

'Where Does Your Trash Go' BINGO

Lesson Plan

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Disclaimer:

“Where Does Your Trash Go” BINGO is an extension of an activity originally adapted from Monroe County’s education page. This game can be played in conjunction with the ‘Where Does The Trash Go’ activity.

Key Terms:

Anaerobic Digestion, Composting, Landfills, Incineration, Recycling, Waste, Pollution, Environment, Resource Recovery, Education

General Overview:

An interactive environmental science game that focuses on:

- Why is waste disposal important?
- What are the waste disposal options?
- What are the best options to dispose of waste?

This game is for students in *grade four and up*, although similar to the “Where does the Trash Go” activity it can be adapted for older groups (even adults). The activity should take approximately *45 minutes* but can be played for longer. Students start with an exploration (discussion) of where their trash goes after they throw it away. This leads to a discussion of the 5 different options for waste disposal, and the idea that not all items should be handled the same way. This leads into an interactive game of Bingo or, for younger students, a coloring activity.

Background:

When it comes to garbage, we tend to treat it as out of sight, out of mind. We set out our trash, someone comes and gets it, and it magically disappears! Unfortunately, it doesn't really go away. It becomes part of the waste stream and travels to its final resting place. There are five basic options for waste: composting, recycling, incineration, anaerobic digestion and landfilling. (1) Composting is aerobic decomposition of organic material such as grass trimmings, leaves and food waste into a nutrient-rich material that can be used on gardens as fertilizer or soil enhancer. (2) Recycling is the remanufacture of a material after it's been used. (3) Modern incinerators burn garbage and nearly all of the plants generate electricity from the heat. An incinerator burns trash such as paper, plastics and broken furniture, turning them into electricity instead of sending them to a landfill. (4) Anaerobic digestion is a process in which bacteria break down or "digest" organic material in the absence of oxygen to produce "biogas" as a byproduct of their metabolism. (5) Modern landfills are well-engineered and managed facilities for the disposal of solid waste. In this activity, students will learn about the different types of waste disposal and what the best options are for disposing of various waste items.

More information about each of these 5 waste disposal options can be found in the “Where does the Trash Go” activity.

Learning Objectives:

- Identify the five major types of trash disposal along with the advantages and disadvantages of each
- Understand the environmental impact of each of the options, specifically the impact of the by-products on the environment
- Spark conservation and ideas about how to better reduce the amount of waste we throw away, and properly handle what we do discard

Materials Needed:

- BINGO boards (pre-made) – see files in lesson plan folder
- BINGO chips (can be anything - jigsaw puzzle pieces work well)
- “Bingo Words” Google Sheet with list of different types of trash items associated with one of the letters of BINGO (in folder)
- Prizes for the winners of each round
- Flat desks or tables to play BINGO
- Trash Coloring Sheet (for younger students)

Time Needed:

45 minutes

NOTE:

This activity can be done remotely, using a computer conferencing program such as Zoom or Google Hangouts. Players can receive their Bingo board as a .pdf file or Word document and then insert shapes to use as their BINGO chips. This may be challenging for students depending on computer skills and experience using such software programs; however, it is another way this game can be successfully played.

Instructions:

1. Start by asking students what happens to their trash after they throw it ‘away’. Discuss their preconceptions, and if possible, explain to them what does happen to trash in your local area.
2. Explain the five different types of waste disposal. This can be done with a modified version of the ‘Where does your Trash Go’ activity.
3. Distribute the BINGO boards and chips to students.
4. Call out a trash item and its associated letter of BINGO (using the random generator in Google Sheets). Note – for added engagement, have an example of each item to show as you call it out.
5. Give students a minute or two to decide where the trash item should be disposed.
6. Ask the students what the **best** choice is for disposing of the trash item. Also, discuss what other disposal options are available for this item even though they are not the best options.

7. Keep calling out trash items until someone achieves BINGO.

Ways to win BINGO:

- Four corners
- Across the board horizontally
- Down the board vertically
- Diagonally across the board

8. Check the BINGO board with the answer sheet and award them a prize for winning the round.

9. Repeat for a few rounds.

10. Take 10 minutes at the end of the game discuss:

- What are the best options to dispose of each item?
- Why is it so important that we pay attention to where our trash goes?

Clean-up:

Collect the boards and BINGO chips and store somewhere where they can be reused

Alternate Activity for younger students (6th grade and younger): Coloring activity that covers the same lesson but isn't as tasking or as hard as BINGO. Students color the trash items according to the color key provided on the sheet.

References:

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<https://www.ercofusa.com/blog/staggering-food-waste-statistics/>

<https://greencoast.org/facts-about-landfills/>

<https://www.usi.edu/recycle/solid-waste-landfill-facts/>