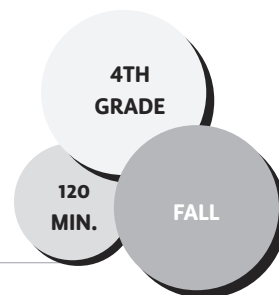


Get to Know a Crop

THEME: EXPLORING THE ECOLOGY OF FOOD

(divided over multiple sessions)



ESSENTIAL QUESTION

How do we determine whether we should grow a crop?

LEARNING OBJECTIVES

- ✓ Students will appreciate the variety of crops that make up our diets.
- ✓ Students will be able to compare and contrast characteristics of various crops and relate these to the growing zones, or USDA zones, in which the crops grow.

CONCEPTS

crop germination region USDA zones

Engaging the Classroom Teacher

- Prior to the lesson, determine with the teacher how many days you can devote to this lesson, and plan the product accordingly. The end product could range from a simple verbal argument for whether it should be grown, or a Harvest of the Month-style poster of the crop. You might plan with the teacher to include the extension of planning a garden or starting seeds of the researched crops.
- Discuss with the teacher whether students can choose their own groups or whether they have established groups

they already work best with.

- For Action Step 8, see if the teacher can share students' level of comfort and familiarity with presenting and whether they can share any protocols for presenting that are already established.
- During Action Step 1, if you have a large class, suggest that the teacher lead the game with half the class once you've explained the rules.
- During Action Steps 5 and 6, suggest that the teacher help support students as they're researching, and then help facilitate sharing the information they learned.

LESSON DESCRIPTION

This is a research project, and the time can be split over multiple sessions or shared with the classroom teacher. In this lesson, groups of students think like a farmer and research a crop to determine whether they should grow it. After learning the crop's history and how it's grown and used, students prepare and present arguments to their classmates on whether this crop should be grown in their region. This lesson can be taught in conjunction with lessons Garden Grids, A Patchwork Garden Quilt, or fifth-grade lesson Seasonal Food Wheels.

MATERIALS

- Horticulture reference books
- Computer lab and/or library and computer cart
- Group Role Cards (p. 428)
- Chart paper and art supplies (optional, if you want students to create a visual of their crop for presentations)

PREPARATION

- › Connect with local growers and farmers, including local native or indigenous community members, to learn about the plants that are meaningful to them and/or the community. Inquire about traditional and current uses of these plants, and have this information ready to share with students.
- › A week before the lesson, ask the school librarian to pull some horticulture books and other resources that will help your students research crops. You may also want to reserve books from your local library.
- › Schedule a class visit to your school's library during class time and/or reserve computers.
- › Photocopy and cut out a set of Group Role Cards for each group of 3–6 students.
- › Display sentence starter: "If we were farmers, we would/would not grow this crop because _____."
- › Cue up a USDA zone map to show students.

ACTION STEPS

1. Growing a Farm Game: Explain to students that they're going to play a game to think of as many fruit and vegetable crops they can think of. Define "crop" for students as a large amount of a fruit or vegetable a farm grows. Sitting in a circle, explain, *The first person to go says, "I have a farm and I'm growing" something that starts with an A like artichokes. The next person who goes will have to*

say, "I have a farm and I'm growing artichokes and . . ." then they add something that starts with a B, like "blackberries." The game continues around the circle with every letter of the alphabet, and it becomes more of a challenge to remember all the other items on the farm. If you get stuck, you can ask the class to help you remember. If you have a large class, you might want to divide the class in half to play the game. (15 min.)

2. Explain the Activity: *Today I want you to think like a farmer and determine whether you'd grow a crop that you're interested in after you've researched and learned more about it. Ask, "What do you think are good reasons for growing certain crops over others?" Create a list together as a class. The list might include taste, thrives in our growing zone, ease of growing and tending, ease of harvesting, is unusual, is well-loved/popular with customers, etc. Explain, "With a group, you'll decide on which crop you'll research. Each member of the group will research something different—whether it can be grown locally, where it was first grown, its traditional uses, how it's prepared and eaten, its history, if it's sold locally, etc. Then you'll prepare an argument for why a local farmer should or shouldn't grow the crop you researched. Ask students to think of or write the name of a fruit or vegetable they'd like to research to bring to their group. (5 min.)"*

3. Assign Groups: Assign groups, or let them choose their own, and have students decide together in their groups what crop they'll research. You might have them select one of their individual choices at random out of a container if they're having a hard time deciding. Give each student or pair of students in each group a role card. If you have students who are English language learners, be sure to pair them with a student who can support their learning. (5 min.)

