

Lesson A

Exploring Our Food System

[Lesson Duration: 55 minutes, plus 25 optional minutes]

National Education
Standards Alignment

Social Studies

Science

Health



Lesson Overview

The **food system** is a complex network that is deeply connected to health, society, and the environment. This lesson lays the groundwork for understanding food through an integrated, systems-thinking lens. Even if teachers only cover a few *FoodSpan* lessons, we recommend they first teach this lesson to give students a foundation.



Learning Objectives

- Follow the journey of a food item through the supply chain.
- Explore relationships among food, health, society, and the environment.
- Explain why studying the food system is important.



Essential Questions

- Where does my food come from, and why does it matter?
- How is food connected to health, society, the environment, and me?



Materials

- Ball of string
- Teacher guide
- Presentation slides
- FoodSpan Infographic
- Food System Connection Cards
- Optional: Supply Chain Cards



Resources

- *The Food System* primer (www.foodsystemprimer.org/the-food-system/)

Warm-up: Food System Brainstorm

Social Studies, Science, Health
[20 minutes]

Ask a volunteer to list the ingredients in a recent meal they ate. Ask the class: *What activities are involved in getting these ingredients to our plates? For example, how are the raw ingredients transformed into something we could eat? Who are the people involved at each step?* Optional: Have students respond in pictures or diagrams. List students' responses on the board in order from **field to plate**.

Split the class into three groups. Have each group brainstorm one of the following themes. Optional: Students may add to their pictures or diagrams. Refer to the **Brainstorm Teacher Guide** for prompts and examples.

1. Resources involved in each activity
2. Effects of each activity on health, society, and the environment
3. Influences on each activity

Have a representative from each group share their responses. Add responses to the board in order from field to plate (or invite students to do so), adding lines or arrows between related concepts. Tell students they have created their first depictions of the food system, which includes the people, activities, resources, and impacts involved in feeding people.

Main Activity: Food System Infographic

Social Studies, Science, Health
[10 minutes]

Pass out the **FoodSpan Infographic** and/or display the **FoodSpan Infographic slide**. Ask volunteers to briefly explain each part of the infographic.

Have students refer to the diagram on the board (or their own pictures or diagrams) from the warm-up. Ask:

- *Is there anything you would add to or change about our diagram(s)?*
- *Is there anything you would add to or change about the FoodSpan Infographic?*
- *Are any parts of the infographic surprising?*
- *Why is it important to look at every part of the food system?*
- *What part are you most interested in learning more about?*

Tell students they will explore the infographic in more detail in upcoming lessons.



Teacher Note: If you have time for only a few of the 17 lessons, ask students to come up to the board and post sticky notes on the parts of the infographic they are most interested in learning about. Use their votes to choose the lessons.

Optional Activity: John Muir Quote

Social Studies
[10 minutes]

As a segue to exploring connections in the food system, display the **John Muir slide** or read this quote aloud: *“When we try to pick out anything by itself, we find it hitched to everything else in the universe.”* Have students pair up and discuss:

- *What did Muir mean?*
- *Do you agree with Muir’s statement?*
- *How does it relate to the food system?*
- *What is one example of how food is connected to “everything else”?*

Ask volunteers to share their partner’s responses with the class. If students need prompting, offer this example:

1. Meat and dairy production scale up to meet increased demand
2. Growth in the livestock industry increases greenhouse gas emissions
3. Greenhouse gas emissions contribute to climate change
4. Climate change increases the frequency of droughts
5. Droughts lead to crop failures
6. Crop failures lead to higher food prices

Emphasize that the food system illustrates Muir’s quote because it contains many interconnected parts that all affect each other.

Main Activity: Exploring Connections in the Food System

Social Studies, Science, Health
[20 minutes]

Students will explore relationships among food, health, society, and the environment. Distribute the **Food System Connection Cards**. Each card lists a part of the food system (on the front) and some of its relationships to other parts (on the back). Give students a minute to read their cards. If there are more students than cards, students can work in pairs or groups of three.

Have students stand up, form a circle, and hold their cards up so the fronts are visible. Give one student a **ball of string**. Ask the student to state the part of the food system on their card and then toss the ball of string to another person while holding onto the end of the string. As they throw the ball, they should explain how the two parts are connected, for example: “I am a cow. I am connected to water because I drink it, it irrigates my feed crops, and my manure sometimes contaminates it.” Continue until students have created a tangled web of connections. Students can throw to the same person more than once if there are multiple points of connection.

Once the web is complete, introduce events into the food system. For example, if a drought occurs, water should tug on their strings. Students who felt the tug should explain how they might be affected, then tug on their strings. Students who felt the second tug should explain how they might be affected, and so on. Students should see that stresses to one part of the system may have cascading consequences throughout the system.

Discuss:

- *What did this activity show you about the food system?*
- *What connections stood out to you?*
- *What connections do you want to learn more about?*

Optional Activity: Supply Chain Journey

Social Studies

[15 minutes]

Divide students into groups and hand out sets of the **Washington Apple Supply Chain Cards**. Ask each group to line up the cards in what they think is the correct order from field to plate. Have volunteers explain the orders they chose. Then display the **Washington Apple Supply Chain slide** and explain each of the steps. Ask students to compare their lists to the slide and discuss: *What is different? Why? What surprised you about the completed chart on the slide? Where would these steps go if we plotted them on the FoodSpan Infographic?*

Repeat the above steps with the **Broiler Chicken Supply Chain Cards** and **slides**. Note that this second supply chain is not entirely linear, as it contains several different sources of chicken feed.



"Eating... is inescapably an agricultural act, and how we eat determines, to a considerable extent, how the world is used."

- Wendell Berry

Wrap-up: Why Does the Food System Matter to Me?

[5 minutes]

Have students write a journal entry in response to the prompts: *How does the food system affect me? Why does the food system matter to me? Which part(s) of the FoodSpan Infographic do I relate to the most?* Optional: Have students share their responses.

Extensions:

Create Your Own Food System Infographic (Social Studies, Science, Health)

Students will work in groups to create their own food system infographics using a variety of artistic media. Ask: *What is the most effective way to represent the interconnected parts of the food system?* Students may consider creating 3D diagrams, making a permanent version of the string web, or writing a short story or play.

Tracing Your Meal from Field to Plate (Social Studies)

Students will research the supply chain of an entire meal. They will map the origins of every ingredient and note the people, activities, and resources involved in getting it from field to plate. Students can present their findings through posters, oral presentations, or videos. Encourage students to share highlights from their presentation on social media using #foodspan.



Share Your Knowledge: Why does the food system matter to you? Ask students to tweet their reflections and tag #foodspan to join the conversation.