

Local Summer Crops

Tomatoes, Eggplant, Cucumbers

GRADE
2-3

Month: September

Time Required: 30 minutes

Tastings: Tomatoes, Eggplant, Cucumbers

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to list conditions for growing summer crops.
- Students will be able to identify tomatoes, eggplant or cucumbers as summer crops.

Materials

- 4 prepared “healthy habit” signs to post in the room; tape
- Image of tomato plant and sun (included in lesson)
- One of the recommended videos
- Locally-grown summer crop of your choice to taste and one for cutting open: tomatoes (varieties like cherry, Sungold, Roma, heirloom, etc.), cucumber or eggplant
- Optional: a variety of tomatoes to compare and discuss
- Knife and cutting board (for educator to demonstrate cutting)
- Napkins or paper plates

Preparation

- Write or draw on 4 pieces of paper to create “healthy habit” signs. (See Engage section.)
- Optional: Print 5-2-10 Healthy Choices Count! coloring page, one per student

Recommended Books

“I Will Never Not Ever Eat a Tomato” by Lauren Child
 “Chicks and Salsa” by Aaron Reynolds
 “The Life of Tomato” by Romilda Byrd
 “Tomatoes for Neela” by Padma Lakshmi

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science
 Second grade - [2-LS4-1](#).
 LS4.D: Biodiversity

Third grade - [3-LS4-3](#).
 LS4.C: Adaptation

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- “Asking” Discussion
- Newsletters, Stickers
- Science Connection: Biodiversity (2nd) & the Effect of weather on plants (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day's lesson.

In each of the four corners of the room, post a paper sign, denoting each of the themes related to 5-2-1-0 Healthy Choices Count.

1. Eating fruits and vegetables
2. Drinking water
3. Playing and moving my body
4. Limiting recreational screen time. Choose to read or play.

As this is your first lesson of the year, introduce yourself to the class and to Pick A Better Snack. Share with students, *When I come to your classroom each month, we're going to have fun trying foods together and learning about each other.*

Discuss expectations, such as: *I probably have some of the same expectations as your classroom teacher; if you have a question or want to share something, make sure to raise your hand (demonstrate raising your hand).*

To begin our first lesson, let's start with an activity.

2. Engage Activity: 6 minutes

The “Engage Activity” section has two purposes: 1) to activate students' prior knowledge and 2) to engage every student.

4 Corners Activity:

Around the room, there are four examples of things we can do to help our bodies grow and stay healthy. Maybe you did some of these things this summer! Pointing to each sign and location in the room, say, To help our bodies grow and stay healthy, we can 1) eat fruits and vegetables, 2) drink water, 3) play and move our body, and 4) limit recreational screen time (read or play instead).

Think in your head - which one of these did you do often this summer? Did you eat fruits and vegetables? Did you drink plenty of water? Did you play outside and move your body? Did you find things to do that didn't involve a screen? When I say the word, “tomato,” I want you to quietly walk to the spot of your choice. When you get to your spot, take turns sharing what you did to help your body grow and stay healthy this summer. For example, I [share a personal example and show which spot you would move to].

- Give students time to think and make a decision; instruct them to move to their preference and pair with another student to share about what they did a lot of to be healthy over the summer.
- Remind students to make the decision for themselves and to not be swayed by where others stand.

After students have had time to share in their group, lead them in a physical activity.

Engage

Physical Activity:

With students in each of the 4 corners, lead students through a physical activity to help them remember the 5-2-1-0 plan. Say each number and do the activities together.

- **5** jumping jacks or jump in place.
- **2** arm circles forward and 2 backward
- **1** minute of jogging
- Make a “**0**” with the arms.

Have students take 3 deep breaths and return to their seats.

Explore

3. Experiential Learning: 9 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Continue by showing one of the following videos to students:

- *We're going to watch a video about a kid named Hannah who learns about ways to help her body grow and stay healthy. Play the [Healthy Habit All-Stars – Hannah Stays Healthy](#) 5-2-1-0 video (4:31). *The Healthy Habit All Stars and all of you shared about some ways you helped your bodies grow and stay strong this summer. Hannah learned that screen time is ok, just not too much, and Glen grew a tomato plant to eat. Today, we're going to taste a vegetable that grew this summer in Iowa – tomatoes [or cucumbers or eggplant]!**
- *Or, all of you shared about some ways you helped your bodies grow and stay strong this summer. Today, we're going to taste a vegetable that grew this summer in Iowa - tomatoes! [or cucumbers or eggplant]! Let's watch this video to learn how tomatoes [or cucumbers] grow: [From Farm to You: Tomatoes](#) (1:36) or [From Farm to You: Cucumbers](#)– videos from Nebraska Department of Education Harvest of the Month. Other options are these videos from Minnesota Department of Education Harvest of the Month: [MN Harvest of the Month: Tomatoes](#) (suggest showing 1:40 – 3:11) or [MN Harvest of the Month: Cucumbers](#) (suggest showing 1:34 – 3:11).*

*Vegetables that grow during the summer are called warm-season crops. Tomatoes, cucumbers, eggplant - these are some examples of warm-season crops. To grow, they need special things that only happen in the warm season. Summer crops need warm soil, lots of sunlight and high temperatures to grow. Show the image of the tomato plant and sun (below in this lesson) on the classroom projector. Read the words on the image together as a class. *These three things make summer crops grow.**

Demonstrate cutting open a tomato (or cucumber or eggplant) where all students can see or under the classroom project. Show students the skin, seeds and inside. Consider showing students different kinds of tomatoes and discussing the similarities and differences (size, shape, color, names, stems, skin, etc.).

Explore (cont'd)

4. Tasting Activity: 5 minutes

The “Tasting Activity” section is when students get to try the fruit or vegetable. Don’t forget to review your food tasting norms (for example, “don’t yuck my yum”).

Before you pass out any samples, be sure to share your brave tasting rules (for example, don’t yuck my yum, we all try together, etc.). As students receive their samples, talk the class through using their senses to explore the tomato, a practice that you’ll encourage every month during PABS lesson time.

Choose one of the following below to taste. Taste-testing local food is one way to celebrate [Iowa Local Food Day](#).

1. Tomatoes. Give students a cherry or grape tomato, or a tomato wedge from a whole tomato. Have students take a bite (may need to encourage students to take a bite rather than put a whole grape or cherry tomato in their mouth to prevent choking).
2. Cucumbers. Offer a cucumber slice or stick.
3. Eggplant. Offer a small piece of raw or cooked eggplant. Review this document for ways to cook eggplant: [Eggplant - Schools and Adults](#). Another option is to offer Eggplant Dip with a whole grain cracker or vegetable, like a carrot. [Eggplant Dip | Food Hero | Recipe](#)

Local Food Facts! If you’re tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 4 minutes

This is a time for students to give their opinion on what they tried!

Introduce the tradition of voting with your thumb. As students taste the summer crop(s), have them vote with their thumbs. Thumbs up = I like it; Thumbs sideways = It’s okay or I’m not sure; thumbs down = I tried it and didn’t care for it today. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it. Let students know that it may take several times of trying the food before they like it. Also, let them know that there are other ways to eat the food that they may like if they didn’t like how the food was prepared today.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: “Like it,” “It’s okay,” “I didn’t care for it today.”
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate “yes.”

Reflect (cont'd)

6. Reflection: 4 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say the word, "tomato," you can say your answer aloud. Let's practice...

- *What month is it? (September)*
- *What vegetable did we try today? (Tomatoes, cucumber or eggplant)*
- *What season do warm-season crops, like tomatoes, grow during? (Summer)*
- *What do summer crops need to grow? (Sunlight, high temperatures, warm soil)*
- *Where can tomatoes grow well in the summer? (places with hot weather like Iowa)*

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting tomatoes.

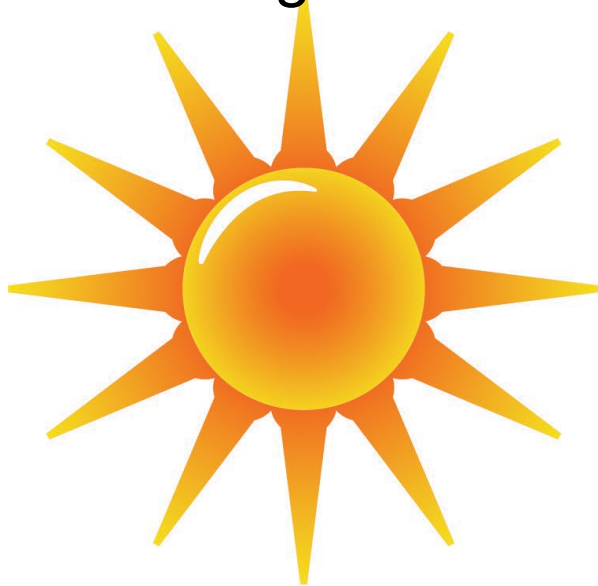
- *Ask a student with a raised hand: if you wanted to try this at home, how might you ask your grown-ups?*
- *You might also ask additional questions like, where could you buy tomatoes? What else do you know about tomatoes?*

Leave newsletters and stickers with the teachers to pass out.

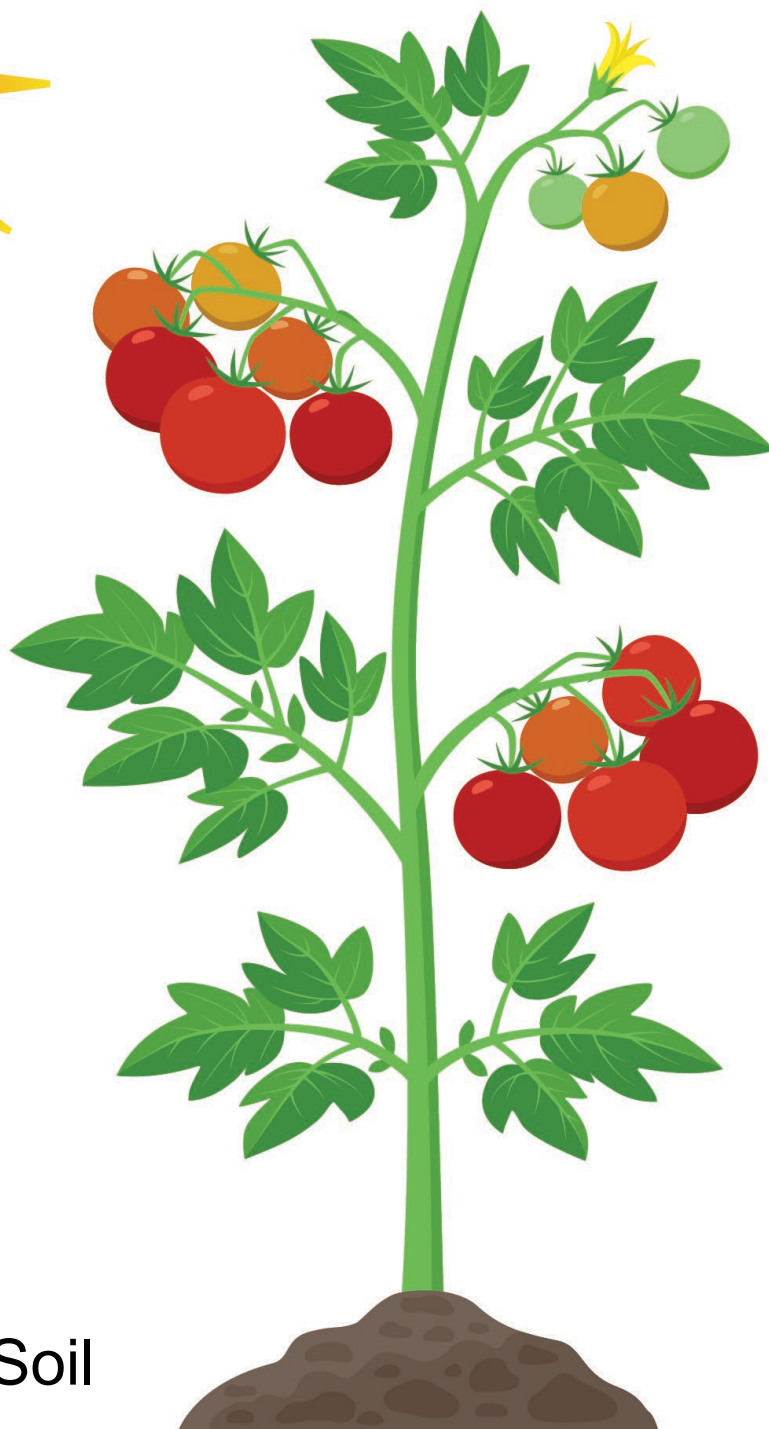
Optional: Leave 5-2-1-0 Healthy Choices Count! coloring pages for students.

