

Learning Activity

WHAT POLLUTES STORM WATER AND WHAT CAN I DO TO PREVENT IT?

INTRODUCTION:

Rain and irrigation water washes oil, dirt, and chemicals from our lawns, parking lots, and streets into storm drains. Because of these storm water-borne pollutants, runoff is a major source of river and stream pollution.

The things we do each day can pollute runoff or help keep it clean. Because storm water runoff reaches canals, creeks, Decker Lake, Jordan River, the Great Salt Lake, and groundwater, it is important to help keep storm water clean.

Stopping pollution at its source will require all of us to make changes. Three examples are:

- Citizens must learn about the proper use and disposal of products used in home maintenance, automotive care and gardening.
- Businesses and industries must learn how to properly store materials, control spills, and eliminate waste water discharges to the storm drain system.
- Construction businesses must control soil erosion and sediments and prevent construction wastes from polluting runoff.

The best place for each of us to begin to prevent storm water pollution is in our own home and in our own backyard. As your students complete this learning activity, they will identify many ways to prevent storm water pollution.

Objectives –
Students will be able to:

- Identify at least four things we do that can pollute storm water.
- Describe at least four ways to help prevent storm water pollution.

KEYWORDS:

Storm water
Runoff
Pollution prevention
Pollutants

MATERIALS:

- Writing Supplies
- Copies of student learning sheets 1,2,3, and 4.
- Storm Water Poster
- Overhead transparencies (optional: include one of each handout).

PART 1: GROUP DISCUSSION

(Time: 30 minutes)

1. Display the side of the poster, “What pollutes storm water?”
2. Divide the class into groups. Have each group select a leader. Pass out copies of the student learning sheets 1 and 2. (Depending on the needs of the class, learning sheet 3 may be used to introduce pollution prevention early in the exercise, or to reinforce ideas in conclusion.)
3. Use the poster to find answers to the question: “What pollutes storm water?” Have students circle polluting activities on learning sheet 1 as you go.
4. Ask the students to work in their groups on learning sheet 2 to
 - a. Make a list of polluting activities as discussed by the class.
 - b. Make a list of possible pollutants resulting from each activity.
 - c. Describe at least one way to prevent pollution for each activity listed.

Have group leaders report to the class. Write student responses on the board under the categories: Substances that Pollute, Activities that Pollute, and Ways to Prevent Pollution.

PART 2:

(Time: 10 minutes, plus homework)

1. Pass out student learning sheet 4.
2. Briefly review areas to survey at home for activities or materials that might contribute to storm water pollution. Have students take notes. Use transparency 1 to ask:
 - In each area, what practices (things that we do) might cause storm water pollution?
 - What products do we use that could reach storm water?
 - What pollutants may be in these products?
 - Where should we look to find out if a product can cause pollution?
 - What could we do differently to keep storm water clean?
3. Be sure to let students know that this is only an **exercise** for them to learn more about common sources of pollution in everyone's home. They should share what they are learning with their parents and be sure they have their parents' permission to look into areas where materials are stored, handle containers for the purposes of reviewing labels, and record the information they have found for sharing with the class. Students should be told that if they are not permitted to record information from their homes, they may use their understanding of the lesson and their imaginations to complete a survey of the "John and Jane Doe" household.

SUPPLEMENTAL ACTIVITIES:

- Perform a "School Pollution Prevention Survey" to identify practices, substances, and products that might contribute to storm water pollution at the school.
- Produce a videotape presentation about substances, products and practices that contribute to storm water pollution.
- Create a collage of labels and pictures that illustrate practices, substances, and products that can pollute storm water.
- Volunteer to help put out flyers on storm water pollution prevention to your neighborhood.
- Help a scout or group attach storm water decals to the curbs above storm drains. These decals are an important part of the City-wide effort to keep storm water clean.

