Our Food System–From Farm to Table

Module 2
Teacher Print Kit

Instructions: Print one copy of this document as a reference *for the Teacher.* It is easiest to print **double-sided, on the short-edge.** Additionally, print the Student Handouts for Module 2.

Food Up!

Activity #1 and Activity #4 : Food Dollar Infographic

It will be helpful to look over this infographic before teaching Activity #1, as it gives context to why some foods have a larger farmer share of the retail dollar than others.

When students imagine themselves as farmers in Activity #4, they will use the following infographic to come up with original ways to keep more of the retail dollar in their pocket. Encourage your students to imagine value added products that allow them to create something more valuable out of a low value field crop.

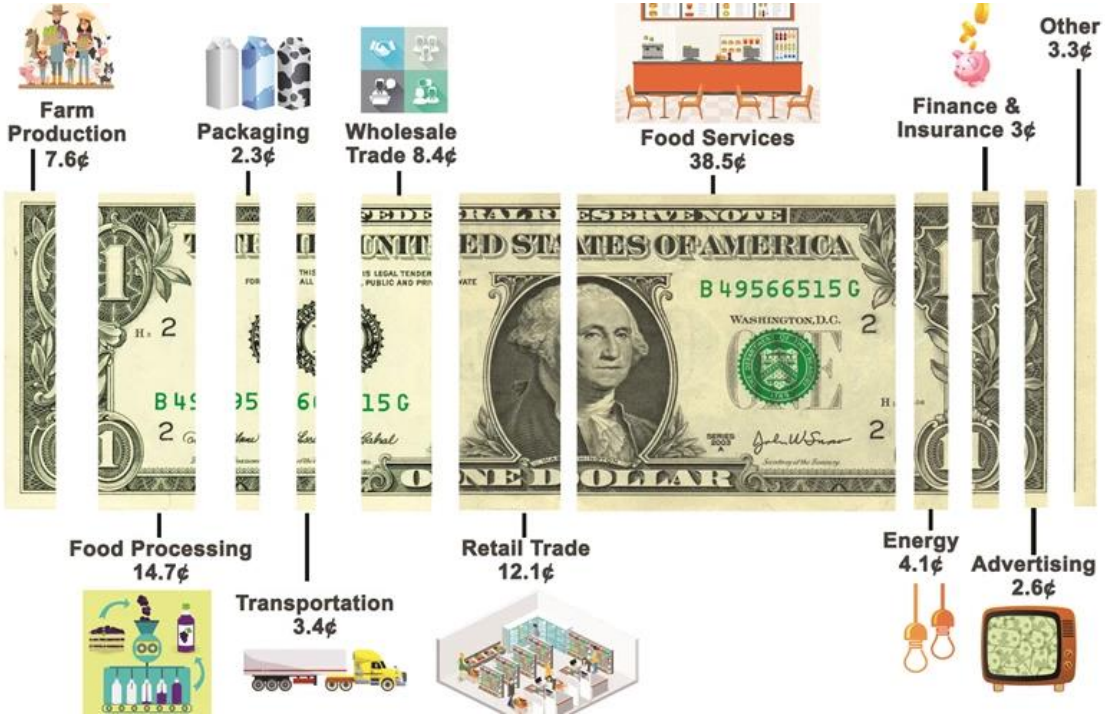

Image illustrates how much of the average dollar spent on food in the United States goes to each part of the food supply chain. Notice that farmers and ranchers only get 7.6 cents of the average food dollar. Source: US Department of Agriculture 2019

Activity #1: Where Does Your Dollar Go?
Optional Discussion Activity

CARROTS

SODA

Calculate how much money participants along the food chain, besides farmers, receive from a dollar spent for both carrots and soda.

Who else gets some of this money?
Why might the farmer's share be larger for carrots than it is for soda?