Summer crops need:

Lots of Sunlight

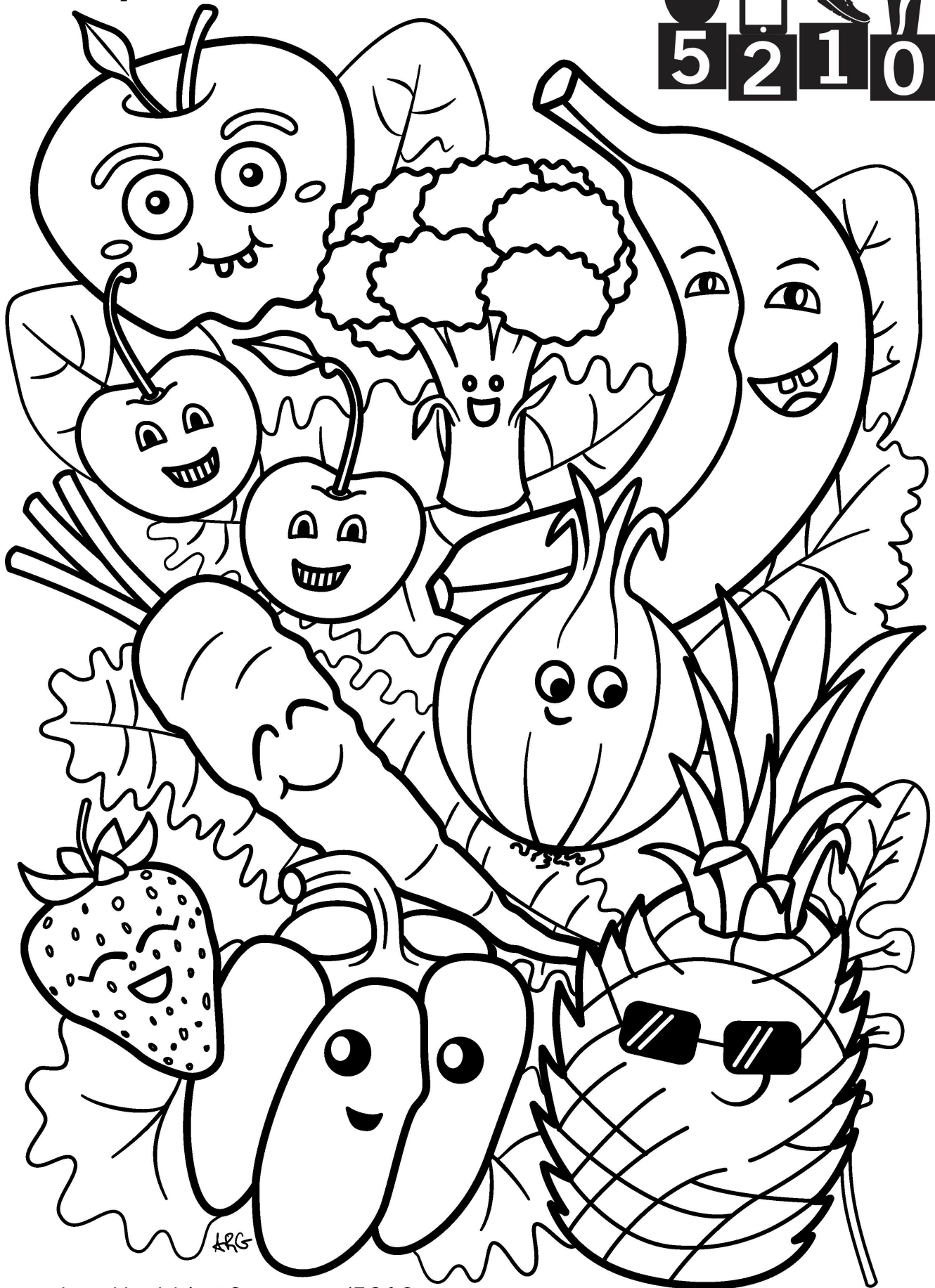


High Temperatures



Warm Soil

Healthy Choices Count!



Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Summer Crops

- Look for firm and fully-colored tomatoes and avoid those that are brown or wrinkled.
- Store tomatoes out of direct sunlight at room-temperature and rinse under cool water before preparing. Use within 1 week of purchase.
- Look for cucumbers that are small, firm, and dark green, and avoid those that are soft or have yellow spots.
- Cucumbers can be stored in the refrigerator for up to 1 week. Rinse under cool water and trim off the ends before eating.
- Look for eggplants that are firm, glossy, and heavy with no breaks in the skin.
- Eggplants can be stored whole in the refrigerator for 1 week or 3-5 days if cooked. Rinse under cool water prior to cooking.
- The skins of tomatoes, cucumbers, and eggplants are edible!

Facts About Summer Crops

- In Iowa, tomatoes are in season July-September, cucumbers are in season July-August, and eggplants are in season August-September.
- Common varieties of tomatoes include heirloom, beefsteak, Roma, cherry and grape. They come in many different colors of the rainbow.
- Tomatoes grow on a vine and are the fruit part of the plant; however, they are considered a vegetable when eaten.
- Cucumbers are in the gourd plant family, which also contains squash and melons.
- Cucumbers are about 96% water, and the phrase “cool as a cucumber” is because the inside of a cucumber is 20° cooler than the outside!
- Different varieties of eggplants include Japanese, Chinese, American or the globe.
- Eggplants belong to the nightshade family and are classified as the berry part of the plant.

Health Connection

- Tomatoes provide vitamin C, to heal our skin and fight off illness (Reinforce by cross your arms as a defense shield), vitamin A, to help our eyesight (Make goggle with your hands to cover your eyes) and potassium. Tomatoes also contain the antioxidant lycopene, which also helps keep our eyes and heart healthy!
- Cucumbers provide vitamin C and are a great source of fiber, to help us feel full (Reinforce by rubbing your stomach). Fiber keeps our heart healthy, too!
- Eggplants are a good source of fiber.

References and Resources

<https://spendsmart.extension.iastate.edu/cook/produce-basics/>

<https://www.iowafarmtoschoolearlycare.org/choose-iowa-campaign>

<https://snaped.fns.usda.gov/seasonal-produce-guide>

[FREE 5-2-1-0 PRINTABLES — Iowa Healthiest State Initiative](#)

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP. February 2026

Local Fall Fruit

Apples, Pears, Melons

GRADE
2-3

Month: October

Time Required: 30 minutes

Tasting: Local fall fruit, such as apples, pears or melons

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to identify apples, pears or melons as fall fruit.
- Students will be able to recall that apples grow on trees and are the fruit of the tree.

Materials

- 6 Plant Part Puzzles, one of each
- Image of apple tree (included in lesson)
- Tasting materials: napkins or paper plates
- Locally-sourced fall fruit (apples, pears or melons).

Preparation

- Prepare Plant Part Puzzles: print 6 plant part puzzle pages and cut the pages into pieces using the grid provided. Consider laminating the pages for reuse. Put each plant part puzzle in a baggie.
- Prepare fall fruit for tasting. Decide if you will chop the fruit before or during the lesson. Can you give students larger pieces for them to chop themselves? If so, add plastic knives to your materials and discuss knife safety before passing them out.

Recommended Books

"Fall Apples Crisp and Juicy" by Martha E. H. Rustad
 "The Apple Tree" by Sandy Tharp-Thee
 "From Seed to Plant" by Gail Gibbons

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education

[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science

Second grade - [2-LS2-2](#).
 LS2.A: Interdependent relationships

Third grade - [3-LS1-1](#).
 LS1.B: Growth and development

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- "Asking" Discussion
- Newsletters, Stickers
- Science Connection: Parts of a plant (2nd) & Plant growth and development (3rd)

Engage

1. Introduction: 3 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 8 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Begin with, *Think about how you go through a day and all the things you do. At some point, you probably depend on your parents/caregivers for things like food, clothing and shelter. You may also go to school and depend on your teacher to help you learn. Who is someone you depend on? Who is someone who depends on you? What do you depend on them for?* Consider having students discuss their answers with a partner. Listen to the responses and share what you heard.

*Today, we’re going to learn about **interdependence**. Interdependence is simply how living and non-living things need each other—or depend on each other. To start, we’re going to do an activity that practices interdependence.* The following activity demonstrates and develops verbal communication, cooperation and problem-solving skills.

Plant Part Puzzle!

Divide the class into 6 groups to work on the Plant Part Puzzle together (one group per plant part). Give a plant part puzzle to each group. Share, *Each group has a new puzzle to solve - a plant part puzzle. As a team, work together to fit the pieces of the puzzle together. Once your group has solved the puzzle, talk about the picture of the plant part. What does it do? What does it need? Do any other plant parts need it? When you know, move quietly back to your desk and take three deep breaths.* Give students a few minutes to complete their plant part puzzles. Move around the room to assist groups as needed.

Once all groups have completed the activity, ask a couple of students to share about how they worked together as a group to solve the puzzle. *How did you depend on your group members to put the puzzle together?* (communicated with each other, asked questions, helped each other, etc.) Celebrate their teamwork! *Great job practicing interdependence.*

Explore

3. Experiential Learning: 11 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Explain to students, *Each group put together a puzzle of a plant part. There are 6 parts of the plant. Remind students of previous learning about plant parts in Pick a Better Snack lessons. The 6 parts of a plant are interdependent. That means they need each other.* While displaying the complete image of the apple tree included in the lesson, ask groups to recap what they talked about: the function of each plant part, what it needs, what plant parts need it. Review the plant parts and their function, highlighting their dependence on other plant parts.

- Roots: soak up water and keep the plant in the ground; roots **depend** on healthy soil and water.
- Stem: brings water up and food down; **a stem and roots are interdependent**
- Leaves: help the plant make food from sunlight; leaves grow from and **depend** on stems and roots
- Flowers: make flowers, pollen and fruit; flowers depend on bees for pollination—**flowers and bees are interdependent**
- Fruit: holds and protects seeds; fruit **depends** on flowers (and bees!)
- Seeds: make new plants; seeds grow inside of and **depend** on fruit

The plant part we eat from an apple tree is the (choral response: "fruit!"). In the fall, the fruit on an apple tree is ready to harvest and eat. In which season are apples ready to eat? (Choral response: "in the fall!") For our tasting today, we're going to taste a fall fruit—apples [or pears, melons]. But first, let's learn more about how apples grow by watching this video about an apple orchard in Iowa.

Show students a portion of one of the following videos. Follow with a few questions for students about what was in the video.

- Apple orchard video from the Iowa Department of Education: [Farm to School Virtual Field Trip - Council Bluffs Apples](#). Consider playing from 2:45 – 6:18 or 7:00 – 8:50, or a different segment, if you prefer.
- Apple orchard video from the Iowa Department of Agriculture and Land Stewardship: [Great Apple Crunch: Growing Apples in Iowa](#). Consider stopping the video at 2:27.
- Melon farm video from the Iowa Department of Education: [Farm to School Virtual Field Trip - Muscatine Melons](#). Consider playing from 4:16 – 5:27 or 4:16 – 7:21.

Before we taste apples, stand up and take a trip with me across the state to an apple orchard [or tree].

Explore (cont'd)

Physical Activity: Explore Iowa (see [Activity Breaks booklet, page 44](#))

Lead students on a tour of Iowa. Students will move according to the actions described in the tour. Substitute names of local places as you'd like.

- *Fly like an eagle over the Mississippi River*
- *Paddle on a canoe like Lewis and Clark on the Mississippi River*
- *Climb the stairs at Ledges State Park*
- *Hike the Loess Hills*
- *Waterski on the Cedar River*
- *Fish at Saylorville Lake*
- *Shoot a basket at Hilton Coliseum*
- *Throw a football in the UNI Dome*
- *Drive a racecar at the Iowa Speedway*
- *Ski the slopes at Sundown Mountain*
- *Run the Bix 7 road race*
- *Duck under the caves at Maquoketa Caves State Park*
- *Swim in Lake Okoboji*
- *Pick apples at [name of local apple orchard or a nearby apple tree].*

Variations:

1. Order the tour from east to west or west to east to finish the tour at your location.
2. Use a state map to point out landmarks.

Instruct students to take a seat and prepare for the tasting.

4. Tasting Activity: 3 minutes

The "Tasting Activity" section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, "don't yuck my yum").

Before you pass out any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students receive their apple [or pear, melon] samples, talk the class through using their senses to explore the tasting.

Choose a fall fruit to sample below. Celebrate National Farm to School Month with local fruit.

1. Apples. Serve a slice(s) of a local apple. Consider serving two different varieties to compare and contrast the samples. Another idea is to make applesauce: [Our Favorite Applesauce – SNAP-Ed New York](#). Participate in this annual Iowa event: [Great Apple Crunch](#).
2. Pears. Serve a slice(s) of a local pear. Consider serving two different varieties to compare and contrast the samples.
3. Melons. Serve a piece(s) of a local melon. Consider serving two different kinds to compare and contrast melons.

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect (cont'd)

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the fall fruit, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay," "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say our magic word, "go," you can say your answer aloud. Let's practice...

