

Waste-Free Lunch

Did You
Pack a
Waste-Free
Lunch?



U.S. Environmental Protection Agency





Hello, environmental explorers! I'm Mia, your guide on this exciting adventure through the world of recycling, composting, and reusing. Let's learn, explore, and make a difference!

Thinking Outside the Bin: Explore Recycling, Composting, and Reuse

RECYCLING



DEFINITION:

A way of collecting and processing materials that would otherwise be thrown away as trash and turning them into new products. Remember not all products or packaging may be collected in your community for recycling, so be sure to check with your local recycling program for acceptable materials.

EXAMPLES OF ITEMS THAT CAN BE RECYCLED:

Aluminum cans, Cereal boxes, Egg Cartons, Paper/Cardboard, Plastic bottles

REUSABLE



DEFINITION:

Products that can be used again or more than once.

EXAMPLES OF REUSABLES:

Durable lunch containers, shopping bags, and refillable water bottles

COMPOSTING



DEFINITION:

The managed decomposition of organic materials by microorganisms. Microorganisms are organisms that can be seen only through a microscope, such as bacteria.

EXAMPLES OF ITEMS THAT CAN BE COMPOSTED:

Inedible food scraps

MUNICIPAL SOLID WASTE OR WASTE



DEFINITION:

Commonly known as garbage or trash, comprises various items frequently thrown away.

EXAMPLES:

Wrappers or packaging, broken ceramics or other household items, lightbulbs, foam

How Can We Reduce Waste?



GARDEN

Learn to compost at home. Use food scraps, yard trimmings, and other organic wastes to create a compost pile. Adding the compost you make to soil provides nutrients to plants, increases water retention, decreases erosion, and keeps organic materials out of landfills.



HOME

Clean and properly store toys and gear to protect them from damage and keep them out of landfills.



SCHOOL SUPPLIES

- Think green before you shop. Before starting the new school year, look through last year's materials. Many items can be reused or recycled.
- Purchase and use school supplies made from recycled materials.
- Save packaging, colored paper, egg cartons and other items for arts and crafts projects.



IN THE CAFETERIA

- If you bring your lunch to school, package it in reusable containers instead of disposable ones. Carry food in a reusable lunch box or cloth bag, and bring drinks in a thermos or durable container instead of single-use bottles or cartons.
- When buying lunch, grab only what you need – avoiding extra ketchup packets, cutlery, and napkins going to waste.
- If available, remember to recycle your cans and bottles after you finish eating.
- Work with your teachers to set up a food scrap to compost collection program at school.
- Make posters that remind students what can be composted or recycled.



TRIPS & VACATIONS

- When visiting beaches and parks, be sure to take back everything you bring in, so that you can leave places undisturbed and without any litter.
- Be sure to recycle your used drink containers.
- Refill water bottles.
- Share the ride and the road. Public transportation and carpooling reduce air pollution.

ADDITIONAL INFORMATION

- i. [epa.gov/sustainable-management-food/educating-youth-about-wasted-food](https://www.epa.gov/sustainable-management-food/educating-youth-about-wasted-food)
- ii. [usda.gov/sites/default/files/documents/usda-food-waste-infographic.pdf](https://www.usda.gov/sites/default/files/documents/usda-food-waste-infographic.pdf)
- iii. [epa.gov/recycle/reducing-waste-what-you-can-do](https://www.epa.gov/recycle/reducing-waste-what-you-can-do)
- iv. [epa.gov/recycle/reducing-and-reusing-basics](https://www.epa.gov/recycle/reducing-and-reusing-basics)
- v. [epa.gov/recycle/recycling-basics-and-benefits](https://www.epa.gov/recycle/recycling-basics-and-benefits)
- vi. [epa.gov/feeditforward](https://www.epa.gov/feeditforward)



Name:

How Much Waste Do I Have?

Time to investigate and collect data on items in your lunch that are non-waste (reusables, recyclables and compostables) and waste. Use the data table below to track and sort the items in your lunch.

	REUSABLES	RECYCLABLES	COMPOSTABLES	WASTE
EXAMPLE	2 plastic containers	1 soda can	2 banana peels	1 foam container
TOTAL NUMBER OF ITEMS				

REFLECTION QUESTIONS

-
1. From the information collected, what category did you have the most items in?

