

# Worm Composting

If you don't have the space and materials available to create and maintain an outdoor compost bin, consider indoor worm composting! Red wiggler worms in indoor bins will consume an assortment of table scraps and paper products, producing nutrient rich castings (worm poop) that can be used to fertilize indoor and outdoor plants. Production of worm compost is called vermiculture, and it is a great way to give students an up-close look at the decomposition process.

Successful worm bins can be created using a variety of containers from old 2 liter bottles to 10 gallon plastic storage containers. Commercially constructed worm bins are also available for purchase. Worm bins are aerated and filled with a bed of newspaper. The conditions inside the container must stay moist, but not too wet since the worms are sensitive to both extremes.

Earthworms from your schoolyard will not be happy in the conditions of your classroom; instead stock the bin with purchased red wiggler worms. These slender worms eat just about everything and are happy with indoor temperatures. You can feed them organic scraps like fruit and vegetable peels, pasta, rice, bread, coffee grounds, tea bags, and trimmings from the garden. They will also eat paper products, including the newspaper bedding material. Just like outdoor compost bins, avoid adding dairy products, oils, or meats. A word of caution— do not release red wiggler worms outdoors since they will compete with native worm species.

Two frequent concerns of new worm farmers are that the worms will escape and that the bin will smell. As long as you maintain the correct moisture level and continue to provide new food and newspaper bedding, your worms will be so happy they will not want to leave. Additionally, as long as the bin is not too wet, the castings will have a pleasant earthy smell that is only noticeable when you are digging into the bin to add new scraps of food.

When castings begin to accumulate, usually every 3 or 4 months, you will need to harvest them. You can accomplish this by dumping everything out of the bin, adding new bedding materials, and then carefully moving your worms to their refreshed home. Alternatively, you can move all the casting to one side and then fill the other side with new paper and food. Wait a day or two and the worms will move to the refreshed side of the bin on their own, allowing you to collect the casting from the vacated side.

Over time, the worms will lay eggs and multiply. If conditions begin to look crowded, create new bins and divide the worm population. New bins can be shared with other classrooms, or some students may like to begin composting at home.

## Constructing a Worm Bin Step by Step:

1. Find a plastic storage container with a lid. Next drill 10 or so small holes on the sides and bottom for your worms. The holes on the side help them get air and the holes on the bottom are to release extra liquid in case it gets wet in your bin.
2. Cover the holes with a piece of screen to make sure your worms do not try to explore outside the bin.
3. Fill 1/2 to 3/4 of the bin with strips of newspaper. This newspaper serves as a bed for your worms and they will eat it too.
4. Use a spray bottle to moisten the newspaper. Worms don't like to dry out.
5. Add red wiggler worms. The earthworms you find outside do not like to live inside. For indoor bins, red wigglers are best. These slender worms eat just about everything and are happy with indoor temperatures.
6. Bury some food scraps in the newspaper. Your worms will eat a variety of foods including fruit and vegetable peels, pasta, rice, bread, coffee grounds, tea bags, and trimmings from the garden. Don't add dairy products, oils, or meats.
7. Place bins in a warm spot but out of direct sunlight (remember these worms are comfortable in the same temperatures as you). Put the container inside of a tray or pan to catch any liquids that might drain out.

8. Add food and check on the bin regularly. If the bin becomes overly wet, decrease the amount of food you are adding and mix in additional newspaper for bedding. If dry, increase the amount of food and add moisture with a spray bottle.
9. Watch for castings to build up. When your bin has a lot of castings, use a spoon to scoop it out (leave the worms in the bin though) and add it to the soil around your plants.