- *What month is it? (October)*
- *How do apples [or pears] grow? (on trees)*
- *What plant part are apples [or pears, melons]? (fruit)*
- *In what season can we harvest and eat apples [or pears, melons]? (Fall)*
- *Fill in the word: when two things, like people or plant parts, need each other, or depend on each other, this is _____ (interdependence)*

Asking Discussion:

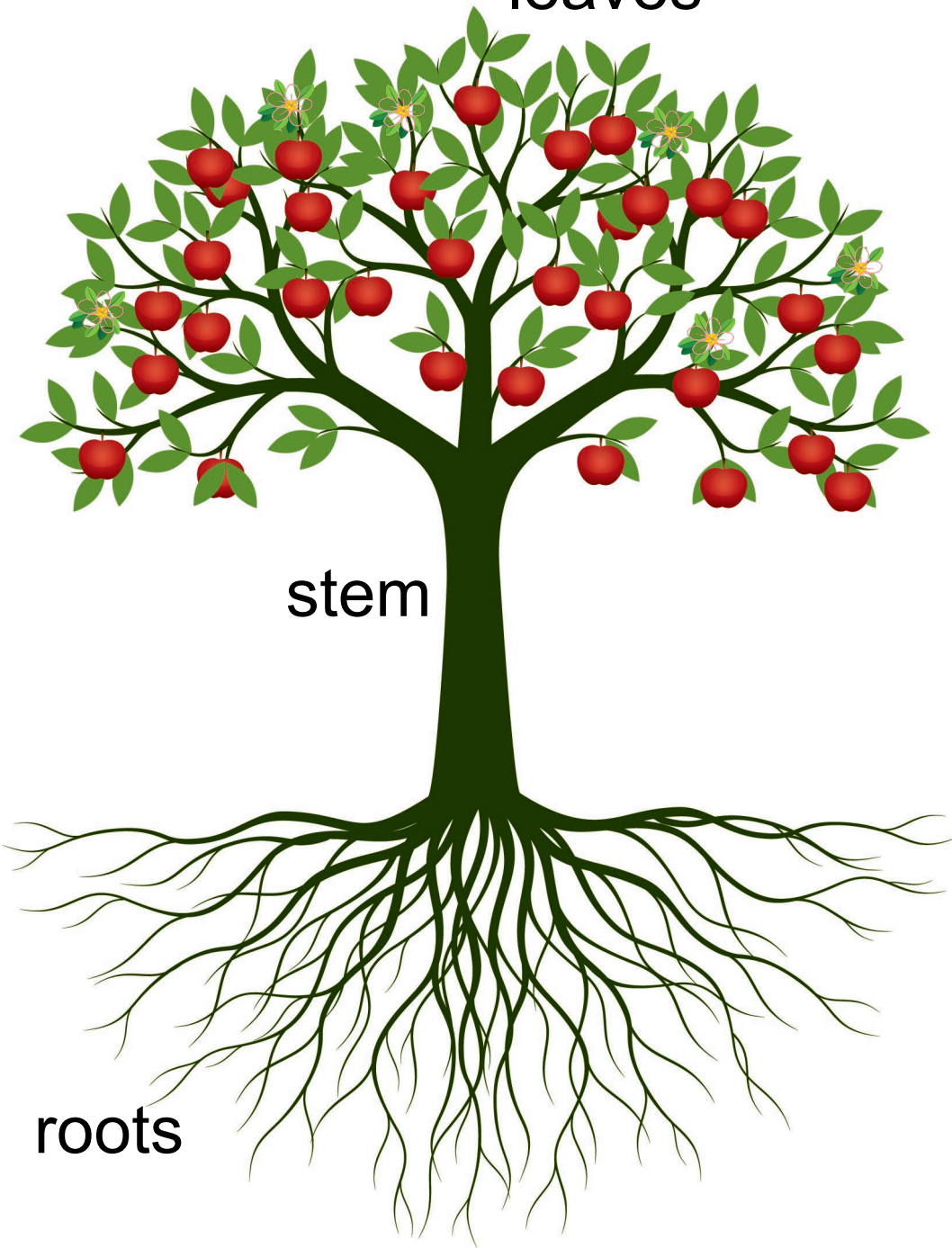
Raise your hand if you're excited to go home and tell your family about tasting fall fruit.

- *Will someone share what they liked or loved about the fall fruit? Select a couple students to share.*
- *Will someone share what they would change about the fall fruit? Select students to share.*
- *Ask a student with a raised hand: if you wanted to try fall fruit at home, how might you ask your grown-ups?*
- *You might also ask additional questions like, where could you buy apples or other kinds of fall fruit? What is something else you know about apples or other fall fruits?*

Leave newsletters and stickers with the teachers to pass out.

