

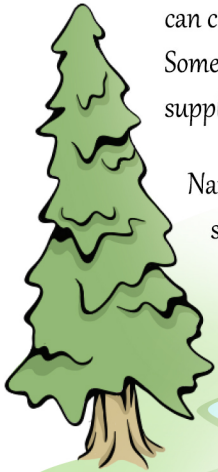
Water Quality Backyard Activity Guide!

Name: _____

Date: _____

All living things need water, so it is important to keep natural water sources like rivers, lakes, and oceans clean of pollution. **Pollution** can come in many different forms so sometimes it is hard to know how “clean” a water source is or where pollution is coming from. Some forms of pollution are easy to see, such as trash or oil. Even dirt can be considered pollution if too much gets into the water supply and turns the water muddy. Other forms of pollution, like chemicals, might require scientific tests to find.

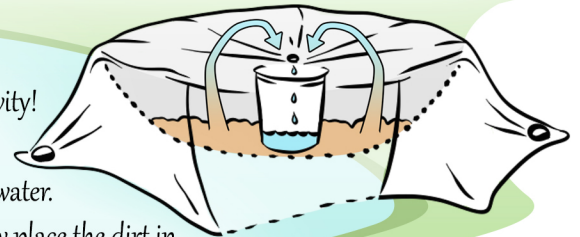
Nature has different ways of helping keep the planet’s water clean. The **water cycle** uses the heat of the sun to take water from the surface of the Earth up into the air in tiny droplets. These droplets are so small that many visible forms of pollution are left behind. When the droplets cool, they form clouds and fall back to Earth as rain, collecting in rivers, lakes, and oceans again.



You can build your own **Mini Water Cycle** in this activity!

You'll need a large bowl, plastic wrap (pw), a cup that is shorter than the height of the bowl, small stones for weight, some dirt and a cup of water.

Find a sunny spot and place the empty cup in the middle of the bowl. Now place the dirt in the bowl around the base of the cup (about 1 inch deep). Pour the water into the dirt. Cover the top of the bowl with the pw, making sure that there are no gaps between the pw and the edge of the bowl. Weigh down the edges of the pw to keep it secure and place one small stone in the middle of the pw directly above the cup. No part of the pw should be touching the edge of the cup. Let it sit in the sun for a few hours. Eventually, you should see water drops collecting on the plastic wrap and dripping into the cup. The water should be clean of mud!



Adapted from U.S. Environmental Protection Agency Office of Water



Cabbage Water Test

(Ask an adult to help you with this activity)

This at-home science project lets you test different liquids to see how they compare to pure water. Even though some liquids might look similar, they can mix and react very differently with other liquids.

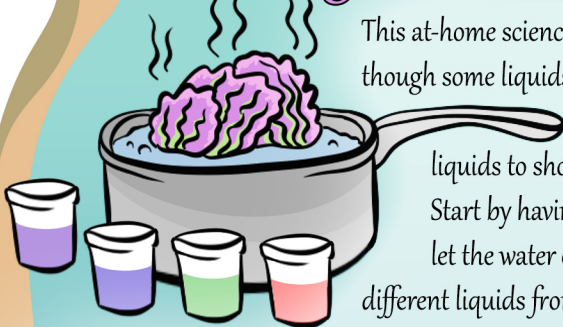
Completely clean water has nothing else mixed in. Red cabbage leaves react with liquids to show differences that you can't see with your eye.

Start by having an adult help you boil red cabbage leaves in 5 cups of water. After 10 minutes of boiling, let the water cool. Strain the cabbage leaves out so you are left with just the purple water. Collect

different liquids from around your house (it is better if they are clear in color). Try soapy water, lemon juice, white vinegar, laundry detergent or anything else. You will need a different cup for each liquid you are testing