ACTIVITY #2: FOOD CHAIN INFOGRAPHIC

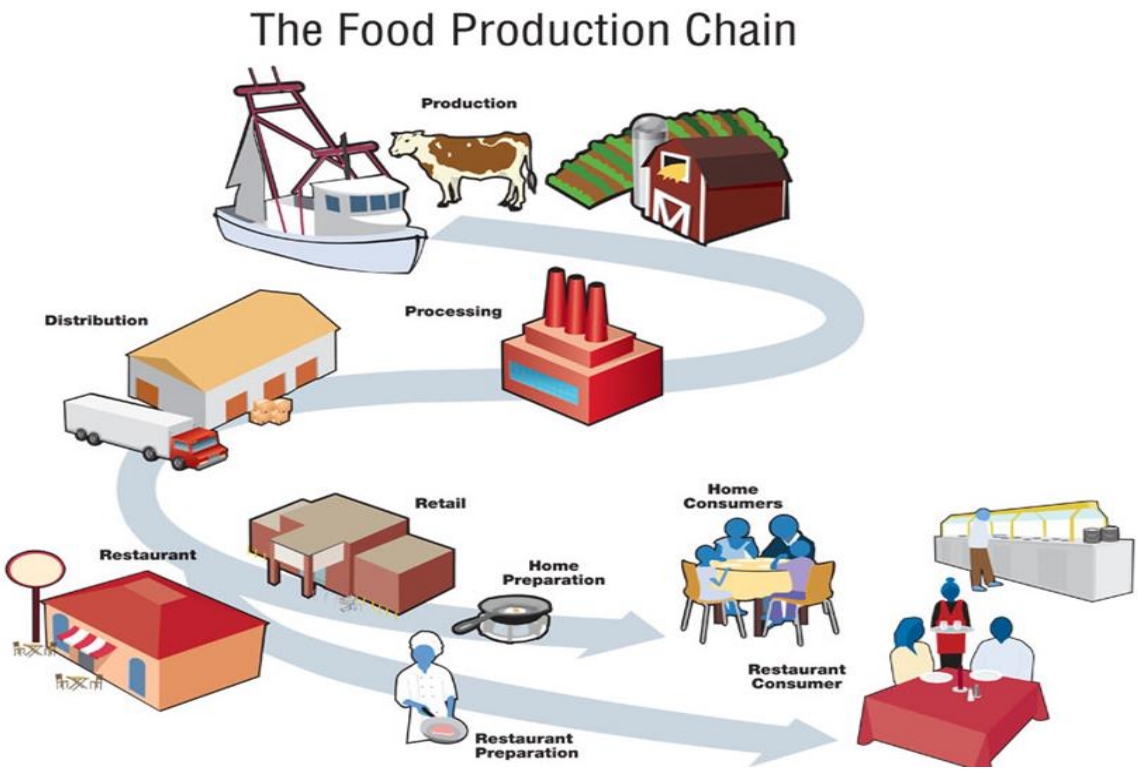

Image Source: Centers for Disease Control and Prevention, 2013 (https://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/figure_food_production.html).

Activity #2: Food Production Chain Teacher Cards

Production: How the Food is grown

Distribution: How the product moved from the farm to the eater

Processing: Changing the crop into what is eaten

Consumption: The use of the product by the end Consumer

Distribution

- Trucking
- Marketing and Advertising
- People who build trucks, planes
- Energy workers
- Highway builders
- Food hubs

Production

- Tractor Manufacturers
- Fertilizer manufacturers
- Well diggers
- Farmers
- Construction workers
- Natural gas, petroleum, electricity, solar power manufacturers

Consumption

- Restaurants
- Grocery stores
- Farmers Markets
- Home

Processing

- Honey and maple syrup bottling
- Washing and bagging/banding/boxing produce
- Butchering
- Canning
- Processing Corn into Corn Syrup and Corn Flakes
- Freezing
- Plastic Production for packaging
- Cooking food in our kitchens and restaurants

Waste Management

Collection, transport, treatment, and disposal of waste






Waste Management

- Sewage after human consumption
- Compost of food scraps
- Trash/Landfill
- Recycling of packaging
- Management of manure
  - Spreading on fields
  - Storing in pits
  - Leaking into waterways

Activity #3: The Journey Answer Key

Note to teacher: Steps bolded below have variable positions in the food value chain.

