



Delivering Food to the World



Think about all the food you eat in a day. Where did it come from? How far did it travel to reach you? Who helped to produce it and transport it to you? This process is called the **food supply chain**. It helps people living in cities around the world access food. However, challenges along the food supply chain mean that not everyone has access to the food they need.

The food supply chain can be interrupted by natural disasters, political conflicts, or problems with technology. At every step along the way, food is wasted—on the farm, in the factory, at the market, and then by us, the consumers. People are working to solve these problems in big and small ways. In Unit 4, you will explore **solutions**. How can we decrease our food waste? How can we make sure everyone has access to nutritious food?



Vocabulary

**DISPOSE OF (verb)**

To get rid of something.

Example: The family disposed of its food scraps in the compost pile.

**FOOD SUPPLY CHAIN (noun)**

The steps that it takes to get food from its source to consumers.

Example: The food supply chain involves many steps! Wheat is grown, crushed into flour, then baked into bread, and sold in stores.

**OBSTACLE (noun)**

An action, event, or object that makes it harder to achieve a goal.

Example: The large rock was an obstacle in the road and needed to be moved.

**SOLUTION (noun)**

A way in which a problem is solved.

Example: The students created a compost pile as a solution to food waste at their school.

**SUPPORT**

1. (noun) An action, event, or object that helps or assists.

Example: To make our city food secure, we need the support of local government, businesses, and the community.

2. (verb) To help or assist.

Example: The new market supports food security by selling fresh fruit and vegetables.

**SURVEY**

1. (noun) A list of questions created to learn about a certain issue.

Example: The students wrote a survey to find out which movie was the most popular.

2. (verb) To collect information by observing or asking questions.

Example: The students surveyed friends to find out which movie was the most popular.

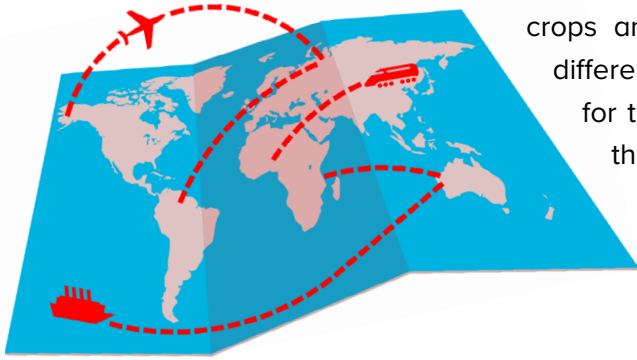
VOCABULARY CHALLENGE

Choose the vocabulary word above that best fits in each blank. You might have to change the ending of the word to make it fit.

People all over the world depend on the _____ to bring food from the farm to their tables. However, there are still many _____ to food access. People are working to create _____ to food insecurity. For example, they are working with markets to rescue food so that it is not _____ in the trash. Researchers are using _____ to ask people for more ideas. City governments are finding ways to _____ communities, like placing fresh food stands in neighborhoods with no access to healthy foods.



1 From Global to Local



The food we eat in cities is grown all around the world. Different crops and animals grow at different times of year and in different climates. The **food supply chain** makes it possible for these foods to be available in markets at all times of the year.



A Food Supply Chain

Below is an example food supply chain of strawberries. Strawberries, like many fruits and vegetables, need warm weather to grow. The food supply chain makes it possible for people to access these foods even when the weather is cold.

Strawberries are grown in January in Florida, California, Spain, and Chile.



The strawberries travel to processing plants.



The strawberries are packaged and stored in warehouses where they are kept cool.



Strawberries arrive at markets in places like New York, Detroit, and Warsaw, where the cold winter climate makes it impossible for strawberries to grow until the summer.



The strawberries are distributed by air, rail, or highway to markets.



CHALLENGE: Think about a food you ate recently. Predict what its food supply chain looks like. You can look for clues on the labels on fruits, vegetables, or packages.



Interview: Food Worker



Learn about the **food supply chain** by interviewing someone who works with food in your city. This person could be a manager at a market, a worker at a bakery or butcher shop, or even the cook at a restaurant or in your school cafeteria. Ask the questions below and write some of your own.

Remember to take pictures or record a video of your interview to post!



1. What foods are made or grown near our city?
2. Which foods do you have to order from far away? Why? Where do they come from?

3. Can you tell us about the food supply chain of one of these foods?

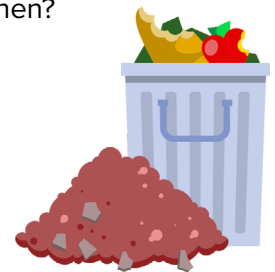
Where does it come from? What are the steps it goes through to reach us?



