



Green Classroom



Watershed Pollution Activity

Concept

Water flow in a watershed and the effects of non-point pollution.

Objective - Students will:

- 1) Identify activities around the house and yard that can cause pollution;
- 2) on a watershed model, observe the flow of water and pollutants from homes and yards into the creek and river and;
- 3) explain how to prevent pollution around homes and yards.

Time 20 minutes

Materials: Provided at the Green Classroom

- The Green Classroom's model of the Bouldin Creek Watershed
- Toy houses
- Rain Sprayers
- Empty bucket to catch runoff
- Food coloring

GREEN CLASSROOM LESSON

Watershed Pollution Activity Watershed Model

Introduction

Becker Elementary is in the Bouldin Creek Watershed. Students will use the model to demonstrate how each of us can cause our neighborhood creek, and eventually the Colorado River, to become polluted.

Procedure

1. Defining the Watershed

- Ask students to point out the high points (boundaries) of the watershed on the model.
- Find the low point (creek) on the model.

2. Pollution from Home

- Ask Students to explain some of the things that people do around their gardens that cause water pollution (over-fertilize, fertilize before a rain, misuse or overuse weed-killers and pesticides). Allow students that answer correctly to put a drop of food coloring representing pollution by a house on the watershed model.
- Ask students to think of other ways people pollute around their homes. When a student has given an appropriate example, allow him/her to drop food coloring by a home on the watershed model.

Examples:

- (a) oil leak from a car
- (b) changing the oil in the car and dumping the used oil down the stormdrain or on the ground
- (c) mopping the floor with a toxic cleaner, such as ammonia, and dumping dirty water down the stormdrain
- (d) spraying pesticide on the yard for fire ants
- (e) trash receptacle knocked over by neighborhood animals or the wind
- (f) overflowing trashcan
- (g) throwing a party and leaving litter in the yard
- (h) washing the car in the driveway
- (i) paint in the stormdrain
- (j) scat from pets
- (k) any other acceptable suggestion

3. Rain on the polluted watershed

- Give each student a rain sprayer. Instruct students rain over their house on the watershed model. Discuss how the pollution moves from the homes to the creek and drain into the river.
- Ask students the name of the river the creeks drain to in Austin. (Colorado River)
- Ask students where Austin gets drinking water. (Colorado River) Tell students drinking water goes to a water treatment plant for cleaning, but if the water becomes too polluted, it becomes too expensive to clean.

4. Pollution Solutions

- Explain the Green Gardening pollution solutions:
 - 1) Fertilize with compost;
 - 2) Pull weeds;
 - 3) Identify bugs
- Ask students to explain alternative choices for all the pollution.

Examples answers:

- (a) Fix the oil leak in the car. Use kitty litter to absorb the oil drips. The dirty kitty litter can be thrown in the trash.
- (b) Take dirty oil from an oil change to any service station that performs oil changes. They will recycle the oil for you.
- (c) When mopping the floor with a toxic cleanser, pour the dirty water down the sink or bath tub drain so it will go to a wastewater treatment plant before going back in the river. Choose to clean with a non-toxic cleaner like vinegar or borax.
- (d) Pour hot water on fire ant mounds.
- (e) Use a bunji cord, or some other method of securing the lid of the trashcan.
- (f) Reduce, Reuse, and Recycle more so trash is not overflowing. Get another trashcan if trash is still overflowing.
- (g) Ask guests to help clean up the yard after a party
- (h) Wash the car on the lawn. The soap will fertilize the grass and the water will water the grass. Use a car wash facility that recycles the water used to wash cars.
- (i) Choose the least toxic paint. When done, let the paint can dry and throw it in the trashcan. Take leftover paint to the hazardous materials recycling center located at 2414 Business Center Dr. It is open every Tuesday and Wednesday from noon until 7:00 in the evening.
- (j) "Scoop the Poop" pick up after pets.
- (k) Accept any other workable solutions

5. Rain after pollution solutions

- Rain on the watershed again without the food coloring. Tell students everyone has taken action to stop pollution. Observe the cleaner runoff.
- Tell students if we all do our part, the water in our creeks and lakes will be cleaner.