LESSON 4

Food Data Talks

The story of food, visualized in maps and charts.

GRADE	TIME	FINAL PRODUCT
Grades 6–8	Two class periods, 50–60 min each	Food Data Talk, a two-chart slide deck

BIG IDEA

Maps and charts make the global food system visible. By analyzing real data (patterns of overfishing, food waste, undernourishment, obesity, environmental impact), students can identify leverage points for building healthier, more regenerative food futures.

ESSENTIAL QUESTION

How do human actions shape the global food system?

ACTIVITY OVERVIEW

Let the data do the talking.

Across two class periods, students engage in a series of short, structured Food Data Talks that use global maps and charts to explore how the food system functions at a planetary scale.

Day 1 builds the practice of reading visual data through whole-class Data Talks on overfishing and food waste, then transitions to individual Data Talks on undernourishment, adult obesity, and the environmental impacts of food and agriculture.

Day 2 invites students to create their own short Food Data Talk slide deck: selecting 2 visualizations from Our World in Data, identifying patterns, posing questions for viewers, and citing sources. Peers share decks in pairs or triads, and the class closes with reflection on what the data reveals about the food system.

STANDARDS ALIGNMENT

Four subjects, one lesson.

SCIENCE (NGSS)

What students do

Apply scientific principles to analyze data and evaluate solutions that reduce human impacts on Earth systems. Analyze and interpret data from maps, charts, and datasets to identify patterns and relationships in food and Earth systems.

Three-dimensional emphasis. SEPs: Analyzing and Interpreting Data; Obtaining, Evaluating, and Communicating Information. CCCs: Patterns; Cause and Effect; Systems and System Models.

MS-ESS3-3

ELA (CCSS)

What students do

Integrate information from maps, charts, and texts. Write arguments supported by evidence from data. Present findings clearly using data, visuals, and logical reasoning.

RST.6-8.7 WHST.6-8.1 SL.6.4/7.4/8.4

SOCIAL STUDIES (C3)

What students do

Analyze how human activities shape environments, resource use, and food systems. Explain how access to food connects to equity, policy, and decision-making. Explain how economic decisions in food production affect the well-being of individuals, businesses, and society.

D2.Geo.7.6-8 D2.Civ.12.6-8 D2.Eco.1.6-8

HEALTH (NHES)

What students do

Analyze how food access and environmental factors influence personal and community health. Explain connections between diet, environment, and chronic disease. Evaluate how food systems influence health behaviors and public health outcomes.

NHES 1 NHES 2

BACKGROUND FOR TEACHERS

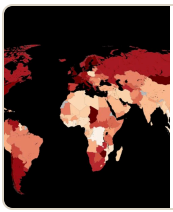
What to know before you teach.

A Data Talk is a short, guided conversation around a map, chart, or graph. Students read data the way they'd read a text: noticing patterns, asking questions, and gathering evidence.

The food system is unusually well-suited to data exploration. Global datasets on hunger, obesity, food waste, fisheries, land use, water, and greenhouse emissions are publicly available and accessible at the middle school level. The Our World in Data website (ourworldindata.org) is the primary source for this lesson; its visualizations are clean, interactive, and well-cited.

VOCABULARY

Words to grow on.



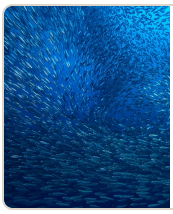
Data Talk

A short activity where learners look at a chart, map, or graph and share what they notice and wonder.



food system

All the people, places, and steps involved in bringing food to our community.



fish stocks

Populations of the same type of fish living in a specific area.



food waste

Food that could have been eaten but was thrown away or left to spoil.



undernourishment

When people do not get enough food and nutrients to stay healthy over time.

MATERIALS & PREPARATION

What you'll print and cue up.

MATERIALS

- ☐ **Food Data Talks student page**: printable PDF or digital, 1 per student; guided reflection questions for the individual Data Talks.

PREPARATION

- ☐ Copy or assign the Food Data Talks student page.
- ☐ Locate and review the vocabulary slides. Preview the five Data Talk exhibits and practice the interactions: the Adult

- [ ] **Visual glossary slides**: one per term.
- [ ] **Nourish Data Talk exhibits (web)**: Cod Catch, Food Waste, Adult Obesity, Undernourishment, and Food and the Environment. Teacher-projected for the whole-class Data Talks; students open them directly for the individual Data Talks. On the Nourish site under Explore → Exhibits.
- [ ] Our World in Data: ourworldindata.org; primary data source. Preview the Food and Agriculture topic page in advance.
- [ ] **Sticky notes**: 2 colors recommended for posting reflections during the Data Talks.
- [ ] Student devices with internet access for Days 1 and 2 (1 per student). If devices are limited on Day 1, run the three individual Data Talks as brief whole-class talks.
- [ ] **Slide deck template**: Google Slides; 4–6 slides per student for their Data Talk.