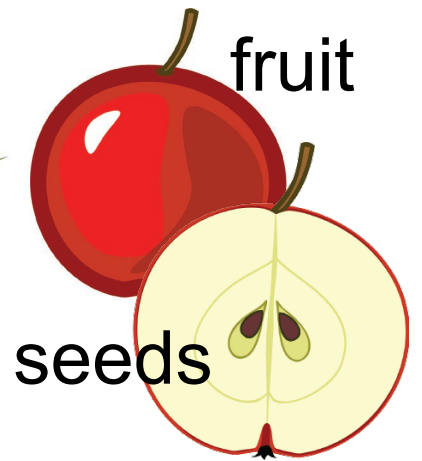
leaves

flower



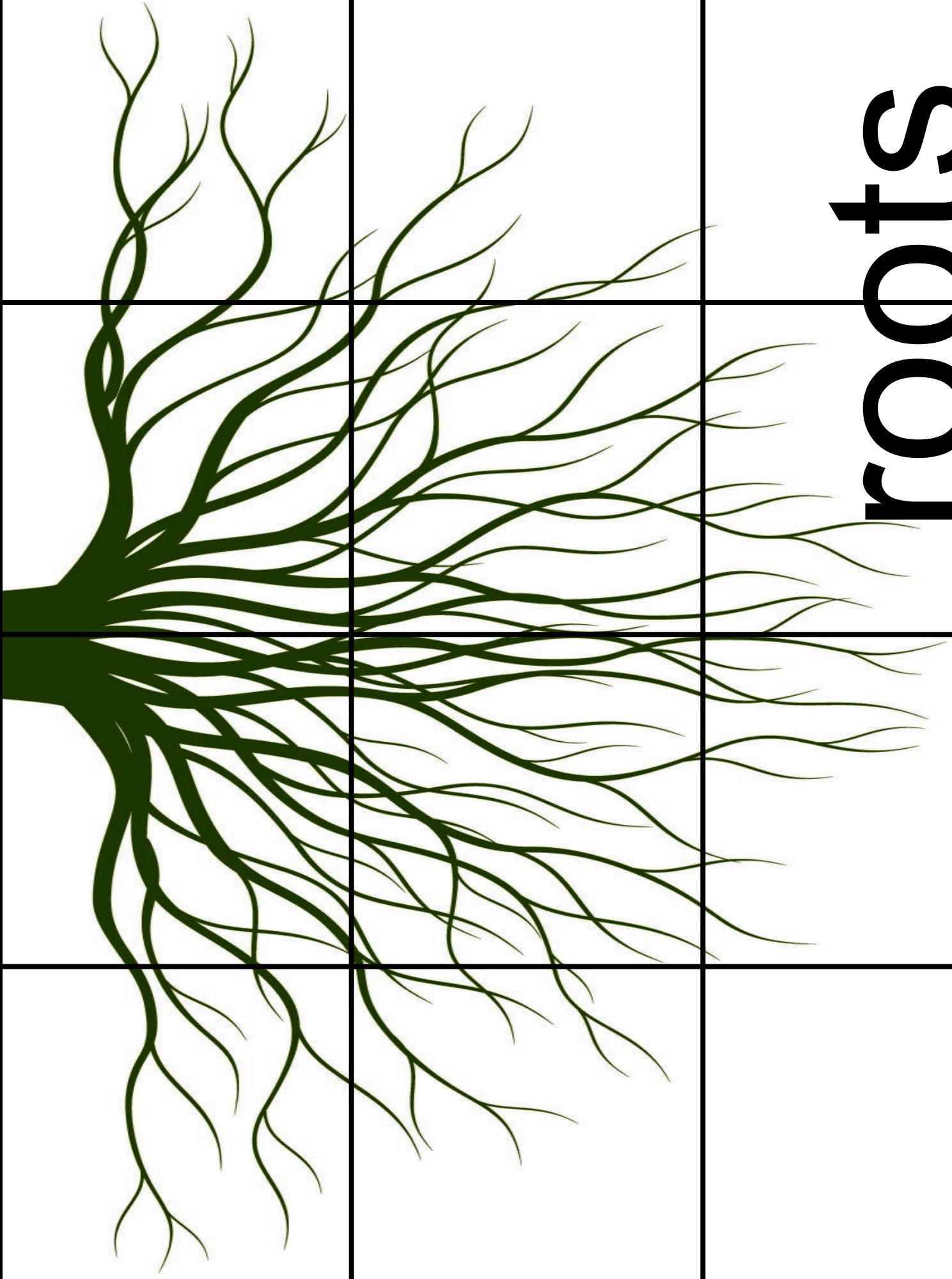
stem

fruit

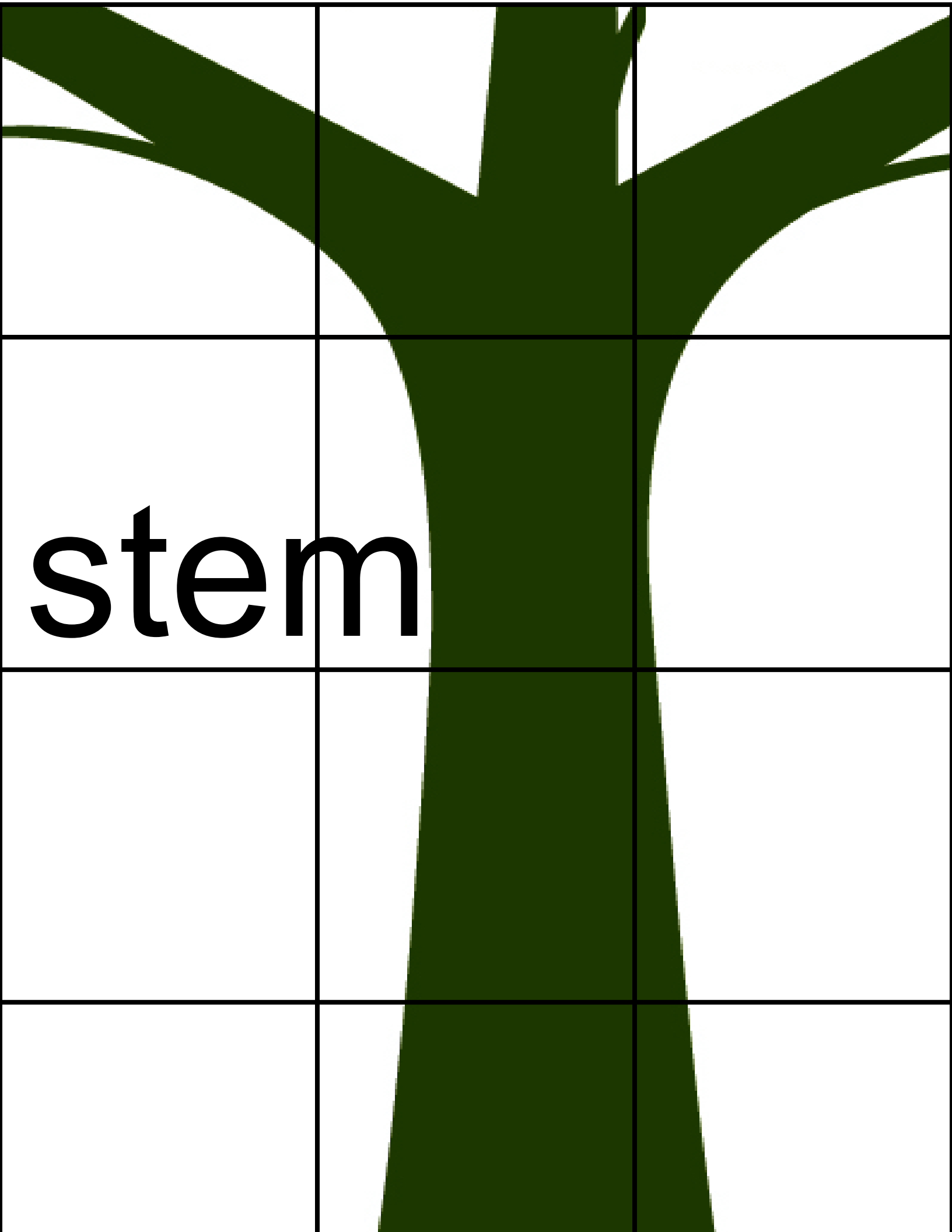


seeds

roots

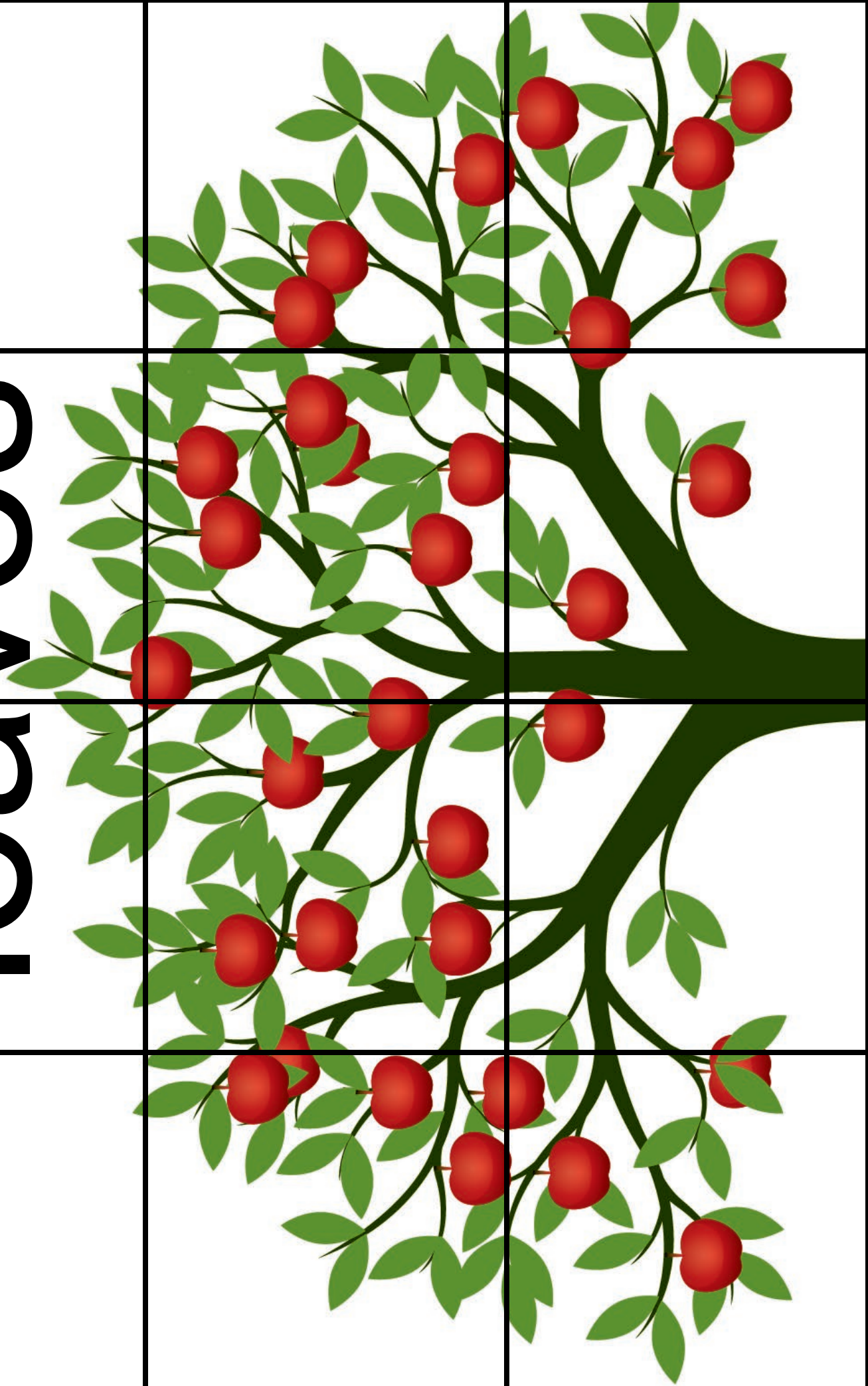


roots

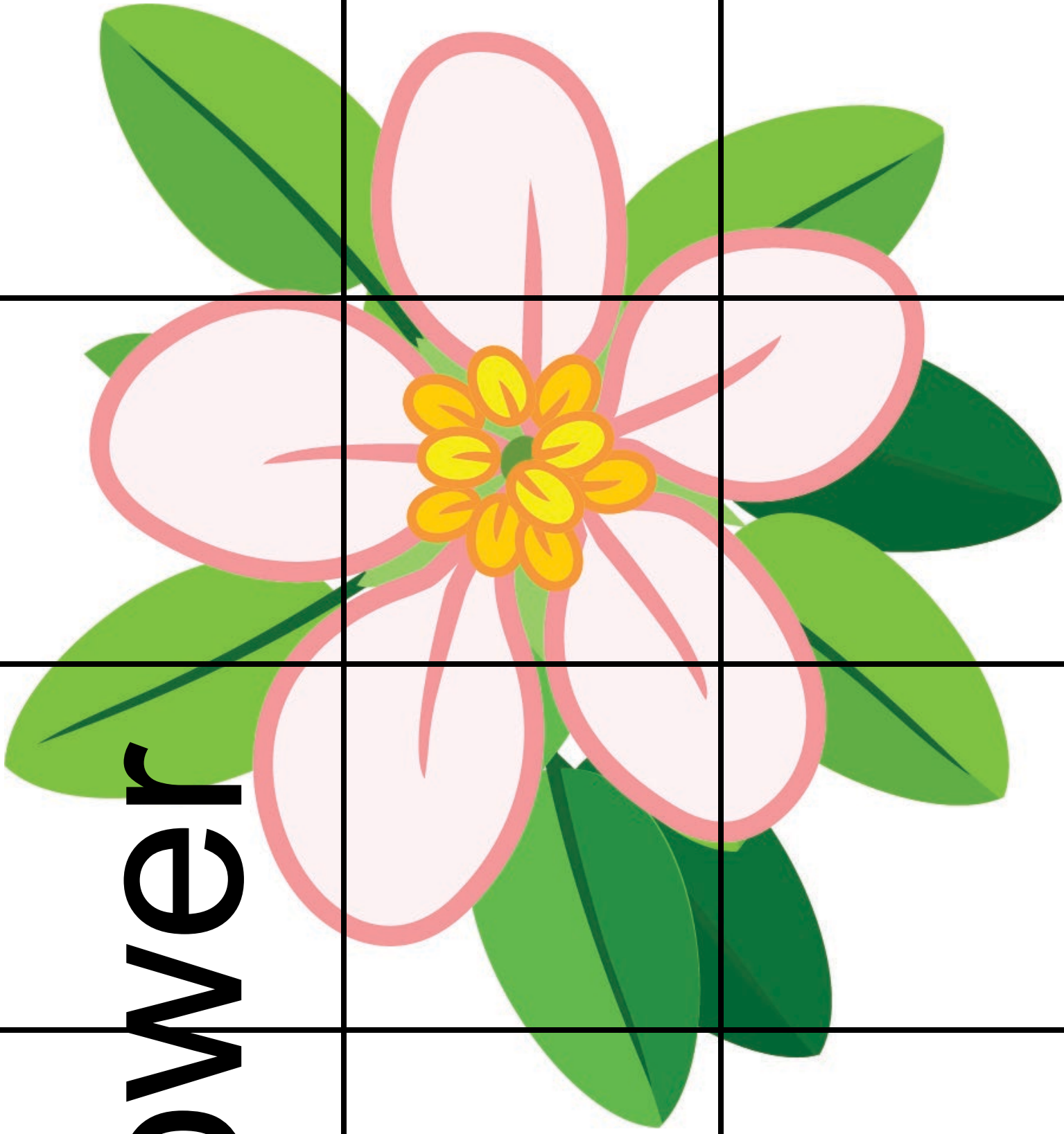


stem

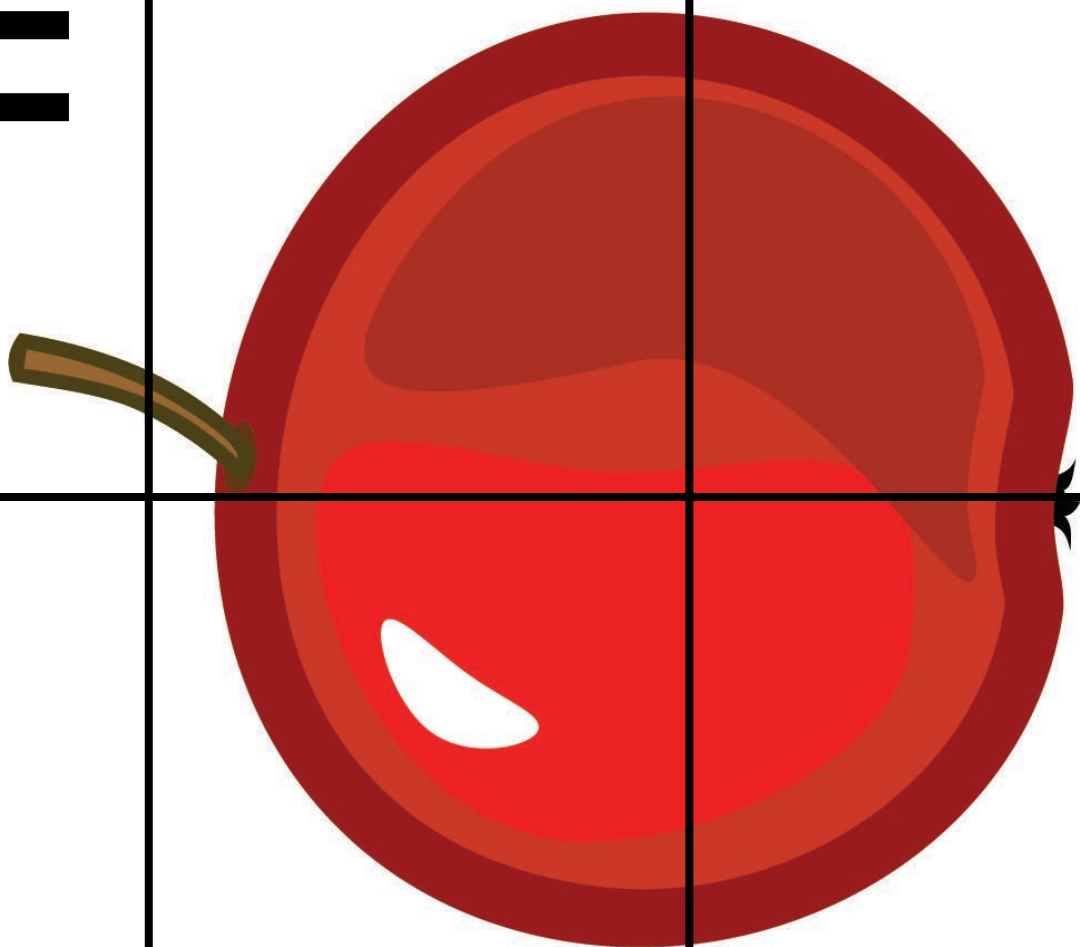
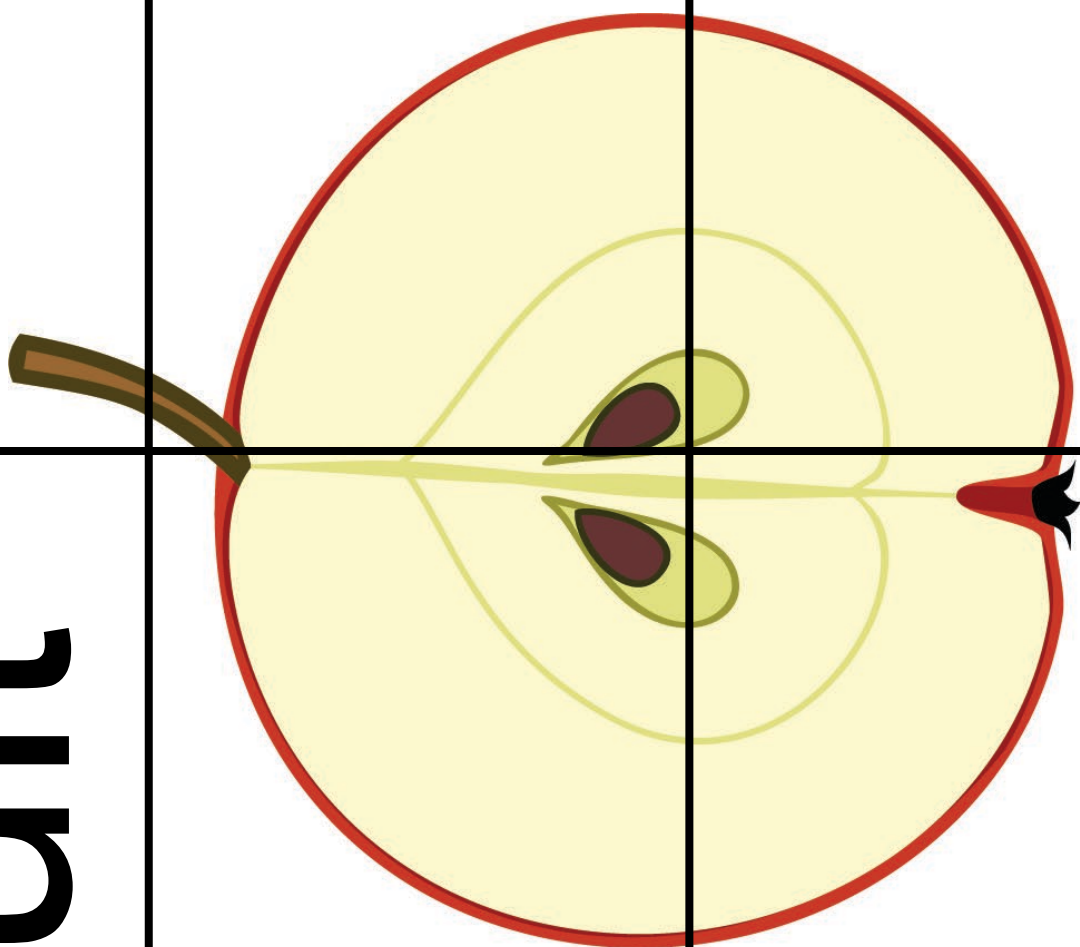
leaves