 2. How can you reduce the number of waste items in future lunches?

How Much Waste Do I Have?

In this activity, you will analyze and interpret the waste data you collected.



Create a picture graph that shows your lunch item data from Day 1 & Day 2 sorted into reusable, recyclable, compostable, and waste.

MY LUNCH ITEMS

ITEM TYPE	NUMBER OF ITEMS
Recyclable	
Reusable	
Compostable	
Waste	

A picture graph (pictograph) uses pictures or symbols to show and compare data. In this graph, each “star” symbol represents one item.

Each ★ = 1 item

From your organized data, what are things you notice and things you wonder?

NOTICE & WONDER



I NOTICE Write 1 thing I notice	I WONDER Write 1 thing I wonder



REFLECTION QUESTION

1. Share what you have found with your classmate(s). Then create three ideas on how to reduce waste: one for yourself, one for your classmate, and one your school.

- Idea for me:

- Idea for my classmate(s):

- Idea for my school:

How Can We Reduce Waste?



Shelly packs lunch every day and is trying to figure out how to sort the waste from her lunch. Can you help them decide what they could recycle, reuse, or compost and what is waste?

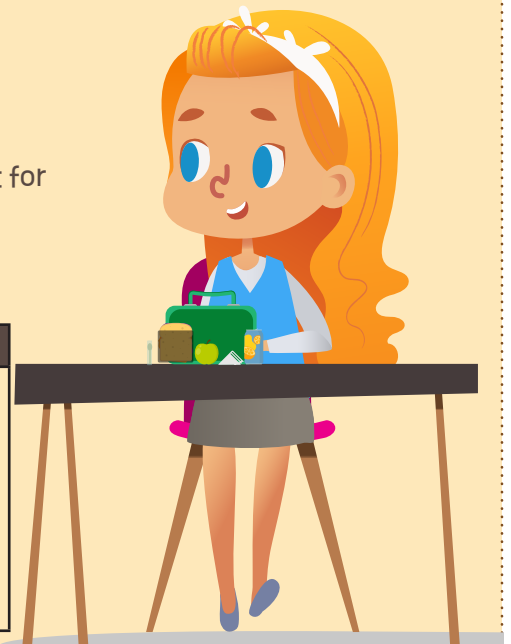
Today she packed:

1. A peanut butter and jelly sandwich wrapped in aluminum foil
2. An apple
3. A plastic spoon
4. An aluminum can of juice
5. A cloth napkin
6. A carton of yogurt
7. A bag of chips

Shelly finished all of her juice and all of her food items, except for two bites of her apple.

What should Shelly recycle, reuse, compost or throw away as waste?

REUSABLES	RECYCLABLES	COMPOSTABLES	WASTE





Benny has been thinking about the waste that is left after lunch. “If I collect data, I can see where the waste comes from,” Benny says. So, Benny brings a small notebook to the cafeteria and carefully writes down everything they usually pick up for lunch. Benny wants to use the information to make a picture graph of his lunch items.

BENNY’S LUNCH DATA FOR TODAY:

Plastic water bottle: 1 Apple slices: 4 Plastic fork: 1
 French fries: 10 Chicken nuggets: 6 Paper lunch tray: 1
 Ketchup packets: 3 Paper napkins: 8

ITEM	NUMBER OF ITEMS
Plastic Water Bottle	★
French fries	
Apple slices	
Chicken nuggets	
Ketchup packets	
Paper napkins	
Plastic fork	
Paper lunch tray	

Each ★ = 1 item

Picture graphs help us organize data. When we have that data organized, it helps us solve problems.

- From the organized data, help out Benny by answering the following:
 - How many food items did Benny take? _____
 - How many non-food items did Benny take? _____
 - If Benny eats 3 apple slices, 4 chicken nuggets and 6 French fries, how many food waste items are left? _____
- On your picture graph, circle the items that are single-use items that will get thrown away as waste or recycled at the end of lunch. What reusable items could replace those single-use items?
- Based on Benny’s lunch data, what is one thing that they could do to reduce waste? Make a claim, give two pieces of evidence, and explain your reasoning for why this will help Benny reduce waste.

