

THE WONDERS OF WATER



United Nations
Educational, Scientific and
Cultural Organization



GEORGIAN BAY
BIOSPHERE RESERVE

Many plants and animals make their home near or in water bodies. Water is vital to survival of all living things, including us! There are many different water bodies in the GBBR: lakes, bays, rivers, streams, and wetlands.

English: *Water*
French: *Eau*
Ojibwe: *Nibi*

Did you know? Wetlands support a rich diversity of life. This means there may be more types of plants and animals in some wetland habitats than other habitat types. Wetlands can be compared to tropical rainforests or coral reefs!

1. A Natural Water Filter

Wetlands are areas where there is relatively shallow water on the ground for at least part of the year. Wetlands have many roles: they help filter water, replenish groundwater, are important habitat, and act as a sponge to reduce flooding!

What do wetlands filter out of water? They filter pollutants, excess nutrients, bacteria, and trap sediment. They are nature's version of a water treatment plant! Build a wetland in your kitchen using the steps below to see it for yourself!



Materials: 2L pop bottle, gravel/stones, clay, cotton balls, tap water, vegetable oil, sand, scissors, bucket or large container, and a large bowl

- Using scissors, cut off the bottom off a pop bottle.
- In the bowl, create 'polluted water' by mixing 1L of water, two capfuls of vegetable oil, and a handful of sand.
- Flip bottle upside down (spout facing down).
- Build a 'wetland' by adding gravel (like bedrock on eastern Georgian Bay). Then add clay or sand to represent soil, and cotton balls on top to act like plant roots. You could even add grass clippings or fallen leaves to the top.
- Place the bucket under the bottle and pour about 1 cup of the 'polluted water' onto the cotton balls, allow it to flow through all the layers.
- How would you describe the water before it entered the wetland? How did the water change after going through the wetland? Did the amount of water change after going through the wetland? Record your observations in your Nature Notebook!



Did you know? GBBR's State of the Bay report looks into local wetlands and the food web. Visit www.stateofthebay.ca.

2. Which Way Does a River Flow?

A river is a flowing water body that moves into bays, lakes, or seas. Rivers are important habitat for wildlife, especially fish like walleye, brook trout, rainbow trout, and some minnows! Some people think that all rivers flow south. This is not true, rivers flow downhill.

Materials: a piece of parchment or wax paper, a pan or tub in which the paper fits, water-based markers, and a spray bottle filled with water

- Create a unique landscape by crumpling up the parchment paper. Then open the paper partway to reveal mountains, valleys, and crevices. Place the paper in the pan, making sure all of the paper is contained in the pan.
- Use a brown marker to mark the ridges and high points of this landscape. Use a blue marker to mark the low spots, where you think water will collect.
- Decide where the best place to build roads would be and draw the roads using a black marker. Choose several sites for houses and draw them in with a purple marker.
- Now you're ready for rain.... Using the spray bottle, mist water all over the landscape and watch what happens; where it flows, where it collects.
- Did your roads flood? How about the houses? Did all the water flow in the same direction? Which way did it go? Record what you saw in your Nature Notebook!



3. Be Water Wise

We need to take care of water so that we keep ourselves and the environment healthy. How we use water will affect if it remains drinkable, swimmable, and liveable in the future. These are only some of the ways we can help keep our water clean and they can be done at home and at the cottage. Check off the ways you help water! Can you think of other ways to keep water clean?

- Use cleaning products that don't have toxic or harsh ingredients. Try using baking soda or vinegar to clean!
- Shower for less than 5 minutes, and turn off the tap while you brush your teeth.
- Allow your shoreline to grow, or plant native species along the shore, to help filter water. (The Best for the Biosphere plant list can help!)
- Save water and avoid pesticides by gardening with native flowers and mulch.
- Pick up litter to keep it from entering the water.
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