

ACTIVITY SUMMARY:

Not all trash needs to go into the landfill. In this relay race, youth will practice sorting trash into three different buckets: landfill waste, single stream recycling, and backyard compost.

This lesson plan was modified by the Keep Austin Beautiful Education team for self-lead learning.

UNIT: Generation Zero

GRADES: K-3rd

MATERIALS (for 4 or more participants):

2 Single Stream Recycling buckets
2 Landfill
2 Trash buckets
2 Compost buckets
2 bags of sample clean waste (~10 items per bag)

MATERIALS (for 3 or less participants):

1 Single Stream Recycling bucket
1 Landfill Trash Bucket
1 Compost Bucket
1 bag of sample clean waste

TIME REQUIRED: 25-30 minutes

OBJECTIVES:

Youths will be able to:

Divide waste into three categories of recyclables, compost, and landfill waste.
Learn about the City of Austin Zero Waste Goal

Recycle Relay

Introduction (5 - 10 minutes)

1. what we can recycle
2. Ask : *What do you think of when you hear "trash? Can anyone remember the last thing they threw away? Where is the trashcan we use? Where is the recycling bin?*
3. Define all three buckets and what can go in each: landfill, single stream recycling, and backyard compost

Recycling Relay (15 minutes)

(good for 4 or more participants, if less than 4 see below)

1. Before playing this game, consider what youth know about recycling and composting. If composting is a very new concept, the compost buckets can be left out of this game, or composting can be taught to youth.
2. In a large open area set up a mini relay with buckets labeled as landfill, recycle, and compost lined up in a row with a starting point about 15-30 feet away.
 - Extension – *Instead of lining the buckets up all at the far end, put them at varying distances, with the recycling bucket closest, followed by the composting bucket, then the landfill bucket. With younger students, explain how each process uses different amounts of resources and energy with the landfill using the most; with older students debrief the distances at the end of the relay race. Ask "why were the buckets at varying distances? Did you exert more energy getting things to the landfill? What would that energy be in real life?"*
3. Divide the youth into two equal groups
4. Provide each group with a 'bag of waste' and have them make a line at the starting point 30 feet from the buckets and explain the following rules:
 - When they hear the words "Recycle Relay" the first youth pulls out one piece of waste from the bag. They must decide if the item is recyclable, compostable, or should be sent to the landfill. They run to the buckets and drop the item into the correct container, then they will run back to the line, give the next person a high five indicating their turn is over, and go to the end of the line. When the next person receives the high five their turn may begin. This continues until all items of waste are sorted.

- The bag of waste must stay on the ground next to the starting line until it is empty. Once the bag of waste is empty, the bag itself becomes the last item that needs to be placed in the buckets.
 - The next person in line must wait until the previous team member returns before starting.
 - Encourage students to ask for their teammates help when they are unsure or where an item goes.
 - When all items (including the bag) are sorted, the team must sit down. The other team continues to sort their items even after the other team has finished.
5. Once all the teams have finished, give a round of applause to all the teams. Remind youth that the important part is to correctly sort the waste. Why is this important in real life? The instructor checks the buckets to see if the items were properly sorted. Correct misplaced items as a class. After each team has correctly sorted the buckets, students gather up the items back into their bags. If time allows, play an additional round as a review.

Recycling Relay Against The Clock (15 minutes)

(good for 3 or less participants)

1. Before playing this game, consider what youth's know about recycling and composting. If composting is a very new concept, the food and compost buckets can be left out of this game or composting can be taught.
2. Pick an area to set up buckets labeled as landfill, recycle, and compost lined up in a row side by side about 3 feet apart from each other. Pick a starting line about 5 feet away from the center bucket. Option: choose to set up the buckets at different distances. Have recycling closest, then composting and trash the furthest. This represents how much more we can recycle and compost compared to waste that needs to go into the landfill.
 - Extension – *Instead of lining the buckets side by side, line up all buckets at a far end about 15 feet away from the starting line, put them at varying distances, with the recycling bucket closest, followed by the composting bucket, then the landfill bucket. With younger youth, explain how each process uses different amounts of resources and energy with the landfill using the most; with older youth debrief the distances at the end of the relay race. Ask "why were the buckets at varying distances? Did you exert more energy getting things to the landfill? What would that energy be in real life?"*
3. Provide the youth with a 'bag of waste'
 - When they hear the words "Recycle Relay" the youth pulls out one piece of waste from the bag. They must decide if the item is recyclable, compostable, or should be sent to the landfill. They run to the buckets and drop the item into the correct container, then they will run back to the bag and select another piece of waste to place in the correct container. This continues until all items of waste are sorted. The instructor will start the timer when they say "Recycle Relay".
 - The bag of waste must stay on the ground next to the starting line until it is empty. Once the bag of waste is empty, the bag itself becomes the last item that needs to be placed in the buckets.
 - When all items (including the bag) are sorted, the youth must sit down. Once the youth has sat down the instructor will stop the timer.
4. Once the youth are finished, congratulate them. Remind youth that the important part is to correctly sort the waste. Why is this important in real life?
5. The instructor checks the buckets to see if the items were properly sorted. Correct misplaced items together. After each item is correctly sorted, have the youth gather up the items back into their bags. If time allows, let the youth race against their previous time.