4. How do foods stay fresh as they travel to us?



5. How do you keep foods fresh in the store, restaurant, or kitchen?



6. What do you do with the food that spoils or is not used?

7. Have you thought about ways to keep food from being wasted? What are your ideas?



Learn More: Markets of the World

Markets are a big part of a city's culture and can be quite different from one city to another. Some markets are indoors, others are outdoors. At some markets, people bargain for a better price. At other markets, bargaining is considered rude. Some markets sell live animals, others sell meat that is already packaged and ready to cook. The characteristics of foods and markets are part of each city's unique culture.



A supermarket in South Africa



A bazaar in Turkey



A fish market in Spain

Thinking About Culture

As you read the posts about food from this week's global discussion, look for cultural differences between your city and your peers' cities. Use one of the sentence starters below to respond.

“ I noticed that our cities are different because... What do you think about...? ”

“ It's interesting that in your city... In my city... ”

“ In my city, we do that differently by... ”

“ Can you tell me more about... ”



What are some other respectful ways you could talk about differences in culture?



Global Discussion: My Food Supply



This week, you learned about your city's **food supply chain**. Share what you learned from your interview. If you post as a group, remember to write everyone's names at the bottom of your post.

Subject

Hi everyone,

My class interviewed _____ . We were surprised to learn that _____

I think a *(benefit/challenge)* to getting our food from far away is _____

because _____

If I could change my food supply chain, I would _____

because _____

Sincerely,

Upload a File

Post

Save Draft

Cancel

Remember to ask permission if sharing photos and videos of a person or place you visited.

Before You Post

Did you know there are over 200 students in your collaboration from many cities around the world? What can you teach them? What can you learn from them?

Make sure your post:

Answers all questions for the post.

Shares interesting information that you learned.

Asks a question or makes a connection to your own experience.

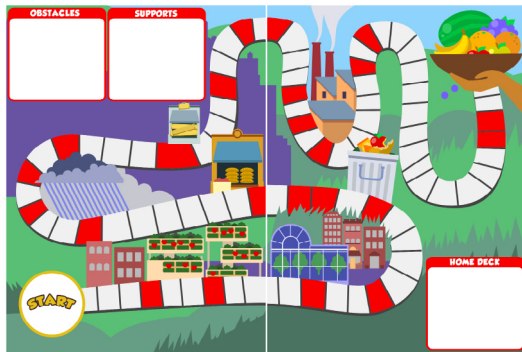
Includes photos to help others understand your ideas.





2 Obstacles to Food Security

You already know the **food supply chain** relies on complicated systems. Some events like opening new markets **support** food security, while other events like wars or drought can be **obstacles** to food access.



Discuss: Food Security Obstacle Course



Download and play the ***Food Security Obstacle Course*** game to learn more about the common obstacles and supports to food security. Discuss the experience with your class and make connections to your own city. Then, share your thoughts with international peers.

What obstacles to food security do you see in your city?



What supports to food security do you see in your city?



Do you think there is a strategy to winning this game, or is it luck, or both? Explain.



What changes would you like to see in your city to better support food security?





Read and Reply: My Food Supply



Read posts from last week's discussion. Reply to students from different cities. Share what you learned by reading their posts and explain what you learned from playing the ***Food Security Obstacle Course*** game.

Reply:

[Add subject line](#)

[Add attachment](#)

[Use rich text editor](#)

Hi

Nice post! Your food supply chain is *(similar to/different from)* from mine because

Could you tell me more about

I think winning the Food Security Obstacle Course game requires *(strategy/luck/strategy and luck)* because

Do you agree?

Sincerely,

[Submit Reply](#)

[Save Draft](#)

Writing Descriptive Captions

Captions are written under a photo to share more details about what is happening. This helps people understand what they see.

- A caption should:**
- ✓ Name who took the photo
 - ✓ Describe what the photo shows



Look throughout the workbook for captions under the photos. Remember, if you use a photo in your post or projects, write a caption for it!



3 Food Waste Solutions

About one third of all food that's produced for people to eat is wasted each year.* That's around 1.3 billion tons of food!* On farms, crops that don't look perfect are left in the field. Some food spoils on the way to the market. Markets throw away unsold food. At home, people throw away spoiled or uneaten food. When we throw away food, we also waste the energy, fuel, water, and time that went into producing it.

* Source: "Food loss and waste facts." *Food and Agriculture Organization (FAO) of the United Nations*, 22 July 2015.

Analyze: Food Waste Solutions



Watch the presentations on the **Food Waste Solutions** e-classroom page. Can you figure out which step of the food system wheel the **solution** is for?

