

Waste Detectives

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2nd - 5th grade

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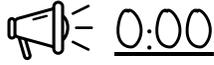
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Waste Detectives **Teacher Lesson Plan**

Grades 2 - 5
Time: 1 -1.5 hours



Overview



Listen to instructions for this lesson here

In America, more than half of all of our waste gets sent to landfills (EPA, 2020). Yet, a significant portion of the waste sent to landfills should be composted or recycled instead. We can improve our use of natural resources by ensuring that recyclable items are remade, and compostable items can properly decay.

In this lesson, students will conduct a waste audit to tally what materials they commonly throw away. After some reflection, students will conduct an additional waste audit to see what impact their new behavioral changes have on their waste output. This lesson intends to increase awareness and change waste habits through a waste composition study, data review, and analysis.

Purpose & Learning Objectives

This activity allows students to reflect on their own behaviors and think about how they affect the environment. Students are encouraged to share what they have learned with their caretakers or other decision-makers in their community.

Materials

Students will need internet access for this activity. They will also need a pencil and paper. Adult facilitation is required for younger students.

Driving Question

What kinds of waste do we make? How can studying our waste help us to reduce it?

Tell Us What You Think

We'd love to hear from you! After completing this lesson with your student(s), please fill out this short survey to provide feedback that will help us improve our future lessons: surveymonkey.com/r/WasteLessonSurvey. Thank you!

Waste Detectives

Student Worksheet



 Listen to instructions for this lesson here

Introduction 1:26

In America, more than half of all of our waste gets sent to landfills (EPA, 2020). Yet, a significant portion of the waste sent to landfills should be composted or recycled instead. We can help by making sure that our waste gets sorted into the right place. By sorting your waste correctly you are preventing valuable resources from being wasted.

In this lesson, you will conduct a waste audit to tally what materials you commonly throw away. After the first audit, you will reflect on changes you and your family could make to prevent waste from ending up in the landfill. When you've tested out the new ways your family is trying to reduce waste, conduct another waste audit to see what impact your new changes had on your waste.

Key Terms 2:36

COMPOST: A nutrient-rich fertilizer made from our food and yard scraps. Anything we put in our green compost bin becomes fertilizer

LANDFILL: An area of land meant to handle the disposal of solid waste. The landfill is the final destination for anything we put in our garbage bin

REDUCE: To make less waste by using fewer items and resources

REUSE: To extend the life of an item by using it over and over again or thinking of new ways to use it

RECYCLE: To make new products from used materials. This is what happens to items put in our blue bin



Waste Detectives

Student Worksheet

Instructions 3:41



Step 1: For this activity, we will be taking a detailed look at the waste we create for 2 days! This is called a waste audit. From when you wake up to when you go to bed, make a list of the types of items you are using throughout the day (ex: hard plastic container). Keep a tally of these items in the provided table.

To see an example waste audit and a refresher on how to sort your waste correctly into each bin, watch [this video](#).

Step 2: Answer the Data Review and Discussion questions.

Step 3: Next, do your best to reduce your waste over the next week. Try to use less paper, reuse containers, and save your leftovers for later! See the provided "Tips and Tricks" sheet for more ways to reduce.



Step 4: Conduct another waste audit. Think about what changed and what stayed the same.

Optional: If you do not have a compost pail in your kitchen, ask your parent or an adult in your household to help request a free compost pail by contacting Recology [here](#).

If you live in an apartment, ask your parent or an adult to talk to the property manager of your apartment complex about getting compost services for everyone in your building!

Remember: When we put items in the black bin, they go straight to the landfill and are buried in the ground forever. This means that if we put compostable or recyclable items into the landfill bin, they can never turn into nutrient-rich fertilizer or new items.



