

Lesson 6.1: Trace a Food From Farm to Plate

Unit: Unit 6, From Farm to Table (Food Systems and Production) **Topic:** 6.1 Where Food Comes From **Grade:** 6 to 8 (written at grade 7; see Differentiation for the grade 6 support and grade 8 stretch) **Days:** 1 class period of 40 minutes **Room:** Either (classroom or FACS lab; the activity needs wall space or four long tables)

Standards

- NYS module line: NYS FSP 3. Current Issues Related to Food in Global Societies a) Describe factors affecting the food supply, including but not limited to geography, climate, economics, transportation systems, farming methods, energy, population density, political systems, natural disasters, and food waste
- NYS module line: NYS FSP 4. Future of Food in a Global Society a) Understand the components of sustainable food systems
- CTE theme line: CTE SUS 2. Environmental Management h) Explain factors to consider when assessing the environmental impact of food choices
- CTE theme line: CTE CCO 1. The Work World b) Discuss the value of work as it relates to the individual and to society
- NYS FACS Learning Standard 3 (Intermediate), Key Idea: Students will understand and be able to manage personal resources of talent, time, energy, and money and make effective decisions in order to balance their obligations to work, family, and self.; Performance Indicator B: Students understand the resources available to them, make informed decisions about the use of those resources, and know some ways to expand resources.
- CDOS Standard 3a Universal Foundation Skills: Systems
- National FCS 3.0: 14.4.3 Examine how changes in food production and distribution, sustainability, organic farming, and genetically modified foods included, shape the food supply.
- National FCS 3.0: 14.3.4 Judge policies and practices that affect food security, sustainability, food integrity, and family nutrition.

(Two module lines is the whole lesson: the supply chain is FSP 3. a), and naming the chain as a system is the first half of FSP 4. a), which Lesson 6.5 finishes. The CDOS line is quoted in full in Sources.)

Enduring understanding and essential question

Big idea: Food does not appear in a store. Every item on a shelf moved through a chain of people, machines, trucks, and days, and each step adds cost, time, and something that gets thrown away. **Essential question:** Who do you depend on for one glass of milk, and how many of them have you ever met?

Objectives

By the end of this lesson, students will be able to:

1. (Low: understand) Given a set of step cards, place the ten steps of a food supply chain in order and name one person whose job happens at each step.
2. (Mid: analyze) For one assigned food, explain where the time goes and where the cost goes along its chain, using the numbers on the path cards.
3. (High: evaluate) Compare two of the four traced foods and judge which one has the shorter, simpler chain, using at least two pieces of evidence from the wall path.

Vocabulary

Tier 2 (general academic): trace, chain, system, depend, evidence Tier 3 (FACS): supply chain, processing, distribution, perishable, cold chain, food miles (introduced only; taught in Lesson 6.2). See the unit vocabulary list (Vocabulary 06.md) for Turkish, Portuguese, and Spanish.

Materials and setup

- Four wall paths (or four long tables) labeled MILK, BREAD, BANANA, CHICKEN NUGGET, each with ten numbered spots taped down and room for cards
- Handout 06.01 - Farm to Plate Path Cards.md, printed and cut: four food sets of twelve cards each (ten step cards plus two decoy cards) and one blank set for the grade 8 stretch
- One Path Recording Sheet per student (the second page of the same handout)
- Painter's tape, four markers, four clipboards
- Slides: Slides 06.01 - Trace a Food From Farm to Plate (outline in 05 Materials; the site renders it as a deck)
- One real carton of milk, one loaf of bread, one banana, and one bag of frozen nuggets on the front table, still in their packaging, for the hook. Empty and rinsed containers work if food is not allowed out. Nothing is eaten today.
- Setup notes: tape the four paths before the bell. Shuffle each card set and clip it to the right path. Allergy check: no food is handled or tasted today; the four items stay on the front table in their packages. Cost, about \$8 for the four display items, and they get used again in Lesson 6.2.

Pre-assessment

The do now is the pre-assessment: "How many people touched your breakfast before you did? Write a number and one name of a job." Count the numbers on the board. Most students write one to three. That gap is the lesson.

