

Are you looking for something to do to keep your brain active and engaged? We're here to help with Science at Home! You can do these fun science activities using commonly found items. You can also visit us at the Museum's [Science at Home](#) page for additional resources.

DIY Vermicomposting Bin



Connection to Nature:

Did you know that there are over 9,000 species of earthworms identified but only 7 species are suitable for vermicomposting? *Eisenia fetida*, also known as the red wiggler worm, is the most commonly used species in the US. You will need about one pound (*which is about 1,000 worms*) to start a wormery. These “epigeic worms” usually hang out in the top layer of your compost bin and can devour between 25% and 35% of their own body weight per day. Your worms might get some help from some harmless mites, potworms, springtails and gnats to compost all that organic matter into a nutrient-rich fertilizer.

Instructions:

1. To make a well-ventilated wormery, drill holes along the top side and in the bottom of the large dark bin. Drill a few holes in the lid as well.
2. Place the large dark bin in the larger shallow bin and cover the holes at the bottom of the dark bin with recycled paper or a paper grocery bag.
3. To make moist bedding, fill a bucket with shredded paper and add enough water to cover it. Let it soak for about 15 minutes and wring it out so it has the consistency of a soggy sponge.
4. Fill the dark bin about halfway with the moist bedding and use a trowel to spread it evenly.
5. Gently place the worms on top of the bedding and close the lid to allow them to migrate into the bedding.
6. Let the worms adjust to their new environment for a few days. Meanwhile collect food scraps, cut them into small pieces and store them in a closed container in your fridge or freezer. Placing the food scraps in the freezer breaks down the plant-based materials and avoids mold and odor.
7. Take the food scraps out of the freezer and allow them to warm up to room temperature before adding them to the bin.
8. Use gardening gloves to place the food scraps onto the bedding. Use a trowel to cover up the food scraps with bedding and add shredded paper to avoid mold and unwanted pests such as gnats and flies.
9. You can add up to three pounds of food scraps to the bin weekly. Don't pour water into the bin if the bedding looks dry: simply dampen the bedding with water using a spray bottle.
10. The bottom bin will collect the “worm tea” which can be used as a fertilizer. You will be able to harvest the vermicast (“*worm droppings*”), or “black gold,” at the bottom of the dark bin in about 4 to 6 months and use it in your garden!

Materials:

Large, dark-tinted plastic storage bin
Larger but shallow plastic storage bin
Hand drill
Shredded paper
Bucket
Pitcher filled with water
Gardening gloves
Trowel
Food scraps stored in a container
1 pound red wigglers

Having fun?

We want to see! Tag [@naturalsciences](#) on social media, so we can see you and your loved ones enjoying our Science at Home activities.

*To guarantee having a successful wormery, make sure that you don't overfeed your worms; keep the food covered with shredded paper at all times; keep the wormery moist, but not too wet (*use dry shredded paper when it's too wet*) and store it at room temperature (*between 55° and 75° F*). Depending on the size of your wormery, you can store it in the garage, basement or even under your kitchen sink. To avoid odors, mold and pests, don't put meat products, dairy products, garlic, onions or citrus in the composting bin.