Watersheds — Where the Water Flows

In this course students identify what a watershed is, study the water cycle, and create a model landscape to explore how water moves. Through the process of "making it rain" students discover how structures and topography interrupt or change the flow of water, where water ends up flowing to, and what water might carry with it as it washes over parking lots, farms, and construction sites.

Grade: Elementary, Middle, High School

Standards Supported

Next Generation Science Standards:

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.
4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.
4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features
4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
ESS1.C. The History of Planet Earth. Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS1-1).
ESS2.A. Earth Materials and Systems Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS2-1).
MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity
MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

HS-ESS2-5. Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

Ocean Literacy Principles:

Principle 3. The ocean is a major influence on weather and climate.
B. The ocean is an intracule part of the water cycle.
B.4. Most of the water on land returns to the ocean through river runoff.