Do now and hook (Time: 5 min)

On the board: "Name one thing you ate this morning. How many people do you think worked on it before it got to you? Write a number and the name of one job."

Debrief: take four numbers out loud, low to high, and write them on the board. Then the hook: hold up the milk carton. “This carton is about eight days old. It has been in six buildings and on three trucks. At least nineteen people got paid because of it. Today your team maps every one of those steps for one food, and at the end we see which food has the shortest trip.”

Procedure

Step	Teacher will	Students will	Time
1. Direct instruction: the ten steps	Show the ten steps on one slide: grow or raise, harvest, process, package, transport, store, sell, cook, eat, leftovers and waste. Say the rule: “Every food goes through these, and some steps happen more than once.” Walk the milk example out loud in sixty seconds, naming a job at each step (dairy farmer, milking technician, tanker driver, plant operator, filler line worker, warehouse picker, delivery driver, stock clerk, cashier, you, and whoever empties the fridge).	Copy the ten steps onto the recording sheet in order. Circle the two steps they had never thought about.	7 min
2. Learning activity: build the path	Assign four teams, one food each. Hand each team its shuffled card set (twelve cards: ten real steps, two decoys). Rules: order the ten real steps on the wall path, put the two decoys in the “does not belong” box at	Order the cards on the wall path. Write on the recording sheet: the step order, the job at each step, and the time and cost numbers printed on each card. Find the two decoys.	12 min

	the end, and be ready to defend the order. Circulate with the clipboard checklist.		
3. Where the time and the cost go	Give the second task: “Find the step that takes the longest. Find the step that adds the most to the price. Mark them with the marker: T for time, C for cost. Then answer: does the farmer get the biggest share?” Keep the answer to yourself.	Mark T and C on the wall path. Write the two numbers and one sentence on why the farmer’s share is what it is.	8 min
4. Gallery walk and compare	Call a rotation: each team walks the other three paths for ninety seconds each. Then take one claim per team on the board. Close the compare question: shortest and simplest chain, with evidence.	Walk the other three paths. Write on the sheet: which food has the shortest chain and two pieces of evidence. One reporter per team reads the claim.	6 min

Questions to ask

Monitor understanding:

- Which step comes first, package or transport? How do you know from the card?
- Your card says “cold the whole way.” Which steps does that cover?
- Which of your two decoy cards was harder to spot, and why?

Deepen learning:

- The banana traveled about two thousand miles and cost less per pound than the milk that traveled ninety. How does that happen?
- Nineteen people got paid for one carton of milk, and the farmer got the smallest share. Is that fair? What would change it?

- Which step on your path could break and ruin the food? What would have to go wrong?
- The nugget has five steps the banana does not. What are you paying for in those five steps?

Check for understanding

Clipboard checklist during Step 2 and Step 3: for each team, yes or no on “ten steps in a defensible order,” “a real job named at every step,” “both decoys found,” and “T and C marked with a reason.” A team with four yeses is ready for Lesson 6.2 with no review. A team that cannot name a job at the processing step gets that question in Step 4.

Closure (Time: 2 min)

One line on the exit card: “The step I never thought about is , **and the person who does it is a** .” Two students read theirs aloud. Sort the cards into “got it” and “needs more.” If more than a third of the class names the same missing step, open Lesson 6.2 with thirty seconds on it.

Differentiation and supports

- ELL: the step cards each carry a simple picture and one short sentence; the ten step names are on the wall in Turkish, Portuguese, and Spanish (see Vocabulary 06.md); sentence starter on the recording sheet: “The longest step is ___ because ___.” Pair each ELL student with a partner who places cards while the partner reads.
- IEP and 504 (general): the path is built as a team so no student writes ten rows alone; the recording sheet has a picture column instead of a writing column for students who need it; a student who cannot stand at the wall works the same cards flat on a table with the team’s second set; extended time on the gallery walk by skipping one path.
- Grade 6 support: use the eight-card version (the handout marks which two steps to pull for grade 6: process and leftovers) and one decoy instead of two. The compare task in Step 4 asks for one piece of evidence, not two.
- Grade 8 stretch: the blank card set. Stretch students trace a fifth food of their own choosing (a can of soup, a bag of salad, a bottle of juice) with no cards provided, then write which single step they would change to lower the price and what that would cost somebody else.
- UDL checkpoint used: multiple means of representation (a physical card path plus the same chain drawn on the slide plus the real package on the table) and multiple means of action and expression (a team can show the chain by placing cards, by drawing, or by explaining it out loud at the gallery walk).
- No-kitchen alternative: not needed. This lesson has no cooking. If the room has no wall space, the four paths run on four tables or on four large sheets of paper on the floor.