Waste Detectives

Student Worksheet

Waste Audit #1

 6:20

Date:

Material type	Tally
Hard Plastic  Water bottles, applesauce and yogurt containers, peanut butter jars, etc.	
Soft Plastic  Chip and candy wrappers, zip-top bags, plastic lids to snack containers, etc.	
Metals  Cans for tuna, soup, beans, soda cans, aluminum foil, etc.	
Paper/Cardboard  Boxes for cereal or snack bars, junk mail, magazines, newspaper, etc.	
Glass  Soda bottles, jars for pasta, jam, pickles, etc.	
Other  Plastic straws, plastic utensils, juice boxes, tissues, diapers, pet waste, etc.	
Food Scraps  Egg shells, fruit peels, chicken bones, any uneaten food items	

Notes and Observations:



Waste Detectives

Student Worksheet

Waste Audit #2

 8:09

Date:

Material type	Tally
Hard Plastic  Water bottles, applesauce and yogurt containers, peanut butter jars, etc.	
Soft Plastic  Chip and candy wrappers, zip-top bags, plastic lids to snack containers, etc.	
Metals  Cans for tuna, soup, beans, soda cans, aluminum foil, etc.	
Paper/Cardboard  Boxes for cereal or snack bars, junk mail, magazines, newspaper, etc.	
Glass  Soda bottles, jars for pasta, jam, pickles, etc.	
Other  Plastic straws, plastic utensils, juice boxes, tissues, diapers, pet waste, etc.	
Food Scraps  Egg shells, fruit peels, chicken bones, any uneaten food items	

Notes and Observations:



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Student Worksheet, 2 - 5



Data Review 9:07

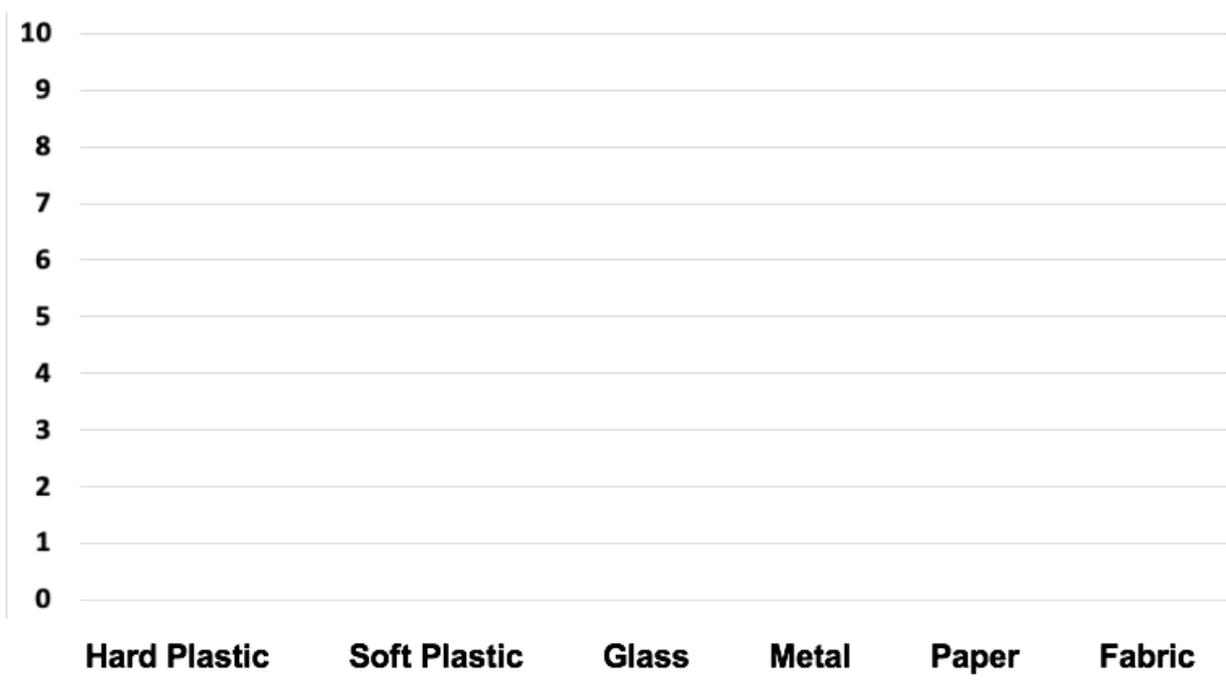
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1. What material type did you generate the most of?

