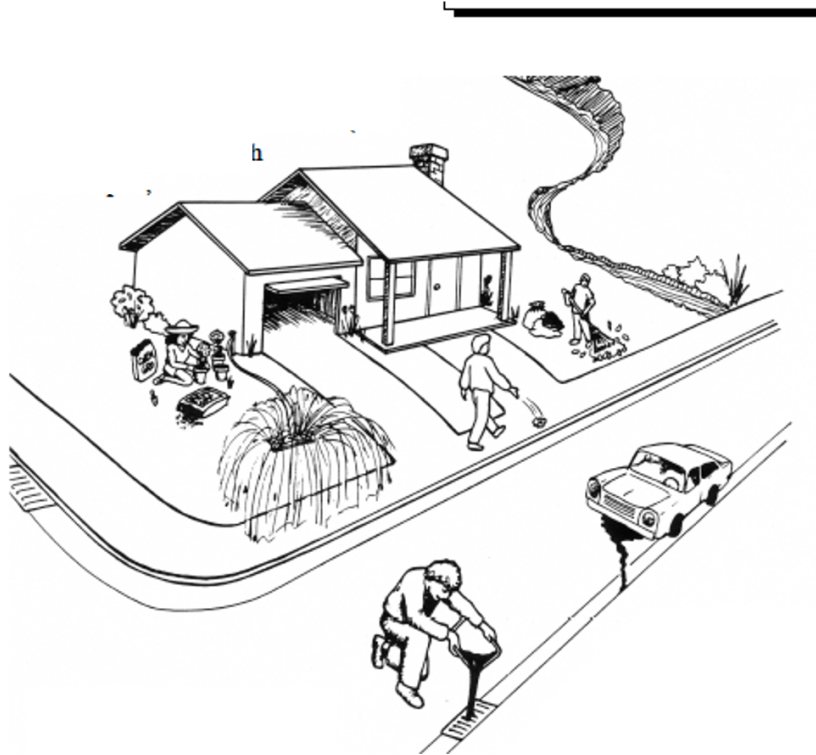


Human Impact on Watersheds and Surface Water

Engage

What To Do:

1. Identify and circle any pollution found in the picture.



1. What is the lady doing by the house? _____
2. What kinds of things do the bags around her contain? _____
3. What is the guy on the other side of the house doing? _____
4. What is in the bags near him? _____
5. Where will they end up? _____

Explore

Materials: Crumpled watershed from previous lesson, several colors of powdered drink mix, spray bottle with water

If watersheds from previous lesson were not saved you will need the following: 1 piece of copy paper per group, 1 sheet of cardboard or tag board about the same size as the copy paper, clear tape, paper towels

What To Do if you need to make a new watershed:

