

1.3 What is A Watershed?

Subject

Earth and Space Sciences

Objectives

The students will:

- Be able to define and explain what is a watershed
- Label the watershed *model* diagram with appropriate natural features
- Identify *causes and effects* of human impacts in watersheds and add these to the illustration

Materials

- *Students for Salmon Journal*
- Art Supplies—crayons, markers, pencils

Size/Setting/Duration

Entire class/classroom/~60 minutes

Background

A **watershed** is an area of land that consists of all the water and land between ridges that drains to a particular outlet. The outlet could be a river, lake, bay, or the ocean. A watershed is drained by a system of **tributaries**. The place where two watersheds separate is called a divide. Bathtubs or sinks make good, simple analogies.

When cities and counties decide how to manage their watersheds, it's important to take into consideration the factors that affect the health of the watershed: **soil, vegetation**, rural and urban land uses and other human impacts, forest practices, and roadways.

Procedure

It is helpful if students first complete *The Water Cycle* worksheet from the *Students for Salmon Journal* before starting this activity so that they use their knowledge about how water is exchanged between the land, oceans, and clouds.

1. When introducing watersheds to your students, ask them which direction water tends to flow on land. This is the most important thing to remember when studying watersheds. Water runs downhill due to the force of gravity.
2. The *What is a Watershed?* worksheet in the *Students for Salmon Journal* gives the definition of a watershed for the students. You can expand on this with the background information given.

3. The illustrated watershed that follows is a model of what a watershed looks like. Students should use a brightly colored pen to trace the outline of the watershed's boundary.
4. With the words provided, have students fill in the appropriate box with the correct word on their diagram, using their glossary from the back of their *Student Journal* as a resource. The words describe the "natural" features of a watershed. For example, the word "bedrock" is assigned to the illustration because it is the support for the landscape over which water flows.
5. Once students have filled in the watershed worksheet with the natural watershed features vocabulary, use the human land use list to discuss our impact on the watershed with your students.
6. Have students draw in these human land uses on the watershed illustration. While doing this activity the students should understand that all of these human impacts affect the watershed directly, especially the water quality due to **stormwater runoff** pollution. Brainstorm and add other human influences as a class.

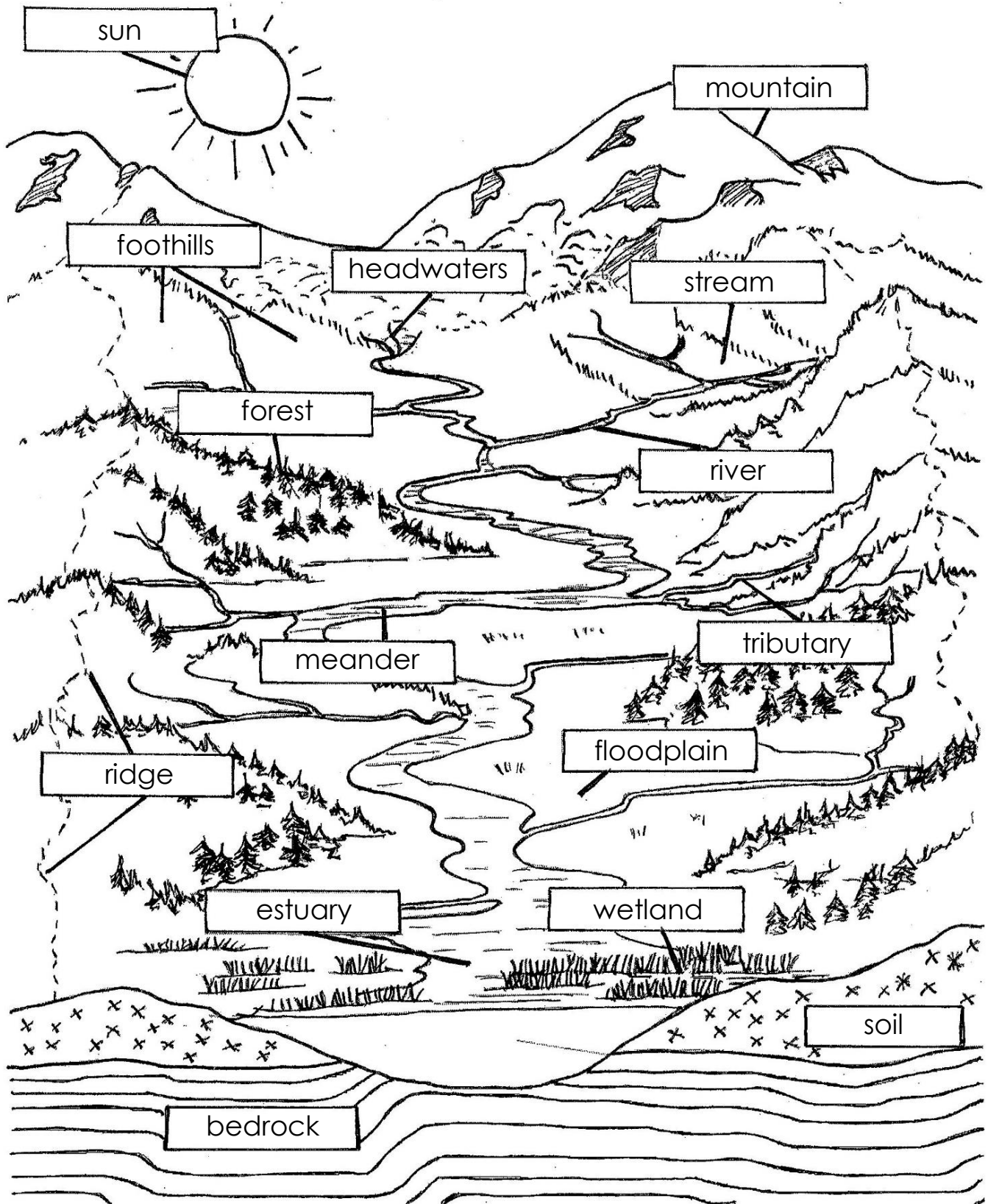
Extension

Have students select any two watershed features from the list in their journal. They can be natural or human. Have them write about how these two features may affect one another. You could also pre-select several combinations to offer the class as well.

Next Generation Science Standards

Performance Expectation		
4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.		
Scientific and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<ul style="list-style-type: none"> ▪ Asking Questions and Defining Problems ▪ Developing and Using Models 	<ul style="list-style-type: none"> ▪ ESS2.A: Earth Materials and Systems ▪ ESS3.C: Human Impacts on Earth Systems 	<ul style="list-style-type: none"> ▪ Cause and Effect: Mechanism and Explanation ▪ Systems and System Models ▪ Structure and Function

Watershed –Answer Key



What is a Watershed?

A **WATERSHED** is a basin where water collects as it runs downhill. It includes all the water and land areas between ridges that drain to an outlet. The outlet could be a river, lake, or the ocean.

<p>First, label the watershed diagram on the following page with these words:</p>	<p>Second, now that you know the natural features of a watershed, add and draw in these human land uses:</p>
<ul style="list-style-type: none"> • Bedrock • Estuary • Floodplain • Foothills • Forest • Headwaters • Meander • Mountain • Ridge • River • Soil • Stream • Sun • Tributary • Wetland 	<ul style="list-style-type: none"> • Boats • Cars • Cows • Factories • Farms • Horses • Houses • Parks • Roads • Stores • Anything else? Add others if you can think of more!

Watershed