2. What fraction of your waste was soft plastic?

3. What fraction of your waste was hard plastic, metals, paper/cardboard, glass, AND food scraps? When sorted into the correct bins, these items will not end up in a landfill!

4. Choose 10 Items and graph them by material type below. What do you notice?

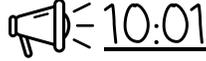


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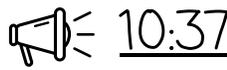
Student Worksheet

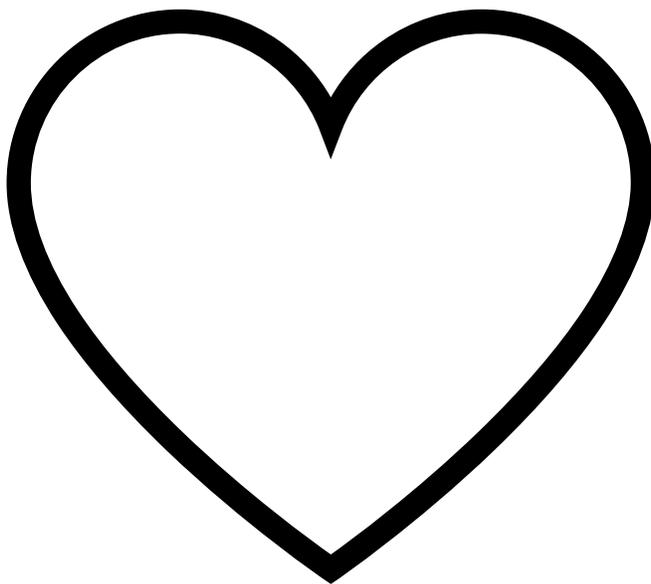


Reflection Questions



1. How is the waste you create at home different from the waste you create at school? Why is it different (or the same)?
2. Think about your answer to Question 1 of the Data Review. How could you reduce the amount of waste you create in this category? What about the other categories?

3. Color Your Feelings! 
Take out your crayons, colored pencils, and markers and get ready to express yourself! First, think about what feelings you had while doing this lesson. Go ahead and write down all of the different feelings (mad, sad, happy, angry, worried, etc.) on the lines. Pick a color for each of the feelings that you wrote down. Fill in the box next to the line with each of the different colors. Color in the heart to show how this lesson made you feel. After you're done drawing, show your drawing to someone and tell them about it.



Color & Feelings:

<input type="checkbox"/>	_____



Waste Detectives

Student Worksheet

 11:38

Practicing the 4R's at Home

Reducing your waste can seem hard, especially when it feels like everything is wrapped in packaging! Here are a few tips for practicing the 4R's (Reduce, Reuse, Recycle, Rot) at home.

Bulk Buy: Small snack bags are perfect to pack in our lunches, but they create a lot of waste that gets sent to the landfill. Instead, buy a bigger container of your favorite snack and pack them in reusable containers. This is also a great way to reduce the number of trips you take to the grocery store.

Reuse Reuse Reuse: Store leftovers in containers instead of plastic bags. If you prefer plastic bags or it's what you have on hand, give them a quick rinse so you can use them more than once.

Instead of putting plastic food containers from restaurants and markets in the recycling or trash, clean them out and use them to store food or other small household items.

Dismiss Disposables: When ordering food to-go or delivery, ask the staff not to include disposable utensils if you will be eating at home.

Instead of using paper towels, try using more cloth napkins or small hand towels that can be washed when necessary.

Beeswax wrap is an easy, sustainable alternative to one-use plastic wrap. You can even make your own!

Successful Storage Systems: Try to eat food that will spoil first - move them to the front of the fridge or create a special, designated area for them and tell the people you are living with!

Bad Banana Becomes Bread: Be creative with produce that is past its prime. Soft fruits can go into smoothies and wilted vegetables can be added to soup or stew.

Clean Clutter but Curb Waste: If you plan to start spring cleaning early, save items that you don't want but are in good condition for donation.

