The Rain Collector: WATER CONSERVATION

AREA BEST LINKED TO

City of Kawartha Lakes, County of Haliburton and District Municipality of Muskoka

OBJECTIVES

- Learn to be creative in conserving water
- Raise awareness about the amount of water wasted from running a hose or tap
- Understand the importance of water conservation

CURRICULUM LINKS

GRADE FOUR:

Arts:

- D1.1: Create two- and three-dimensional works of art that express feelings and ideas inspired by their interests and experiences
- D1.3: Use elements of design in art works to communicate ideas, messages, and understandings

Science:

- Analyse the positive and negative impacts of human interactions with natural habitats and communities (e.g., human dependence on natural materials), taking different perspectives into account (e.g., the perspectives of a housing developer, a family in need of housing, an ecologist)

GRADE SIX:

Arts:

- D1.1: Create two-dimensional, three-dimensional, and multimedia art works that explore feelings, ideas, and issues from a variety of points of view explore feelings, ideas, and issues from a variety of points of view

MATERIALS

- Large container (ie. Garbage pail, drum) it is suggested that a 55gallon drum be used.
- 1 plastic faucet
- 1 female coupling
- 1 skimmer basket
- Teflon tape
- All purpose caulking or plumbing sealant
- 1- 5ft. Section of a garden hose
- 4 hose couplers
- One 12"x 12" piece of fibre glass window screen
- Drill bit or saw

Rain barrels can be made simple using just a garbage pail at the bottom of a downspout or they can be made more efficient where it stops debris and insects from getting inside, as well as a partial hose coming out of it to ensure nothing gets inside. Both ways work and both will help conserve water.

BACKGROUND INFORMATION

The amount of water from a hose a household uses to water plants and wash their car is approximately 40% of the total household water use during the summer months (Environmental Protection Agency 2009). Not only is a large amount of water wasted in a day from using a hose, but also from the whole water system it is hooked up to. It is important to find alternative ways to water plants or wash a car that does not waste so much water. One way is by using a rain barrel. A rain barrel is a container that collects and stores rainwater that comes off rooftops or from downspouts (Environmental Protection Agency 2009). The water collected can be used to wash your car or water your plants. Using rain barrels can potentially help lower water bills and improve the vitality of plants, lawns and trees.

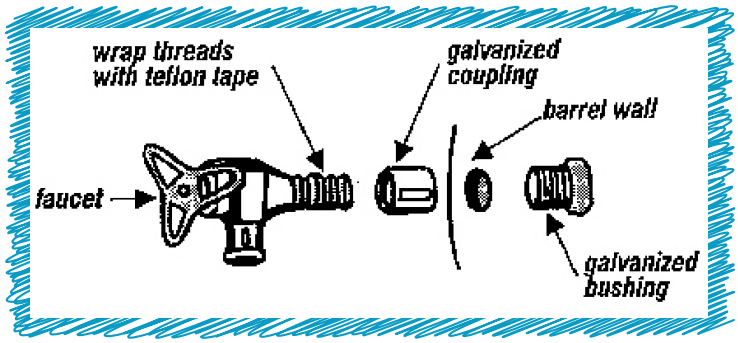
CREATING A RAIN BARREL

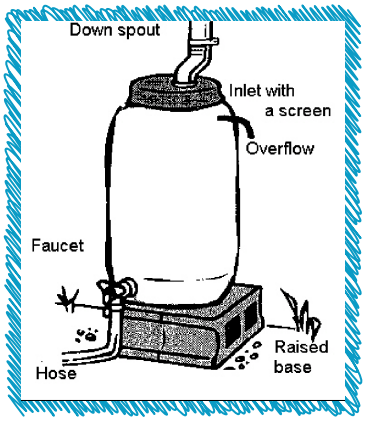
This is a take home activity that the children can create at home with their parents. As the teacher you can give them the information they need in order to create a rain barrel after teaching them a few things about water conservation. Explain to the students the importance of water conservation and that there are very simple things they can do at home with their parents that can help them conserve water. Building a rain barrel and painting it, is an easy and fun activity that teaches children they can be creative at the same time as conserving water. Creating a rain barrel incorporates the importance of water conservation in the curriculum and also the arts aspect of the curriculum. Not only do children learn about water conservation at school but they can take what they have learned and teach their parents. Having this knowledge to give to their parents will engage the students in a serious issue and could potentially encourage the whole family to find new ways of conserving water on a day-to-day basis.

This take-home activity could be greatly expanded to a community rain barrel making workshop. Students, supervised by the teacher, could conduct a workshop for anyone in the community who wants to participate in creating their own rain barrel. The students can use what they have learned in the classroom and teach the community the importance of water conservation and how a rain barrel can help create a source of useable water for their families. The workshop would include creating rain barrels and painting them to demonstrate the fun creative part of water conservation. A contest of the best decorated rain barrel could also be considered.

Steps to Creating a Rain Barrel:

- Buy the materials stated under the materials section or develop similar materials.
- Using a saw or a drill cut approximately a 6 inch (or the size of the skimmer basket) hole in the top of the 55gallon drum. An adult should do all the necessary cutting for this activity.
- Place the skimmer basket in the hole and use glue to keep it in place. The skimmer will keep debris and insects from getting into the rain barrel.
- Drill a ¾ inch hole near the bottom of the 55 gallon barrel so the faucet can be placed there.
- Drill another hole about 2 to 3 inches from the top of the barrel for the overflow. Insert a hose here for when the barrel fills up, water will come out here and another bucket can be placed underneath.
- Wrap Teflon tape around the faucet threads to ensure a good seal. Clamp the coupling in a vice, and with a pipe wrench screw the faucet into the coupling.
- From the inside of the barrel push the bushing through the bottom hole and tightly attach the faucet unit from the outside. Attach a hose to the faucet if wanted.
- Place silicon along the barrel wall and the coupling to ensure a tight seal.
- Depending on if the barrel is created at home or not, you will need to figure out where to cut the downspout so it goes into the barrel. Many rain barrels are also placed on a base so the barrel is higher up allowing space for a bucket under the faucet.





RESOURCES/REFERENCES

- City of Ottawa (2011). How to Build a Rain Barrel. Retrieved 12 April 2011. **http://www.ottawa.ca/residents/water/waterwise/outdoors/lgt/rain_barrel_en.html**
- Environmental Protection Agency (2009). What is a Rain Barrel? Environmental Assessment and Innovation division. Retrieved 12 April 2011. **http://www.epa.gov/region3/p2/what-is- rainbarrel.pdf**
- Uswitch (2011). How much water do you use? Uswitch, Usave, Usmile. Retrieved 21 April 2011. **http://www.uswitch.com/water/how-much-water-use/**

FEEDBACK

We appreciate your feedback! Please let us know…

- Did this activity continue the learning your students engaged in at the Water Festival?
- What curriculum requirements did this activity satisfy?
- Was the activity easy to facilitate to your class?
- Did students have fun and learn something new about water?
- Please send photos of your class using these activities!

Please send comments and photos to: **iheaven@outtolearn.ca**