



Farm-to-Fork in Augmented Reality (Grades 6-8)

Grade Levels

6 - 8

Purpose

Students will research the farm-to-fork process for various foods and create augmented reality videos using the *HP Reveal* app to educate consumers about where their food comes from.

Estimated Time

Two 50-60 minute class periods

Materials Needed

- Grocery store images (https://cdn.agclassroom.org/media/uploads/lp70/trigger_images.png)
- Farm-to-Fork diagram (https://cdn.agclassroom.org/media/uploads/lp70/farm_to_fork.png)
- Device with *HP Reveal* app loaded, 1 per student or team of students
- *Farm-to-Fork in Augmented Reality* handout, 1 per student printed front to back
- *Food Cards*, 1 class copy cut into individual cards
- Blank sheet of paper, 1 per student or team of students
- Markers, crayons, or colored pencils

Essential Files (maps, charts, pictures, or documents)

- Farm-to-Fork in Augmented Reality handout (https://cdn.agclassroom.org/media/uploads/2019/03/18/Farm_to_Fork_Augmented_Reality.pdf)
- Food Cards (https://cdn.agclassroom.org/media/uploads/2019/03/15/Food_Cards_2.pdf)

Vocabulary Words

farm: an area of land, animals, and/or equipment used to grow crops and rear animals for the production of food

food labels: a panel of information found on food packages stating the nutritional value of the food

Did You Know? (Ag Facts)

- Most Americans are three generations removed from the farm.¹

- In a 2011 survey, 72 percent of consumers reported to know nothing or very little about farming or ranching.²
- Despite food prices being higher, organic food sales are growing in popularity.³

Background Agricultural Connections

There are five basic steps in the farm-to-table process: farm, processing, transportation, market/retail, and table. Some variation exists, but in general, our food is produced on farms. Once the product is harvested, it is processed, or prepared for retail sale. This may involve simply washing and packaging the produce, like in the case of lettuce greens or apples, or it may also include steps to preserve the food for longer periods of times, such as freezing, canning, or drying. Once the food is prepared for sale, it is transported to a store or marketplace where consumers purchase it for home consumption.

Most Americans are three to four generations removed from the **farm**, which means they are less likely to have first-hand experience with a farm. Consequently, people are less likely to understand how their food is produced. For example, milk doesn't magically appear in the grocery store without consideration of the dairy cow, processing, and transportation. Egg production is not possible without the chicken hen, the process of candling, transportation, and refrigeration. Each food has its own story for its journey from the farm to our fork. In a 2016 report from Sullivan Higdon & Sink involving the food industry, 65% of consumers feel it is 'somewhat' or 'very important' to be knowledgeable in the area of food production.⁴ More consumers are seeking out information about the production of their food, who produced it, and what's in it.

Technology is changing the way we think about food as it gives people more access to information at their fingertips. Half of consumers get more cooking ideas online than anywhere else, while 27% reference their mobile phone when looking for a recipe.⁵ From 2012 - 2016, the informational sources that have experienced the highest increase of trust regarding food production have included food companies, bloggers, and food retailers.⁴ This suggests that there has been an increasing focus on mass and social media to share information and educate people on how their food is produced.

As consumers take a closer look at their **food labels**, students will utilize a real-world experience to produce a researched-based video educating consumers on farm-to-fork food production. The transparency of the information in the video will help educate and perhaps change the consumer's perception of food production. In teams, students will be assigned a food product and create a video triggered by an image at the grocery store to tell the story of where that product comes from. Students will use digital technology to improve their understanding of where their food comes from.

Interest Approach – Engagement

1. Display the images (https://cdn.agclassroom.org/media/uploads/lp70/trigger_images.png) below of various sections of a grocery store.



2. Ask your students, "Where did these foods come from before they became available for purchase at a grocery store?" (*They were produced by plants or animals on a farm, harvested, processed, packaged and labeled, then transported to the grocery store.*)
3. Ask students to brainstorm the kinds of things consumers look for as they make purchasing selections at the grocery store. Make a list on the board. Examples may include taste, cost, convenience, nutrition, etc.
4. Sum up your opening conversation using the information found in the *Background Agricultural Connections* section of the lesson. Students should recognize that only a small percentage of consumers have direct connections to farming and the production of their food. More and more consumers are interested in learning about the source of their food.

