

## SOIL CHALLENGE | TEACHER GUIDE



### Activity Overview:

In this challenge, students will fill in a lunch tray activity sheet to inform others of how composting helps us reduce food waste and create more soil. Students will identify three things that are compostable in home bins and in compost facilities. They then will give three reasons why composting is important. Students will get to color in their lunch tray and hang them up to teach others about composting!

**Prep Time:** 10 minutes to print student guides

**Activity Duration:** 25-35 minutes

## STANDARDS ALIGNMENT

### Common Core

- *W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*

### NGSS

- *5.ESS3.1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.*

### MA Comprehensive Health

- *3.7.CE.4: Describe ways that the community can impact the health of people within that community.*

## MATERIALS NEEDED

- *Student lunch tray activity (one per student)*
- *Coloring materials*
- *Writing utensil*
- *Student computers (for any needed research)*





## BACKGROUND INFORMATION

Soil is the medium in which 95% of the food we eat relies on either directly or indirectly, making it an invaluable natural resource. Currently only about 7.5% of Earth's surface has soil rich enough for food to grow in. This number is slowly decreasing annually though due to erosion and urban development. To combat soil loss, composting recycles old food into new healthy soil. Composting helps to eliminate organic waste that typically ends up in landfills and incinerators, further reducing methane production.

Worms are essential to composting, speeding up the production of new nutrient rich soil. They eat the food and plants that are put in the compost, and through digestion, turn it into soil. The castings worms produce contain plant nutrients such as nitrogen, calcium, magnesium, and phosphorus that might otherwise be unavailable to plants. It takes on average two to six months for food and plants to decompose in a compost bin.

Another way to help preserve soil is by decreasing food waste. One-third of all food grown across the world is wasted. About 1.3 trillion tons of food is wasted every year, and that food waste generates about 3.3 billion tons of carbon dioxide. If food waste was a country it would be the third largest producer of carbon dioxide. Redirecting food waste into compost reduces the effects of climate change and increases soil availability for food production.



## ACTIVITY RUNDOWN

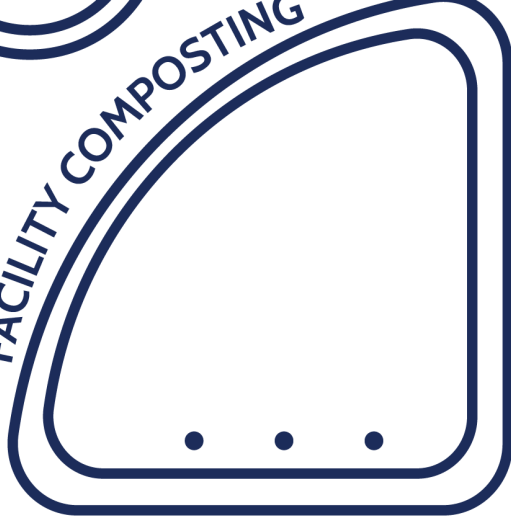
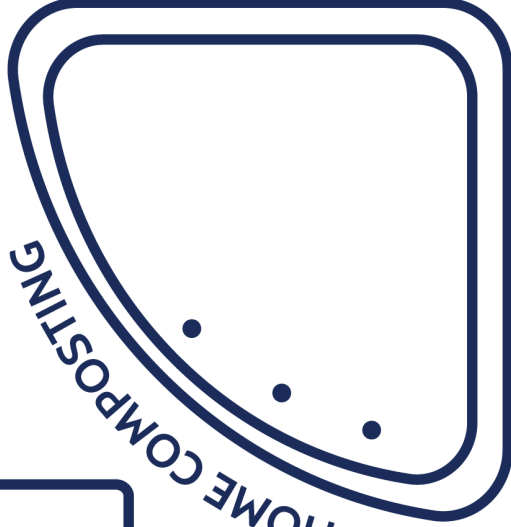
1. Pass out the lunch tray activity to students and provide them access to coloring materials.
2. Students will list three items they can compost in a home bin, three items they can compost with facility composting, and three reasons why composting is important. If they get stuck when coming up with items to be composted, encourage them to do some research!
3. Once students have finished filling in their lunch tray, they can color in their lunch tray.
4. Upon completion of the lunch tray activity, students can either hang their lunch trays in the hallway for other students to see or they can be brought home and shared with their parent(s) or guardians!

Provide 3 examples of what to compost in home  
and facility bins:



HOME COMPOSTING

FACILITY COMPOSTING



WHY COMPOST?