Cheese

1. Corn and soy are harvested from the field for animal feed
2. Calves are born; cows do not produce milk until a baby calf is born
3. **Milking equipment, including pumps and tanks, are manufactured (this fits anywhere before step four)**
4. Cows are milked.
5. Milk is pasteurized to kill bacteria
6. Milk truck comes to transport milk to the cheese plant
7. Cultures are added to the milk, and whey is squeezed out of the milk
8. Cheese is packed in wax or plastic
9. Cheese is graded by the USDA
10. Cheese is retailed in the grocery store
11. Macaroni and cheese is enjoyed on your dinner table
12. **Manure is spread on fields (can be moved to the beginning or the end)**

Soda

1. **Glass bottles or cans are recycled or sent to the landfill**
2. **Soda cans are made from recycled aluminum**
3. Corn, cane, or beets are planted
4. Corn, cane, or beets are harvested
5. Corn, cane, or beets are washed, packed, and transported to syrup factory
6. Sugar syrup is manufactured
7. **Flavor development and testing is done in the lab**
8. Water is filtered
9. Water and syrup are combined and sent through a carbonator
10. Soda is canned or bottled
11. **Marketers design labels, magazine ads, and television ads**
12. Soda is distributed to grocery stores, restaurants, event venues, and vending machines

Carrots

1. Carrots are bred for seeds that have good harvests, are resistant to disease, and have great flavor
2. Potash is mined to make potassium rich fertilizer
3. Tractor plants carrot seeds in rows
4. Carrots are harvested by a tractor or by hand
5. Carrots are washed and graded
6. Carrots are transported from the farm to their destination
7. Carrots are sold at the farmers market
8. Plastic bags are manufactured for frozen carrot packaging
9. Carrots are chopped and flash frozen in a factory
10. Carrots are canned in a factory
11. Carrots are shipped to a distributor
12. Grocery stores order carrots from distributor

Activity #4: Value Added Product Examples

Milk 	→	Cheese 
Wheat 	→	Pasta 
Carrots, Onion, Parsley   	→	Canned Soup 
Sugar Beets 	→	Fruit Snacks 
Grapes 	→	Grape Juice 

Activity #4: George Washington Carver

You may choose to watch this biography to get context on George Washington Carver, or show the video in class: https://www.youtube.com/watch?v=sdz8XTNttdc

Activity #4: Teacher Background: George Washing Carver, A Short Biography

George Washington Carver (~1861 - 1943) was an agricultural chemist and agronomist passionate about the success of black farmers in the south in the early years after the Civil War.

During the Civil War, infant George and his mother Mary were kidnapped. Their owner, Moses Carver, hired a neighbor to find them. The neighbor found baby George, but never found George's mother. George and his brother were adopted after the war by his former owners Moses and Susan Carver. George was not accepted into schools in the area due the color of his skin, so Susan taught George and his brother to read and write as children.

George left the Carvers at age eleven to further pursue education. He earned his high school education, and later his Bachelor of Science in Agricultural Science from Iowa State University in 1892. In 1896, he was hired as Director of Agricultural Research at Tuskegee University under Booker T. Washington.

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Activity #4: Teacher Background: George Washing Carver, A Short Biography

Carver grew familiar with the south's dependence on cotton. As an agronomist, he saw the toll that cotton was taking on the soils, as cotton is a heavy feeder of nutrients. He encouraged the use of peanuts and other legumes to fertilize the soil and ensure sustainability of the soil on black land in the south. In an effort to bring more value to the crops that black farmers were growing, Carver invented over 100 value added products for the sweet potato, and over 300 for the peanut. Due in large part to his efforts, in the fifty years after Carver's start at Tuskegee, peanuts went from an unrecognized crop to one of the top six leading crops in the south. His inventions for the use of peanuts included milk, flour, ink, plastic, wood stain, linoleum, medicinals, and cosmetics.

In the face of severe oppression toward black share croppers in the post-slavery south, Carver dedicated his life to the economic advancement of black farmers in the south. Despite job offers from those such as Henry Ford and Thomas Edison, Carver never left Tuskegee due to a deep dedication to the black southern farmer. When he died, he left his life savings to found the George Washington Carver Institute for Agriculture at Tuskegee to continue his work.