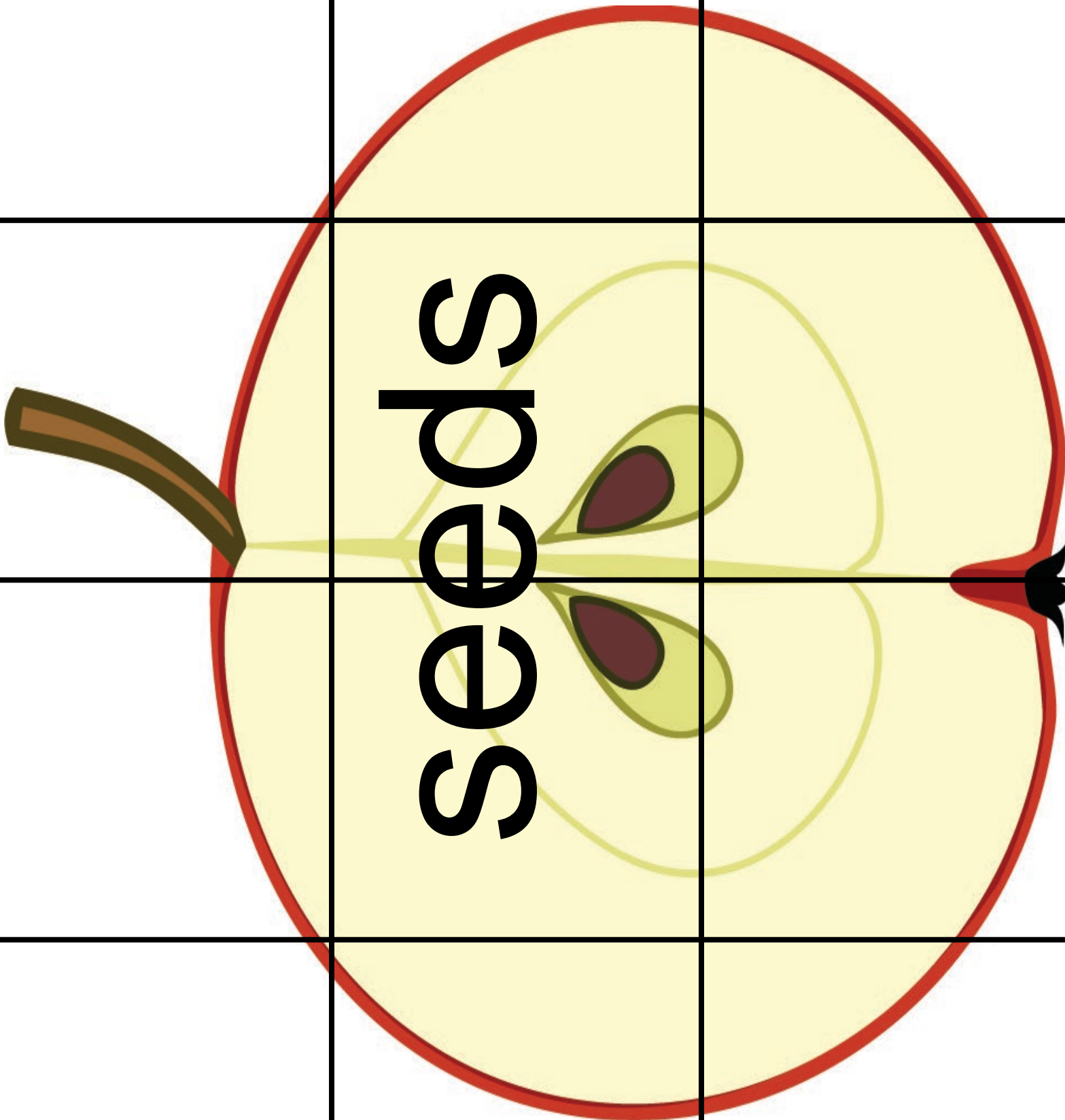
flower



fruit



seeds



Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Fall Fruits

- Look for firm, smooth apples and avoid those that are soft or bruised.
- Seal apples in a plastic bag and store in the refrigerator for up to 3 weeks.
- Prior to eating, rinse apples and pears under cool water. Both apple and pear skins are edible.
- Look for firm, un-bruised pears that give a little when pressed near the stem. To ripen pears, store them in a paper bag at room temperature. Once ripe, they can be stored in the refrigerator for 4 days.
- Look for honeydew melons that are creamy or yellow colored, heavy, and have a pleasant smell. Look for watermelons that are heavy and have yellow undersides.
- Uncut melons can be stored for 1 week at room temperature. Cut melons should be stored in an airtight container in the refrigerator for up to 5 days.
- Scrub melons with a vegetable brush under cool water before cutting. Remove the center cluster of seeds, if it has them, and remove the rind (outer portion) before eating.

Facts About Fall Fruits

- In Iowa, apples are in season July-October, and pears are in season August–September. Melons are in season August-October.
- In the U.S. alone, there are over 2,500 varieties of apples. Some popular ones include Granny Smith, McIntosh, Honeycrisp and Red Delicious.
- Apples and pears grow on trees and are in the pome (fleshy) fruit family with a core holding several small seeds.
- There are many varieties of pears including Cactus, Bartlett, Bosc, Asian and Anjou.
- Some varieties of melons include Cantaloupe, Watermelon, Honeydew, Crenshaw, Casaba, and Canary. Cantaloupes are also sometimes called rockmelons or muskmellons!
- Melons grow on vines on the ground and are a part of the gourd plant family.

Health Connection

- Apples and pears provide fiber, vitamin C and potassium. Eat the skin for the most fiber!
- Melons provide vitamin A, vitamin C, potassium and fiber. Potassium helps keep our hearts and muscles healthy!
- Watermelon contains the antioxidant lycopene, which helps keep our eyes and heart healthy!
- Vitamin A is important for eyesight and keeps our skin healthy (make goggles with your hands to cover your eyes). Vitamin C helps heal our skin and helps our bodies fight off illness (reinforce by crossing your arms as a defense shield). Fiber helps us feel full (reinforce by rubbing your stomach).

References and Resources

<https://spendsmart.extension.iastate.edu/cook/produce-basics/>

<https://snaped.fns.usda.gov/resources/nutrition-education-materials/seasonal-produce-guide/apples>

<https://www.iowafarmtoschoolearlycare.org/great-apple-crunch>

<https://www.iowafarmtoschoolearlycare.org/choose-iowa-campaign>

Local Brassicas

Brussels Sprouts, Cabbage, Kohlrabi

GRADE
2-3

Month: November

Time Required: 30 minutes

Tasting: A locally available Brassica, such as Brussels sprouts, cabbage or kohlrabi

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to describe the concept of a plant family.
- Students will be able to compare and contrast traits of plants in the Brassica family.

Materials

- Images of Brassicas for comparison activity (included in lesson) and a Brussels sprout plant (preferred) or an image (included)
- Printed compare and contrast worksheets, one per student pair or table group
- For in-class cooking: cooler, antibacterial food safe wipes, electric skillet or air fryer, plastic tote (to transport electric skillet), spatula, power strip (with long cord), water bottle with water, rags, plastic food storage bags, halved Brussels sprouts for cooking (depending on class size), olive oil, salt, pepper, preferred spices (garlic, cumin, etc.)
- Tasting materials (plates, napkins, etc.)

Preparation

- Food preparation:
 - Prepare Brussels sprouts for tasting: if using air fryer or electric skillet, cut Brussels sprouts into halves. If making a salad, shred the Brussels sprouts.
 - Portion Brussels sprouts into food storage bags (one per lesson). Add olive oil and spices to the bag.
- Chop/shred the Brussels sprouts no more than two days in advance of your lesson and store them in an airtight container in the refrigerator.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science
Second grade - [2-LS4-1](#).
LS4.D: Biodiversity

Third grade - [3-LS3-1](#).
LS3.B: Variation of traits

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- "Asking" Discussion
- Newsletters, Stickers, Incentives
- Science Connection: Biodiversity (2nd) & Plant families (3rd)

Recommended Books

"Katie's Cabbage" by Katie Stagliano

Engage

1. Introduction: 3 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day's lesson.

If you're planning on cooking your Brassicas in an electric skillet or air fryer, you may want to start preheating your cooking instruments as soon as you arrive in the class. Alert students and teachers to the hot skillet or air fryer. If using a skillet, heat a couple tablespoons of olive oil over medium heat, leaving uncovered.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren't influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 8 minutes

The “Engage Activity” section has two purposes: 1) to activate students' prior knowledge and 2) to engage every student.

Share, *Today, we're going to be tasting Brussels sprouts, and we're going to learn about families.* If you're cooking, show your students your container of prepared Brussels sprouts. Before you add the Brussels to the preheated electric skillet or air fryer, ask students to listen very carefully for the “sizzle” noises. Add the Brussels. If using a skillet, leave uncovered, stir occasionally and cook for 10 minutes or until tender over medium heat.

First, we're going to do an activity called Brussels Sprout Shout!

Physical Activity: Brussels Sprout Shout!

- Have all students stand, either in a group or beside their desk with the chair pushed in.
- Explain, *everyone will jog in place [or choose a different activity, such as marching]. Pay attention to stay in your spot and not touch your neighbor.*
- *When I say “Brussels,” everyone will quickly put both hands up high in the air quickly [or an activity of your choice] and then return to jogging in place.*
- *When I say “Sprouts,” everyone will squat and touch the floor with both hands quickly [or an activity of your choice] and then return to jogging in place.*
- *Listen closely as I will say the words out of order, so you won't know what is coming next.*
- *When I say “Shout,” you will stop and say, “Brussels Sprout Shout!”* Have the students practice saying it aloud all together.
- Lead the class through the activity for a short activity break. With students jogging in place, say “Brussels” (raise hands and return to jogging), “Sprouts” (squat to touch the floor and return to jogging, “Shout” (students stop and say “Brussels Sprout Shout”). Mix up the order of the words and vary your pace. Example: *Brussels, Sprouts, Sprouts, Sprouts, Brussels, Brussels, Shout, Brussels, Sprouts, Shout, Shout, Sprout, Brussels,* and so on.
- Compliment students on paying attention and completing the activity.

Engage (cont'd)

Families are special groups of people. Sometimes, people in our family are similar to us—maybe they look like us, live in the same place as us, enjoy the same foods or activities, talk like us. Sometimes, people in our family are different from us—maybe they look different from us, are a different age than us, live in different places, or like eating different foods than we do.

Think-pair-share: *I'd like you to talk with a partner and share about a special person in your family. How are they the similar or different from you? As an example, share something special about a person in your family.*

- *Think to yourself quietly.* Have students close their eyes, put their fingers to their temples, and think real hard.
- Ensure all students have a partner. Then, have students turn to a partner and share about their family member.
- After a couple minutes, bring the class back together and select students to share out. If you use “pick a stick,” this is a good way to randomly select students to share.

Thank you for sharing about the special people in your families. I can tell you care for them. We're going to learn about a plant family.

Explore

3. Experiential Learning: 10 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Seat students at their desks. Opportunity for 3 deep breaths.

Just like people have families, plants have families, too! Explain, A plant family is a group of plants that share similar features or traits. One plant family is called the Brassica family. Let's say that together: “Brassica family.” There are many vegetables in the Brassica family. Just like in our human families, each member of the Brassica family is special.

Brassica Family: Compare and Contrast

Show the image of vegetables in the Brassica family included in the lesson on the classroom projector. Pass out “The Brassica Family: Compare and Contrast” worksheets, one per pair of students or table group. If students are unable to work in groups, lead the activity with the entire class on the classroom projector or white board, picking two Brassica vegetables. Repeat with another pair of vegetables if time allows.

