industries, tourism, port operations, scientists, etc.)
  - Imports (food, cars, clothing, computers etc.)
  - Natural resources (timber, mining products, salmon, water, gravel, hydroelectric power etc.)
  - Recreation (fishing, boating, hiking, camping)
  - Cultural/Spiritual (Aboriginal culture, museums, tourist attractions)
- Have groups create and present a mini-poster or a collage about their category.
- Ask students to consider which ways they feel most connected to the Fraser River
- Provide an opportunity for students to share their personal connections.
- Optional: Attend an *Inspired by the River* workshop at the Fraser River Discovery Centre which includes a game about this topic.

### Discussion

- How might these different uses/needs compete? How do you think that might impact the health of the Fraser River?
- How have the students' feelings about the Fraser River changed after completing this activity?

### Extensions

Ask students to find out why their families live in the Fraser River basin? Have they always been here? Were they drawn by opportunities related to the Fraser River? Look historically; share Aboriginal origin stories, also consider what opportunities drove settlement in the past?



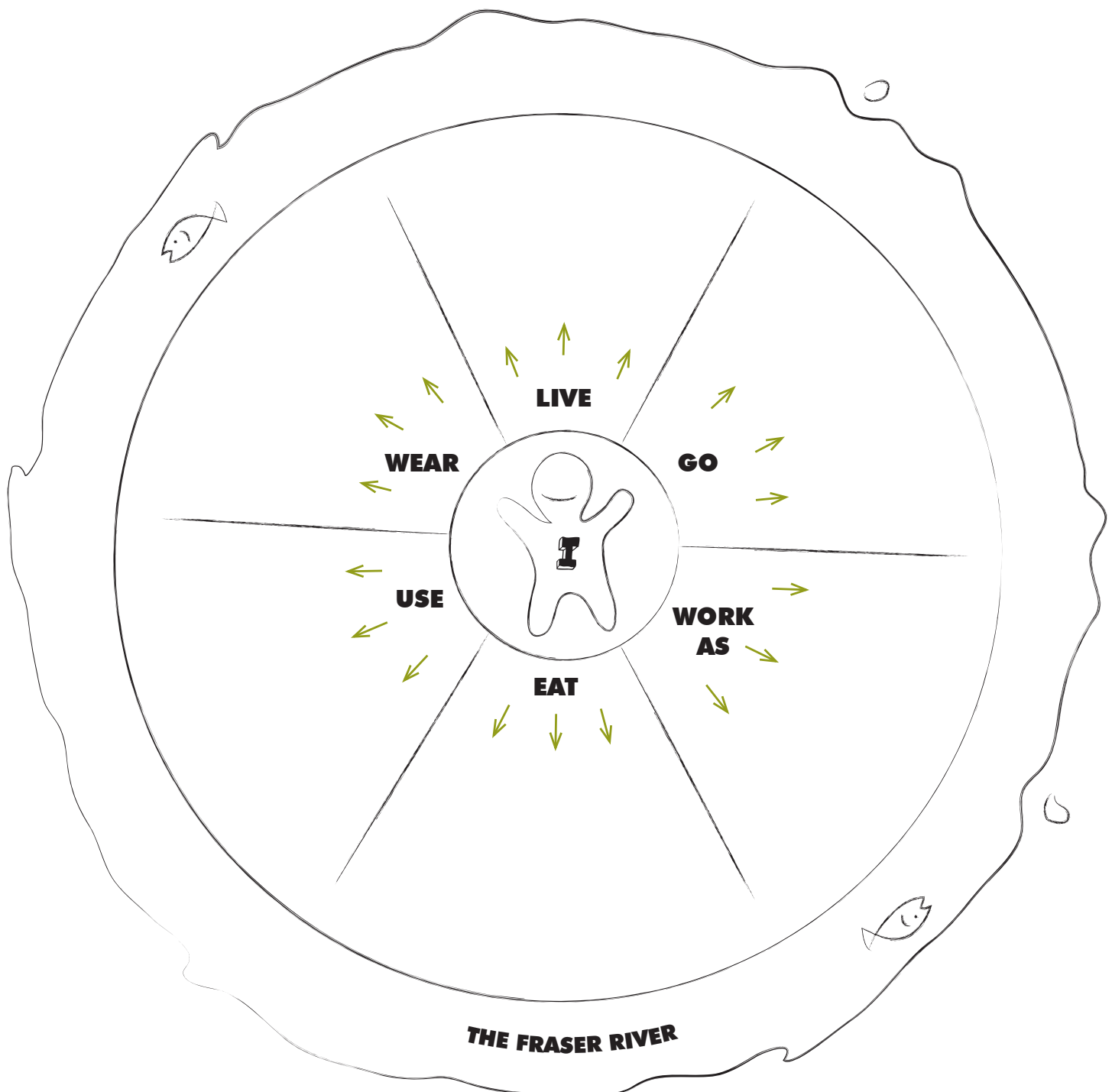
## 1.5.1 Fraser River Connections Handout

Example:

I live in New Westminster near the Fraser River.

I eat salmon from the Fraser River.

I go hiking along the Fraser River.



