Does Watershed?

(4th – 6th grade)

1 hour

Objectives:

- Students will be able to make predictions and test their predictions.
- Students will be able to draw conclusions about their experiments.
- Students will understand how water moves over the land and underground.

Introduction:

Vocabulary: Watershed – An area of land that drains into a body of water

Background:

- Discuss what a body of water is (e.g., ocean, lake, river, pond, stream, puddle).
- Make your arm a watershed and talk about when rain falls where it goes…down. At the bottom of every watershed is a body of water.
- Discuss how water that falls on one side of the mountains can't end up on the other side of the mountains. (water flows downhill, it cannot flow up: gravity). Mountains and hills separate watersheds.
- Valleys bring watersheds together.
- Discuss watersheds on different sizes (large like the U.S. or small like a puddle on the playground).
- Discuss local bodies of water where their water would drain.
- Inform students what their watershed is called. Explain how watersheds sometimes get their names from the bodies of water they drain into.
- Have students create watersheds with their arms to check for understanding (1 watershed, 2 watersheds, mountains separate watersheds, valleys are what bring watersheds together).

Activity:

- Make paper watersheds:
- Supplies: Glue sticks, Vis-à-vis pens, 2 pieces of paper (one blue one white) per person, spray bottle

  Students need to include main water (rivers, streams, ponds, and lakes) in blue marker, roads with the black markers and the other markers can be used to develop their land.

  Talk about how engineers and city planners have to understand watersheds in order to make buildings and roads safe for people to live in and use.

  Then make it rain to test their predictions and city planning skills.

Follow up:

- Discuss what they found out. Were there predictions correct? If their predictions were not correct did they still learn something?
- Discuss flood control and planning decisions.

- Discuss pollution and storm drains. Present students with some ideas of how to prevent pollution from ending up in the water. Pass out storm drain flyers.

Washington State Science Standards

The following table indicates which EALRs are met by the Does Watershed lesson.

Washington State Learning Standard	
4-5 INQC	An *experiment* involves a *comparison*. For an *experiment* to be valid and fair, all of the things that can possibly change the outcome of the *experiment* should be kept the same, if possible.
4-5 INQD	*Investigations* involve systematic collection and recording of relevant observations and data.
4-5 INQF	A scientific *model* is a simplified representation of an object, event, system, or process created to understand some aspect of the natural world. When learning from a model, it is important to realize that the model is not exactly the same as the thing being modeled.
4-5 INQH	Scientists *communicate* the results of their *investigations* verbally and in writing. They review and ask *questions* about the results of other scientists' work.
4-5 APPE	Possible *solutions* should be tested to see if they solve the problem. Building a *model* or prototype is one way to test a possible *solution*.
6-8 INQB	Different kinds of *questions* suggest different kinds of scientific *investigations*.
6-8 INQE	*Models* are used to represent objects, events, *systems*, and processes. *Models* can be used to test *hypotheses* and better understand *phenomena*, but they have limitations.