

# COMPOSTING

## LESSON 2

### SETTING UP YOUR COMPOST BIN?

#### BACKGROUND

Soil is highly important to all life on earth, since producers (plants that take the sun's energy and turn it into usable food for almost all other animals) need soil to survive. Part of soil is broken down organic matter, which is what comes from naturally occurring compostable materials. Organic matter help put important nutrients and minerals back into the soil for plants to use and helps change dead plants and animals into useful materials.

Compost bins or piles are great way for humans to help take items that they might throw away and return them to the organic matter in the soil. However, all compost, whether it be a pile or a bin, vermicomposting (composting with worms) or not, need four main components:

- Air—Compost and the organisms living inside of it must be able to breathe as they eat
- Water—Water is needed to help with the decomposition process and is needed by the Decomposition organisms.
- “Greens” - Green materials in the compost bin are the moist, green items, like vegetables, fruit, green leaves or grass, etc. Greens should have some moisture.
- “Browns” - Brown materials in the compost bin are the dried items like dead leaves, wood chips, shredded paper, straw or drier lent.

A good compost bin needs to have alternating layers of green and brown materials with space for air in between. Ideally, the compost bin should also be moist but not wet and have a moist paper towel covering the top to help keep moisture.

Last but not least, we are not just composting, but vermicomposting. This means that we will be making a compost bin, and then adding worms! The worms help break down the compost faster, as they eat the green and brown materials, and then poop out soil!

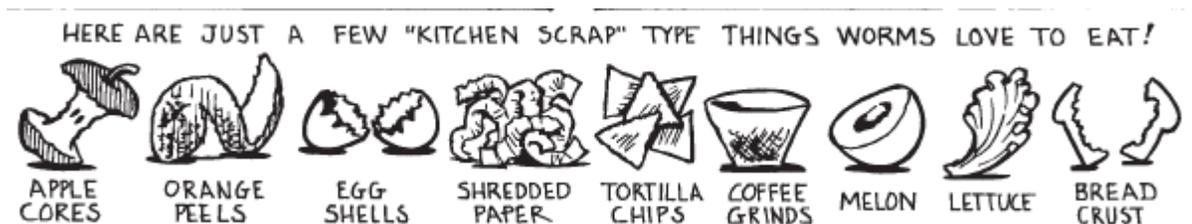


Image from Do the Rot Thing Activity Book Available at [www.cvswwd.org/uploads/6/1/2/6/6126179/](http://www.cvswwd.org/uploads/6/1/2/6/6126179/)

**LESSON PLAN****MATERIALS NEEDED (PER EACH WORM BOX)**

- Plastic Shoebox (available for about 1.29 at most Walmart Stores)
- Some coarse dead materials, like twigs, torn up cardboard, etc. Never use cardboard that has tape, a coating or color on it.
- Green compost such as left over salads or other vegetables, cut up fruit, grass clippings, etc.
- Brown compost such as shredded paper, dryer lint, wood chips (natural untreated wood only), dead leaves, etc. If you use paper, try to only use white uncolored paper.
- Potting soil
- Spray bottle full of water
- Worms—if you have a big unit, contact Texas Worm Farm at <http://www.texaswormfarm.com/>. If you only need worms for about 5-6 worm bins, consider just buy red wigglers from any fishing store. At most Walmart stores you can buy a container of 25 red wigglers in the fishing supplies aisle for about \$2.49.

**SET UP**

- Collect all the needed supplies and set them aside to take to the meeting.
- Bring all supplies to the meeting.
- Unless youth are older and have training needed to work with items like icepicks, add anywhere from 10 to 20 holes in the lid of each plastic shoe box that will become a worm bin.
- Keep worms in a cool dark place until it is time to make the worm bins. Red Wigglers like to stay around 50-75°F and do not like light.

## LESSON PLAN

## LESSON

1. If you have not already put holes in the lid of your worm bins, work with the youth and parents to do so. Do not put any on the bottom of your worm bin.
2. Have each youth get some of the coarse brown materials (twigs, torn up cardboard, etc) and put a 1/2 later of this on the bottom of the worm bin. Spray this with water until moist but not wet.
3. Then cover this with a thin layer of potting soil.
4. Cover the potting soil with a thin layer of “Greens”
5. Cover the “Greens” with a thin layer of “Browns”.
6. Lightly spray the brown with some water until moist but not wet.
7. Repeat step 3-6 one more time. After this, your bins should be close to being full
8. Time to add your worms. For a bin this size, you can put anywhere from 13 to 25 worms. Counting them out is half the fun!
9. Lay a piece of paper over the top of your worms. Spray this with water until moist but not wet.
10. Put the lid on. Your worm bin can be stored inside or outside, and at any temperature between 60°F to 85°F.

Optional: Use duck tape to carefully cover the outside of your worm box to help reduce the amount of light that they are exposed to. Note, once you do this, you will not be able to watch your worms in the evenings.



View from the side of one of our worm bins. Notices the layers of dirt, green, brown, repeat.

Some notes about your worm bin.

1. Once the lid is on, it should not smell. If it is starting to smell or is attracting fruit flies, add more brown.
2. If you do not see many worms, add new worms and add more green
3. If you notice that nothing is getting eaten, add more worms, green and water
4. If you notice any other issues with other critters, see lesson 4 for more information.