



ECOSPHERES

Take home lessons

5-ESS2-1 Earth's Systems

Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

In this booklet you will use several different models and activities that show the interaction of the spheres.

Ecosphere Vocabulary



Geosphere

Made of all of the rocks and minerals on Earth's surface.

Includes mountain ranges, canyons, beaches and other landforms.

Includes soil, sediments, and solid and molten rock beneath the surface.



Biosphere

Contains all the living things on Earth.

Includes all of the plants, animals, fungi, and microbes living on Earth (humans too).



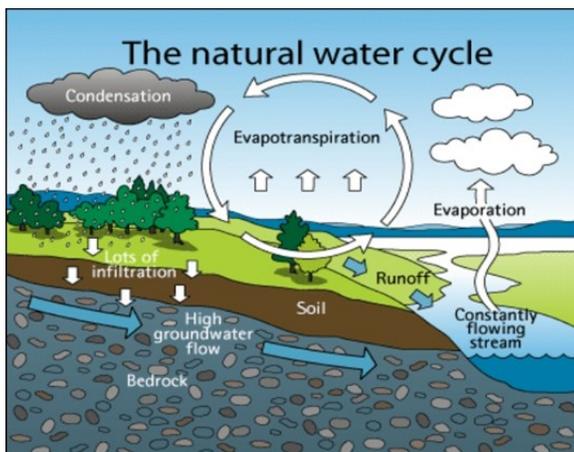
Atmosphere

A thin layer of gasses that surround Earth.

Contains water vapor.

Processes of weather, such as winds and storms, take place here.

Includes all the gasses in the air.



Hydrosphere

Made up of all of the liquid and solid water on Earth.

Includes water in oceans, rivers, lakes, underground, rain, ice, and snow.

Read a Story

On the next page you will find a story called *Old Stony*. As you read the story, look for times or places where the atmosphere, biosphere, geosphere and/or hydrosphere interact with each other. After reading the story, answer these questions.

1. To which sphere do Alex and Lee belong?
2. Where do you see Alex and Lee interacting with the geosphere?
3. Where do you see Alex and Lee interacting with the hydrosphere?
4. Does the atmosphere have any effect on the children during the story? If so, when?
5. How did the geosphere affect the tree?
6. Why do you think the children call the tree Old Stony?

Old Stony

Alex and Lee hiked through the forest on a misty autumn morning. They made their way down the woodland hillside until they came to their favorite tree, Old Stony. This tree stood out from the rest. The giant oak spread its branches up toward the sky. Most of its roots grew into the ground, where they could drink up water from deep in the earth. But one root stretched over the ground and across a large boulder before reaching the soil. This was a perfect spot for climbing, hiding or just relaxing in the shade on hot summer days.

The children sat at the base of the tree and watched the fog settle over the pond below them. Alex heard a rustling sound and turned to see a squirrel emerge from a pile of leaves with some twigs in its mouth. The squirrel scrambled up the tree and into its branches. They watched as the squirrel took several trips up and down, carrying mouthfuls of sticks and grass.

Lee remembered something he read in a nature book, "It must be a mama squirrel building a nest to get ready for her babies. They make a nest, called a drey, by weaving together sticks, grass and leaves between two of the limbs."

"Smart squirrel," Alex nodded. "She can find lots of acorns right here and she can visit the pond to sip from the water. She won't need to travel far from her home to find everything she needs."

The children watched the squirrel until the sun came out from behind the clouds. They bent their necks back to feel the warm rays of the sun on their faces. Below them, the rock soaked up the heat of the sun.

Alex jumped up, "Let's go down to the pond and look for frogs."

The two friends followed a little stream that trickled over the rocks. It led them down to the small pond at the bottom of the hill. They had spent many summer days here, catching frogs and tadpoles in the shallow water.

They stopped to listen for the croaking that usually welcomed them, but the air was quiet.

"Where'd they all go?" Lee looked around. "Do you think we scared them?"

"Not us." Alex pointed up, "Look at that giant bird!"

They watched as a large heron flew up from the top of a nearby tree and flapped its way around the pond twice before flying into the sky and out of sight.

"I guess we won't be seeing any frogs today" Alex shrugged, "It's probably getting too cold for them anyway."

"Where do they go in the winter?" Lee wondered. "They can't exactly fly south like birds."

The thought of frogs flying south made Alex giggle, "No silly, they hide in the mud. But I'd sure like to see them trying to migrate."

"Hiding in the mud doesn't sound like fun." Lee frowned, "I'd rather fly south like the birds"

"And my Grandma!" Alex laughed, then she stopped and patted her tummy. "I'm getting hungry."

"Me too."

With that the children turned and headed back up the hill, past Old Stony, and to home and lunch.

Habitat Hike

Go outside to a park or around your house and look for the four different spheres. Make a drawing of spheres you see and how they are interacting. Be sure to label the spheres on your picture

Four Different Spheres

Biosphere

Geosphere

Atmosphere

Hydrosphere

Draw here:

