Free First Saturday: Up Close with Worms! @ Home Activity Guide

Since we had to cancel our April session of Free First Saturday, we thought we would bring some information & activities to you at home! Enjoy!

What's so great about worms?

Vermicomposting, or composting with worms, is an easy way to help the environment! Worms can help break down food scraps and other organic materials instead of sending those items to a landfill. As a result, you will have healthy, nutritious fertilizer instead of smelly, long-lasting trash.

Worm composting can be done in any size home and just requires a few "ingredients":

- Red wigglers or red earthworms (1 lb of worms per bin)
- A homemade or premade purchased worm bin (a large plastic storage bin with a tight fitting lid and air holes drilled or poked into the top)
- Bedding such as moistened unprinted newspaper scraps
- Chopped food scraps

"Stir" the contents every few days to allow aeration and in 1-2 months you will have healthy compost! Watch this YouTube video of a time lapse of worms decomposing a pumpkin and then click here for more information about setting up and maintaining your own vermicompost bin.

Activity: Goin' on a Worm Hunt!

Head outside in your backyard or nearby natural area in search of some worms! With all the rain we have had in the area lately, worms should be easy to find. Some helpful tips from Uncle Jim's Worm Farm website:

- Leave a flattened cardboard box out in the yard overnight. This will attract the worms to the surface to discover when you lift the box in the morning!
- Head out during or right after a rainstorm! Since worms must stay moist to survive, and since they are able to travel easier and farther distances above ground, worms prefer to surface when the sun is down and after a good rain storm. If you aren't able to find many, use a shovel to dig into the ground. Then use your hands to break apart the wet soil and so that you can locate the worms.

We strongly encourage keeping the worms for a short period to observe and learn from before returning them to their natural homes. Here are a few experiments to try with worms (while still being gentle and respectful of living things):

Experiment: Worm, What do you prefer?

Have you ever wondered if worms prefer light or dark? Or wet or dry? See what worms prefer with this fun test of preferences!

Materials:

- 5+ earthworms you collected
- A shoebox size container with a lid
- Materials for testing (wet/dry paper towel, etc)

Decide what preferences you want to test with the worms. Some example questions to ask are: Do worms prefer wet or dry conditions? Do worms prefer the light or dark? Do worms prefer different colors of light? (Change the light color by placing colored transparencies, colored acetate, or colored plastic wrap between the earthworm habitat and the light source.) Do worms prefer different types of surfaces? (Ideas of surfaces to use are paper towels, rocks, grass, sandpaper, etc)

The following steps are using the wet vs dry conditions example:

1. Place a dry paper towel so it covers one side of a shoe box sized plastic container.
2. Place a wet paper towel so it covers the other half of the container. (The wet paper towel and the dry paper towel should touch in the middle of the container.)
3. Add earthworms to the middle of the container so they are touching both paper towels.
4. Observe the earthworms. Are they moving to one side or the other?
5. Place the lid on top of the container and wait.
6. After 10-20 minutes, check on your earthworms. Where are they – on the wet paper towel or on the dry? Is there anything else that you notice about them?

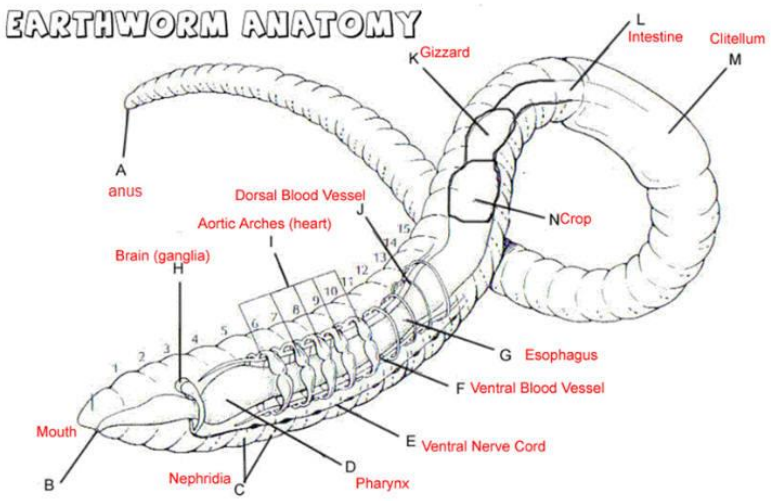
(Source: Inspiration Laboratories)

Experiment: Explore Earthworm Anatomy

Do worms have body parts? Use this exploration to find out firsthand!

Materials:

- Trowel
- Plastic container of moist dirt
- Paper towels
- Water
- Magnifying glass
- Cotton swab
- Alcohol or fingernail polish remover



Carefully dig up some worms in a garden and put them in a container. Prepare a worm-friendly surface for your observations. Lay three thicknesses of paper towel on a waterproof surface and moisten the paper until very wet. Set the worm on the wet paper towel.

On the outside: Look for a wide, thick band around the worm's middle. This is called a clitellum. It is closest to the head end. Look at the head with your magnifying glass. See if you can find the mouth, with its overhanging lip.

Notice that the worm's body is made up of segments. Each segment has two pairs of special bristles (called setae). Wet your fingers and run them down the worm's body to feel the rough setae.

Getting around: Let the worm crawl on the paper towel. When it wants to move, it becomes long and thin. If you touch it, the worm contracts and becomes thicker.

The worm has two layers of muscles; those running around the body squeeze the worm and make it thinner and longer. Those running end to end make the worm shorter and thicker.

Heartbeats: Find a light-colored worm. Wet its upper surface and use your magnifying glass to observe the upper surface near the head. Look for the worm's five beating hearts.

Strong reactions: Dip a cotton swab in alcohol or nail polish remover. Hold the swab close to the worm's head, but DON'T touch the worm with the strong chemical.

What happens when the swab is near the head? Does the worm move? Hold the swab near the tail, then near the middle. Can the worm detect where the fumes are? How does it react?

(Source: How Stuff Works)