

Water pollution

Grade Level: K-6

Overview There is a wide variety of pollutants that can affect water and the plants and animals that live in the water. This pollution can be divided into three groups: chemical pollution, thermal pollution, and ecological pollution. Since not all pollution is human produced students need to understand that there are sometimes "natural" reasons for some pollution.

Purpose These activities will help students' understanding of water pollution and its potential effects on human and wildlife habitats.

Objectives Students will be able to:

- i. Identify TWO or more pollutants in a bog, marsh, stream or other wetland area.
- ii. Relate a pollution prevention message through words and art.
- iii. Explain why some pollutants cannot be seen.

Resources/Materials The teacher should make adequate preparations, checking all safety measures before embarking on this activity. There is need to seek extra adult assistance before taking young children to a wetland. You will need:
 Paper, pencils and clipboards
 Rubber gloves
 Plastic garbage bags.
 Crayons, markers, crayon pastels
 Sugar, pure water, white vinegar,
 Citric acid, plastic cups and cotton swab.

Activities and Procedures These activities are very suitable for a holiday camp when adult participation can easily be solicited from the community.

- i. Taking student to a wetland area helps them become more aware of the water around them. When you get to your wetland site divide students into groups of 3 or 4. Each group is to look around the wetland area and find as many sources/types of pollution as possible. On their paper a designated recorder for each group will record the different types of pollution found. After 5-7 minutes, come together as a whole group and discuss the pollution that is seen. Since the visible pollution is often in the form of litter, discuss with your students the pollution that may be present, but not seen. When the group discussion is over, pass out gloves and bags. Divide students into groups and assign an adult to each group. Then have the students pick up the litter pollution and take back to school and put in dumpsters. Repeat throughout the year.

ii. For this activity you will need paper, crayons, markers, crayon pastels and other art supplies. Review with the students the types of pollution that they know about. Talk about the ways people can help prevent certain kinds of water pollution. List them on the chalkboard. Have students draw a picture showing how to prevent pollution of a wetland of other water source. Encourage students to think about the source of the pollution and ways to either prevent or ways to dispose of some pollutants.

iii. To help students understand that clear water isn't necessarily free of pollutants, place five clear liquids in portion cups. Things to include should have a definite taste that students would recognize. Use sugar water, white vinegar, salt water, water mixed with citric acid, and tap water. Using cotton swabs, have students taste each liquid, [CAUTION] (dispose of swab after each taste) and record what they taste after each. After students have all had a chance to taste, discuss that some kinds of pollution can't be seen. If you have local creeks, streams, or other waterways that are unsafe for human use, this is a good jumping off point to discuss the problems these bodies of water have.

Tying it all together Environment concerns can be understood by even the youngest school children. Providing them with a background of information and an opportunity to actively use that information, they will begin to develop a feeling of stewardship for their world. Using activities that develop environmental stewardship in students will hopefully become a basis for action in their future lives.

Assessment Ask the children to develop their own Chart on how to prevent Water pollution in their community.

Suggestions/Modifications

- Students may compare the extent of pollution in their locality to that in other villages, cities, and countries to discover diverse sources of pollution relative to location and lifestyles.
- Students may make a chart of all the things they already do (maybe without knowing it) which prevent and discourage pollution.
- Students may compare Africa with other nations in terms of global pollutants.

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