Which solution would work best in your city?



Video/Presentation Name:

How do they solve food waste?

Is this a good solution? Why?

How could this work in your city?

Video/Presentation Name:

How do they solve food waste?

Is this a good solution? Why?

How could this work in your city?

What's Your Opinion?

1. Which solution would be **most useful** for your city?
2. Use evidence from the presentations to explain why you think this solution is best for your city.
3. Explain why the other solutions are **not** as useful for your city. How do you know?
4. Share your opinion with other groups and see if they agree or disagree. Ask them why!

Did everyone have the same opinion? Did anyone change their mind? Did you?



Global Discussion: Food Waste Solutions



This week, you learned how people are solving the problem of food waste in different parts of the food system. Share what you discovered and which solution would be most useful in your city. Remember, you can post in groups or even as a class!

Subject

Hi everyone,

An interesting thing we learned about food waste this week is

We think this is interesting because

The most useful food waste solution for my city is

because

Would this solution be useful in your city too?

Sincerely,

Upload a File

Post

Save Draft

Cancel

Citing Your Sources

When sharing research, it is important to give credit to, or cite, your source for the information.

- In your posts:**
- ✓ Name the website or other source (like a person or a book) where you found the information.
 - ✓ Include the author and date if you can find them. See Page 69 for an example!
 - ✓ Use your own words to present and explain the information.
 - ✓ For this post, cite the food waste presentation!





4 Digital Project: Food Waste Infographic



Food waste is all around us, even at school. What can we do about it? The first step is to investigate. For your Unit 4 Digital Project, you will survey people at your school about food waste. To share your discoveries, you will create an infographic with photos, charts, and your reflections.

For your Unit 4 project:

- ✓ Take photos of your school meal.
- ✓ Take photos of food waste problems and/or solutions.
- ✓ Survey people at your school about food waste using the Food Waste Survey on Page 73.
- ✓ Reflect on food waste problems and solutions at your school.
- ✓ Create an infographic to share the information you collected, your reflections, and solutions.

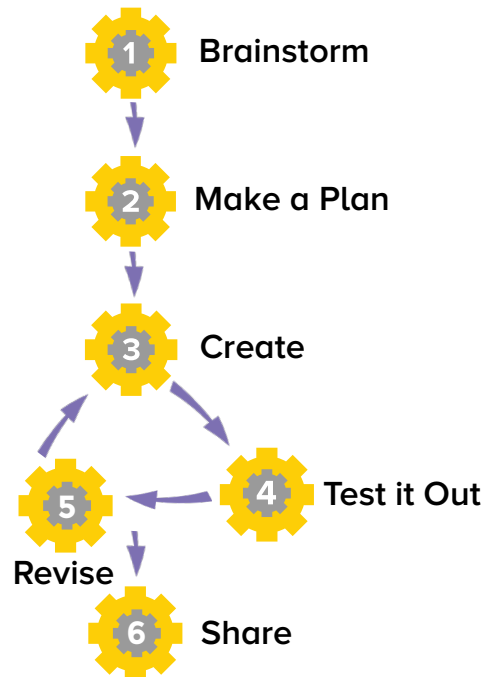


An **infographic** is a visual way to share information.

Infographics fit on one page and have photos, graphs, and charts.

Check out the example infographic below and on Page 77.

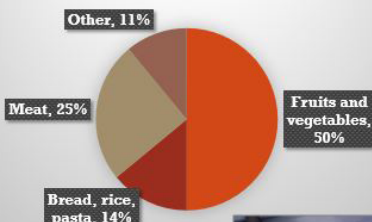
Design Map



FOOD WASTE AT OUR SCHOOL

During lunch time in the school cafeteria, we surveyed 28 students about food waste. **The majority of students (71%) think that food waste is a problem** at our school. Here are our results:

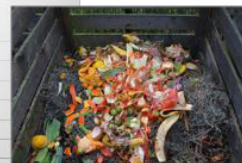
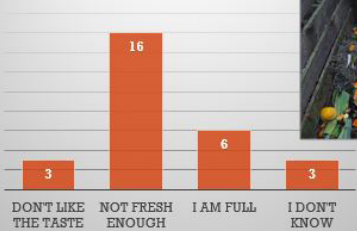
What types of food do you throw away?



Most students (16/28) threw out food because it wasn't fresh. What do you think based on this picture?



Why do you throw these foods away?



We made a sorting system for students and took the food waste to a garden for composting. This is our contribution!