Procedures

1. Introduce the "farm-to-fork" process. Display the diagram (https://cdn.agclassroom.org/media/uploads/lp70/farm_to_fork.png) to illustrate each step. Include the following points in your discussion:
 - **Farm:** The food at our grocery stores could have been produced on farms locally, nationally, or internationally. Many factors play a role in the location of our food production including climate, growing seasons, fertile soil, etc.
 - **Processing:** Any steps taken to prepare food for retail sale is considered *processing*. It may be as simple as washing and packaging produce or it could involve more steps such as processing wheat into flour and then into bread.
 - **Retail:** Food can be sold in grocery stores, farmer's markets, restaurants, or other establishments.
 - **Consumer:** The final step in the farm-to-fork process is the consumer.



2. Inform your students that a local grocery store has conducted a survey of their customers and found that they want to know more about where their food comes from. The store has hired your team to create a farm-to-fork video that will be triggered by images at the grocery store.
3. Introduce students to augmented reality. Each student or team of students should have access to a device with the *HP Reveal* app loaded. Have each student or

team of students:

- a. Open the app
 - b. Create an account (email, username, and password)
 - c. Go to the "Discover Auras" box inside the app and search "NCAL." Select "NCAL's Public Auras" and click on "Follow."
4. Give each student or team of students one copy of the *Farm-to-Fork in Augmented Reality* handout. Point out that the first page is an example of the Farm-to-Fork process for almonds. Demonstrate to students how to scan the trigger images (Auras) to view each overlay as they follow the farm-to-fork process.
- If the images do not scan, remind students that they MUST follow a user before their auras will scan (step 3c above).



5. Teach students the basic use of the *HP Reveal* app and review the steps found on page two of the handout.
- **Optional:** A tutorial video (https://www.youtube.com/watch?v=ITGpjG_T7z8&t=2s) may be helpful. An example (<https://www.youtube.com/watch?v=MVluQ0q6jFw>) of augmented reality being used in a history class project may also help illustrate the assignment further along with the different ways students can use the app (images, videos, etc.).
6. Divide students into teams of two. Assign or have each team select one food item. Use the attached *Food Cards* to make assignments and to be sure there aren't any duplicates.
7. When students have completed their project prepare them to share with their classmates. You may:

- a. Tape the pictures on the walls around the room and have students complete a "gallery walk" to see each project and scan the images.
- b. Have students stay seated and organize a pattern to pass each picture from group to group allowing 2-3 minutes to view each project before passing it to the next group.

Concept Elaboration and Evaluation

After completing these activities, review and summarize the following key concepts:

- Agriculture provides our food supply.
- All food follows a farm-to-fork process. It is produced on a farm, processed and prepared for sale, shipped to a retail establishment, and then purchased by consumers.
- Our food is produced locally, nationally, and internationally. Some foods require specific climates and growing conditions.



We welcome your feedback

(https://usu.col.qualtrics.com/jfe/form/SV_4HhIVpN4L8IC2IT)! Please take a minute to tell us how to make this lesson better or to give us a few gold stars!

Enriching Activities

Use image software to have students create their trigger images to make them more professional looking.

Continue the discussion by learning the impact food labels have on consumer choices using the lesson, Looking Under the Label.

(<https://minnesota.agclassroom.orghttps://minnesota.agclassroom.org/matrix/resource/655/>)

Sources

This lesson was edited and updated in 2019 by the National Center for Agricultural Literacy.

1. <http://www.fb.org/programs/ourfoodlink/>
(<http://www.fb.org/programs/ourfoodlink/>)
2. <http://www.prnewswire.com/news-releases/nationwide-surveys-reveal-disconnect-between-americans-and-their-food-130336143.html>
(<http://www.prnewswire.com/news-releases/nationwide-surveys-reveal-disconnect-between-americans-and-their-food-130336143.html>)
3. <http://www.realnatural.org/u-s-organic-food-sales-continue-their-rise-despite-challenges/> (<http://www.realnatural.org/u-s-organic-food-sales-continue-their-rise-despite-challenges/>)
4. <http://www.hoards.com/sites/default/files/Evolving-TrustInFoodIndustry.pdf>
(<http://www.hoards.com/sites/default/files/Evolving-TrustInFoodIndustry.pdf>)

Suggested Companion Resources

- Mapping Meals Activity (<https://minnesota.agclassroom.org/matrix/resource/88/>)
- 40 Maps that Explain Food in America
(<https://minnesota.agclassroom.org/matrix/resource/536/>)
- Quiz: Can you name a food by looking at where it comes from?
(<https://minnesota.agclassroom.org/matrix/resource/550/>)

- Eat Happy Project video series
(<https://minnesota.agclassroom.org/matrix/resource/822/>)
- How Does it Grow? Video Series
(<https://minnesota.agclassroom.org/matrix/resource/472/>)

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