A decal by a storm drain spreads the message:

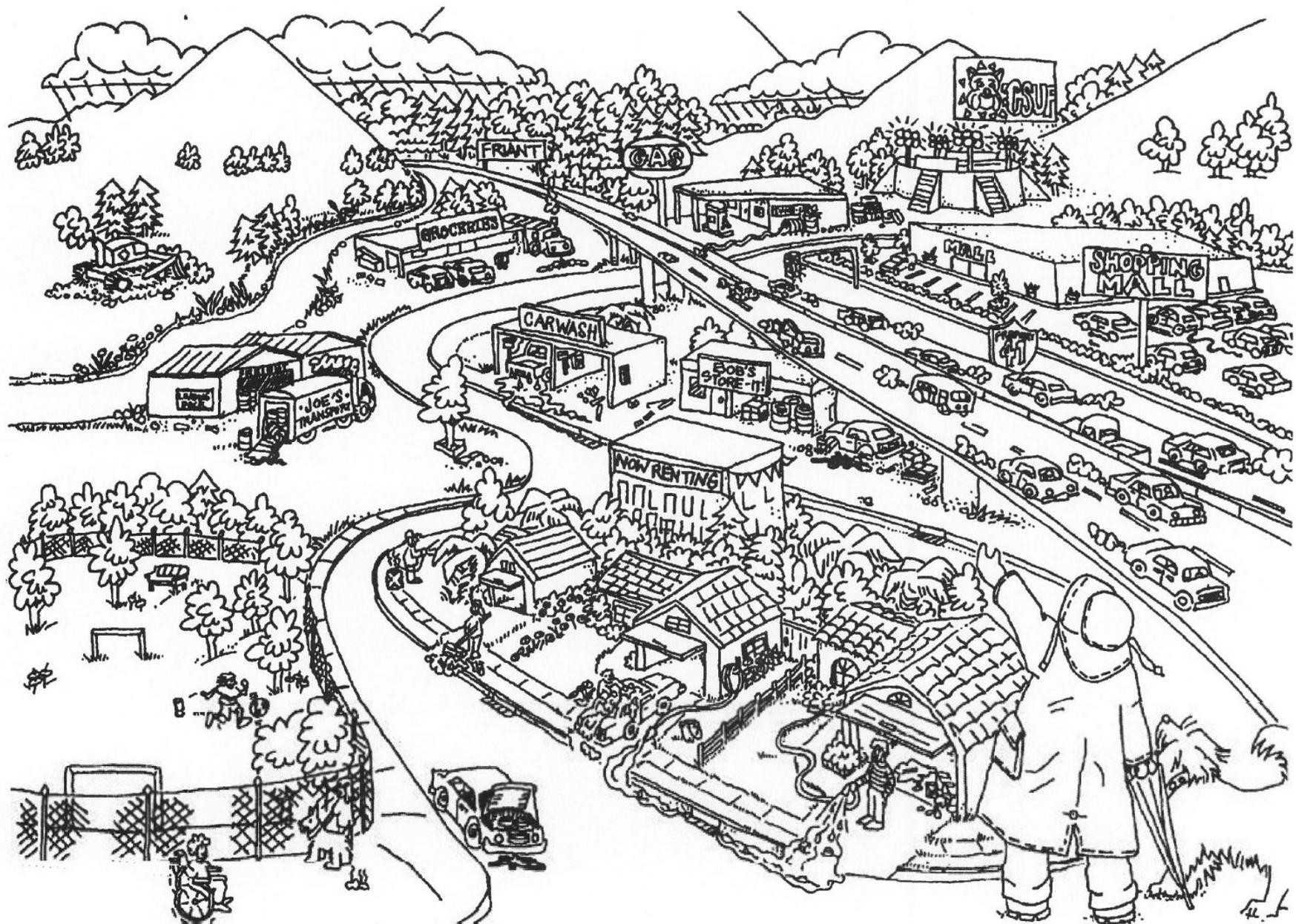


It lets people know that only rain or melting snow should enter the storm drain. Interested individuals, boy and girl scouts, sport teams, school clubs and church groups are all encouraged to participate in this worthwhile project. Volunteers must be at least 9 years old. For more information on how to participate, contact:

**WEST VALLEY CITY STORM WATER
3600 S. CONSTITUTION BLVD.
WEST VALLEY CITY, UT 84119
(801) 963-3448**

Student Learning Sheet 1

WHAT POLLUTES STORM WATER?