## Activity 2.6 Aboriginal Connections to the Fraser River

*"In the words of our old people, we have been here forever. We have no stories that bring us over land, or across the water, or any other means of being here. We have always been here."*

*- Musqueam Elder Larry Grant*

Aboriginal people have lived along the Fraser River since time immemorial. Although there are many different groups, languages, and cultures, the people share important links to the Fraser River as a source of life, food, transportation, and spirituality. Archaeological evidence of human activity along the Fraser River dates back about 10,000 years. To help students comprehend the span of 10,000 years, build a rope timeline. Watch *Hiqw' Stó:lō*, a 12-minute film recounting the Musqueam and Stó:lō oral histories of how salmon came to the Fraser River.

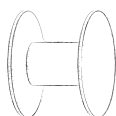
### What You Need:



**2.6.1, 2.6.2**



**10.3m long  
thick rope**



**spool**



**tape**

**sharpie**

**fabric tags**

***Hiqw' Stó:lō* film**

<https://vimeo.com/106639607>

### What You Do:

- Attach the rope to the spool using the first 30 cm of length.
- Measure out and mark the rope each metre, starting at the spool.
- Create fabric tags with the following labels: 10 years, 40 years, 70 years, 150 years, 200 years, 4,000 years, 6,000 years, and 10,000 years. Place them on the rope at 1cm, 4 cm, 7 cm, 15cm, etc. from the end farthest from the spool. Change the first three tags to suit the age of your students.
- Unravel the rope while discussing the significance of each tag. See 2.6.1.
- Watch the short film *Hiqw' Stó:lō*. Use 2.6.2 to discuss as a class.

### Extensions

- Book a visit to the Fraser River Discovery Centre for Our Bones are Made of Salmon, a 1.5 hour workshop that includes this timeline activity and the *Hiqw' Stó:lō* film. The workshop includes hands-on experience with salmon fishing technology.
- Contact your school district's Aboriginal Education Coordinator, your local university or college Aboriginal Department, or the local Aboriginal Band and ask if an Elder is available to speak to your class.
- Consult the following resources:
  - I am Stó:lō, by Keith Thor Carlson and Alber (Sonny) McHalsie, Douglas and McIntyre.
  - A Stó:lō Coast Salish Historical Atlas (most suitable for secondary students)
  - Bridge Between Nations: A history of First Nations in the Fraser River Basin  
[www.fraserbasin.bc.ca/\\_Library/Ab\\_NonAb\\_Relations/bridge\\_between\\_nations.pdf](http://www.fraserbasin.bc.ca/_Library/Ab_NonAb_Relations/bridge_between_nations.pdf)

## 2.6.1 Rope Timeline Instructions and Interpretation Notes

Start with the rope wound on the spool, and slowly unravel the rope while discussing the placement of each tag:

- **10 years**

the approximate age of your students: emphasize that their entire lifetime and all of its events fits in a single centimeter of this timeline.

- **40 years**

the approximate age of your students' parents

- **70 years**

the approximate age of your students' grandparents. Do your students' consider their grandparents old? "Old" is a relative concept as students will soon discover.

- **150 years**

an important mineral was discovered on the Fraser River approximately 150 years ago which spurred the Fraser River Gold Rush (1858). The discovery of gold brought 30,000 non-Aboriginal people to the Fraser River basin from the US, China, and other countries. The same year, the Crown Colony of British Columbia was established and British citizens began to buy and settle the land.

- **200 years**

approximately 200 years ago, Simon Fraser was the first non-Aboriginal person to travel the length of the Fraser River (1808). First Nations people all along the river helped him and his men complete the journey.

- **4,000 years**

this is how long people have lived continuously at the main village site of Musqueam at the mouth of the Fraser River

- **6,000 years**

this is approximately how long Aboriginal people along the Fraser have relied on salmon as their main food source.

- **9,000-10,000**

there is archaeological evidence of human activity along the Fraser dating back approximately 10,000 years

- **Time Immemorial (no tag)**

Musqueam Elder Larry Grant said "In the words of our old people, we have been here forever. We have no stories that bring us over land, or across the water, or any other means of being here. We have always been here."

Discuss what it means to be from a place. Consider the impacts of the change that has occurred in the Fraser River basin in the last 200 years.

### 2.6.2 Discussion for Hiqw' Stó:lō

Hiqw' Stó:lō is a 12-minute film narrated by Musqueam Elder Larry Grant and Stó:lō Cultural Historian Sonny McHalsie. In the film, Larry and Sonny share what the Fraser River means to them, two oral histories about how salmon came to the Fraser River, and an overview of the Stó:lō First Salmon Ceremony.

After watching the film, use the Aboriginal teaching method of oral tradition to review the film by asking students to reflect on what they have just heard and respond orally to the following questions:

- What did you learn from the film? Instead of asking a specific question, allow the students to identify what they remember from the film. Discuss the film in more detail as students mention what they remember.
- Ask students to recall what they remember about the two salmon stories. What are some of the similarities and differences?
- Ask students to provide examples of how the animals were given human qualities in the film. According to Larry, in Aboriginal culture animals are people who have spirits.
- What did Larry and Sonny say that describes their connections to the Fraser River?
- What do students remember about what Sonny said about the First Salmon Ceremony? According to Sonny, sharing the fish with as many people as possible is an important part of the ceremony. Why do they put the bones and unused portions of the fish back in the river?

Aboriginal knowledge is personal. Larry and Sonny have their own memories, stories, and connections to the Fraser. Other Aboriginal people will have different opinions and knowledge based on their own experiences and family histories.

Oral tradition uses listening and speaking to transfer knowledge, without needing to write down the information. It was an effective teaching method in Aboriginal communities for thousands of years and continues to be today. Using this teaching method to review the film reinforces the importance of oral tradition.