Who Polluted the Chesapeake Bay?

Objectives
Students will 1) identify different types of pollution; 2) recognize that everyone contributes to and is responsible for the Bay's water quality; and 3) describe different ways that humans can reduce pollution.

Grade Level: Pre-K - 6
Key Terms: pollution, watershed

Materials
Clear bin full of water
'Who Polluted the Bay' story
Dixie cups
Supplies to make pollution (food coloring, cocoa powder, paint, oil, soap, trash, fishing line, etc.)

Introduction
The Chesapeake Bay watershed is over 64,000 square miles and encompasses parts of six states, plus DC. There are over 17 million people in the watershed who all have an effect on the environment. This lesson illustrates some of the most common types of pollution and paints a picture of human impacts on the health of the Chesapeake Bay.

Procedure

1. Set up: fill the clear bin with water and set it on a table so students can see. Make enough cups of "pollution" so you have at least one for each child.

2. Explain that this water represents the Chesapeake Bay as it once was, before people began settling the area. Ask the students how they feel about the water. Do they think animals could live there? Would they swim in it/fish in it/etc.? You will read a story about what happened when more and more people started moving here and how that affected the Bay. Tell students that at points throughout the story you will be calling them up to add something to the bin of water.

3. Read the story and for each bolded word, call kids up to dump the appropriate pollution into the water.

4. After the "soil" is added, ask the children to rate the water again. Discuss how soil in the water is natural but can cause problems if there is too much. Continue with the story.

5. Afterwards have the children "rate" the cleanliness of the water. How did it change? Who polluted the Bay? It wasn't just one person, it was all of us. Was anyone doing anything particularly bad, like dumping barrels of oil straight into the water? – no, this was all caused by people just living their ordinary lives. It only adds up because there are so many of us.

6. Ask the students: if you had to give the Bay a grade, A to F, what would it be? UMD actually does this (The Chesapeake Bay Report Card) and as of 2018, the Bay has a C. Not great, but not terrible.

7. Start a discussion about how we can work to fix this problem. There are a lot of us doing small things to pollute the Bay, so why can't we each do a small thing to **help** the Bay? Have the students brainstorm ways that they can help improve the Chesapeake Bay. Think about where each of the pollutants came from, and how it could be prevented.

Conclusion

The health of the Chesapeake Bay is affected by the lifestyle choices of the millions of people in its watershed. These people just going about their everyday lives cause pollution to enter the Bay, however by making environmentally conscious choices we can lessen our negative environmental impacts.

Extensions

1. Have the students make a poster of little things they can do help the environment and the Chesapeake Bay.

2. Extend your discussion of pollution to include terms such as runoff, point-source vs. non-point-source, and permeable vs. impermeable.