INV. 2 ACTIVITY: DESIGNING A TERRARIUM

Review

A few weeks ago you started studying the environment where you live—your neighborhood. We hope you are still going outside regularly to make your observations. Are you seeing signs of the seasons changing? Try for **one observation per week** in this long-term investigation.

Read interactive e-Book on FOSSweb—*FOSS Science Resources: Environments*

Login to FOSSweb, and from your Media Library, find the e-Book. From the Table of Contents go to the article "Setting up a Terrarium" on pages 13-15.

After reading, record In your science notebook what a terrarium needs in order to provide for the living things that live and grow there. Take notes of the design for a homemade terrarium on page 15.

Investigation

Now it is your turn to design a terrarium using empty recycled materials.

You may decide to use a clear plastic lettuce container, pretzel container, or a 2-liter soda bottle. Whatever you decide to use, make sure it is very clean.

Focus Question: How will the terrarium meet the needs of organisms?

Some materials you may decide to use:

- Container (clear, plastic, holds its shape)
- Soil (potting soil or soil from outside)
- Gravel or small pebbles, sand could work too
- Seeds or small plants
- Scissors
- Water
- Small garden animals (isopods, small beetles, or snails are good choices)

  (***Rule: If you don't know what the animal is—don't pick it up***.)
- Small rocks, leaf litter (from the ground), small pieces of wood

Create your design

Sketch out the design for your terrarium in your science notebook. Add labels that explain the function of the items you include. Depending on the way you are doing school-at-home, you may want to share your design with your teacher and class. You might plant some garden seeds, some seeds you find in your kitchen (dried beans or popcorn kernels) or seeds you find outside. You could plant a cutting from a small house plant.

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INV. 2 ACTIVITY: DESIGNING A TERRARIUM

When you are ready to start building, check in with an adult at home, and run your design by them. If the adult does not want the terrarium to live inside, you can still create the design in your notebook and perhaps keep it outside in a place that gets indirect sunlight.

Build your terrarium!

Build your terrarium according to your design.

One tricky thing about a terrarium is knowing how much water to add. If after watering, the sides of the container are covered completely in condensation, you may need to open it a little to let some water evaporate. No condensation and the soil looks dry, perhaps not enough.

Record in your notebook the amount of water you add and how often. Once you have the right level of moisture you might not need to open the terrarium. Clean up.

Respond to the focus question in your notebook.

How will the terrarium meet the needs of organisms?

In your notebook, record observations about your terrarium over time.

INV. 2 ACTIVITY: ROLES IN A FOOD CHAIN

Review

You have started a long-term study of your neighborhood. Think about the organisms you have found in your neighborhood environment. Did you see birds? What do the birds eat? Did you find any isopods, snails, or any plants? How do they get their food?

Today's Task

Today you will look at all of these organisms you observed and we will consider how they interact. First, in your science notebook, make a list of all the living things you have seen outside. You may want to make a list of the plants (it is OK if you don't know what they are called exactly—grass, trees, bushes) and the animals in separate columns.

Now, consider what eats what on your list. If you noticed that a squirrel was hiding or eating acorns you could write:

Acorn ➔ Squirrel

The arrow is drawn from the acorn pointing to the squirrel, because the squirrel eats the acorn. This indicates that the energy from the acorn goes into the squirrel. Now, you probably were not lucky enough to see another animal eat a squirrel, but a quick Internet search may help you find the answer to the question "What eats squirrels?" A lot of things eat squirrels but one animal you might have in your neighborhood, even if you have not it, is a hawk. So now we can make a food chain with three organisms:

Acorn ➔ Squirrel ➔ Hawk

Now try to create a food chain from the animals you saw in your neighborhood. It is OK to use the Internet to help you if you need some help.

Record the focus question in your notebook: *What are the roles of organisms in a food chain?*

Read interactive e-Book on FOSSweb—*FOSS Science Resources: Environments*

Login to FOSSweb, click on Environments Module, and go the e-Book in the Media Library.

Read two articles—"What is an Ecosystem" and "Food Chains and Food Webs." Answer the questions at the end of the articles in your notebook.

Bring it home

Now that you have completed the readings, revisit your local organisms. Try and create a simple food chain listing local decomposers, producers, and consumers (herbivores, carnivores, and omnivores). This may take some time and again, it is fine to use the Internet to support your development of the food web in your notebook. Finally, answer the focus question using some of the vocabulary you read about in the article "Food Chains and Food Webs."

INV. 2 ACTIVITY: CHARACTERISTICS OF SOUNDS

Investigation

Take a moment, put your head down, and shut your eyes for about one minute. What sounds do you hear in your home? What sounds do you hear outside of your home? Go ahead and do it now.

Today, you will go outside and listen for outdoor sounds, but before you do that set up your notebook. You will need to record information about what you hear, the characteristics of those sounds, and what those sounds tell you.

Something like this:

Sound I heard	Sound characteristics	What information does this tell me?

Focus Question: How do animals use their sense of hearing?

After getting permission from an adult family member, go outside for about 15 minutes with your science notebook. Find a place to stand or sit. If you do not have permission to go outside, sit next to an open window. Pay particular attention to animals you see, including humans—what noises are they making? What do you think this tells you about the animals? Are other animals interacting with the noise makers?

After you have spent about 15 minutes doing this come inside and do some reflection in your notebook. Look at the data in your chart.

Did you see any animals making noises?

What did this tell you about the animal?

If you heard a siren—what does that noise tell you? I

f you heard baby birds chirping, what might they be trying to tell the momma and papa birds?

Make sure your chart is fully filled in—all three columns with several examples.

(***continued on the next page***)

INV. 2 ACTIVITY: CHARACTERISTICS OF SOUNDS (PAGE 2 OF 2)

Read interactive e-Book on FOSSweb—*FOSS Science Resources: Environments*

Go to FOSSweb, and click on the Environments Module. Look in the Media Library and find the e-Book. Use the Table of Contents to find the reading, ""Animals Sensory Systems"

Read the article "Animals Sensory Systems" and listen to all of the animals in the article. Then answer these questions in your notebook:

- What is one animal in the article that uses their senses for protection? How?
- Give two examples of how animals use their senses to inform them about their environment.

View Streaming Video on FOSSweb—*All about the Senses*

Login to FOSSweb, click on Environments Module, and go to Media Library. Click on streaming video and find the video, *All about the Senses.*

View Chapter 6, "Sense of Hearing." You can watch the whole video, but consider watching "Sense of Hearing" two times.

Record in your notebook the sequence of actions that are described for how your auditory sensory system works. Consider drawing a model to help with this explanation.

Respond to the focus question in your notebook.

Focus Question: How do animals use their sense of hearing?

Think about your own experience outside and give several examples of how animals use their sense of hearing.