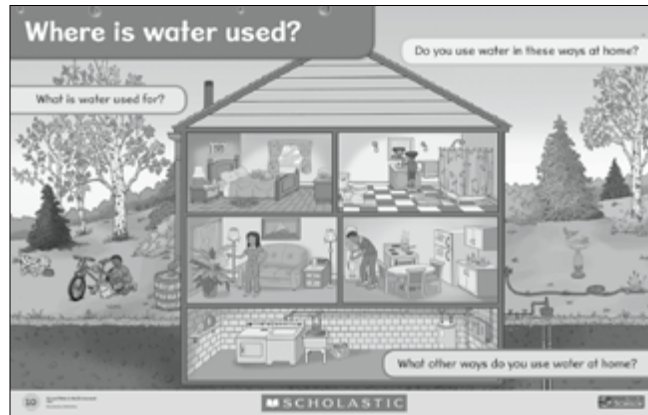


Air, Water, and People



Focus: Students will explore how water is used and obtained in their homes and local community, and construct and label pictographs to communicate some of their findings.

Specific Curriculum Outcomes

Students will be expected to:

- 20.0 explore how water is used, obtained, and distributed in personal, local and regional environments [GCO 1/3]
- 21.0 construct and label concrete-object graphs or pictographs [GCO 2]

Performance Indicators

Students who achieve these outcomes will be able to:

- survey water use in their home and create a labelled pictograph to communicate the results
- describe the source(s) of water for their community

NOTES:

Attitude Outcome Statements

Encourage students to:

- be sensitive to the needs of other people, other living things, and the local environment [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- construct and interpret concrete graphs and pictographs to solve problems [2SP2]

English Language Arts

Students will be expected to:

- create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes [GCO 9]

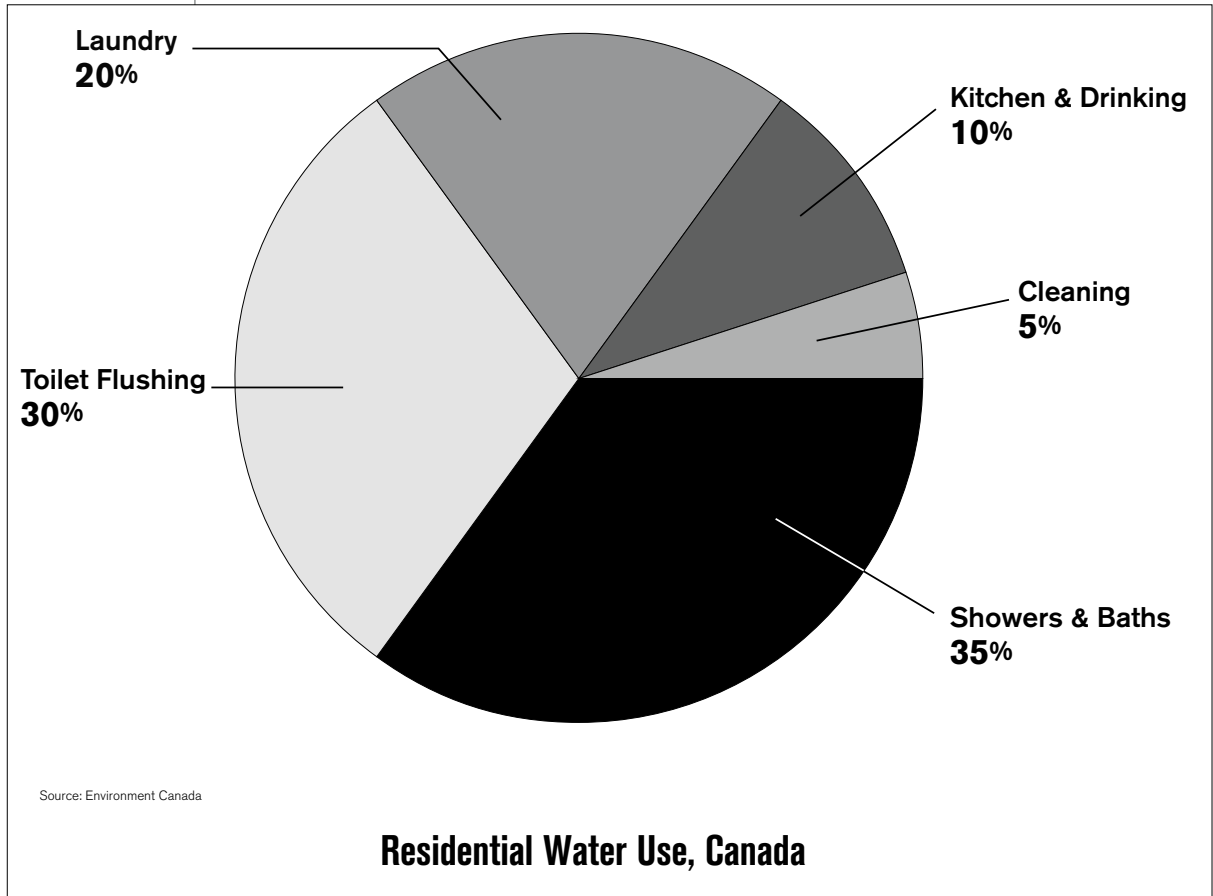
Getting Organized

Components	Materials	Before You Begin	Vocabulary
• Science Card 10 • IWB Activity 7 • BLM <i>Our Water Use</i> • IWB Activity 8	• students' Science Folders • students' Science Journals		• rainwater • snow • ice • run off • stream • river • lake • pond • ocean • well • pipes • tap • water supply • surface water

