

# Crisis Diverted

## Lesson Description

Discover the importance of recycling and composting and examine components of household waste.

## Lesson Objective

Learn the importance of properly disposing of their household waste to reduce the environmental impacts of landfills.

## Materials

- 12-inch cardboard circle, paper, or paper plate
- glue
- internet access
- solid waste samples from the Scavenger Hunt Table
- drawing utensils

## Vocabulary

- compost
- landfill
- methane
- municipal solid waste (MSW)
- organic waste
- recycle

## Introduce

Do you properly sort your waste at home? Sorting waste is a tedious task, but it is a step that goes a long way! The everyday trash produced at home, school, or work is called **municipal solid waste** (or MSWs). Municipal solid waste makes its way to **landfills** and produces a potent greenhouse gas called **methane**. Large amounts of methane accelerate climate change, and with 2,627 landfills in the United States, they are the third most significant human-related methane source in the country.



What can we do to slow down methane emissions from landfills? We can properly sort our trash! There are three ways to sort trash into bins: compost, recycle, and trash (or landfill). Diligently placing items in the compost and recycle bins diverts unnecessary waste from going to the landfill. **Compost** is organic material that helps plants grow. Composting is a method that breaks down **organic waste** (such as food scraps) and turns them into nutrients for the soil. Converting organic waste back into nutrient-rich soil uses three main ingredients: browns (dead leaves, branches, twigs), greens (grass clippings, vegetable, and fruit scraps), and water (grey, tap, or pasta water). Composting produces carbon dioxide instead of methane because it uses an aerobic process that relies on oxygen to break down organic matter. **Recycling** turns old materials into new ones. For example, instead of making new aluminum cans, glass jars, or plastic water bottles, recycling uses old materials to create a new product! Overall, recycling materials saves energy, water, and raw materials. Here is the tricky part, properly sorting trash is highly dependent on your local area. Research or call your local waste collection agency to find out what items belong in the proper bins. Composting and recycling reduce the load of **municipal solid waste** transported to landfills, and decreases the overall amount of methane emitted from landfills.

## Investigate

**Your Challenge:** Properly sort household waste and turn it into a garbage pizza!

1. Go on a scavenger hunt around your house and find at least one item from each category found in the diagram below. (If you are not able to gather some of these items, do not worry! You can draw them instead.)

Municipal Solid Waste Samples - Scavenger Hunt Table			
Paper	Yard Waste	Plastic	Metals
newsprint shredded paper, boxes, wrappers	grass, sticks, leaves, potpourri	disposable foodservice products (cups, plates, cutlery), bread bag clips, jug lids, miniature toys	paper clips, staples, aluminum can pull-tabs, nuts, and bolts
Wood	Food	Glass	Other
toothpicks, blocks, cedar chips, golf tees	food packaging that represents any snacks or food	marbles, sea glass	rubber band, candles, leather, textiles

2. Research on the internet or call your local waste collection agency to find out what your local area considers as compostable, recyclable, or landfill items.
3. With a pencil, divide the 12-inch cardboard, paper, or paper plate into three sections and write: compost, recycle, landfill in each. These will represent your pizza flavors.
4. Use a pair of scissors to carefully cut your materials from the scavenger hunt into different shapes. These will represent your pizza toppings.
5. Analyze which section your pizza toppings belong to and paste these in their respective pizza flavor (compost, recycle, landfill) with glue and allow to dry.

## Wrap-up

**Challenge Questions:**

1. What is the biggest waste category in your home?
2. How can you divert compostable and recyclable materials from entering the landfill?
3. How can you educate others on the effects of landfills regarding climate change?

## Watch and read it!

With an adult or an adult's permission,

- [How to recycle!! \(Recycle, Compost, Trash\)](#) - A short, animated video that explains what items belong to the three primary household bins: recycle, compost, and landfill.
- [How to Recycle and Why You Should Do It](#) - An article that explains the importance of

recycling and provides a database on recycling centers for hard to recycle items.

- [What Is Composting and How Does it Work?](#) - A student-friendly video demonstrating the effectiveness of community-based composting programs to reduce methane emissions.
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## Glossary

Word	Part of Speech	Definition
compost	noun	Materials that can be broken down by mirco-organisms such as bacteria and can be used to fertilize soil.
landfill	noun	A method of solid waste disposal in which trash is buried between layers of soil.
methane	noun	A hydrocarbon gas that is the main constituent of natural gas; a dangerous greenhouse gas.
municipal solid waste (MSW)	noun	Trash or garbage consisting of everyday items from household, commercial, and institutional sources in a community.
organic waste	noun	Biodegradable waste is a natural resource that comes from plants or animals. Includes material such as food, garden, and lawn clippings. It can also include animal and plant-based material and degradable carbon such as paper, cardboard, and timber.
recycle	verb	To divert useful materials from a landfill and reprocess them to become useful again.

## Works Cited

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