



# Water: How can I reduce water use?

Our drinking water comes from the river. It is treated and filtered and then pumped to our homes. All this uses energy and generates greenhouse gas emissions.

**Take photos of the actions you are taking to save water or keep a list or journal of what you are doing to reduce water use. Do the math. Share your actions with your teacher, family, and friends.**

## I take shorter showers

- There are 2 ways we can save water when showering
  - We can install a low-flow showerhead, which uses between 4 and 8 litres of water per minute. That's changing **technology**.
  - We can take a shorter shower – reducing the amount of time we are in the shower. That's changing our **behaviour**.
- Compare:
  - 15-minute shower using a 6 litre per minute showerhead = 90 litres of water
  - 5-minute shower using a 6 litre per minute showerhead = 30 litres of water
- If you reduce showering time each day from **15 minutes to 5 minutes**, you could save **33,000 litres of water per year**, and **\$120 each year**.
- Find the flowrate: You can figure out how much water your showerhead uses by using a large measuring cup and stopwatch to see how much water flows in 10 seconds. Multiply by 6 to find out litres per minute.



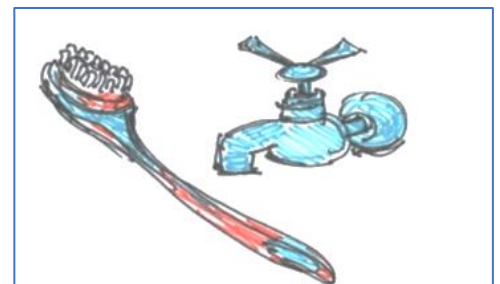
## I drink tap water

- Drinking water from the tap saves in a few ways.
  - Tap water is a lot less expensive than bottled water. It costs pennies per glass compared to the cost of a bottle of water.
  - Tap water is tested for quality much more often than bottled water.
  - Single use plastic bottles can be recycled, but many end up in the landfill. In Canada, about 29,000 metric tonnes of plastic end up as litter which can contaminate rivers and oceans. (Source: Recycling Council of ON)



## I turn off the tap while I am brushing my teeth

- Try this experiment.
  - **Brush while running the water the whole time.** Place a container in the sink. Run the water the whole time you are brushing your teeth. Measure the water you collected.
  - **Brush with the tap off.** Now collect and measure the water if you brush your teeth without running the water. Only turn on the tap to wet and rinse the brush and to rinse your mouth.
  - How much water did you save by turning off the tap?



## Curriculum Connections

**Grade 4 Mathematics N4.3** Demonstrate an understanding of multiplication of whole numbers (limited to numbers less than or equal to 10) by: applying mental mathematics strategies, explaining the results of multiplying by 0 and 1.

**Social Studies RW4.3** Assess the impact of Saskatchewan resources and technological innovations on the provincial, national, and global communities.

**Grade 5 Mathematics N5.2** Analyze models of, develop strategies for, and carry out multiplication of whole numbers. **P5.1** Represent, analyse, and apply patterns using mathematical language and notation. **P5.2** Write, solve, and verify solutions of single-variable, one-step equations with whole number coefficients and whole number solutions. **SP5.1** Differentiate between first-hand and second-hand data.

**Science MC5.3** Assess how the production, use, and disposal of raw materials and manufactured products affects self, society, and the environment.

**Social Studies RW5.1** Explain the importance of sustainable management of the environment to Canada's future. **RW5.2** Hypothesize about economic changes that Canada may experience in the future.

**Grade 6 Social Studies RW6.2** Contribute to initiating and guiding change in local and global communities regarding environmental, social, and economic sustainability.

**Grade 7 Science IE7.3** Evaluate biogeochemical cycles (water, carbon, and nitrogen) as representations of energy flow and the cycling of matter through ecosystems. **IE7.4** Analyze how ecosystems change in response to natural and human influences, and propose actions to reduce the impact of human behaviour on a specific ecosystem. **MS7.2** Investigate methods of separating the components of mechanical mixtures and solutions, and analyze the impact of industrial and agricultural applications of those methods.

**Social Studies RW7.2** Investigate the influence of resources upon economic conditions of peoples in circumpolar and Pacific Rim countries. **RW7.3** Assess the ecological stewardship of economies of Canada and the circumpolar and Pacific Rim countries.

**Grade 8 Health Education USC8.6** Examine and assess the concept of sustainability from many perspectives, and develop an understanding of its implications for the well-being of self, others, and the environment. **AP8.10** Design, implement, and evaluate three seven-day action plans that establish multiple supports for responsible health action related to family roles and responsibilities, non-curable infections/diseases, violence and abuse, body image, sustainability, and sexual health.

**Science FD8.1** Investigate and represent the density of solids, liquids, and gases based on the particle theory of matter. **FD8.4** Identify and interpret the scientific principles underlying the functioning of natural and constructed fluid systems. **WS8.1** Analyze the impact of natural and human-induced changes to the characteristics and distribution of water in local, regional, and national ecosystems.

**Social Studies RW8.3** Critique the approaches of Canada and Canadians to environmental stewardship and sustainability.