Share these instructions for the activity: *We're going to look at the many different members of the Brassica family and examine how their traits are the same and how they are different. With your partner (or table group), pick 2 Brassicas to compare and contrast. Using the worksheet, write the ways they are different in the outside circles and write the ways they are the same in the inside circle.* Share an example on the projector, if helpful. Give students several minutes to complete the activity in groups, moving around the room to offer support as needed.

Ask a couple of groups to share aloud. Comparisons may address color; size; shape; leaves (compact or loose, big or small); parts of plants (students may know the plant parts of some of the vegetables, such as leaves, florets/flowers, or root vegetables); stems (thick or thin, visible or not); roots (visible or not); etc.

Consider opportunities for additional discussion with these questions:

- Do you think all members of the Brassica family taste the same?
- Have you ever tasted any of these Brassicas?
- Share with students that we get similar nutrients from Brassica vegetables (vitamin C, fiber, phytonutrients and potassium; see the last page for health benefits and actions to help students remember)

The Brassica we are going to taste today is called Brussels sprouts [or cabbage, kohlrabi]. Show how Brussels sprouts grow on a stalk using an actual plant—impressive and something many students likely haven't seen (excitement about produce can make students want to try it). As a backup, use the image of a Brussels sprout plant included in the lesson. Identify the stalk (main stem), Brussels sprouts (buds along the stem) and leaves. Share that Brussels sprouts grow in Iowa!

Optional: Show students this video from Oregon Harvest for Schools about Brussels Sprouts: [Oregon Harvest for Schools - Brussels Sprouts – YouTube](#) (2:38). Students will be able to see a Brussels sprouts stalk. If students will taste cabbage instead, show students this video from Nebraska Department of Education Harvest of the Month: [From Farm to You: Cabbage](#) (1:49).

4. Tasting Activity: 4 minutes

The “Tasting Activity” section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, “don't yuck my yum”).

Before you pass out any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students receive their samples, talk the class through using their senses to explore the tasting. Choose one of the following to taste Brussels sprouts:

1. Raw: Make a shredded Brussels sprout salad. A number of simple recipes can be found online. See the Brussels sprout slaw recipe here, as an example: [BBQ Chicken Sandwiches with Brussels Sprout Apple Slaw – SNAP-Ed New York](#).
 - Cabbage options: Taste a small piece of cabbage plain or with salad dressing, or a coleslaw such as: [Snappy Cole Slaw - MA SNAP-ED](#).
 - Raw kohlrabi sticks.
2. Air fryer: Before the lesson, chop Brussels sprouts into smaller pieces. During the lesson, toss in an air fryer with olive oil and spice options (ex: garlic, pepper, paprika). You can also use an oven or fry in a skillet.
3. Electric skillet: Before the lesson, chop Brussels sprouts into smaller pieces. During the lesson, heat 2 tablespoons olive oil over medium heat, leaving uncovered. Add your Brussels sprouts to the hot skillet and with optional spices (ex: salt, garlic, pepper, paprika).

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the Brassicas, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay," "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say the word, "Brussels sprouts," you can say your answer aloud. Let's practice...

- *What month is it? (November)*
- *People have families. Do plants have families, too? (yes!)*
- *What plant family did we learn about today? (the Brassica family)*
- *What is a plant family? (plants that share similar features or traits)*
- *What member of the Brassica family did we taste today? (Brussels sprouts, or cabbage or kohlrabi)*
- *What is one way members of Brassica family are similar? What is one way they are different?*
- *Do Brussels sprouts [or cabbage, kohlrabi] grow in Iowa? (yes!)*

Asking Discussion:

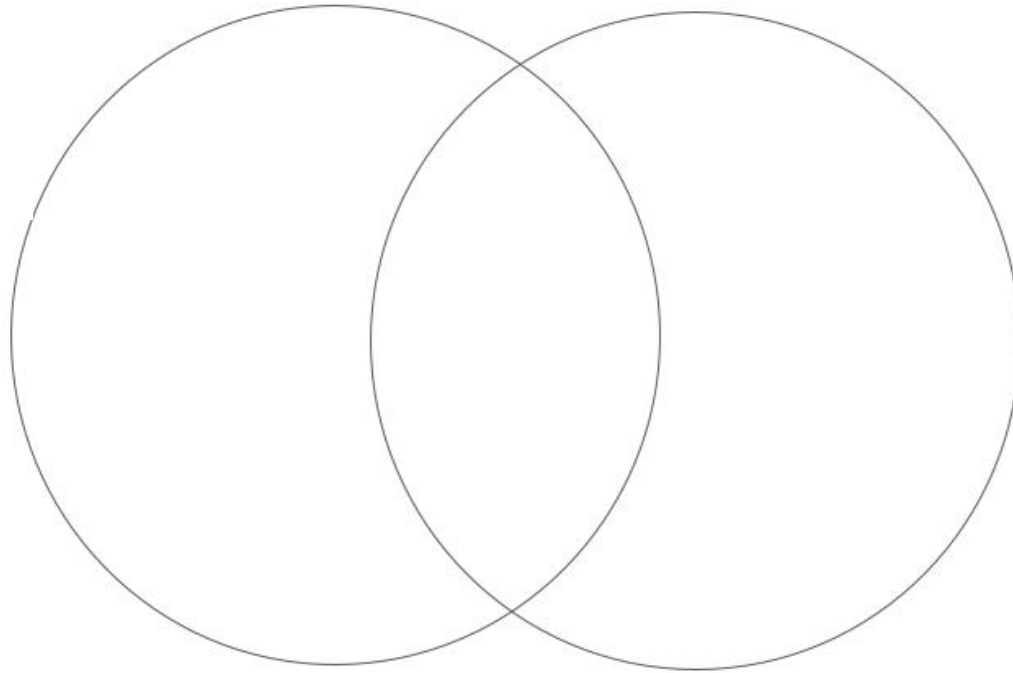
Raise your hand if you're excited to go home and tell your family about tasting Brassicas.

- *Ask a student with a raised hand: if you wanted to try Brassicas like Brussels sprouts at home, how might you ask your grown-ups?*
- *You might also ask additional questions like, where could you buy Brassicas like Brussels sprouts? How could you eat them? What else do you remember about Brassicas?*

Leave newsletters and stickers with the teachers to pass out.

The Brassica Family: Compare and Contrast

1. Pick two vegetables from the Brassica family.
2. Compare. In the inside circle, write their similarities.
3. Contrast. In the outside circles, write their differences.

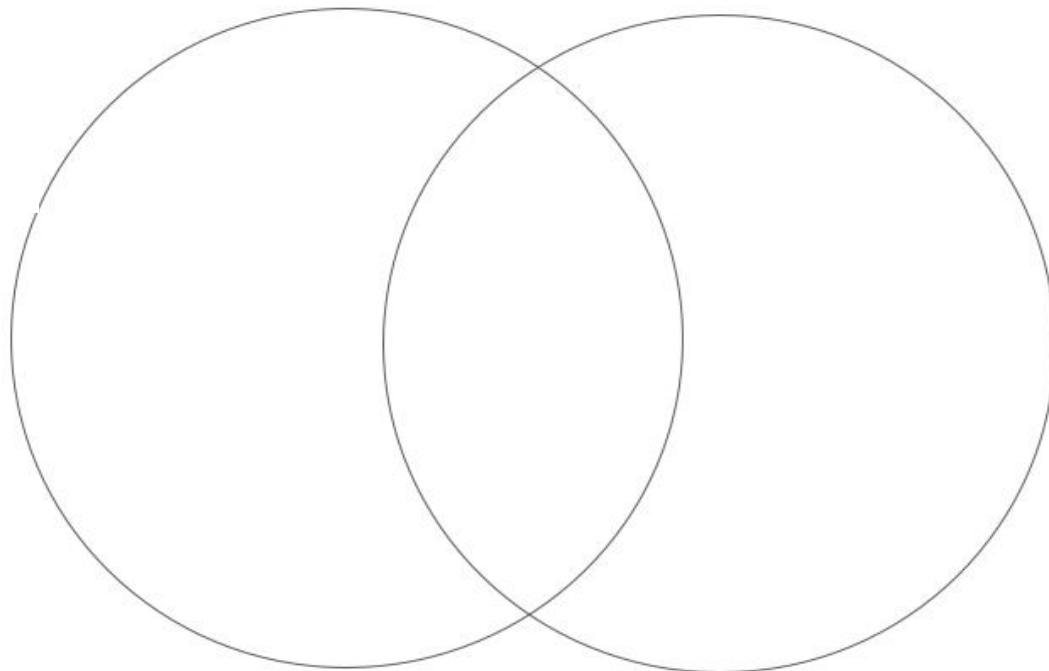


Name of Brassica #1:

Name of Brassica #2:

The Brassica Family: Compare and Contrast

1. Pick two vegetables from the Brassica family.
2. Compare. In the inside circle, write their similarities.
3. Contrast. In the outside circles, write their differences.



Name of Brassica #1:

Name of Brassica #2:



Broccoli



Cauliflower



Brussels sprouts



Cabbage



Radish



Napa cabbage



Kale



Rutabaga



Kohlrabi



Mustard greens



Collard greens



Turnips



Brussels sprout plant

Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Brassicas

- Look for Brussels sprouts that are bright green, firm and compact; they're best if still on the stalk. Store Brussels sprouts in a plastic bag in the refrigerator for up to 1 week. Rinse under cool water and cut off the stem portion before eating.
- Look for cabbage that is crisp, heavy and firmly packed with no loose leaves. Tightly wrap cabbage in plastic and store in the refrigerator for up to 1 week. Remove the outer leaves of cabbage and rinse under cool water before preparing. Remove the core before chopping.
- Look for firm, heavy kohlrabi globes without cracks or bruises, ideally 2 inches across in size. Trim off kohlrabi leaves, wrap kohlrabi in paper towels, and store in a plastic bag in the refrigerator for up to 4 days. Kohlrabi greens should be rinsed under cool water and blotted dry right before using. Kohlrabi globes should be scrubbed with a veggie brush under cool water and peeled before using. Small bulbs do not usually need to be peeled.

Facts About Brassicas

- Cabbage is in season mid-June-October; kohlrabi is in season mid-August-October; Brussels sprouts are in season June-November.
- Cabbage, kohlrabi and Brussels sprouts are in the Brassicas plant family and grow right on top of the ground. They are also called cruciferous vegetables due to the cross formation of their flower petals.
- 78% of cabbage in the U.S. is grown in Texas, New York, Florida, California or Wisconsin.
- Cabbage is the leaf of the plant and includes green, red, Savoy, napa and bok choy.
- The word "Kohlrabi" is a German word meaning "cabbage turnip" and is the stem part of the plant. Kohlrabi comes in white (green) and purple varieties.
- Brussels sprouts are buds along the plant stem that come in both green and red varieties.

Health Connection

- Cabbage provides vitamin C and anti-cancer phytochemicals. Kohlrabi provides vitamin C and fiber. Brussels sprouts provide vitamin C, vitamin K, potassium and fiber.
- Vitamin A is important for eyesight and keeps our skin healthy (make goggles with your hands to cover your eyes). Vitamin C helps heal our skin and helps our bodies fight off illness (reinforce by crossing your arms as a defense shield). Fiber helps us feel full (reinforce by rubbing your stomach). Vitamin K is good for our bones and blood. Potassium is good for our hearts.

References and Resources

<https://spendsmart.extension.iastate.edu/cook/produce-basics/>

<https://fruitsandveggies.org/fruits-and-veggies/>

<https://www.agmrc.org/commodities-products/vegetables/cabbage>

<https://dpi.wi.gov/sites/default/files/imce/school-nutrition/pdf/fact-sheet-kohlrabi.pdf>

Local Root Veggies

Carrots, Beets, Potatoes

GRADE
2-3

Month: December

Time Required: 30 minutes

Tasting: Available local root veggies (Carrots, Beets, or Potatoes)

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to give examples of adaptation by plants and people.
- Students will be able to describe the process of cold-sweetening in root vegetables.

Materials

- Locally-grown root veggies of your choosing: carrots, beets or potatoes store well into December.
- "Cold Roots are Sweet Roots!" half-sheet, one per student

Preparation

- Print "Cold Roots are Sweet Roots!" half-sheets and cut one per student.
- Prepare tasting. Consider serving root vegetables raw (sticks or shredded into a simple salad) or cooked (mashed, roasted).

Recommended Books

"Talia and the Rude Vegetables" by Linda Elovitz Marshall

"The Creepy Carrots" by Aaron Reynold

"Oliver's Vegetables" by Vivian Vegetables

"Two Old Potatoes and Me" by John Coy

"Carrots Grow Underground" by Mari Schuh

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education

[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science

Second grade - [2-LS4-1](#).
LS4.D: Biodiversity

Third grade - [3-LS4-3](#).
LS4.B: Adaptation

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- "Asking" Discussion
- Newsletters, Stickers,
- Science Connection: Biodiversity (2nd) & Plant adaptations (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 6 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Consider starting the lesson with one of the recommended books to introduce root vegetables.