Science Background

- Only about 3% of the water on Earth is fresh water. This includes ice, surface water (in lakes, rivers, and the like) and ground water. Ground water is found in the spaces between materials in Earth's upper layer. About 70% of Canadians (66% of those in Newfoundland and Labrador) rely on surface water for their supply. The remainder comes from ground water. Wells are common in many rural communities that lack sufficient infrastructure to develop other sources.

- Typical water use by Canadians at home is shown below.



Possible Misconceptions

- Unless they do not use a municipal supply, students are unlikely to have considered where the water in a faucet comes from.

ACTIVATE

Sources of Water

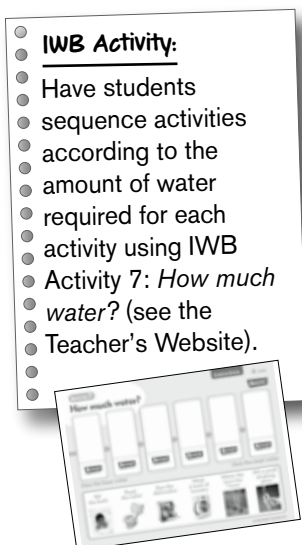
Brainstorm or review with students the different sources that provide people with water, for example, lakes, rivers, streams, creeks, ponds, oceans, and wells. Tell students that there is also water underground which they can't see. Explain that this water, called "groundwater," is found in spaces under the earth. This water is often directed to the municipal water supply. Ask:

- **How does the water get to your house?** (Students may say that water is pumped in or comes through the pipes.)

How Do We Use Water?

Ask students to tell you about any ways they used water today before they came to school. Make a list as students respond. Then, ask them if they have used water today in school, and add these responses to the list. Share Science Card 10 with the class. Ask students to describe the various ways that water is being used in the illustration. List students' responses, then ask:





- **Are there any ways that your family uses water that are not shown in the picture? Tell me about them.** (Record any uses not shown on the Science Card.)
- **Are there any other ways that people use water that you know about? What are they?**

As a class, brainstorm uses of water. Use the unit KWLN chart to record students understanding and questions.

CONNECT

Water at Home

The form titled 'Our Water Use' has a header section for 'Name' and 'Class'. Below is a table with columns for 'We get our water from', 'How often', 'How much', 'Where', and 'What for'. The table has 5 rows for data entry.



Tell the class that they are going to find out more about how their family uses water at home by conducting a survey. Briefly explain what a survey is. Provide students with BLM *Our Water Use*. The BLM provides a space for recording the source of water at home. Instruct students to ask an adult to help them identify the source of their water at home. Students use the rest of the BLM to track, using tally marks, some common household uses of water in their household over a weekend or in one day. Students may need their family members to help them track some uses. Tally your own water use, too.

Review or demonstrate to students how to construct a pictograph using the data on your tally sheet. Then, have each student construct a pictograph of the data on water use collected from their home. Invite them to draw pictures like those on BLM *Our Water Use* or to invent their own. Have students store completed BLMs in their Science Folders.

CONSOLIDATE

How We Used Water

Have students share the pictographs of their home water consumption by posting them in the classroom. Ask students to compare their results to those of their peers. Ask:

- **Does everyone use water for the same purposes?**
- **Does everyone use the same amount of water?**

Have students make record their conclusions in their Science Journals. Incorporate students' responses in the KWLN chart.

Then, as a class, use the pictographs to sort the activities by how often they were done for the overall class. Record the sorting results in a central place. Ask:



- What could we do to use less water?
- Do you think it is important to conserve water? Why?

Revise the KWLN chart with new information or questions.

Conserving Water

Challenge students to suggest how they could reduce water waste at home and at school. Prompt them to look at the results of the water use survey when they are brainstorming. Students can communicate their ideas as a poster or Webpage that can be shared with the school.

EXPLORE MORE

IWB Activity:

- Alternatively, students could use IWB
- Activity 8: *How do we use water at school?* (see the Teacher's Website) to track students' water use through the day.



How Do We Use Water in My Classroom?

Create a tally sheet of common ways that students use water throughout the day at school: e.g., going to the bathroom, washing their hands, or getting a drink of water. Post the tally sheet in a central location, such as on the door, and have students add a tally mark to the sheet each time they carry out one of these activities, over a period of two or three days. If necessary, use a fresh tally chart each day. As a class, create a pictogram from the data. Ask:

- Does anything on the graph surprise you?
- Was anything more or less what you expected?
- Can you use this information to suggest ways we can reduce water use at school?

Our Water Use

Name: _____

Circle or write the answer.

We get our water from our town our well bottles another source

Day	Tooth brushing 	Drinking 	Hand washing 	Toilet flushing 	Bath or shower 	Cooking 	Other