



Decomposition Relay



Fungus, bacteria, and invertebrates are living decomposers that break down natural materials like apple cores and return nutrients to the environment. Materials like plastic are not broken down by decomposers. Instead, plastics are broken down into smaller and smaller pieces by the sun, wind, and waves, but they never completely go away. Wildlife can be killed by getting entangled in plastic trash or eating trash. There are many ways we can keep wildlife safe from our waste, whether it's reducing the amount of disposable plastic we use, or picking up trash outside.

Play this game to learn about what we can do everyday to help wildlife! This is a cooperative relay race where your whole team works to beat their own record and match trash with the time it takes for it to decompose or break down.

Here's what you will need for this activity:

- Trash cards and decomposition rate cards
- Something to mark the start line (cone, rope, hula hoop, etc)
- Timer
- Safe outdoor space to run in
- 1-6 players

Round 1

- Cut out the trash cards and decomposition rate cards.
- Spread out all of the decomposition cards on the ground about 100 feet from the start line (or at the other end of the outdoor area).
- Players form a line behind the start line. Each player gets 1 trash card to hold, and thinks about how long it might take for that type of trash to decompose in the environment.
- Start the timer when the first player runs from the start line to the decomposition cards. The player puts their trash card next to a possible matching decomposition card, and then runs back to the start line. The player goes to the back of the line and gets a new trash card.
- Then it's the next player's turn to run and try to find a match for their card.
- Stop the timer when all the trash cards have been placed by the decomposition cards and the last player returns to the start line. Write down your team's time so that you can try to break your record in the next round!
- All the players gather around the cards on the ground and compare their guesses to the answers. Questions to discuss as a team: Were any of the decomposition times surprising? Why might some materials take longer than others to decompose? How do you feel about this information? What are ways that we can use less disposable plastic and reduce the amount of trash in the environment?

Round 2

- Repeat the steps in round 1 and try to set a new record. This time, match the trash cards to the correct decomposition cards using what you learned from round 1.
- When all of the cards have been matched, the players gather around the cards and discuss if any of them need to be rearranged.
- Play until you set a new record and correctly match all of the cards!



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Trash Cards

Cut out the cards below and hand them to each player in the relay race.



Apple core

Compost your apple cores, banana peels, vegetable scraps, and leftover food to return the nutrients to the soil.



Styrofoam

Ask local restaurants to switch to non-styrofoam containers for take-out.



Paper towel

Reduce your use of disposable paper products by using cloth napkins, kitchen towels, and cleaning rags instead of paper towels.



Plastic bag

Reduce your use of disposable plastic bags by bringing your own reusable cloth bags to the grocery store.



Plastic bottle

Reduce your use of disposable plastic bottles by bringing your own reusable water bottle and buying less sports drinks.



Aluminum Soda can

Recycle soda and soft drink cans so the materials can be used to make new products.



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Decomposition Cards

Cut out the cards below and spread them on the ground about 100 feet from the start line (or at the other end of the outdoor area) in the relay race.

2-4 weeks

2 months

20 years

200 years

450 years

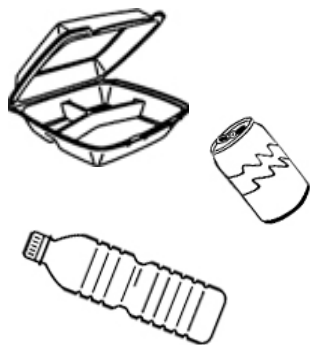
Never



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Decomposition Rates of Common Household Trash*



Paper towel	2-4 weeks
Apple core	2 months
Plastic bag	20 years
Aluminum soda can...	200 years
Plastic bottle	450 years
Styrofoam	Never

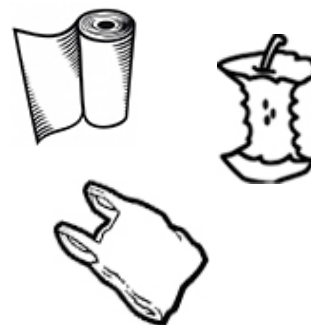


Photo by Douglas Croft

Follow-up:

Rain and wind can carry trash into nearby bodies of water. Streams and storm drains can wash trash directly into the ocean. When plastic trash gets into the environment, it can stick around for a very long time and harm wildlife. We can keep plastic out of the environment by reducing the amount of disposable plastic we use in our everyday lives.

Wildlife are also attracted to smells of food in our trash, and can end up eating our foods which are not good for them. They can accidentally eat plastic, or get tangled in packaging like soda rings, plastic mesh bags, and food containers. If they get used to eating food from people, they can get hurt or killed by spending more time around roads with fast moving cars, and backyards with dogs and cats. There are many ways we can keep wildlife safe from our waste!

Try some of these ideas at home, and see if you can think of anything else you can do to help wildlife in your neighborhood!

- **Secure the lid on your trash, recycling, and compost bin:** Use a bungee cord, lock, or heavy object like a cinder block.
- **Wash out food containers before putting them in the trash or recycling:** Wash out cans, yogurt containers, jam jars, pasta sauce jars, etc.
- **Cut apart items that an animal could get stuck in:** Cut soda rings, plastic mesh bags (like what mandarin oranges come in), plastic food containers, etc.
- **Tie plastic bags in a knot or collect them to recycle:** Tying used plastic bags in a knot can prevent them from getting blown away in the breeze. Some grocery stores like Safeway accept clean plastic bags for recycling.
- **Cut the ear loops on disposable face masks before discarding them.**
- **Volunteer to pick up trash in your community.**
- **Buy less plastic:** Swap out plastic products for long-lasting reusable products like water bottles, snack bags, tupperware, cloth bags, and metal straws.
- **Reduce your waste, reuse items, and find out what can be recycled where you live!**



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*Although plastic may never completely decompose in the environment, these decomposition rates are estimates for the time it takes for these items to become microscopic and no longer be visible.

Information Source: U.S. National Park Service; Mote Marine Lab, Sarasota, FL