

Soil & Water

Be a Watershed - Create a Living River

There's a Watershed in My Backyard - Activity 4

Science, Geography

Materials

A series of cups that hold small to large volumes
A series of buckets that hold small to large volumes
Water source – a large pitcher or bucket of water
Mississippi Watershed map

Overview

Students will connect to information about conservation and protection of natural resources. They will understand how each person in a watershed – all of us – can work together to protect the quality and quantity of water for our use.

Objective

1. Students will learn how water moves in a watershed.

Instant Experts

Exploring Kansas Natural Resources Educator's Guide. Unit 6 – Water Overview (101-110).
Kansas Foundation for Agriculture in the Classroom. *To order, visit www.ksagclassroom.org.*

What is a Watershed? PA-420. USDA-NRCS Landcare Delivers Publications & Forms.
<http://landcare.nrcs.usda.gov>

Background Information

A **watershed** is the land that water flows across or under on its way to a stream, river, or lake. Landscape is made up of many interconnected basins or watersheds. Within each watershed, all water runs to the lowest point such as a stream, river, or lake. On its way, water travels over the surface and across farms, fields, forest lands, suburban lawns, and city streets; or it seeps into the soil and travels as groundwater. Large watersheds like the ones for the Mississippi River, Columbia River, and Chesapeake Bay are made up of many smaller watersheds across several states.

Watersheds come in many different shapes and sizes. A watershed can be affected by many different activities and events. Construction of cities and towns, farming, logging, and the application and disposal of many garden and household chemicals can affect the quantity and quality of water flowing from a watershed.

Everyone lives in a watershed, and we are a part of a watershed community. The animals, birds,

Grade Level: 5-6

Time: 20 minutes

Standards:

Physical Science

Life Science

Geography

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and fish are, too! People influence what happens in watersheds, good or bad, by how the natural resources – the soil, water, air, plants, and animals – are treated. The quantity and quality of water draining from a watershed are dependent upon the climate, vegetation, soils, geology, and development of that watershed. Activities that change the vegetation and surface characteristics of some watersheds will affect the quantity and quality of water contributed to a stream. For example, a greater volume of water, perhaps of poorer quality, will flow from a parking lot than from a forest or pasture. This volume of water from a parking lot may result in increased flooding in a watershed because the greater volume exceeds the natural ability of the stream to transport the water. What happens in small watersheds, such as pollution, also affects the larger watersheds downstream.

Instructional Format

1. Share background information with students.
2. This lesson will be a class demonstration with student participation.
3. Upon completing the lesson, students will answer conclusion questions and discuss the activity.

Procedures

1. Divide students into the following groups:
 - Four youth line up single file and represent the headwaters and beginning of the river in your watershed. These students will each carry small cups.
 - Three youth form a circle and stand at the front of the line to represent a lake connected to the river in the watershed. These students will carry larger cups.
 - Four youth line up single file to represent the river as it moves towards the Mississippi River, getting larger. These students will carry even larger cups.
 - Three youth form another circle to represent another lake, dam or confluence of rivers. These students will carry small buckets.
 - Four youth represent the larger river into which the watershed drains. These students will carry bigger buckets.

You may choose others to represent a second river that joins with the first one to create a larger river that travels to the Mississippi River.
2. Teacher begins to pour water into the smallest cups – those that represent the headwaters or beginning of the rivers.
3. The students will then pour the water into the next size cups to simulate the flowing of the river which gets larger and larger and finally ends up the Mississippi River which ends at the Gulf of Mexico. Continue until the water reaches the bigger buckets.

Conclusion Questions (Assessments)

1. What would happen to the water if there were three days of hard rain near the headwaters of the first river?
More water would flow through the watershed (the cups and buckets would be more full).

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2. How would other weather conditions affect the water downstream?

Melting snow may result in more water flowing through the watershed (the cups and buckets would be more full). Drought conditions near the headwaters may eventually cause a decrease in water flowing through the watershed (the cups and buckets would be less full).

Resources

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