<p>C Claim <i>A statement that answers the question</i></p>	
<p>E Evidence <i>Data that supports your claim</i></p>	
<p>R Reasoning <i>How does the evidence support your claim?</i></p>	

HOW MUCH WASTE DO I HAVE?

In this activity, you will analyze the waste data you collected to determine the percentage of items that made up your lunch waste. Then you will create a pie chart that shows how your lunch was divided into the categories of reusable, recyclable, compostable and waste. Creating a pie chart will help us quickly compare and display our data.

Be sure to include:

- A clear title that tells what your graph is about.
- Labels for each slice (category and fraction/percent).
- A key/legend with colors.
- Neat, accurate slices that add up to the whole (100%).

Items	Day 1	Day 2	Item Total	Total Percentage <small>(Item Type Total/Total Number of Items) x 100=%</small>
<i>Example</i>	5	3	8	$8/19 = .42 \times 100 = 42\%$
	7	4	11	$11/19 = .58 \times 100 = 58\%$
<i>Total Number of Items</i>			19	
Reusable				
Recyclable				
Compostable				
Waste				
<i>Total Number of Items</i>				

ANALYZING PERSONAL WASTE

TITLE:

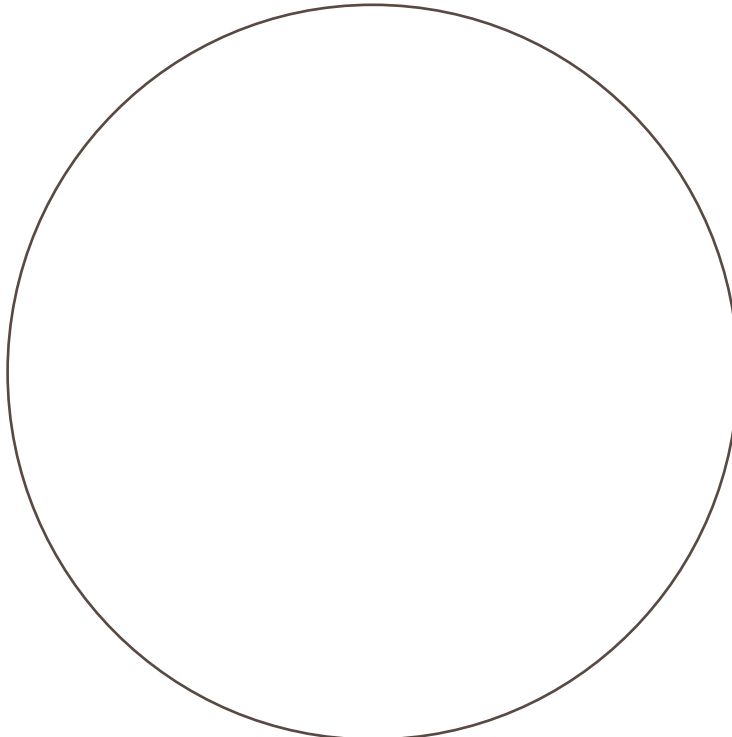


CHART LEGEND

-
-
-
-

HOW MUCH WASTE DOES OUR CLASS HAVE?

Collect and analyze your class's waste data to compare categories and findings across the class.

Items	Day 1	Day 2	Item Total	Total Percentage <small>(Item Type Total/Total Number of Items) x 100=%</small>
Reusable				
Recyclable				
Compostable				
Waste				
<i>Total Number of Items</i>				

TITLE:

