WHAT IS WASTEWATER?

INTRODUCTORY LESSON
COOPERATIVE LEARNING

Objective: To introduce students to the study of wastewater and water pollution control.

Background: III, IV

Subject: Science, Social Studies

Skills: Analysis

Materials: For each group:

PART I - 1 quart jar 2/3 filled with clean water
1 empty quart jar
1/4 cup sand and small rocks
1/4 cup dirt of mud (may include decaying leaves, sticks, etc.)
1 tablespoon salt
2 tablespoons vegetable oil

PART II - Jars/Containers of various sizes
1 small square of wire screen
cheesecloth
2 spoons
small funnels

Procedure:

1. Divide the class into small groups of 3-5 students.

2. Have students make lists of the various contributors to wastewater in the area (i.e. homes, businesses, factories, non-point pollution).

3. Have students "make" wastewater by adding all of their ingredients to the jar of clean water.

4. Discuss the value of water before and after it has been used and initiate the cleanup activity.

5. Student should use the screen, cheesecloth, funnels and spoons to remediate/filter their wastewater. The water should appear cleaner and be relatively free of any floating debris. What stage of the wastewater treatment process have you emulated?

Discussion: Is the water really clean? What other impurities might still be present?
What additional procedures might be necessary to clean up the water?
How might water pollution be avoided in the first place? (An excellent opportunity to begin discussion of personal responsibility and non-point source pollution.)
Introduce the wastewater treatment system used in your town.

Extensions: Show WEF Video "Nature's Way" (12 minute description of the wastewater treatment process.
Request a Plant tour of your local Publicly Owned Treatment Works (POTW) (see list on back page.)