



## ACTIVITY B

## HOW FAR DOES YOUR LUNCH TRAVEL?

**Time Frame:** Two 45-minute sessions

**Learning Objectives:**

- Make and investigate hypotheses about how far their food travels.
- Learn about different farming practices and regions in the U.S.
- Identify which types of soil and weather patterns are necessary for growing their favorite foods.

**Materials for activity:**

- Poster board or large paper
- Large map of the U.S., Central and South America (or print small maps of each using links in Teacher Reference section)
- Push pins
- String or yarn
- Stickers or labels
- Stickers collected from fruits and vegetables and food packaging or printed from the Internet

**Overview:**

In this activity, students work as a class to create a map of the U.S., Central and South America that shows the distance their food travels to get to their school. Then they discuss different factors that go into farming in different regions in the U.S. and why certain areas are more conducive to large-scale agriculture than others.

**Essential Questions:**

- How far does our food travel from where it's grown to when we eat it?
- What are the common types of soil in the U.S. and what grows well in them?

**Connections:**

Genetics Lesson Plan | Farming Spotlight

**Preparation:**

Ask students to collect stickers from fruit, vegetables and packages from bread, snacks and other items they eat for an entire week. Tell them they'll be doing an activity that involves tracing how far their food travels, so you'd like them to pay attention to food labels and bring in as many as possible as a resource. Collect some of your own to supplement.

You may also search on the Internet for “produce stickers” (search under “images”) and print out collages and cut them up. Pool all of these sticker and label offerings together to avoid making any students feel uncomfortable. Use this pool for the following activities.

Time permitting, you may decide to have students work together to construct a map of the U.S. and Central and South America, using printouts of maps and poster board. A quicker alternative is to do this yourself in advance. You may also choose to use a large world map, if you have one in your classroom, and use Post-It notes rather than pushpins and then tape the pieces of yarn or string to the notes.

### Instructions:

1. Ask students to think about what they ate/are planning to eat for lunch today. If they’re getting lunch in the school cafeteria, what’s on the menu? Now, list the food items that are in the Fruit, Vegetables or Grains groups. Each student should list 3–5 items; they may reflect back and list things they ate in those categories over the past week. (If students are stuck, you may prompt with questions like, “Was there lettuce on your hamburger? List that. Only ketchup? List ‘ketchup — tomatoes.’ Chips and salsa? What could you list for that?” [Corn, tomatoes, onions, chilis, etc.]
2. Their task is to make an educated guess about where each of the food items on their list came from. If fruits or vegetables have stickers with locations on them, have them write these down. For foods that do not have labels, students should take their best guess. (If you had an apple, do you think it might have come from New York or Washington state? If you had strawberries, maybe they came from Florida or California? If you had a sandwich, where do you think the wheat for the bread was grown?)
3. Now have students do some online research to see if their hypotheses were correct. See the Student Research Tools below.
4. Working in small groups, students should look up the exact mileage for specific foods/crops using the Student Research Tools below. Tell them to write the mileage figures on stickers or labels, and that these will later be attached to pieces of string and used to “map their food miles.”
5. (See notes under Teacher Preparation above about the map for this activity.)  
On a large map of the U.S., Central and South America, have students place push pins at all the locations where their lunch food comes from (or their best guess based on their research). Place one push pin at the approximate location of your school. Then, instruct students to use string or yarn to create a web extending out from your school to the locations of food production.
6. Students should attach stickers or labels with mileage figures (from the exercise in step 4) to their strings.
7. When finished, students should step back and see if they spot any trends or patterns. Discuss as a group.

### Student Research Tools:

Where Do Our Fruits and Vegetables Come From?

<https://www.dirt-to-dinner.com/where-do-our-fruits-and-vegetables-come-from/>

Our fruits and vegetables come from all over the United States, but California leads production by a huge margin. When the season ends in the United States, production shifts to Mexico, Central and South American countries allowing Americans to enjoy many fresh produce items year-round.

International Food Miles Calculator

<http://www.foodmiles.com/>

Google Maps

<https://maps.google.com/>

Printable Map of USA

<http://www.freeusandworldmaps.com/html/USAandCanada/USPrintable.html>

Printable Map of Central and South America

<https://www.pinterest.com/pin/410742428505757088/>

### **Discussion Questions:**

Where in the country is most of the food production occurring? What are the reasons for these trends? (Weather pattern factors such as...?)

What about soil types? How are those a factor in deciding where things are grown?

