HARVEST of the MONTH in the CLASSROOM October

Grades 7-12 • 1 Period

FOOD MILES & DESERTS

Humanities

OBJECTIVES

- understand misconceptions and impacts of food systems on our environment by exploring the concept of food miles
- explore the connection between their food and the distance/carbon impact it takes to get to you
- identify benefits of eating local
- look at personal behavior and determine their individual carbon footprint

MA STATE FRAMEWORK(s)

- Environmental Science and Technology Frameworks
- 2.G.01.02 Identify major sources of CO_2 emissions.
- 2.G.01.07 Utilize a variety of tools to measure energy use and assess energy use impact (e.g. Kill-A-Watt meter, light meter, hygrometer, online calculators, etc.).
- 2.M.01.02 Describe the carbon cycle

ESSENTIAL QUESTIONS

- How are food systems connected to overall environmental health?
- What can you do to reduce your carbon footprint?
- What foods do you think will have the highest carbon footprint?
- What food choices can we make to benefit ourselves, and the environment?

MATERIALS NEEDED

- Food Miles Card Game (Virtual or Printed)
- Computer/Internet to Complete Carbon Footprint Calculator

LESSON

Begin by asking students where they get the majority of their food from. What do they think the journey of their food may be from growth to plate? (10 mins.).

Discuss how environment and food purchases are interconnected. Introduce the concept of food miles: that food travels on a journey before it ends up on your plate. Show introductory "What are Food Miles" video. (https://youtu.be/nUnJQWO4YJY) (10 mins.).

Group students for "Where in the World?" food systems activity. Instruct students to work through provided Food Miles cards (attached) to explore how far food has to travel to get to MA grocery stores. Have students work together and hypothesize throughout the deck how far it takes for the product to travel to get to the grocery store. Record your guesses, and responses to the correct answers. (20 mins.).

Food is one component of the overall carbon footprint. Continue to extend learning by encouraging students to look at their own consumption habits by determining what their own carbon footprint is. Students will use an online Carbon Footprint Calculator (https://www.footprintcalculator.org/) to determine their own individual footprint (15 mins.).

Conclusion: What food products surprised you? What choices can you make to help support local food?

Lesson by:
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MASSACHUSETTS FARM TO SCHOOL
www.massfarmtoschool.org

EXTENSIONS & VARIATIONS

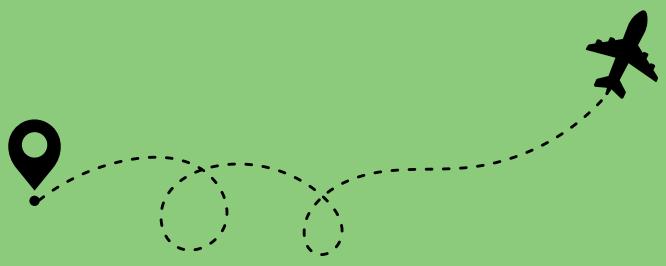
Challenge students to take all items throughout the list and look for a local alternative.

What can we grow? Think about food items on the list that students would be able to grow in your classroom.

This worksheet can be used as an additional extension for the Carbon Footprint Calculator

Full classroom "Where in the World": Instead of having students work with a partner, have the class think through as a full group.

Notes of Usage:



All of the produce used in these cards are marked at general distances from Massachusetts to the exporting country. You can easily adjust if you are teaching in a different area by changing the starting destination.

These cards include information of the largest producer. There are many alternative products and local providers of many crops listed above.

Use food miles as a conversation starter on carbon footprint, and encourage your students to look at local alternatives on the foods they love.

Created by: Sara Canuel

Avocado

2,600 Miles

Majority of avocados are grown in Southwestern Mexico

Almonds

3,000 Miles

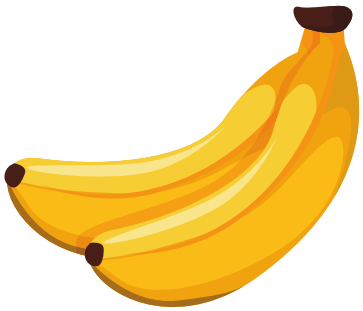
80% of the worlds supply of almonds are from California

Romaine Lettuce

2,600- 3,000 Miles

Most Romaine lettuce consumed in the U.S. is from California or Arizona

Bananas



6,700 Miles

India is the largest producer of bananas, with over 66,000 pounds yearly

Rice

7,000 Miles

China produces roughly 1/3 of the world's rice

Tomato

7,000 Miles

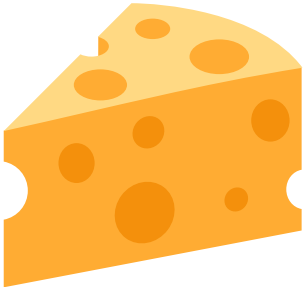
China is the largest producer of tomatoes

Cotton

7,600 Miles

India is the largest producer of cotton, and the U.S. is the largest exporter

Cheese



1.100 Miles

The U.S is the largest producer of cheese, with Wisconsin being the top cheese

Corn

1,300 Miles

While first domesticated from Southern Mexico, Iowa is now the largest corn producer

Soybean

4,100 Miles

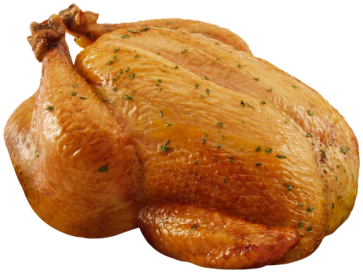
Brazil recently surpassed U.S. as the largest soybean producer

Apple

7,000 Miles

While China is the largest producer of apples, U.S. ranks second!

Chicken



1,500 Miles

The U.S. is the largest worldwide producer of chicken- Tyson is the largest producer in Springdale, AR

Beef

1,500 Miles

The United States is the largest worldwide producer of beef - Tyson is the largest producer in Springdale, AR

Olive Oil

3,500 Miles

Spain is the largest producer of olive oil

Salmon

3,335 Miles

Norwegian farmer Mowi produces the most salmon in Bergen, Norway

Cucumber

7,000 Miles

China produces approximately 70% of global cucumber consumption