WATER LESSON PLAN

SAVING WATER: WHAT A DIFFERENCE IT MAKES!

BACKGROUND and CONCEPTS: This game is designed to increase student awareness of the impact of water conservation, even on a small scale, by comparing efficient and wasteful water use habits.

- Water conservation
- Measuring

TIME: 20-30 minutes

MATERIALS:

- 6 large pails
- 2 measuring cups
- Container or basket (for tickets)
- Water Comparison Chart
- Water
- 2 meter sticks
- Water Spending tickets (attached)
- Outdoor space or lunchroom (floor may get wet)

PROCEDURE:

1. Label two of the buckets with "Colossal Water Consumers", and two buckets "Smart Water Savers".
2. Fill each bucket with 6 L of water and place them at one end of the field or room. (This is a good relay to do outside to avoid spilled water on the floor). Each team should have one of each pail. Place a container of tickets at an equal distance between the two sets of pails (equally accessible by both teams).
3. Place the last two pails at the other end of the field or relay area, and label them " Spent Water". This is where teams will run to during the relay.
4. Divide the group of students into two teams, and give each team a measuring cup; indicate to them that they will be participating in a relay race that will show both efficient and non-efficient uses of water.

5. Relay Instructions:

- One team member from each team must run to the ticket basket, take a ticket, and follow the instructions. A smiley face on the ticket will represent a Smart Water Savers action; a frowning face represents a Colossal Water Consumers action.
- They will go to either the Colossal Water Consumers, or the Smart Water Savers buckets and with their measuring cup, withdraw the amount of water indicated on their ticket.
- They run with the water to pour it into their teams' "Spent Water" bucket.
- They run back to pass on the measuring cup to the next member of their team, who takes a ticket, measures out the correct amount of water and runs to put it in the "Spent Water" bucket.
- Continue the relay until all students have had a turn to run or have used up all the tickets.

6. Compare the amount of water conserved and used in the Smart Water Savers and Colossal Water Consumers buckets by having students either measure water height (using the metre sticks) or water volume, or by making a visual comparison.
7. Using the information on the water tickets, students can create a chart or graph to compare the various types of water use between the Smart Water Savers and the Colossal Water Consumers.

DISCUSSION:

- What do students observe when they look at the water Savers and Consumers buckets?
- Look at some of the specific ticket examples. Discuss different behaviours and how these either conserve or consume water?
- What are some ways students conserve water at home and at school?
- Why is conserving water important?

GOING FURTHER:

Students can revisit their water log chart. Ask them to analyze their own water use for wasteful water consuming. Have students record their water use at home for 1 day, estimating their water use for bathing, drinking, washing or water used in the toilet. See attached calculation resources.

WHAT CAN I DO ABOUT THIS?

Brainstorm a number of water consumption issues, either from the relay or from student analysis of their own behaviour.
Using the campaign planning form as a guide:

- define the change in behaviour you would like to see;
- describe how you will involve others in the school to make the change;
- discuss what problems or barriers you can see that would keep people from changing their behaviour;
- plan how you will help students make this change;
- describe how you will evaluate if you have been successful; and
- plan how you will celebrate your success.

ADDITIONAL RESOURCES

- Water Footprint Calculators:
  Simple:
  http://goblue.zerofootprint.net/
  http://environment.nationalgeographic.com/environment/freshwater/water-footprint-calculator/
  Detailed:
  http://www.waterfootprint.org/?page=cal/WaterFootprintCalculator
  http://www.on.ec.gc.ca/reseau/watertips_e.html
- Water resources and conservation tips-
  http://canadawaterweek.com/content/discover-your-water-footprint
  http://www.on.ec.gc.ca/reseau/watertips_e.html

CURRICULUM CONNECTIONS

Grade 2 Science: Outcome: AW2.2 Assess the importance of air and water for the health and survival of living things, including self, and the environment. **Mathematics : Outcome: SS2.2** Demonstrate understanding of non-standard units for measurement of mass by: describing the choice and appropriate use of non-standard units, estimating, measuring, comparing and analyzing measurements.
Grade 5 Social Studies: Outcome: RW5.1 Explain the importance of sustainable management of the environment to Canada's future.
Grade 8 Science: Outcomes: WS8.1 Analyze the impact of natural and human- induced changes to the characteristics and distribution of water in local, regional, and national ecosystems.**WS8.2** Examine how wind, water, and ice have shaped and continue to shape the Canadian Landscape.**WS8.3** Analyze natural factors and human practices that affect productivity and species distribution in marine and fresh water environments. **Social Studies: Outcomes: RW8.1**Analyze the social and environmental consequences of living in the Canadian mixed market economy based on consumerism.**RW8.2**Assess the implications of personal consumer choices.**RW8.3**Critique the approaches of Canada and Canadians to environmental stewardship and sustainability.

SAVING WATER: WHAT A DIFFERENCE IT MAKES!

Colossal Water Consumers	Smart Water Savers
☹ We flush every time we use the bathroom, and often flush items down the toilet such as bugs or clean toilet paper. **250 mL**	☺ We flush only when necessary, and never flush extra items down the toilet. We also have installed a low flush toilet. **125mL**
☹ We take long hot showers and let the water run before showering. **500mL**	☺ We take quick showers. **125mL**
☹ We let the water run while brushing our teeth. **250mL**	☺ We shut the tap off while brushing our teeth, and use a glass of water for rinsing. **125mL**
☹ We water our grass everyday in the summer, and often leave the hose running.	☺ Our grass does not need watering everyday in the summer, and we use a sprinkler on a timer. We also have plants that require little water, and use collected, recycled rain water to water our plants. **100 mL**
☹ We take long hot baths and fill the tub up to the top. **350mL**	☺ We usually take short showers, and do not fill the tub if we need to take a bath. **125mL**
☹ We drink cold water from the tap and let the water run while doing so. **250mL**	☺ We keep cold water available in the fridge to drink and avoid running the tap constantly. **125mL**
☹ We wash even small loads in the washing machine, and do not adjust the water levels. **500mL**	☺ We use the washing machine mainly for full loads and/or adjust the water levels. **250mL**

Colossal Water Consumers	Smart Water Savers
☹ We ignore dripping faucets because it is of no consequence. **500mL**	☺ We close dripping faucets properly and fix leaking ones immediately. **0mL**
☹ We wash hands while letting the tap run.	☺ We wash our hands in a sink half full of water, and do not let the tap run. **125mL**
☹ We wash even small amounts of dishes using the dishwasher. **500mL**	☺ We only use the dishwasher when there is a full load of dishes to wash, and we have a water-saving dishwasher. **250mL**
☹ We wash our car using a hose and liquid soap. **500mL**	☺ We wash the car with water recycled from the laundry sink and washing machine. **0mL**
☹ We have showerheads which leak, and which allow water to flow from the tub faucet as well. **500mL**	☺ We use low flow showerheads that save water when showering. **125mL**
☹ We let the faucet run when washing our dishes. **325mL**	☺ We fill the sink when washing our dishes.

WATER USE CHART

Water Use	Amount of water used (L)	
	Colossal Water Consumers	Smart Water Savers
Taking a shower		
Taking a bath		
Flushing the toilet		
Brushing teeth		
Washing hands		
Washing dishes by hand		
Using a dishwasher		
Cooking/drinking		
Using washing machine		
Watering the lawn		
Washing the car		
Watering plants		
Total:		