Closing (5 minutes)

1. *What can we do with this information?* Recycle and compost more to be Zero Waste Champions! Review the [Zero Waste goal](#) and how youth can make a difference in their own homes and classrooms. The City of Austin Zero Waste Goal is to reduce the amount of trash sent to landfills by 90% by the year of 2040.
2. Discuss proper recycling techniques: rinsing, checking labels, keeping paper separate and dry. Discuss the difference between plastics that can go in single stream recycling cart VS plastics that need to be specially recycled or thrown away. Introduce how the food waste can be recycled into compost. Discuss special recycling such as batteries and plastic bags.
3. Recycling Song Activity have students run to the appropriate bucket and do the corresponding song/motion when you hold up an item
 - Recycling – “Paper, Plastic, Metal, Glass. Recycling makes us a better class!” (pump fist) or “Paper, Plastic, Metal, Glass, These things don’t go in the trash!” Teach youth the rule of plastic and single stream recycling, “If it’s plastic and I can easily crumple it up, it cannot go in the blue cart!”. This includes soft plastics and Styrofoam. Often these plastics do not need to end up in the landfill and can go somewhere to be recycled. Styrofoam can be dropped off at Austin Recycle and Reuse Center. Soft plastic bags can be taken to grocery stores that offer plastic bag recycling services. Chip bags must go into the trash when discarding.
 - Compost – “Break. Break. Break it down. Break-Break-Break it down!” (get lower to the ground). Have youth repeat, “If it grows, it goes!”. (Meat, dairy, and greasy foods can be composted in a commercial compost cart)
 - Landfill – “Landfill. Landfill.” (solemn voice while rocking side to side)

What goes where?
Best Choices for recycling and composting.

Item	Where does it go?	More Info
Paper / Cardboard	Recycling or Compost	Paper can be recycled if it is clean. Composting is the only option when paper or cardboard has food waste on it.
Plastic bag	Special Item	Plastic Bags can be recycled if taken to a store where this type of plastic is collected. Check your local grocery store for a bin near the entrance. You can also drop off at Austin Recycle & Reuse Center.
Plastic containers/cups/bottles	Recycling	If they are clean and a hard plastic, they can be put into the single stream recycling bins.
Aluminum Can	Recycling	Remember to rinse your soda cans before recycling.
Styrofoam	Austin Recycle & Reuse Center or Trash Can	Even though Styrofoam often has a recycling symbol on it, Styrofoam cannot be recycled in a single stream bin. The only place this can be recycled in Austin is at Austin Recycle & Reuse Center.
Chip Bags	Trash can	Chip bags and candy wrappers cannot be recycled.
Fruit and veggies	Compost	Fruits and veggies are an important part of the composting process
Meat	Compost	Meat can be composted in the green composting cart because it goes to a commercial composting facility. Please note meat cannot be composted in a backyard compost system
Greasy foods	Compost	Greasy foods can be composted in the green composting cart because it goes to a commercial composting facility. However, you cannot put cooking oil/grease in green cart. Grease takes a very long time to decompose and is not a great ingredient in your backyard compost.
Foods with Dairy	Compost	Dairy products can be composted in the green composting cart because it goes to a commercial composting facility. Dairy should not be put in backyard compost piles.
Battery	Special Item	You can recycle batteries at your local electronics Store or Austin Recycle & Reuse Drop-off Center.

Materials:

- 2 Single Stream Recycling buckets
- 2 Landfill Waste buckets
- 2 Compost buckets
- (4th - 5th extension) 2 special recycling buckets
- 2 bags of sample “waste”

Suggestions on what to put in sample bags:

- 2 fruits
- 1 veggie
- 1 empty Chip bag
- 1 aluminum can
- 1 snack or candy wrapper
- 1 soft plastic bag
- 1 piece of Styrofoam
- 1 small plastic container
- 1 piece of cardboard
- 1 sheet of newspaper
- 2 water bottles
- 1 tin can
- 1 glass jar

*the main things to put in the bags are paper, plastic (hard & soft), metal, glass, food (use fake food to represent), food wrapper, and Styrofoam

TEKS Core Concepts (K-3rd)

Science, Kindergarten, Adopted 2021- 1A, 6

Source Note: The provisions of this §112.2 adopted to be effective April 26, 2022, 47 TexReg 2136

Science, Grade 1, Adopted 2021— 5A,B,D

Source Note: The provisions of this §112.3 adopted to be effective April 26, 2022, 47 TexReg 2136

Science, Grade 2, Adopted 2021— 11B

Source Note: The provisions of this §112.4 adopted to be effective April 26, 2022, 47 TexReg 2136

Science, Grade 3, Adopted 2021— 11A-C

Source Note: The provisions of this §112.5 adopted to be effective April 26, 2022, 47 TexReg 2136