Assessment

Objective	Standards met	Learning task	Assessment (formative or
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			summative; tool)
1. Order the ten steps and name a job at each	FSP 3. a); CCO 1. b); CDOS 3a Systems	Card path, Step 2	Formative; clipboard checklist (order defensible, job named at every step, decoys found)
2. Explain where the time and cost go	FSP 3. a); SUS 2. h); Std 3 PI B; National FCS 14.4.3	T and C marking plus the farmer's share sentence, Step 3	Formative; recording sheet scored complete, partial, or missing for daily work
3. Compare two chains and judge the shorter one	FSP 4. a); SUS 2. h); National FCS 14.3.4	Gallery walk claim, Step 4; exit card	Formative; the claim needs two pieces of evidence from a path. Assessed summatively on the Food Systems Quiz, item 1 and item 2 (Assessment 06.1 - Food Systems Quiz.md)

Homework

None. Optional: open a cabinet at home, pick one package, and find where it says the food was made or grown. Bring the place name.

Connections

Social studies: the banana path is a geography and trade lesson already; the social studies teacher gets a map task out of it and FACS gets the trade vocabulary. Math: the cost-share question is a percent-of-total problem, and Lesson 6.3 scales it up. Community: a local dairy, bakery, or supermarket manager can do a ten-minute visit or a recorded answer to one question from each team. *[Sal: the store you shop for lab groceries is the easiest ask; the manager already knows you.]*

Sources

- NYS Middle Level CTE FACS Content Module 06, Food Systems and Production (nyctecenter.org, June 2018), lines 3. a) and 4. a). Copy in 02 Standards/NYS Module PDFs/.
- NYS Middle Level CTE Theme Module 06, Sustainability, line 2. h); Theme Module 01, Career and Community Opportunities, line 1. b). Same folder.
- NYS Learning Standards for Health, Physical Education, and Family and Consumer Sciences (1996), Standard 3, Intermediate, FACS strand, Performance Indicator B.

Wording per 02 Standards/STANDARDS SOURCES - web research.md, section 2.
[Sal: confirm against the NYSED PDF.]

- CDOS Intermediate Standard 3a Universal Foundation Skills, Systems: “Students understand the process of evaluating and modifying systems within an organization.” Same file, section 3.
- National Standards for Family and Consumer Sciences Education 3.0 (LEAD FCS Education, 2018), competencies 14.4.3 and 14.3.4.
- The time and cost numbers on the path cards are estimates built for teaching, rounded to whole days and whole cents, and the handout says so on the card face. *[Sal: if you want exact figures, the USDA Economic Research Service food dollar series is the public source; the teaching version is close enough for the argument.]*

Teacher notes

- If time runs short, cut the gallery walk to two paths instead of three and take two claims instead of four. Never cut Step 3; the cost question is the reason this lesson is in a FACS class and not a social studies class.
- Common mistake: students put “store” before “transport” because the food is in a store when they see it. Ask “how did it get in the building?” and they fix it themselves.
- The decoy cards are the fun part. The one nobody catches is usually “the farmer sets the price,” which is the point of the cost discussion.
- Keep the four wall paths up for the whole topic. Lesson 6.2 tapes seasonal labels onto them, Lesson 6.3 tapes the waste numbers onto the last step, and Lesson 6.5 tapes packaging notes onto the package step. By the quiz the wall is the review sheet.
- *[Sal: your students traced money through ClassroomStreet all year. Say out loud that this is the same idea with food instead of dollars, and that the store is the middle of the chain, not the start.]*
- Nothing is eaten today. Say that at the door so nobody asks.