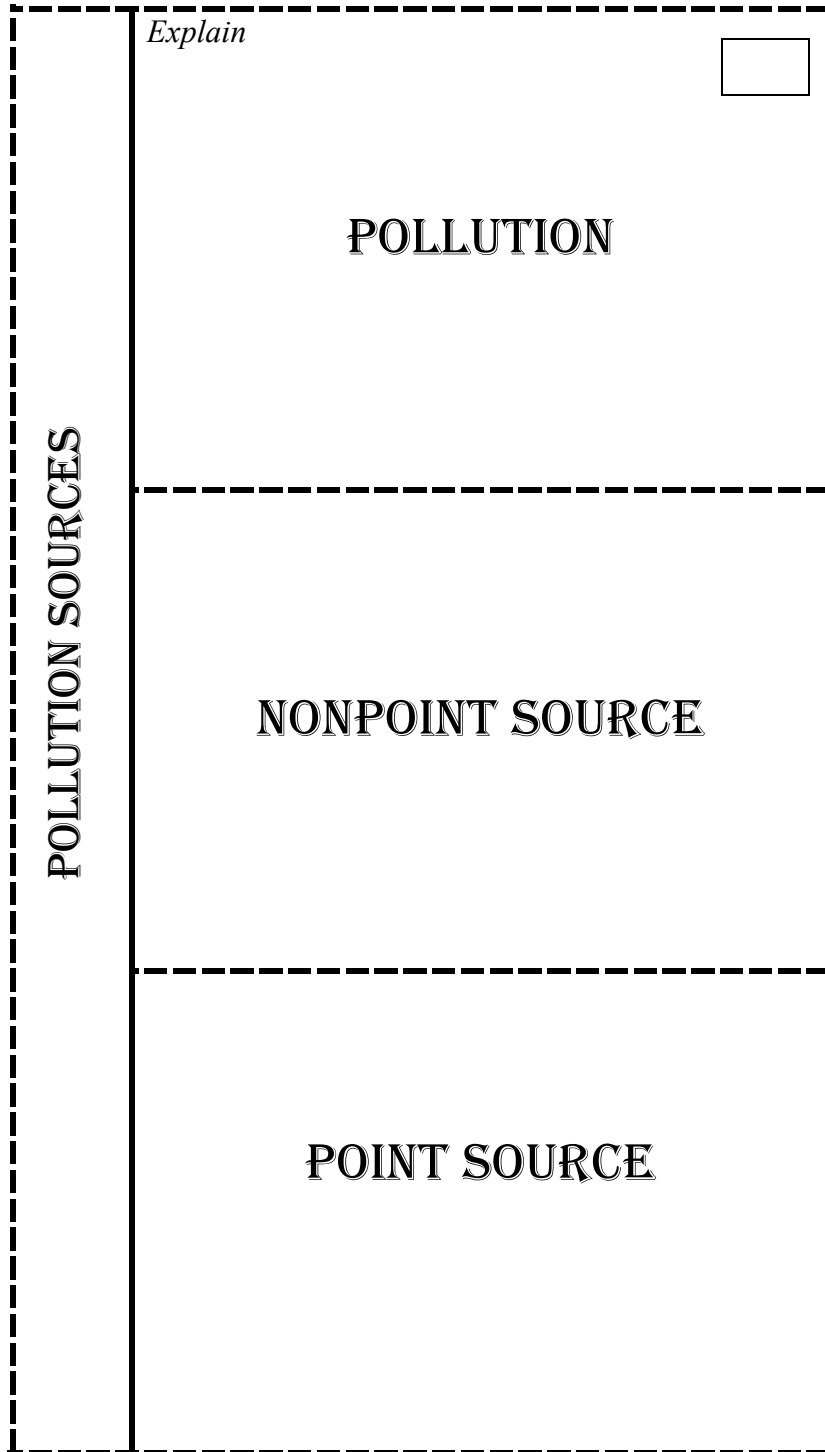
1. Crumple the sheet of paper into a loose ball.
2. Gently open the paper and tape each corner down on to the piece of cardboard so at least an inch of cardboard shows all the way around the paper.
3. Place the cardboard on several paper towels.
4. Look down on your paper mountain.
5. Find a few flat areas, usually next to a river, that could be a place that people might live. If you cannot find any, flatten out a few areas in the watershed.
6. Place a few crystals of different color drink mix on the flattened areas where people live.
7. Make sure the spray bottle is on the misting setting.
8. Simulate rain by misting the paper while it is flat on the desk.
9. Continue raining until water is running down the mountains.

Questions:

1. Describe what is happening with the powdered drink mix.

2. What does the powdered drink mix represent? _____
3. Why didn't we put some of the powdered drink mix at the top of the mountains?