*Today, we’re going to learn about root vegetables and how plants **adapt** to cold weather. Note new vocabulary word: write out, repeat and define. An adaptation is a special skill that helps a living thing survive by adjusting to change. People use adaptation to adjust to different seasons and weather. I’d like to know, what is something you do to stay warm in the winter when it’s cold outside. As an example, share something that helps you stay warm in the winter.*

Physical Activity: Hot Potato/Carrot/Beet

We’re going to play a game to share something you do that helps you stay warm in the winter. Instruct students to form a circle.

1. Pass an object around the circle, such as a plush vegetable—a potato, carrot or beet, depending on what you will taste later in the lesson.
2. Play music while students pass the object.
3. Then, stop the music and whoever has the object will share something they do to stay warm in the winter. Have all students act out the activity the student described.
4. Resume the music and continue playing.

Explore

3. Experiential Learning: 10 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Transition students to their desks. Opportunity for three deep breaths.

Explain, *Just like people, plants use adaptation to adjust to changing weather and seasons. While many plants can't grow in cold weather, some plants - like root vegetables - use adaptation to keep growing even when it's cold.*

Project the image included in the lesson. *So what do root vegetables do to adapt in cold weather? We know they can't drink hot cocoa or do jumping jacks to stay warm like we can! On the board is a picture of root vegetables growing in the winter and a clue that says, "Cold Roots are Sweet Roots." Read the clue together as a class and ask, what ideas do you have for how root vegetables change when it's cold? Call on a few students to share or have students discuss with a partner or in table groups how root vegetables change when it's cold. These are great ideas!*

Adapt the following explanation to build on students' responses. *Let's read our clue again. Read the clue together as a class: "Cold Roots are Sweet Roots." What's something that's sweet? (sugar*) Explain, Root vegetables adapt to cold weather by making sugar. The sugar inside the root keeps them from freezing. This is called cold-sweetening. Let's say it together: "cold-sweetening." Not only does the sugar keep the root vegetable from freezing, but it makes the vegetables taste sweeter, too. Once it gets very cold outside, we can harvest and eat cold-sweetened root vegetables—like carrots [or beets, potatoes]—which we are going to taste today!*

(*Note to educators: Eating foods with naturally occurring sugar, like fruits and vegetables, is not a concern since the amount of sugar is small, and the fruits and vegetables provide a lot of vitamins, minerals and other nutrients in addition to the small amount of sugar. Foods with a high amount of **added sugar**, however, are often lacking in nutrients and high in calories. Eating too much **added sugar** contributes to poor health.)

Show students this video to illustrate what happens to root vegetables, like carrots, if left in the ground when it gets cold outside. [Why do carrots taste sweeter in the winter? | The Kid Should See This](#) (1:02)

Optional: Pass out "Cold Roots Are Sweet Roots" half-sheets. Have students draw a picture or write about how root vegetables use adaptation to stay warm in the winter.

Explore (cont'd)

Discuss additional information about root vegetables. Consider passing around one or more root vegetables (carrot, beet, potato) for the students to observe, ideally with the leafy tops.

- *With root vegetables, the part of the plant we eat grows underground. We can't see it fully until we dig it up. Do you see any dirt on the root vegetables?*
- *Root vegetables help us stay healthy by giving us nutrients such as vitamin A, C and fiber. Refer to the last page for the actions for each nutrient to help students remember.*
- *There are many kinds of root vegetables, including carrots, beets and potatoes. Other root vegetables include radishes, sweet potatoes, jicama, turnips, etc. Reflect on root vegetables tasted, or which students will taste, in Pick a Better Snack.*
- *Root vegetables come in different colors. For example, carrots can be orange, yellow, red, purple or white.*
- *Root vegetables grow in Iowa.*

Optional: Show students how root vegetables grow with one of these videos based on the food students will taste.

- Nebraska Department of Education Harvest of the Month video: [From Farm to You: Potatoes](#) (2:12)
- Nebraska Department of Education Harvest of the Month video: [From Farm to You: Carrots](#) (1:25)
- Oregon Harvest for Schools video: [Oregon Harvest for Schools - Beets](#) (6:36). Consider stopping at 4:10. Students could taste the beet smoothie at the end of the video.

4. Tasting Activity: 5 minutes

The "Tasting Activity" section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, "don't yuck my yum").

Choose a root vegetable to taste:

1. Carrot. Offer regular or rainbow carrots. Compare the taste if serving different colors. Consider preparing carrot sticks or serving baby carrots (baby carrots are usually regular carrots that have been cut to this size and shape). May offer a small dab of dip, if preferred, such as [Vegetable Dip](#) or [Savory Yogurt Dip](#). Or, mix a packet of ranch seasoning into a 32-ounce container of plain Greek yogurt.
2. Beet. Raw, cooked, or as a slaw or salad. Consider raw golden beet sticks for a milder taste. Here is a carrot and beet salad: [Gingered Carrot and Beet Slaw – SNAP-Ed New York](#). The video from Oregon Harvest for Schools offers a beet smoothie at the end (4:10): [Oregon Harvest for Schools- Beets](#).
3. Potato. Taste roasted or mashed potatoes. May choose to cook in an air fryer or skillet during class. Avoid tasting packaged potato chips.

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 3 minutes

This is a time for students to give their opinion on what they tried!

As students taste the local root veggies, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren't influenced by the class.
2. Record the number of students who raised their hands.

6. Reflection: 4 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say "go," you can say your answer aloud. Let's practice...

- *What month is it?* (December)
- *What word did we learn to describe how people and plants adjust to survive in changing weather?* (adaptation or adapt)
- *How do root vegetables adapt to cold weather?* (they make sugar; a process called cold-sweetening)
- *How does sugar help root vegetables in the cold weather?* (it keeps them from freezing)
- *What root vegetable did we taste today?* (carrot, beet or potato)

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting root vegetables.

- *Will someone share what they liked or loved about the local root vegetables?* Select a couple students to share.
- *Will someone share what they would change about the local root vegetables?* Select students to share.

Ask a student with a raised hand: *if you wanted to try root vegetables at home, how might you ask your grown-ups?*

- You might also ask additional questions like, *where could you find carrots or other kinds of root vegetables? When could you eat root vegetables?*
- *What else do you know about root vegetables?*

Leave newsletters and stickers with the teachers to pass out.

Cold Roots are Sweet Roots!



Cold Roots are Sweet Roots!

Draw a picture or write about how root vegetables use **adaptation** to stay warm in the winter.

Draw a picture or write about how you use **adaptation** to stay warm in the winter!

Cold Roots are Sweet Roots!

Draw a picture or write about how root vegetables use **adaptation** to stay warm in the winter.

Draw a picture or write about how you use **adaptation** to stay warm in the winter!

Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Root Veggies

- Look for carrots that are bright orange (most commonly), firm and smooth. Carrots can be refrigerated for up to 2 weeks in a plastic bag with the tops removed. Rinse under cool water before eating.
- Look for beets that are dark, round, firm and smooth. Remove the beet leaves and store in the refrigerator in a plastic bag for up to 3 weeks. Scrub with a vegetable brush under cool water before eating.
- Both beets and carrots can be eaten cooked or raw.
- Look for firm, smooth potatoes without dents. Avoid green potatoes or those with soft spots or sprouts. Potatoes can be stored for 3-4 weeks in a dark, cool, well-ventilated place. Scrub with a vegetable brush under cool water before cutting or cooking.

Facts About Root Veggies

- Carrots are in season June - October; beets are in season June - November. Many potatoes are in season year-round, but the peak season for most potatoes is June - October.
- Carrots are the root part of the plant, growing underground, and come in orange, yellow, white, red and purple varieties. Carrots are a part of the Apiaceae plant family, which also includes parsley.
- Beets also grow underground as the root part of the plant. Beets can be long or globular in shape and range from purple-red, white to striped.
- Potatoes are technically tubers (underground stems) but included in the “root veggies” because they grow underground. They are part of the nightshade plant family. They’re a major crop all around the world. Potatoes come in a variety of colors including yellow, brown and even purple!

Health Connection

- Carrots are an excellent source of vitamin A and the antioxidant lutein, both of which are good for our eyes!
- Beets provide antioxidants (from their rich color), vitamin C and fiber.
- Potatoes provide potassium and vitamin C. Keep the skin on for some extra fiber!
- Vitamin A is important for eyesight and keeps our skin healthy (make goggles with your hands to cover your eyes). Vitamin C helps heal our skin and helps our bodies fight off illness (reinforce by crossing your arms as a defense shield). Fiber helps us feel full (reinforce by rubbing your stomach). Potassium helps keep our hearts and muscles healthy.

References and Resources

<https://spendsmart.extension.iastate.edu/cook/produce-basics/>
[Seasonal Produce Guide | SNAP-Ed](#)

Winter Squash

Butternut, Buttercup

GRADE
2-3

Month: January

Time Required: 30 minutes

Tasting: Local winter squash (ex.: butternut, buttercup, pumpkin)

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able identify characteristics of winter squash.
- Students will be able to describe differences in winter squash varieties.

Materials

- Image of many varieties of winter squash (included in lesson)
- All Kinds of Squash Cards: pictures and descriptions
- Whole, raw butternut squash (or other local varieties)
- If cooking in class: cooler, food-safe antibacterial wipes, electric skillet, plastic tote (to transport electric skillet), spatula, power strip (with long cord), water bottle with water, rags, plastic food storage bags, winter squash for cooking (depending on class size), olive oil, salt, pepper, preferred spices (garlic, cumin, etc.)
- Tasting materials (plates, napkins, etc.)

Preparation

- Print the squash images and descriptions, 1 card per student, for the All Kinds of Squash Matching Game based on class size. There are 10 different images and 10 different descriptions; a student will get either an image or description card. If needed, three students can match their cards. Cut apart the cards. You may want to laminate the cards so you can reuse them.
- Optional: prepare simple slideshow of prompts used in the opening “Engage” activity.
- Food preparation:
 - Prepare winter squash for tasting: peel and chop raw butternut squash in ½ inch cubes. See [How to prepare a butternut squash - Cooking with kids](#) video. (02:11)
 - Portion squash into food storage bags (one per lesson). Add olive oil and spices to the bag.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education

[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science

Second grade - [2-LS4-1](#).
LS4.D: Biodiversity

Third grade - [3-LS3-1](#).
LS3.B: Variation of traits

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- “Asking” Discussion
- Newsletters, Stickers
- Science Connection: Plant diversity (2nd & 3rd)

Recommended Books

“Carlos and the Squash Plant” by Jan Romero Stevens
“How many Seeds in a Pumpkin” by Margaret McNamara

“Pumpkin Book” by Gail Gibbons
“Strega Nona’s Harvest” by Tomie dePaola

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

If cooking squash in class, you may want to preheat your electric skillet for the cooking activity and alert students to the hot skillet. Preheat to medium, depending on the skillet.

Cooking Tips:

- Feel free to delegate responsibilities with the teacher. Have them stir the squash, while you work with the class or vice versa.
- Email the teacher ahead of time to let them know you plan on using a heat source and will need a table close to an outlet, if possible.
- If you notice students getting distracted by the noise, smells, or sights of cooking, use that as a teaching moment. Pause and ask students to smell the air together, or to listen very quietly for any sizzling noises. These are good interruptions!

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 8 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Gather students in a circle. Share, *Today we are going to learn about a vegetable that comes in a lot of different colors, shapes and sizes. We’re going to learn about winter squash. Winter squash includes squash from the same plant family, but there are many different kinds, or varieties, of squash within the family.*

First, we’re going to do an activity to learn about how we are alike and different in this class—just like there are many things that are the same and different about winter squash.

Physical Activity

Choose one of the following activities:

Activity #1: I’m going to play a song. While the music is playing, move calmly around the room. When the music stops turn to a friend standing closest to you and take turns answering my questions [or the question on the board]. If you have the same answer, you will jump in place 5 times. If you have different answers, you will put your arms up and stretch to the count of 5. For example (use an example about hair color with a student near you and demo the activity). Ready?

Play some fun music! Pause the music. Students find a partner. Ask one of the questions below [or display the following prompts one at a time on slides with the classroom projector].

Engage (cont'd)

Remind students, *take turns answering the question. If you have the same answer, jump in place 5 times. If you have different answers, put your arms up and stretch to the count of 5.* Ask the next question or advance to next slide, continuing for about 3 minutes.

- What is your favorite color?
- What is your favorite food?
- What letter does your name start with?
- How old are you?
- What is your favorite book?
- How many people are in your family?
- How do you get to school in the morning?
- Do you have any siblings?
- What is your favorite thing to learn about at school?
- What is your favorite game?

Activity #2:

Physical Activity: Trading Places

1. Have students stand in a circle (This can also be done with students standing beside their desk, chairs pushed in.)
2. Call out a trait. Everyone who has that trait must trade places with another person who has that same trait (students who don't have the trait stay in place).
3. Repeat with a different trait.
4. Consider repeating, but this time students switch with another person who has a different trait than them.
5. Variation: Students do a physical activity until the teacher calls out a trait. Activities could include high knees, jumping jacks, arm circles, cherry pickers, toe touches, etc.