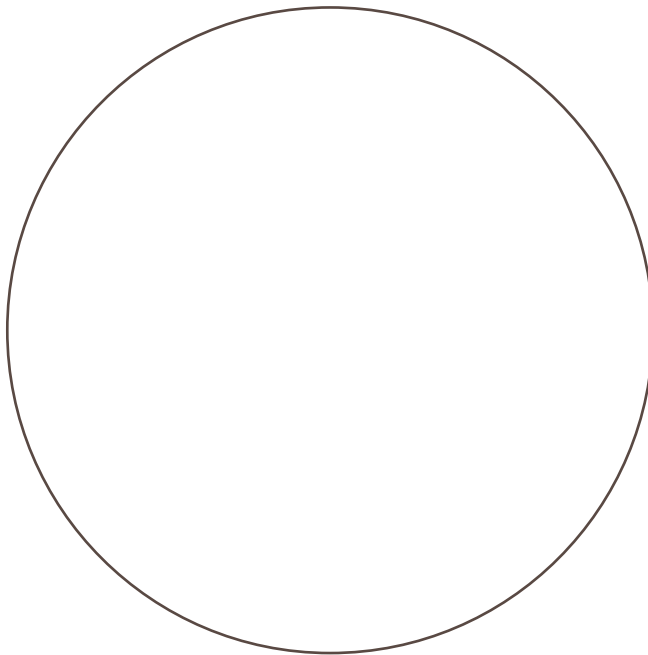


CHART LEGEND

REFLECTION QUESTIONS

1. What was the highest and lowest item?

- Individual: Highest _____ Lowest _____
- Class: Highest _____ Lowest _____

2. What trends can you identify between your individual data and the class data (similarities and differences)?

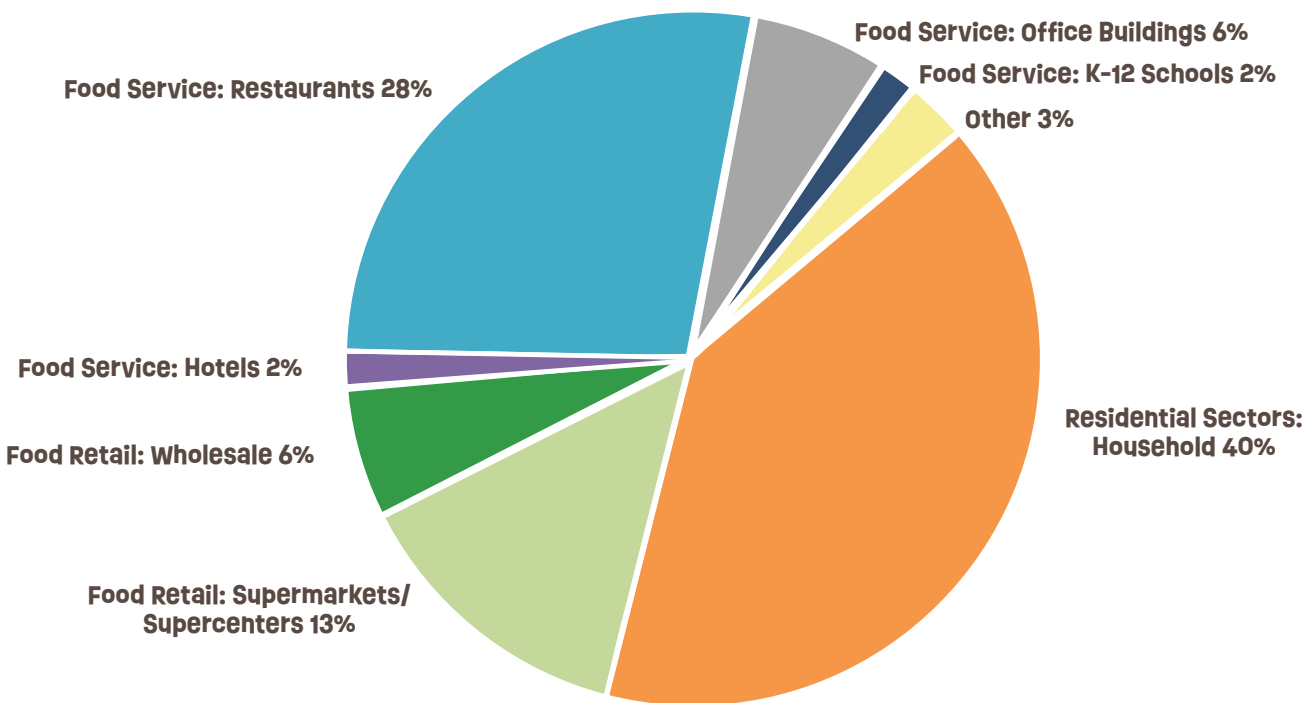
3. Based on these findings, what information would be helpful to share with your school and/or other students to inform priorities and actions around lunch waste?