(clear or white cups let you see the change best). Pour the cabbage water evenly into all of your test cups. Then, slowly add small amounts of your test liquids to each cup and watch for any change in color! This color change tells us the **pH level** (how acidic or basic something is) of the liquid. To learn more about pH levels and how they are used to help

measure water quality, visit: www.epa.gov/acidrain



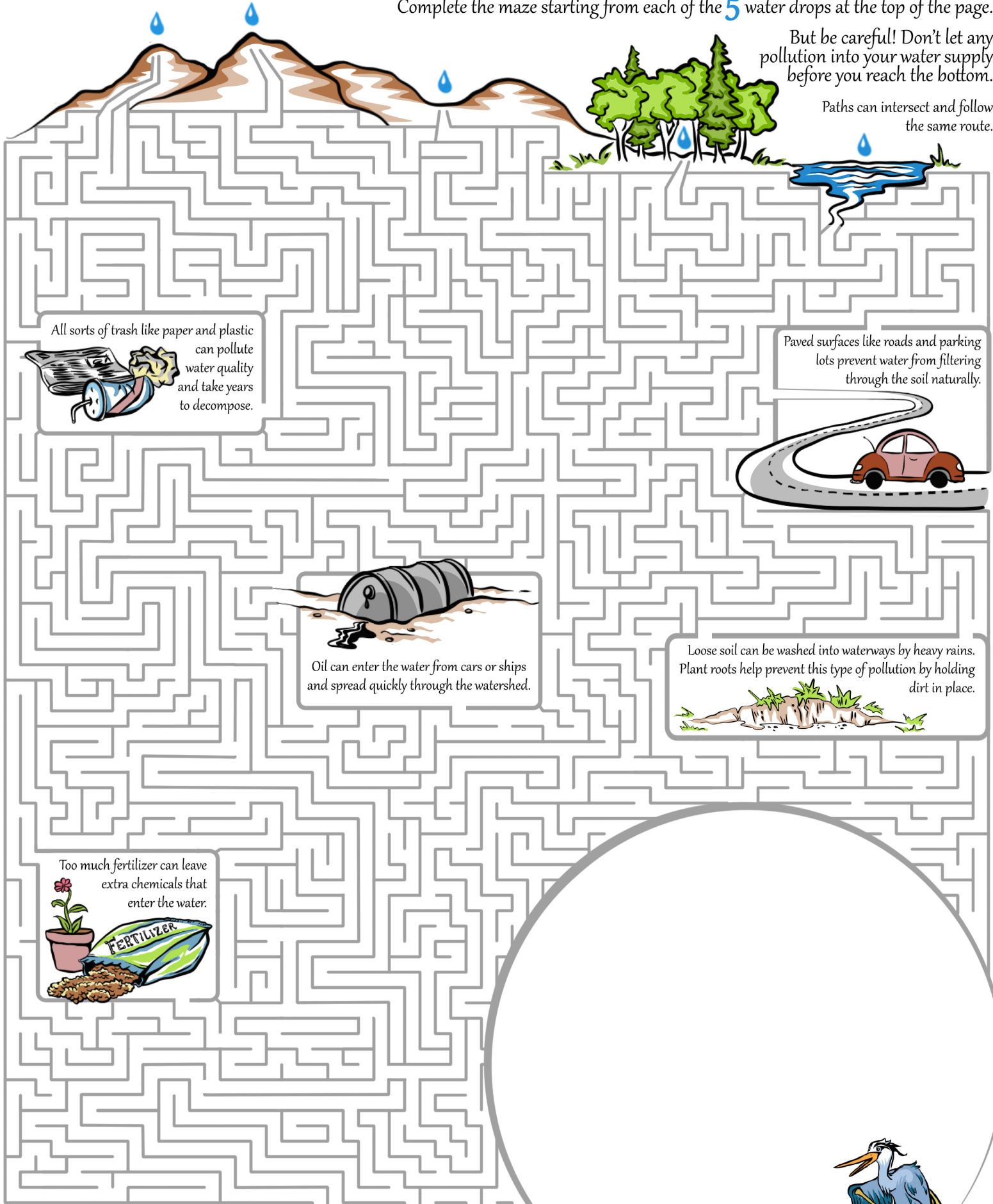
Sources:

- National Environmental Education Foundation
- U.S. Environmental Protection Agency


Complete the maze starting from each of the 5 water drops at the top of the page.

But be careful! Don't let any pollution into your water supply before you reach the bottom.


Paths can intersect and follow the same route.




All sorts of trash like paper and plastic can pollute water quality and take years to decompose.



Paved surfaces like roads and parking lots prevent water from filtering through the soil naturally.




Oil can enter the water from cars or ships and spread quickly through the watershed.



Loose soil can be washed into waterways by heavy rains. Plant roots help prevent this type of pollution by holding dirt in place.



Too much fertilizer can leave extra chemicals that enter the water.




When you're done, color the paths you took in blue to help show the watershed!

Draw your favorite animal enjoying your favorite water activity! Let's keep the waters clean for all of us to enjoy!