



Interactions Between Earth's Spheres

Habitat Learning Lab Field Investigation Activity Lesson Plans & Resources

Online Lesson Plans & Resources: alabamawildlife.org/field-investigation-interactions-between-earths-spheres/

STEP 1: Engage through Discussion

The background information below can be used to help introduce the topic, engage the students, and build a foundation to discuss the topic:

Background Information & Vocabulary (online as a PDF)

Everything in an ecosystem can be categorized into one of the spheres of Earth. The **geosphere** (also called the lithosphere) contains the solid parts of the earth including rocks, sand, dust, soil, metals, and related materials. The geosphere is layered with the crust being the outermost layer, followed by the mantle, and the core at the center of the earth. The **hydrosphere** contains the water on the earth including oceans, lakes, rivers, groundwater, rain, snow, and other forms of precipitation. Icebergs, ice caps, and glaciers are frozen parts of the hydrosphere called the cryosphere. The **atmosphere** is the envelope of gases that surrounds the earth and includes air, wind, ozone, oxygen, nitrogen, and other gases. The **biosphere** includes all living things including animals, plants, fungi, bacteria, and other organisms.

The spheres of the earth can interact with each other in a variety of ways. As rain falls or a river runs over rock, the hydrosphere interacts with the geosphere. As wind blows and carries tiny particles, the atmosphere interacts with the geosphere as these tiny particles cause erosion on larger rocks. The biosphere interacts with the hydrosphere as animals drink water or plants take up water through their roots. The biosphere interacts with the geosphere as animals dig burrows or as plants anchor into the soil. The biosphere interacts with the atmosphere as animals breathe and plants perform the process of photosynthesis. The hydrosphere interacts with the atmosphere during various stages of the water cycle such as evaporation.