ANALYZING FOOD WASTE IN THE UNITED STATES

Wasted food is a growing problem in our society—with food waste being generated by households, food service providers, food retailers, and food manufacturers and processors. Examples of wasted food include unsold food from retail stores; plate waste, uneaten prepared food, or kitchen trimmings from restaurants, cafeterias, and households; or by-products from food and beverage processing facilities. When food is wasted, it also wastes the resources – such as the land, water, energy and labor – that go into growing, storing, processing, distributing, and preparing that food.

EPA estimates that in 2019, 66.2 million tons of wasted food was generated in the food retail, food service, and residential sectors.

WASTED FOOD GENERATION (2019)



Source (EPA, 2019): epa.gov/system/files/documents/2024-04/2019-wasted-food-report_508_opt_ec_4.23correction.pdf

REFLECTION QUESTION

1. What do you notice and wonder about the data represented in the Percentage Distribution of Wasted Food Generation pie chart?

ANNUAL PER PERSON FOOD WASTE AMOUNTS AND COSTS*

The table below shows the annual consumer food waste per person by group, by pounds (lbs/year), and by dollars (\$/year). Create a bar graph using the information in the table below to analyze how different food groups are represented in food waste per person and cost of food waste per person.

Food Waste Group	Consumer Food Waste per person (lbs/year)	Cost of Consumer Food Waste per person (\$/year)
Meat	26	\$133
Fish & Seafood	5	\$61
Poultry	14	\$56
Fresh Vegetables	31	\$60
Fresh Fruit	23	\$45
Milk	27	\$26
Eggs	7	\$20
Other Dairy	18	\$74
Total		

* The information provided in this table has been rounded to the nearest whole number and adapted for an educational activity using the [Cost of Food Waste Report \(April 2025\)](#).

**Graph 1:
Consumer Food Waste Per Person**

CONSUMER FOOD WASTE PER PERSON (LBS/YEAR)	50							
	45							
	40							
	35							
	30							
	25							
	20							
	15							
	10							
	5							
	0							
		Meat	Fish & Seafood	Poultry	Fresh Vegetables	Fresh Fruit	Milk & Eggs	Other Dairy
		FOOD WASTE GROUP						

**Graph 2:
Cost of Consumer Food Waste Per Person**

COST OF CONSUMER FOOD WASTE PER PERSON (\$/YEAR)	140							
	130							
	120							
	110							
	100							
	90							
	80							
	70							
	60							
	50							
	40							
	30							
	20							
10								
0								
	Meat	Fish & Seafood	Poultry	Fresh Vegetables	Fresh Fruit	Milk & Eggs	Other Dairy	
	FOOD WASTE GROUP							

REFLECTION QUESTIONS

1. What food waste group had the highest waste per person (lbs/year), and which had the lowest (lbs/year)? Why do you think these food waste groups were the highest and lowest?
2. What is the food waste group with the highest cost (\$/year)? Why do you think there was a higher cost associated with this group of food waste compared to others?
3. As a consumer what are some ideas for how you, your family, and your community could reduce food waste?
4. How might your ideas impact you, your community, and your family's household budget, as well as the environment?
5. Research: Investigate your local community's food-waste data. How are the findings similar or different from the U.S. EPA's food waste data?
6. Research: Investigate current initiatives by community groups, businesses, or individuals aimed at reducing consumer food waste. Choose 1-2 initiatives and explain how they could impact food waste in your community and school?

PLANNING ENVIRONMENTAL STEWARDSHIP ACTIONS

Environmental Stewardship is a commitment, behavior, and action by individuals, organizations, or communities that improves environmental quality and conserves natural resources. What are environmental stewardship actions that individuals, schools, and communities can take to address environmental issues?

1. What is the environmental issue we are trying to address?

2. How does this environmental issue affect our school, community, and/or the environment?

ENVIRONMENTAL STEWARDSHIP What commitment, behavior, and/or action can be done to help address the environmental issue?	RESPONSIBILITY & RESOURCES What tools/supplies are needed and who will be involved?
CHALLENGES What challenges may need to be overcome? How could they be addressed/mitigated?	ENVIRONMENTAL STEWARDSHIP OUTCOMES What are environmental stewardship actions that individuals, schools, and communities can take to address environmental issues?

How can we take action to protect, sustain, and improve ecosystems?





[epa.gov](https://www.epa.gov)