Obesity time slider and the numbered places on the Food Waste map.

- [ ] Preview Our World in Data and locate the Food and Agriculture topic page (under “Browse by Topic” in the top menu). Bookmark 4–5 visualizations you want to surface.
- [ ] Set up two posters or labeled wall spaces for student sticky notes during the Data Talks: “Cod Catch” and “Food Waste.”
- [ ] Test internet access, the Nourish exhibit pages, and the Our World in Data site on student devices.

DAY 1

Reading the data.

50 minutes

1 Introduction and framing

6 MIN

TEACHER

- Distribute the Food Data Talks student page.
- Project the vocabulary slides. Walk through the five terms, especially Data Talk and food system.
- Open a short class discussion: What helps us analyze a map or chart? How do maps and charts help us understand the world?
- Frame the day: quick Data Talks to analyze and share thinking about maps and charts of the global food system.

STUDENTS

Share one idea about what helps us read a map or chart.

2 Whole-class Data Talk #1: Cod Catch

9 MIN

TEACHER

- Open the Cod Catch exhibit (The Story of North Atlantic Cod) and project the chart.
- Direct students to silently observe the graph for 60 sec and individually reflect on: What major pattern do you notice? What might explain the rapid increase in fish catches during the 1900s? What might explain the sudden collapse after the peak?
- Pair-share: 2 min in pairs/small groups.
- Sticky notes: groups write favorite reflections, post on the **"Cod Catch"** wall.
- Invite 4–6 students to share. Wrap by scrolling the exhibit's story chapters (When the cod were endless → The collapse → What remains) to deepen meaning; keep the scroll to about 90 seconds.

STUDENTS

Reflect on the three questions; share with a partner.

Write one favorite reflection on a sticky note; post on the Cod Catch wall.

3 Whole-class Data Talk #2: Food Waste

9 MIN

TEACHER

- Open the Food Waste exhibit and project the map of household food waste per person.
- Same protocol: silent observe, reflect, pair-share, sticky note, share aloud.
- Reflection prompts: What patterns about where food waste is highest or lowest? What might cause higher waste in some places? Why does food waste matter?
- Invite 4–6 students to share.

STUDENTS

Reflect on the three prompts; share with a partner.

Post a sticky note on the Food Waste wall.

4 Individual Data Talks begin

20 MIN

TEACHER

- Direct students to open the three individual Data Talk exhibits on their devices and work through them with their student page: Undernourishment, Adult Obesity, and Food and the Environment.
- For each, students examine the visualization and answer the three reflection questions on the student page.
- Set a visible timer at 18 min.
- Circulate. Coach students who freeze on **"What patterns do you notice?"** by directing them to the extremes (highest, lowest, largest change).
- 2 min before time: ask each student to circle the one visualization that most surprised them.

STUDENTS

Work individually through the three Data Talks on your student page.

For each: silently observe, then write your three reflections.

Circle the visualization that surprised you most.

5 Closing + preview Day 2

3 MIN

TEACHER

- Preview Day 2: students will find two visualizations of their own from Our World in Data and build a short Data Talk slide deck to share with peers.
- Collect Food Data Talks pages for tomorrow.

STUDENTS

Pass in your Food Data Talks page.

Think about what topic you might want to explore tomorrow.

DAY 2

Build your own Data Talk.

55–60 minutes

1 Re-orient + finish individual Data Talks if needed

8 MIN

TEACHER

- Return Food Data Talks pages.
- If most students didn't finish all three individual Data Talks on Day 1, allow 5–8 min to finish.
- Small-group share: in groups of 3, students share their notices and wonderings from one of the three Data Talks.

STUDENTS

Finish any individual Data Talks you didn't complete on Day 1.

Share with a small group: what did you notice and wonder?

2 Build your Data Talk slide deck

25 MIN

TEACHER

- Open the slide deck template. Each student claims their own copy.
- Direct students to find 2 visualizations on Our World in Data (Browse by Topic → Food and Agriculture) that they find important or interesting. One of the two may be a Nourish exhibit map or chart instead.
- Display the deck requirements: (1) the visualization on a slide, (2) patterns and wonderings you notice, (3) why this matters to the global food system, (4) questions for viewers, and (5) 2+ sources for further learning.
- Circulate. Coach when students get stuck on **"why this matters"**: push toward people, communities, places, ecosystems.
- 5 min before time: ask each student to read their deck once for clarity.

STUDENTS

Find 2 visualizations on Our World in Data that interest you.

Build a slide deck with: visualization, patterns and wonderings, why it matters, questions for viewers, and sources.

Read your deck once for clarity.