4 Model: Show students a USDA zone map and explain, *The different temperatures or weather patterns overtime in different parts of the country means it's easier to grow certain fruits and vegetables in certain places. For example, plants that love the heat might grow best where? Plants that really like the cold might grow best where? Your job today will be to learn all you can about your crop, including what kind of temperature and weather conditions it grows best in.* Model researching one of the questions on the research role cards for students, thinking out loud and describing your process. Go more or less in depth with this, depending on students' comfort level using the internet to research.

5. Researching: At this point, you should either bring students to the library or computer lab, or provide access to a computer cart and the resources you've collected for them. Reassure them they might not find answers to all the questions, but they should write any information that helps. Circulate through the room, checking in with students, answering questions, helping them navigate web pages, and offering search terms if they are stuck. **(30 min.)**

6. Preparing Arguments in Groups: Have students meet with groups and take turns sharing the information they learned about their crop with each other. Give students the sentence starter, "If we were farmers, we would/would not grow this crop because _____." Ask them to have at least three reasons. If you have time, you might pass out chart paper and markers for students to draw a picture of the crop and list their three reasons. **(20 min.)**

7. Stand Up If: Explain that you're going to name a quality, and their group should stand

up if it applies to them. Say things like, *I'm a crop that thrives in cold weather. I'm a crop that is locally grown in our state. I'm a crop that is grown in our county. I'm a crop that is native to this land. I'm a crop that was historically grown in another country. I am often cooked into soups. I give you lots of vitamins and minerals.* For each group that stands up, have the group members name their crop so students are able to compare and contrast the crops. Then play the same game with statements that make connections between the crops they studied and the students themselves, such as, *I have eaten kiwis before, or I have never tried eggplant but I would like to, or Someone in my family cooks with carrots.* **(10 min.)**

8. Sharing Arguments: Have each group present why they would or wouldn't grow this crop, sharing their three reasons and visual, if they made one. **(25 min.)**

REFLECTION

Have students discuss the following questions in small groups, then share with the class: **(5 min.)**

Social and emotional learning

- *How did your group work together today?*
- *What was a success your group had?*
- *What was a challenge? How did you resolve this challenge? How would you do it differently in the future?*
- *If you were one of these crops, which one would you be and why?*

Check for understanding

- *What was the most interesting thing you learned about the crop you researched?*
- *What are the different factors a farmer should consider before growing a particular crop?*

- *If you were a farmer in our area, which crops would you grow and why?*
- *What is a crop you learned about today that you have experience with? What is a crop that you would like to try?*

ADAPTATIONS

Guest Variation: If you have a relationship with a farmer, you might assign groups particular local crops that they'll research. Arrange for the farmer to visit, bringing in the crops your students researched. Have the farmer explain why they chose those particular crops, what they like and dislike about growing them, how the crops did this growing season, etc.

Garden: Have students make a garden plan, start seeds, or plant the crops that they agreed would do well in their region in their school garden and observe them growing over time.

Review from Prior Lessons: For each crop researched, ask students which part of the plant people eat (i.e., carrots = roots; lettuce = leaves). Have students look at the colors of the crops they researched, and review the value of eating a rainbow of natural colors for overall health.

Cooking Extension: After each group has presented, challenge groups to think about all the crops they learned about and how they might be integrated into a dish. Groups can share recipe ideas and come up with a dish they'll make as a class, incorporating all ingredients.

Field Trip Extension: Plan a field trip to a local farm to learn about crops that are grown locally.

Art Extension: Show students sample Harvest of the Month posters, and have them create a poster for their chosen crop.

ACADEMIC CONNECTIONS

English Language Arts Common Core State Standards

CCSS.ELA-LITERACY.RI.4.9

Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.

Group Role Cards

How _____ Is Grown

YOUR CROP

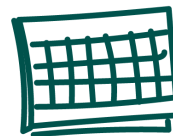
Is this crop a cool-weather or warm-weather plant?

What type of temperature and weather conditions does this crop grow in??

What USDA zone does this crop grow best in?

How long does this crop take to germinate (or sprout)?

How long does it take for this crop to grow before it's harvested?



How _____ Is Prepared and Eaten

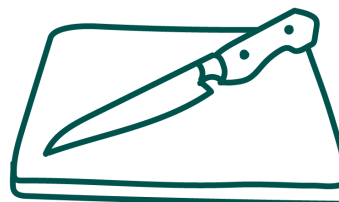
YOUR CROP

What steps do you take to prepare this crop to be eaten?

What are popular recipes that include this crop?

What is the nutritional value of this crop? (What vitamins does it contain? Is it a go, glow, or grow food?)

Does this crop have any other traditional uses? (e.g., is it a medicine?)



The History of _____

YOUR CROP

In what country and/or region was this crop first grown?

What group of people traditionally eats this crop?

When was this crop first brought to our region?

Is this crop grown in our region today?

