

# Composting & Recycling Relay

Grade Level: 1, 2, 3, 4, 5

Duration: 30-40 minutes

Classification: Classroom, STEM Spark, Science Fairs

Subject(s): Environmental Science, Biology, Horticulture

Categories (STEM): Science

Keywords: reuse, reduce, recycle, compost

## Introduction

- Summary: Students will learn about what can and cannot be recycled and composted as they perform a recycling relay and take home a compost in a bag.
- Description: Waste management is important to the sustainability of Earth. Students will learn the 3Rs of waste management: reduce, reuse, and perform a recycling relay. Students will learn the basics of what can and cannot be composted and in what quantities as they create a compost in a bag.

**Online Resources:** <http://www.wakegov.com/recycling/recycle/ftb/Pages/lessonplans.aspx>

## Vocabulary

- **Reduce, Reuse, and Recycle:** the three R's of waste management
- **Compost:** the decomposition of organic material which is used as fertilizers
- **Vermicomposting:** the decomposition of organic material using worms

## Materials

Material	Quantity	Reusable?
<b>Part 1 Recycling Relay</b> Recyclable, Trash, & Reusable Items*	1 per classroom	Yes
<b>Part 2 Composting:</b> Soil	2 cups per students	No
Sandwich size Ziploc bcoags	1 per student	No
Copy paper	1 sheet per 8 students	No
Coffee filters	1 per 4 students	No
Bananas	3-4 per classroom	No
Scissors	1 per 4 students	Yes
Composting basics handout	1 per student	No

\*These can be any odds and ends of items in those categories; Examples are listed below.

- Recyclable Materials: Gatorade bottles, paper towel rolls, toilet paper rolls, copy paper, cardboard, pasta jars
- Trash Materials: bread loaf bags, chip bags, Ziploc bags, batteries, light bulbs
- Reusable Materials: Plastic Walmart Bags, brown paper bags, clothes, yogurt/cottage cheese/butter/sour cream containers

## Directions

### **PART 1 RECYCLE RELAY**

- Separate students into 4 equal teams.
- Give each group 3 containers, masking tape and a pen. Have them label each container: “reuse”, “recycle” and “trash”. Have the 3 containers spread out evenly on the ground.
- Hand out the relay items. Explain to the students that this is a relay. They have to decide what items go into each category. Then 1 at a time they put them in the correct bucket. Students must tag their other team members when they switch off every time to get and deposit new items. *The team must try to recycle and reuse as many items as possible.*
- At the end you can go over what was put in each bin and have each team explain how they would reuse the item. Then confirm that the items put in the recycling bin can really be recycled.

### **PART 2 COMPOSTING**

- **DO NOT DO PART 2 FOR SCIENCE FAIRS**
- Explain to students that composting is the decomposition of organic material which is used as fertilizers
- Students do not have to make composts if they don't want to.
- Form an assembly line with Ziploc bags and soil.
- Have each student grab a Ziploc bag and pour 2 cups of soil in.
- Have students sit back down in their original groups of 4.
- Give each group 2 banana peels (there are 3-4 per banana) and have them cut each peel in half. Each student can then cut their half a peel into as many small pieces as they would like before adding to their compost. Students can add more banana peels if there are leftovers.
- Meanwhile, hand students pieces of copy paper or coffee filters they can rip into pieces to add to their compost.
- **TIP: Smaller pieces will compost faster. Make sure to keep your compost around at least 2 parts brown: 1 part greens.**
- Hand out and go through the Composting Basics Handout (shown below) with students to help them identify what they can and cannot add to their compost when they get home. Have students add a little water into their compost at home. **Review the “Troubleshooting” part in the handout**

- **Let any role models or students eat any bananas since only the peels are used in the compost. Otherwise, trash the bananas before leaving the school. Make sure to wash/clean the scissors off before leaving the school.**

### Activity Extension

- Redo the recycling relay but have them do it with different actions.
  - Examples: bunny hop, crab walk
- If possible, students can also go outside to find leaves and other greens such as grass, flowers, plants, etc, to add to their compost.

### Discussion Questions

- What are the three Rs of recycling?
- What are things you can and cannot recycle?
- Why is it important to wash out some containers before recycling?
- What are some everyday things that can be reused in different ways?
- What are things you can and cannot compost?
- Why should people reduce, reuse, and recycle?
- Why do people compost? **improves general quality and nutrients in soil**
- What is vermicomposting? **composting with worms occurs faster than normal compost**



### What is happening?

- Students will learn about things they can and cannot compost by participating in a composting relay. Right after, students will learn about things they can and cannot compost as they make their own compost in a bag.

### Applications:

- Majors
  - Environmental Science
  - Biology
  - Horticulture
  - Merchandise, Apparel Design
- Jobs
  - Environmental Scientists, Biologists, Horticulturists
  - Merchandise, Apparel Design (alter clothing to be more reusable & sustainable)
- Hobbies
  - Composting
  - Gardening
  - Recycling

- Real-World applications
  - Energy efficiency
  - Energy Efficient Homes
  - Tilling & Fertilizing
  - Global warming (3Rs helps prevent)
  - Reducing Carbon Footprint
  - Garbage and Plastics in Oceans and Freshwaters Lakes
  - **Average household wastes 1/3 of the food it buys**
  - Earning money for recycling aluminum cans
  - Grocery stores charging money for glass & aluminum products to encourage recycling
  - Thrift Stores, Vintage Stores, Goodwill, Garage Sales



This activity was last updated in fall 2020 by Student Role Models.