



## **Worm Bingo**

3<sup>rd</sup>& 4<sup>th</sup> grade

Students explore worm composting by examining compost and identifying elements of a compost pile. Students describe how worms participate in composting. Students explain what worms need to live and how we provide for these needs in the worm bin. Students can participate in building a bin and/or feeding the worms.

*30-45 min*

### Lesson Objectives:

- **Students describe how worms function in compost**
- **Students successfully identify what can and cannot be put in a worm bin**
- **Students list 3 reasons to compost on a farm**

### What You Need

**Access to worms and samples of worm compost**

**Worm BINGO Cards and dry erase markers**

**Magnifying glass**

**Tweezers**

**Plates, trays or paper towels**

**Towel for clean-up**

**Flip Chart/Board (optional)**

### What to do

Discuss with students why we compost. Solicit reasons from students, examples would be to reduce waste, make nutrient-rich soil to grow food, etc.

Explain that there are many different ways to make compost but all involve the help of insects, worms, fungi and bacteria to transform weeds, paper, veggie scraps etc into soil.

We are going to learn about using worms and their allies to compost our waste. We use worms for food-scrap because they are fast and efficient compost-makers. (The large piles at the farm filled with weeds, grass, and leaves may also contain worms but these piles take longer to transform into soil because we are using a "hot" compost method to kill any weed-seeds that are present.)

### **How does it work?**

Worms are great at transforming your garbage into nutrient rich soil, they eat ½ their body weight each day so composting happens fast! Worms reproduce quickly, 8 red worms become 1,500 in just 6 months. But, worms aren't the only things making this transformation, they need help. Springtails, white-worms and flies eat fungi. Worms eat bacteria, protozoa and other fungi. Worms break up

the larger plant chunks so that there is more surface area for the fungi and bacteria to decompose.

### **Activity**

Pass out trays or paper towels, tweezers, and magnifying glasses to all the students (or work in pairs). Give each 1-2 scoops of the worm bin contents. Have students look for worm eggs, worms of all sizes, and other insects in the compost. Have students describe different things they might see including eggs, fungi, springtails, etc.

**Play Worm Bin Bingo:** look for specific things with the BINGO cards. Give each student or each pair a scoop of worm bin soil and a magnifying glass. Have students work on their own or in pairs to correctly identify things in the worm bin. When a student finds a creature, have them identify it by name, and make one observation about it (what it was doing, where it was found, how it looked, etc.) If you, the teacher, is satisfied, allow the student to cross off that box on their bingo sheet with a dry erase marker. They may request additional castings only 1 time. Point out that on the back of the Bingo cards, there are descriptions of some of the most common worm bin creatures to help with identification.

Add on any of these activities as well:

- Feed the worms: shred paper, cardboard, egg cartons, moisten with water and add to the pile. Chop with clippers or tear up garden and/or kitchen scraps to feed the worms.
- Build a bin (see below)

### **Keeping our worms happy! More Information!**

Worms love to eat vegetable scraps as long as they don't have too much oil on them. Most fruits are good for worms as well, but they don't like any citrus! Worms need plenty of air and water so their environment feels like a rung-out sponge. Too much air and they dry out, too much water and they can't breathe. Worms also like shredded paper, egg cartons, and cardboard as long as they are moist, so soak them first. Leaves can be good for worms, but steer clear of walnut leaves, they have tannins make worms sick. Keep meat, eggs, and dairy out of the worm bin mostly so they don't stink and attract animal. Also, avoid oily foods that coat the worm's bodies and interfere with their absorption of air and water.