Final Reflection: 50% of students throw out fruits and vegetables and most students (16/28) said they threw out food that wasn't fresh. We will start a school garden so we can have fresher fruit and vegetable choices.



Learn More: Surveys

What Is a Survey?

A **survey** is a list of questions. You can give a survey to find out what people do, think, or feel about an issue.



How Does a Survey Work?

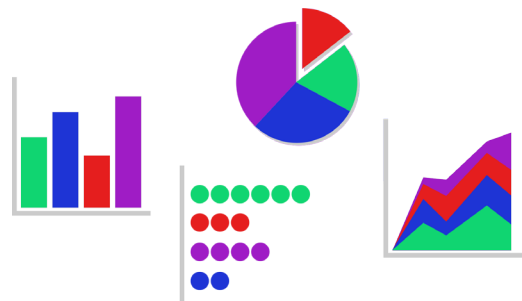
First, decide what questions you will ask and to how many people. The more people you ask, the better your information will be.

When you finish giving the survey, read the answers and draw conclusions by asking yourself: What did you learn? What surprised you? What do you think it means?

What Can You Do with Survey Data?

Data means the information you collect in a survey. Survey data helps people understand an issue better, identify problems, and create solutions.

Create charts and graphs to help people understand the data from your survey just by looking at it!



NOTE: Always ask people if they want to participate in your survey. If they say no, that's okay. Ask politely and you'll find plenty of people who are excited to participate!



Food Waste Survey



Use this worksheet to collect survey answers. Each person you survey needs to answer every question. Remember to ask people first if they want to participate in your survey.

Read this script before you give the survey to each person:

"Hello, my name is _____. I am doing a survey to learn more about food waste. Will you help me by answering a few questions? Thank you."

Total number of people you surveyed: _____

1. Do you think food waste is a problem at our school?

	YES	NO
Make a check mark (✓) for each answer you receive.		
Total		

2. What types of food do you throw away?

	Fruits and vegetables	Bread, rice, pasta	Meat	Other
Make a check mark (✓) for each answer you receive.				
Total				

3. Why do you throw these foods away?

	I don't like how it tastes	I don't think they are fresh enough	I'm full	Other
Make a check mark (✓) for each answer you receive.				
Total				

Investigate

What happens to food at your school after it is uneaten or is thrown away? Ask school staff to find out!

Does your school have a great solution to food waste? Share it in your project!



Brainstorm: Survey Reflections

After giving your survey, reflect on what you learned. Include these reflections in your infographic.

What did you learn about food waste at your school that surprised you the most?

Does your school have a food waste solution? If yes, describe it for your peers in other schools.

What would you like to change about food waste at your school? What could a solution be?

Learn More: Language

Around the world, Global Scholars speak many languages, including, of course, English! Some of these languages use a different script than English. English is written and read from left to right. Other languages are written and read from right to left or up to down. Below, the word “food” is written in different scripts.

Can you identify the languages below? (Answers are on the bottom of page 78.)

भोजन

τροφή

food

питание

餐飲

საკვებო

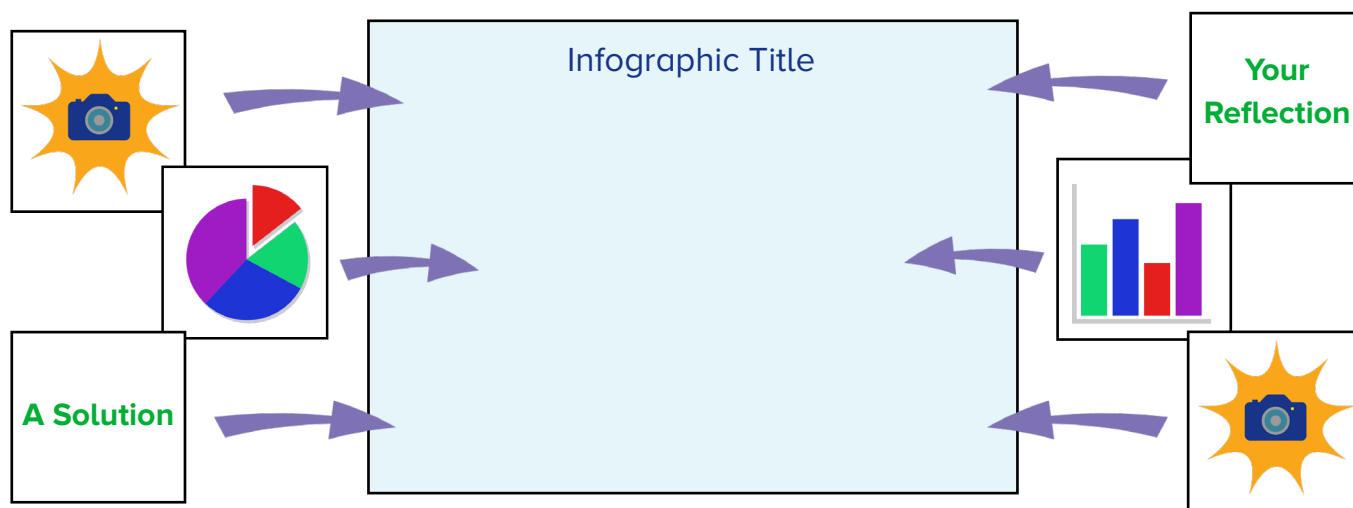
What languages are spoken by the students in your collaboration? Do some online research to find the language spoken in each city.