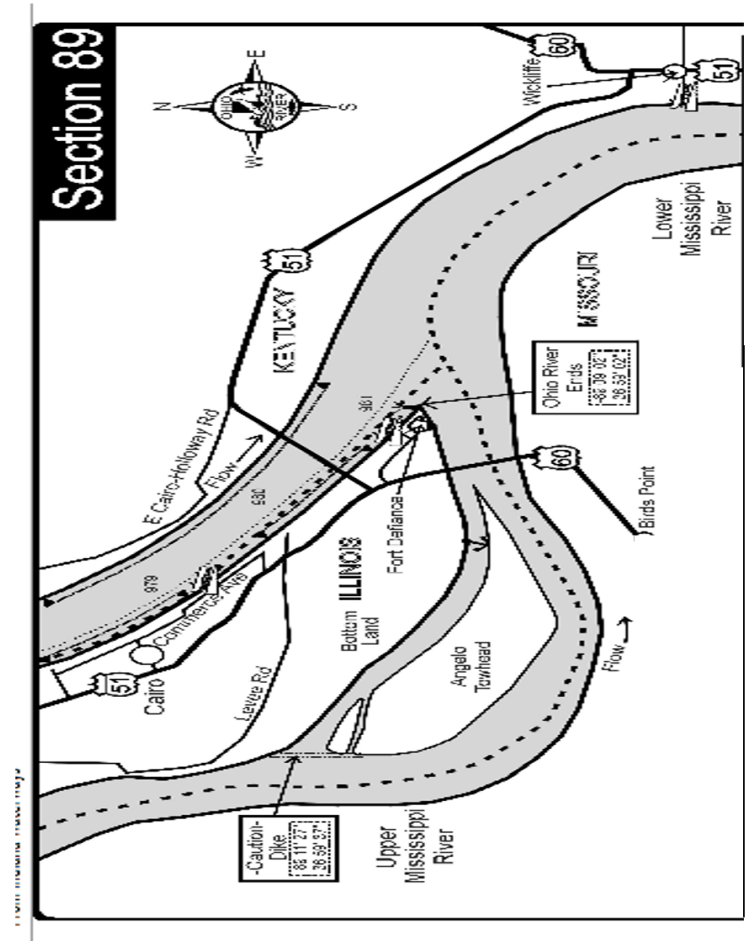
4. Why did we put the powdered drink mix on areas where people might live? _____



Elaborate

Many cities and towns get their drinking water from rivers. A little pollution comes from tugboats on the rivers but not much. A great deal of chemical pollution comes from farm runoff. Some chemicals cannot be filtered out of the water, and they end up in the drinking water.

1. Find the city of Cairo and color it green.
2. Find the city of Wickliffe and color it purple.
3. Color the rivers blue.
4. Find Fort Defiance and color it yellow.
5. Draw a tugboat in the river.
6. The area called Bottomland has very rich soil. Color it orange.



Scenario A The state of Kentucky wants to give a permit to a chemical company to build a chemical plant next to the river on highway 51 where it joins highway 60. The plant would use river water to make its chemicals and return “clean” wastewater back to the river.

Questions:

1. Which city might get pollution from the chemical plant in its drinking water? _____
2. Why do you think so? _____
3. What type of pollution would the chemicals in the water be called? _____

Scenario B The area called Bottomland has farms that use fertilizers to help the plant grow and produce more corn.

Questions:

1. Would the city of Cairo be affected by the fertilizer runoff from these farms? _____
2. Explain your thinking. _____
3. What type of pollution would the chemicals from the plant be called? _____
4. What type of pollution would the fertilizers from the farm be called? _____

Scenario C The city of Wycliff wants to pass a law that prevents people from pouring oil from their cars in the storm drains.

Questions:

1. Where does the oil end up when it is poured down the storm drains? _____
2. Do you support the city’s idea of passing the law? _____
3. Explain your thinking. _____

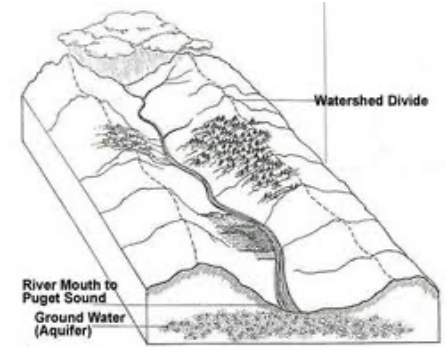
4. What type of pollution is the oil that is being poured down the storm drains? _____

Evaluate

Name _____ period _____

EXIT TICKET

Human Impacts on Watersheds and Surface Water



1. Where is most of the surface water in this water shed located?

- A. In the clouds
- B. In the river
- C. In the aquifer

2. A chemical company wants to build a factory somewhere in this watershed. The state is concerned about polluting the watershed if a chemical spill occurs. Where would be the best place to build the factory so that any damage to the watershed done by a chemical spill is minimized?

- A. high in the mountains
- B. near a curve in the river
- C. near the river mouth

3. The type of pollution from the chemical company would be considered-

- A. nonpoint source pollution
- B. point source pollution
- C. not real pollution

4. Some people were camping in the forest on the mountain. They threw their trash on the ground, and the rain washed it into the river. What type of pollution is this considered?

- A. nonpoint source pollution
- B. point source pollution
- C. not real pollution