3 Peer sharing and feedback

15 MIN

TEACHER

- Form pairs or triads. Each student presents their deck for 4 minutes and receives 2 minutes of feedback.
- Project feedback stems: What I learned… / One question I have for you… / One thing you could add…
- Time it: 3 students × 6 min = 18 min total in groups of 3, or 2 students × 6 min = 12 min in pairs.
- Circulate. Listen for evidence-based reasoning.

STUDENTS

Share your deck with your group for 4 minutes.

Listen actively; offer feedback using the sentence stems.

Adjust your deck based on one piece of feedback you receive.

4 Whole-class wrap-up

5 MIN

TEACHER

- Lead a brief discussion. Ask one or two: What maps or charts did you choose, and why? What insights emerged? How did the activity change how you see the global food system?
- *Optional:* surface 1–2 themes from the sticky-note walls (Cod Catch, Food Waste).
- Close: maps and charts are tools for seeing the food system; the patterns noticed today can become questions to act on in Lesson 7.

STUDENTS

Share one map or chart you found and one insight that emerged.

Notice how the activity changed your view of the global food system.

ASSESSMENT

What understanding looks like.

Students demonstrate understanding by:

- Using vocabulary (Data Talk, food system, fish stocks, food waste, undernourishment) accurately.
- Analyzing and interpreting at least three global food-system visualizations with evidence-based reasoning.
- Identifying patterns, trends, and connections across multiple datasets.
- Creating a 4–6 slide Data Talk deck with 2 visualizations, patterns and wonderings, a "why this matters" claim, viewer questions, and 2+ sources.
- Presenting their deck clearly and listening actively to peers.

Look-fors: students who pose follow-up questions for viewers, rather than just summarizing, demonstrate stronger informational reasoning.

DIFFERENTIATION & SCAFFOLDING

Build access in.

FOR MULTILINGUAL LEARNERS

- Visual data is friendly to multilingual learners: labels are short and patterns transcend language.
- Pair with a classmate who shares a home language for the individual Data Talks when possible.
- Allow the slide deck to include captions in a home language alongside English.

FOR STUDENTS WHO STRUGGLE WITH DATA READING

- Provide a Data Talk Sentence Stem strip: **"I notice ___. I wonder ___. This might matter because ___."**
- Pair with a partner during the individual Data Talks for collaborative reading.
- Pre-bookmark 4 simpler visualizations on Our World in Data they can choose from for Day 2.

FOR STUDENTS WHO FINISH EARLY

- Add a third visualization to their deck and look for a connection between the two.
- Find a follow-up dataset that supports or contradicts their first one.
- Begin one of the lesson extensions.

CONTEXT NOTES

Data sensitivity. Some visualizations show inequality starkly: undernourishment is concentrated in some regions, obesity in others. Treat the maps with care; the people behind the numbers are real. Use the Data Talk protocol to notice patterns without overgeneralizing or stigmatizing.

Internet variation. Our World in Data loads well on most school networks, but verify in advance. Have a backup plan (downloaded PNGs of 5–6 key visualizations) if internet is unreliable.

EXTENSIONS

Six ways to go further.

EXTENSION 01

Food Data Talks Workshop

Students organize and lead a mini Food Data Talks Workshop for another class, grade level, or family audience. They guide participants through selected maps and charts, ask discussion questions, and help others identify patterns in the global food system.

EXTENSION 02

Food System Data Storytelling

Students turn one Food Data Talk into a short narrative, infographic, or digital story that explains the data to a general audience. Their goal is to translate complex information into a clear, engaging story using evidence and visuals.

EXTENSION 03

Food Waste Audit and Action Plan

Students conduct a simple food waste audit at lunch or at home, tracking what types of food are most often wasted. Using insights from global food waste data, they propose one realistic action their school or family could take to reduce waste.

EXTENSION 04

Overfishing and Ocean Food Webs

Students explore overfishing data alongside marine ecosystem visuals to understand how fish populations affect ocean food webs. They explain how overfishing impacts both ecosystems and human communities that depend on seafood. Start from the Cod Catch exhibit's later chapters ("The collapse" and "What remains") and the sources it cites.

EXTENSION 05

Food Futures Design Challenge

Students identify one food system challenge revealed through the data (food waste, land use, food insecurity) and design a solution (system-based, community-based, or nature-based), explaining how their idea could improve outcomes for people and the planet. For inspiration, send students to the Regenerative Farm and Food and Climate exhibits. It leads naturally into Lesson 7 (Action Projects).

EXTENSION 06

Exhibit Data Talk

Students choose a Nourish exhibit not used in class: the History of Food and Agriculture timeline, the Food and Climate chart, or the Regenerative Farm model. Solo or in pairs, they run the same Data Talk protocol on it (patterns, causes, and food-system connections) and share one insight with the class.