Make a Plan

Now that you have your survey data, brainstorm what your infographic will look like. What will your title be? Which photos will you use? Where will you put a chart and a graph? Don't forget to save room for your reflection and solution!

On a separate sheet of paper, draw a sketch of your infographic. Below is an example of all the pieces you should include in your sketch.



Responsibilities

Decide how you will create your infographic and who will be in charge of designing each part of your infographic on the computer.

We will create an infographic using:

Piktochart

PowerPoint

Something else:

In your group, decide who will:

1. Describe how many people you surveyed and how:
2. Make a pie chart of the data from Question 2:
3. Make a bar graph of the data from Question 3:
4. Write a reflection and solution:
5. Choose photos and write captions:



Read and Reply: Food Waste Solutions



With your group, read posts from last week's discussion. Write replies to students from different cities.

Reply:

[Add subject line](#)

[Add attachment](#)

[Use rich text editor](#)

Hi

,

For the solution you researched to work in my city, we would need to change

One thing we have discovered about food waste at our school is

We want to ask you

Sincerely,

[Submit Reply](#)

[Save Draft](#)

Career Spotlight: Chef

Chefs take pride in making delicious food, but their decisions can also impact our health and our planet. A chef might decide to cook with nutritious ingredients, buy products from local farmers, use imperfect fruit and vegetables, or compost food scraps. They can also donate uneaten food to the hungry to save it from being wasted. Some chefs even teach cooking classes on how to make nutritious food. These are just some of the ways that chefs impact the global food system.



White House Executive Chef Cristeta Comerford
Photo by Tina Hager, White House



Create

Now that you have your survey data and reflections, you can create your infographic. Here's how:

- ✓ Use the worksheets at the end of this unit to turn your survey data into charts and graphs. Create and label:
 1. A bar graph for *Survey Question 2*
 2. A pie chart for *Survey Question 3*
- ✓ Revisit your reflections and solutions on Page 74. Now that you have looked at your data more closely, have your ideas changed? Include them in your presentation.
- ✓ Add captioned photos of your school meal and food waste problems and/or solutions at your school. Show your photos to your teacher to make sure it's okay to use them!



Test It Out

Share your infographic with someone outside of your group. Ask the questions below for feedback.

- ✓ Does the infographic fit on one page?
- ✓ Did we share reflections and solutions?
- Are our charts and graphs easy to understand?
- ✓ Do all the photos have captions?



Revise

Use the feedback you received to improve your project:

- ✓ Add missing charts, labels, photos, captions, or explanations.
- ✓ Rewrite descriptions to make them clearer.
- ✓ Fix spelling, grammar, or punctuation mistakes.





Global Discussion: Give Feedback



Help your peers celebrate and improve their work by giving them feedback on their infographics. Remember, your feedback should be helpful and kind.

Reply:

[Add subject line](#)

[Add attachment](#)

[Use rich text editor](#)

Hi _____,

Thank you for sharing your infographic!

We thought you did a great job on

You asked for feedback on

We think you can improve this by

We would like to know more about

Sincerely,

[Submit Reply](#)

[Save Draft](#)

Giving Feedback

Use these phrases to help you give good feedback:

- ✓ The part of your project we liked the best was...
- ✓ We think you could improve your project by...
- ✓ Could you tell us more about...?
- ✓ We think your solution would work well in our school, too, because...





Unit 4 Reflection

1. Which digital project did you learn the most from? What ideas did it inspire in you that you could use in your next project?

2. Now that you know about the impact of food waste, what changes could you make in your life so that you waste less food?

3. In Unit 5, you will reflect on everything you learned about the food system and choose one food-related issue for a Community Action Project. Which topic is most important to your community? Write a short description of what your project might be.

Some ideas: You might educate your school about nutrition, plant a garden, work to solve food waste at your school, or work to improve food access in your community.

