

Trash or Treasure?

Lesson Description

Design and build planters out of plastic water bottles as a way to combat plastic pollution and **waste**. They will use resources at home that would otherwise be considered trash to repurpose a plastic bottle.

Lesson Objective

Explore waste management. Discover how the use of plastics contributes to our landfills and impacts our environment. Then, they will learn to reduce, reuse, or recycle waste instead of just adding to the trash.

Materials

- [Trash Art: How-To](#) slides
- plastic bottle
- tape
- soil
- seeds or beans to grow
- twine or string
- water
- scissors (ask an adult to help)
- hole puncher (optional)

Vocabulary

- landfill
- microplastic
- recycle
- reuse
- single-use
- waste

Introduce

Did you know that 50 billion plastic water bottles are purchased every year in the United States? That is a billion with a B; that is a lot of plastic! However, water bottles are not the only things made of plastic. Take a look around the room and count how many items you can find made of plastic! How many of the items are **single-use**? Sadly, we throw away about half of the plastic items we use after only one use.

Many plastic water bottles are disposed of in trash cans or are littered and eventually end up in **landfills** or oceans. Plastic is made from **fossil fuels**; [learn more about the process by watching this video](#). It can take hundreds of years to break down plastic items. When plastic ends up in the oceans, animals may think it is food and eat it, or it can break down into **microplastics**. Did you know that out of all the plastic bottles produced, only about 20% are **recycled**? That is one out of every five water bottles.



So how can you help make a difference? Replace **single-use** items with **reusable** items - like a reusable water bottle or bag! Remember to reduce and recycle when possible. Also, reuse or repurpose items instead of throwing them away! Think of a way to reuse water bottles instead of throwing them away. In this lesson, we will repurpose a plastic water bottle into a beautiful planter.

Investigate

Your Challenge: Repurpose a plastic water bottle and turn it into a new home for a plant!

1. Collect the materials listed above.
2. Grab the plastic water bottle. Use a marker to draw where you would like to have your bottle cut. Have an adult help you cut the bottle (see images to the right).
 - a. Option 1: Cut the bottle at about $\frac{3}{4}$ from the bottom. A bucket-shaped container.
 - b. Option 2: Cut a hole along one side of the container. A boat-shaped container.
 - c. Option 3: Be creative and think of a new way to cut the bottle!
3. Use tape to cover any sharp edges.
4. Decorate the outside of the water bottle planters.
5. If you want to hang your planter, use the hole puncher to punch a hole on the sides for the string. Ask an adult to help you.
6. This part is for ADULTS ONLY! Poke drainage holes at the bottom of the planter to prevent plants from rotting.
7. Fill planters with soil and plant seeds!
8. Water when the soil is dry, and watch your plants grow!



Try making a vertical planter garden! String multiple bottles together to create a living wall. Do not forget to give each plant some space to grow!



Wrap-up

Challenge questions

1. What other items would you normally “trash”? Can you think of ways you could repurpose them?
2. How does repurposing items help the environment?
3. What other ways can you think of to reduce the amount of trash in your house?

Watch and read it!

With an adult or an adult's permission,

- [Recycle Symbol by Kids Academy](#) - Animated video explaining the recycling symbol, what it means, and how to practice these habits with a variety of materials.
- [29 Ideas, Big and Small, to Bring Recycling Into the Classroom](#) - An article to help educators with inspirational ideas and projects, to involve recycling in their classroom.
- [Recycling for Kids with Waste Management's Mr. Cool Can](#) - Student-friendly, animated video explaining waste management and the recycling process.
- [Recycled Materials For Kid Art & Play](#) - A video depicting a creative idea for a children's art project, made using recycled materials.
- Follow us on social media:
 - Pinterest: [@energyiseverything](#)
 - Instagram: [@energy_is_everything](#)
 - Facebook: [@EnergyiEverything](#)
 - YouTube: [Energy is Everything](#)

Glossary

Word	Part of Speech	Definition
landfill	noun	A method of solid waste disposal in which trash is buried between layers of soil.
microplastic	noun	Fragments of any type of plastic less than 5 mm in length.
recycle	verb	To divert useful materials from a landfill and reprocess them to become useful again.
reduce	verb	To bring down to a smaller extent, size, amount, number, etc.
reuse	verb	To use again, especially after saving from being thrown away.
single-use	adjective	Designed to be used one time and then thrown away or recycled
waste	noun	Anything unused; garbage or trash.

Works Cited

DTE Staff. (2015, April 2). *San Francisco bans sale of plastic water bottles*. Down to Earth.

Retrieved April 28, 2021, from

<https://www.downtoearth.org.in/news/urbanisation/san-francisco-bans-sale-of-plastic-water-bottles-49268>.

Lindwall, C. (2020, January 9). *Single-use Plastics 101*. NRDC. Retrieved April 28, 2021, from <https://www.nrdc.org/stories/single-use-plastics-101>.