- Different parts of the country have different soil types.
- Different types of plants need different things to grow healthy. Some crops do better with particular types of soil.
- Soil testing helps determine what nutrients are available (or lacking). Farmers use this information to strategically plan what to plant and how to treat the soil.

### **Further Reference — Food Miles:**

Lesson Plan: “Our Food’s Journey” | Food Span Learning, John Hopkins University

[http://www.foodspanlearning.org/\\_pdf/lesson-plan/unit2/lesson7-foods-journey-lessonplan.pdf](http://www.foodspanlearning.org/_pdf/lesson-plan/unit2/lesson7-foods-journey-lessonplan.pdf)

Discovering Our Food System | Cornell University

<https://www.fns.usda.gov/es/defining-local-and-finding-local-foods>

How Far Does Your Food Travel to Get to Your Plate? CUESA (Center for Urban Education about Sustainable Agriculture)

<https://cuesa.org/learn/how-far-does-your-food-travel-get-your-plate>

The What and Why of Local and Regional Foods | USDA

<https://www.usda.gov/sites/default/files/documents/1-Whatandwhy.pdf>

Local and regional food systems typically centralize within a specific region all of the activities associated with producing, processing, distributing and marketing foods. But there’s a lot more to it than simply geography. Local food systems convey information to consumers so that they can learn about and feel more connected to where their food comes from. In turn, the knowledge they gain allows them to target their purchases to support their local economy.

About Food Miles

[https://www.nrdc.org/sites/default/files/eatgreenfs\\_feb2010.pdf](https://www.nrdc.org/sites/default/files/eatgreenfs_feb2010.pdf)

According to the NRDC (National Resources Defense Council), domestically grown produce travels an average of 1,500 miles before it is sold. More food for thought: The typical American meal contains ingredients from five foreign countries!

Defining Local and Finding Local Foods | USDA

<https://www.fns.usda.gov/es/defining-local-and-finding-local-foods>

Seasonal Produce Guide: What’s In Season? | USDA

<https://snaped.fns.usda.gov/seasonal-produce-guide>

Food Miles | Wikipedia

[https://en.wikipedia.org/wiki/Food\\_miles](https://en.wikipedia.org/wiki/Food_miles)

Food miles is the distance food is transported from the time of its production until it reaches the consumer.

**Extending Food Freshness:**

Keeping Produce Fresh: Best Practices for Producers | Penn State Extension

<https://extension.psu.edu/keeping-produce-fresh-best-practices-for-producers>

Fruit and vegetable producers can follow these best practices for keeping produce fresh and safe in the field, at harvest, and through proper postharvest steps of cooling, washing, storage, and packing.

Packaging That Keeps Fresh Fruit and Vegetables From Spoiling

<https://techcrunch.com/2017/03/06/how-hazel-technologies-keeps-fresh-fruit-and-vegetables-from-spoiling/>

The biodegradable and non-toxic packaging inserts allow farmers to extend the sale-ability of their fruits and vegetables without having to spray on any chemical solutions.

Edible Coatings Can Extend Produce Shelf Life

<https://www.businessinsider.com/apeel-sciences-food-edipeel-invisipeel-extend-life-2017-1>

Plant Genetics in the News | Fruit & Vegetable Magazine

<https://www.fruitandveggie.com/tag/plant-genetics>

**Extensions:**

Pick a favorite fruit or vegetable. Which types of soil and weather patterns are necessary to grow this food on a large scale? Can it also be grown locally on a small scale? Does your favorite fruit or vegetable mainly grow in a tropical or other type of climate outside the U.S.? Could it also be grown here? Examine the footprint of this fruit or vegetable by researching fuel consumption and pollution through these deliveries. Also, research the use of various chemicals to make this possible.

Which types of soil are best able to support cultivation of different types of crops? Research which types of crops grow best in which types of soil (loam, sandy, silty, chalky, etc.) and list at least three crops for each type of soil.

**Family Connection:**

Challenge students to go home and help prepare a meal using entirely locally-sourced foods (within ~200 miles from home). Have them take pictures of their food and make a list of the ingredients and where/how far they came from to share with the class. If your school allows it, this could also be an in-school cooking project.

**Next Generation Science Standards:**

NS. 5-8.1 Science as Inquiry

- As a result of activities in grades 5-8, all students should develop--
- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.5-8.3 Life Science

As a result of their activities in grades 5-8, all students should develop an understanding of:

- Populations and ecosystems
- Diversity and adaptations of organisms

NS.5-8.4 Earth and Space Science

As a result of their activities in grades 5-8, all students should develop an understanding of:

- Structure of the earth system