Name: _____

Teacher: _____

Student Learning Sheet 2

WHAT POLLUTES STORM WATER AND WHAT CAN I DO TO PREVENT IT?

DIRECTIONS:

Make a list of activities that could pollute storm water. For each, make a list of the different substances or pollutants resulting from each activity. Then identify ways that you could prevent storm water pollution. Try to think of pollution prevention practices for each activity on your list.

Activities that Pollute	Substances that Pollute	Ways to Prevent Pollution
1.		
2		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Student Learning Sheet 3

HELP PREVENT STORM WATER POLLUTION!

Never spill, hose, wash, or dump wastes or materials into the streets or storm drains!

AUTOMOTIVE CARE

Inspect and maintain your car regularly to prevent leaks of oil, antifreeze and other fluids.



Take used motor oil, antifreeze, and other fluids to an automotive center or gas station with a recycling program, or participate in a curbside motor oil pickup program.



Use kitty litter to clean up leaks and spills. Never hose down spills into the gutter.



Reduce automobile use by carpooling, riding the bus, riding your bike, or walking. Remember, when it rains, air pollution turns into storm water pollution.



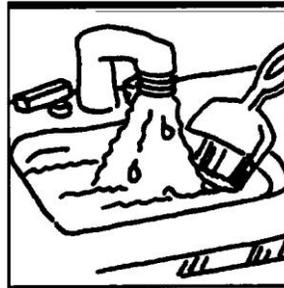
Student Learning Sheet 3 (continued)
HELP PREVENT STORM WATER POLLUTION!

HOUSEHOLD MAINTENANCE

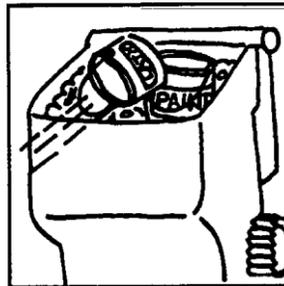
Try to avoid purchasing oil-based paint! Unused oil based paint, paint thinner, varnishes, and solvents are hazardous wastes and must be taken to a household hazardous waste collection event. Save and reuse paint thinner and brush cleaners whenever possible.



Water-based paint (e.g. latex) brushes should be rinsed out in the sink



Empty and dry oil- and water-based paint cans can be disposed of in the garbage.



Purchase household and garden products that are “least toxic” to the environment. Try to purchase only the amount of product you need and properly store leftovers for later use.



Name: _____

Teacher: _____

Student Learning Sheet 4

POLLUTION PREVENTION

The best place for each of us to begin to prevent storm water pollution is in our own home and in our own backyard. As you complete the "Pollution Prevention Survey," think of as many ways as you can that could keep storm water runoff from being polluted.

The things we do each day can pollute runoff or help keep it clean. Because storm water runoff reaches canals, creeks, Decker Lake and the Jordan River and groundwater, it is important to help keep storm water clean.

Stopping pollution at its source will require all of us to make changes. Three examples are:

- Citizens must learn about the proper use and disposal of products used in home maintenance, automotive care and gardening.
- Businesses and industries must learn how to properly store materials, control spills, and eliminate water discharges to the storm drain system.
- Construction businesses must control soil erosion and sediments and prevent construction wastes from polluting runoff.

INSTRUCTIONS:

1. List all of the activities and substances that you can find at home that might contribute to storm water pollution.
2. Suggest ways to keep storm water clean.
3. Bring your survey back to class. Turn it in to your teacher.
4. As an extra challenge, and with your parent's permission, read a label on a household cleaning or paint product and record the information on the bottom portion of the survey.

SOME SUBSTANCES THAT CAN POLLUTE:

* Detergents	* Chlorine, Ammonia	* Paint
* Oil and Grease	* Animal Waste	* Paint thinner
* Dirt, Soil & Sediments	* Garbage, Litter	* Acids and Caustics
* Yard waste, Leaves	* Poisons, Pesticides	* Car exhaust
* Antifreeze & Auto fluids	* Fertilizer	* Bacteria, Viruses