

Wetland Trivia

- Wetlands are found from the tundra to the tropics and on every continent except Antarctica.
- Rice and cranberries are wetland crops.
- Cattails are commonly found in wetland areas. Some American Indian tribes used mashed cattail roots to make toothpaste!
- February 2nd is World Wetlands Day.
- Some animals visit the wetlands as they travel from one area to another. Other animals spend their whole lives in the wetlands.



Did You Know...?

Many people work together to develop *living shorelines* to prevent erosion and protect the habitat along the Chesapeake Bay. Notice how the living shoreline follows the natural curves of the Bay's edge. The rocks help absorb some of the energy from waves as the tide rises and falls. There are many places along the rocks, in the grasses, the trees, and the tidepool that are perfect homes for many of the Bay's species.



Joke Time

1. What kind of wetland can you roast on a stick?
2. What do wetland trees wear?



Joke Answer:

1. A **marsh**mallow
2. **Swimming** trunks



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Links to Agriculture Wetlands and the Watershed



The **Chesapeake Bay** is Maryland's most valuable natural resource and our nation's largest **estuary**. An estuary is a body of water consisting of salt water and fresh water. The mix of fresh and salt water (called brackish water) supports more than 3,600 species of plants, fish, and animals. The streams and rivers that flow (or drain) into the Bay are part of the Chesapeake Bay **watershed**.

When it rains, a portion of the precipitation seeps into the ground to replenish Earth's groundwater. Most of it flows downhill as **runoff**, (especially during hard rains) which is simply water "running off" the land's surface. **Runoff** is an important part of the water cycle because it helps to keep rivers and lakes full of water.

However, runoff can cause problems. Nearly all of the runoff in Maryland eventually ends up in a stream or river that flows into the Chesapeake Bay. Runoff can carry **pollutants** such as oils and antifreeze from roadways, litter and debris that washes into storm drains, and fertilizers and other nutrients from farms. If there is too much rain and too few plants, some of the soil can wash away, with no roots to hold the soil in place. This type of **erosion** causes **sediment** to drain into the waterways. Too much of this can cause stress on the plants and animals that live in the Bay.

Wetlands play an important role in protecting the watershed. The wetlands help to filter sediment and pollutants out of the water before it reaches the Bay. It is important to remember that even though wetlands filter harmful substances very well, we still must work to prevent these substances from entering the watershed.



Farmers use different methods to help keep the Bay clean:

- Farmers study the landscape to determine the best location and direction for planting to prevent runoff and erosion.
- They test soils before using additives, and use more natural fertilizer and pesticides. Farmers only put what is absolutely necessary on their crops to prevent disease or pests.
- They create **buffer zones** between their fields and waterways. These buffers are areas of shrubs, grasses, mulch, and irrigation ditches that absorb or redirect water, filled with sediments and nutrients, before it reaches the Bay.
- They plant **cover crops** in fields when other crops cannot grow (like in winter) to keep the soil in their fields from washing away.

What can you do to help? Choose to recycle, reduce waste, and pick up litter. Plant a rain garden, redirect downspouts or use rain barrels to prevent too much runoff. Use mulch in areas where erosion may occur. Choose natural pesticides, fertilizers, and cleaners. Pick up after your pet. The little things we do every day can make a big difference in the long term health of the Chesapeake Bay!

How Well Did You Read?



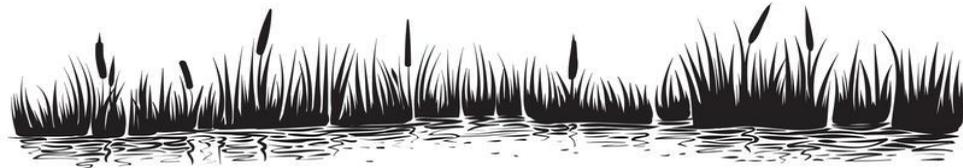
1. When is runoff helpful?

2. When is runoff harmful?

3. How do the wetlands help keep the Bay clean?

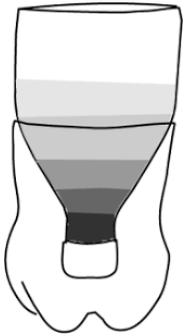
4. *Infer.* What challenges might farmers face when battling runoff?

5. After reading what we can do to help the Bay stay clean, which option is the one you'd like to try at home and why?



Build a Wetlands Model

Build a wetlands model using items around and outside your house to see how wetlands act as natural filters for our water.



Materials:

- A parent or guardian to assist you
- A coffee filter
- Scissors or a similar cutting tool
- One clean, empty two-liter soda bottle
- Muddy water made by adding clay or mud to water and then shaking it.
Do not collect muddy water that you find outside as it may not be safe to handle.
- Different types of soil such as clay, sand, gravel, and loam.
- Dead leaves
- Fresh leaves and grass
- Optional: Other natural materials that can be found outside such as twigs or mulch.

Directions:

1. Use scissors or another cutting tool to cut the two-liter bottle about 2/3 up from the top of the bottle. Cut until the two-liter bottle is in two pieces.
2. Set the top part of the bottle upside down in the bottom part of the bottle.
3. Decide how to build your model. You will use the coffee filter, soils, dead leaves, grass, and any other natural materials you collected.
 - First, decide which materials you think will do the best job of filtering the muddy water to make it cleaner. You can use all of the materials or some of the materials. It's up to you.
 - Second, decide what order the materials need to be layered in your bottle, in order to filter the muddy water.
 - **Think about which materials will do the best job of catching the small particles in the muddy water. Those materials are the best ones to use for your bottom layers.**
4. It's time to build your model! Put your first layer of material at the bottom of the filter. Then, continue adding each layer of material until you have added all of the materials you want to use.
5. Next, remove the bottle cap and place your model back into the bottom half of the two-liter bottle with the nozzle facing down.
6. Slowly pour your muddy water into the model and allow the water to flow through your model and into the bottom part of the two-liter bottle. **Don't use all of your muddy water. Keep a sample of the muddy water, so that you can compare it to the water that filters through your model.**
7. After the water has gone through your model and collected at the bottom of the bottle, compare your filtered water sample to the original muddy water sample.

This activity was developed by the LSU Ag Center.

Conclusions:

- Do you see any changes?
- Did your filter help clean the water?
 - If your filtered water is cleaner than the original muddy water, congratulations! You filtered water just like a wetland!
 - If the water still looks muddy or you want to build a different version of your model, re-design your model and try again!