Ideas for traits: everyone with curly hair, everyone wearing stripes, everyone who ate breakfast at school today, everyone wearing red, everyone who likes broccoli, everyone who has a dog, everyone who likes to ride a bike, everyone who walked to school today, everyone who has a garden at home, everyone who read a book at home yesterday. Think of other traits as needed.

Adapted from: Rachel Lynette, Minds In Bloom [<https://bit.ly/2mHvr3T>]

Excellent job Sometimes we like the same things and sometimes we like different things.

Comment about the differences and similarities in the class. *Wouldn't it be boring if we were all the same?*

Explore

3. Experiential Learning: 12 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Seat students in a circle. Opportunity for three deep breaths.

Show the image of many varieties of winter squash included in the lesson. Explain, *There are many different varieties of winter squash. Each kind of winter squash looks very different from the others and also tastes different. However, they are all from the same plant family.*

Show students an actual winter squash and explain the characteristics of winter squash.

- *Winter squash grows in the summer and fall, but we can store it and eat it in the winter.* Contrast it with summer squash, like zucchini that grows and is harvested in the summer and is eaten right away, if students are familiar with summer squash (Example: They participated in the Year 2 September Zucchini lesson).
- *Winter squash is heavy. It's heavier than most vegetables.* Consider passing around a whole squash for students to feel. Ask students: Does it feel light, like a carrot, or heavy, like a watermelon? *What color is it? Is it smooth or bumpy? Does it make a sound if you knock on it? Does it smell?*
- *Winter squash has hard, thick skin. This hard skin allows it to be stored in a cool, dark place for several months after it has been picked until we're ready to eat it.* Consider cutting the squash open in class or sharing a pre-cut squash. Alternatively, show students an image of the inside of squash. This may be a good time to share where the squash the class will taste came from and where it has been stored, if purchasing local squash.
- *There are seeds inside the squash. We have to scoop out the seeds before we cook the squash. We can eat the seeds if we save them for later and roast them. We'll want to rinse them under water and pick out the stringy pieces of orange flesh first.*
- *Most winter squash has yellow or orange flesh inside. This is the part that we eat. It is good for us and helps us grow and stay healthy* (refer to the health benefits on the last page and demonstrate with the actions). *There are many ways you can cook and eat squash.*

If cooking squash in class, show the bag of prepared butternut squash and explain how you'll be cooking it (example: skillet, air fryer). If using a skillet, ask students to listen very carefully for the "sizzle" noises before you add the squash to the preheated skillet. Add the squash to the skillet. Leave uncovered. Stir occasionally. Cook for 10 minutes or until tender.

Optional: Play a video about winter squash and how it grows:

- [Groundwork Harvest of the Month: Wally the Winter Squash](#) (2:33)
- Nebraska Department of Education Harvest of the Month [From Farm to You: Squash – YouTube](#) (2:05)

While the squash is cooking, we're going to do an activity to help us learn and remember that there are lots of different kinds of winter squash.

Explore (cont'd)

All Kinds of Squash Matching Game*

Introduce the 10 kinds of squash featured in the game using the pictures on the cards included in the lesson. Then, hand each student a card from the matching game – either a picture or a description – and have them find their match. Students will match the description of the squash with the picture on the card. After students have done it once or twice, you can start timing it and make it a fun race or use music again.

*Activity adapted from Vermont Harvest of the Month, [Winter Squash](#)

Cooking tips:

- While students are doing this activity, check in on the squash. While students continue working, start prepping samples to be passed out once the activity is done.
- Have another lesson and don't have time to wash the skillet? Simply squirt water into the hot skillet to cool it down, then wipe it clean with a rag. Do not wait more than 4 hours before washing with soap.

4. Tasting Activity: 3 minutes

The "Tasting Activity" section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, "don't yuck my yum").

Before you pass out any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students receive their squash samples, talk the class through using their senses to explore the tasting.

Select one of the following ways to taste winter squash:

1. Sautéed or air fried squash cooked in class or ahead of time.
2. Pumpkin Hummus ([Easy Pumpkin Hummus – A Couple Cooks](#)). Serve with a carrot stick or whole grain cracker.
3. Pumpkin Pudding (<https://spendsmart.extension.iastate.edu/recipe/pumpkin-pudding/>)
4. Spiced Butternut Squash Smoothie ([from Growing Minds](#))
 - ½ cup roasted and mashed butternut squash
 - ½ cup milk
 - ½ cup orange juice
 - ¼ teaspoon cinnamon
 - ½ tablespoon peanut butter or sun butter
 - ¼ teaspoon vanilla extract
 - 1 teaspoon honey

Directions: Combine all ingredients in a blender and process until smooth. Sprinkle with additional cinnamon before serving, if desired.

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the winter squash, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay, "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Asking Discussion:

- *Raise your hand if you're excited to go home and tell your family about tasting winter squash. Will someone share what they liked or loved about the winter squash? Select a couple students to share.*
- *Will someone share what they would change about the winter squash? Select a couple students to share.*
- *What is something you learned about winter squash? (hard, thick skin; seeds inside; have to cook it before eating; can store it after harvest and eat in the winter; it's heavy, etc.)*
- *Will someone share one way varieties of squash are different from each other? Select a couple students to share. (color, size, texture, etc.)*

Select a couple of students to share:

- Ask a student with a raised hand: *if you wanted to try winter squash at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy butternut squash or other kinds of winter squash? How could you eat winter squash at home? What else do you know about winter squash?*

Leave newsletters and stickers with the teachers to pass out.



Butternut squash cut in half



Acorn Squash



Butternut Squash



Tetsukabuto



Delicata



Kabocha



Red Kuri



Spaghetti Squash



Blue Hubbard

Carnival Squash



Pumpkin





Blue Hubbard

I have very thick, bumpy, blue-grey skin that keeps me from rotting. My skin is SO thick, that you need an axe to cut me open - a knife just won't work. It is worth the effort to prepare me because my light orange insides are very sweet and have lots of Vitamin A, which helps your eyes.

Kabocha

I am a dark green squash with pale green speckles. I am shaped sort of like a pumpkin, but flattened - I am a squat cylinder. I am very popular in Japan; kabocha is a Japanese word.

Tetsukabuto

I am the strongest, longest lasting squash, a mix between a butternut and kabocha. My skin is deep green, bumpy and very thick. Inside, I'm bright yellow!

Carnival Squash

I am a winter squash with patterns of orange, green and yellow! I have the shape of a small bowl. I taste kind of like a sweet potato.

Pumpkin

I am the most popular of all the winter squashes. I am delicious not only in pies and desserts, but also on top of oatmeal, mixed into yogurt and in smoothies. I have tons of Vitamin A, which helps your eyes.

Delicata Squash

I am shaped long and thin. I am a light-yellow in color with orange and dark green stripes. Unlike other winter squash, my skin is so thin that you can eat it! You don't have to peel me, but I don't last as long because of my thin skin. My insides are a light orange and I have a mild, sweet flavor.

Spaghetti Squash

I have bright yellow skin and my insides are a lighter yellow. I have an oval shape - kind of like a watermelon. The really cool thing about me is that after you bake me in the oven, you can scoop out my insides and they look just like spaghetti! You can even pretend they are spaghetti and put tomato sauce on top when you eat me!

Acorn Squash

I am shaped like an acorn! I have dark green skin, except for one yellow or orange spot on the part of me that was resting on the ground. Inside, I am a deep yellow color. I don't have a lot of Vitamin A in me, but I do have a lot of potassium, which is good for your muscles, and Vitamin C, which keeps you from getting sick.

Butternut Squash

I am shaped like a giant pear! I have a long thick neck and a round bottom. My skin is a light brown color, but inside I am bright orange! I have TONS of Vitamin A, which is great for your eyes. My rich creamy flavor is great in soups!

Red Kuri

I am also called red kabocha squash - I am a type of kabocha squash but instead of having dark green skin, I have bright red skin! I am also sweeter inside than my green cousin. I have the same squat, flattened shape as the green kabocha squash.

Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Winter Squash

- Look for squash with a full stem that is heavy and firm with no bruises or soft spots.
- Squash can be stored for up to 1 month in a cool, dark place. Once cut, cover and refrigerate squash for 2-4 days.
- Rinse squash under cool water and dry before preparing.
- Unlike summer squash, winter squash rinds (outer skin) should not be eaten.

Facts About Winter Squash

- Squash are in season August - October.
- They grow on vines on the ground and have prickly stems and big leaves.
- Squash are a part of the gourd plant family.
- The flowers and seeds of squash are also edible. Roasted pumpkin seeds are a great snack!
- Acorn squash varies in shape from cylindrical to spherical and can be green, yellow, orange, or white.
- Pumpkins come in a variety of sizes and colors including orange, yellow, green, white, red, tan and even blue!
- The largest pumpkin ever grown was over 2,000 pounds!
- The Halloween tradition of carving pumpkins began in Ireland where they originally carved turnips or potatoes! Once the custom traveled to the U.S., pumpkins were used instead.
- Florida, California, Georgia and Michigan are the top squash-producing states.

Health Connection

- Winter squash contains both vitamin A, to keep our eyes healthy (reinforce by making with super goggles with your hands); vitamin C, to help us fight off sickness and heal wounds (reinforce by crossing your arms to make a defense shield); and fiber, to help us feel full and keep and our digestive system healthy (reinforce by rubbing your stomach).
- Butternut, acorn and spaghetti squash provide the antioxidant lutein, which is good for our eyes!

References and Resources

<https://spendsmart.extension.iastate.edu/produce-item/winter-squash-2-2/>

<https://www.iowafarmtoschoolearlycare.org/choose-iowa-campaign>

<https://www.agmrc.org/commodities-products/vegetables/squash>

<https://snaped.fns.usda.gov/seasonal-produce-guide/winter-squash>

[How to prepare a butternut squash - Cooking with kids](#) – (1:11 video)

[Groundwork Harvest of the Month: Wally the Winter Squash](#) – Farm to table for kids (2:33 video)

[From Farm to You: Squash – YouTube](#) – Nebraska Department of Education Harvest of the Month (2:05 video)

Local Food Preservation

Pickled, Frozen, Dried

GRADE
2-3

Month: February

Time Required: 30 minutes

Tasting: Preserved fruit or veggie

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to define food preservation.
- Students will be able to name one method of food preservation.

Materials

- Images (included in lesson) or tangible examples of fresh and preserved foods
- Tasting option of your choosing. Some ideas include: dried fruit, such as apples; pickled vegetable, such as cucumber; fermented or pickled cabbage, such as sauerkraut, kimchi, curtido)
- Optional: printed worksheets included in lesson. Note, choose from two different templates.

Preparation

- Decide what tasting you would like to offer.
- Optional: Print "Food Memories are Preserved!" or "My Food Preservation!" sheets for students.
- Optional: Find images or tangible examples of different types of preserved foods to show the class if not using the image in the lesson.

Recommended Books

"My Food, Your Food, Our Food" by Emma Carlson Berne

"Pickle Words: Crunchy, Punchy Pickles and Poetry" by April Pulley Sayre

"Pickles, Pickles, I Like Pickles" by Brigitte Brulz

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education

[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science

Second grade - [2-LS4-1](#).
LS4.D: Biodiversity

Third grade - [3-LS1-1](#).
LS1.B: Growth and development

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- "Asking" Discussion
- Newsletters, Stickers
- Science Connection: Biodiversity (2nd) & Plant life cycles (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 10 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Gather students together or have them remain at their desks. Students can partner with a classmate for the physical activity or do it individually. *To get started with our lesson today, we’re going to move our bodies and use our memory skills.*

Physical Activity: Memory Lane ([page 34 of Get Movin’ classroom activity break booklet](#))

1. Call out one task at a time for students to complete.
2. Students will perform the task called out but must repeat the tasks before it first. This can be done with a partner or by themselves. The idea is to remember the tasks called out and complete them in order each time there’s a new task.
3. Tasks should be called out in the order provided. Remember, only call out one task at a time, working your way through the list in order. Substitute tasks as needed for your class.
 - a. High five right
 - b. High five left
 - c. Low five right
 - d. Low five left
 - e. High ten
 - f. Low ten
 - g. Backwards ten high
 - h. Backwards ten low
 - i. Tunnel ten (back-to-back, feet apart, reach between legs and hit low ten)
 - j. Soles of shoe right
 - k. Soles of shoes left
 - l. Elbow right
 - m. Elbow left
 - n. Both elbows
4. Students will repeat the sequence each time a new task is called out, starting with the first task up to the task called out.

Great job, everyone! You all have super-strong memory skills. Our brains help us remember things so we can use them later.

Engage (cont'd)

Share with students, *Today, we're going to learn how we can keep food to eat later so that it is safe to eat and still tastes good. We're going to talk about preserving food. Note new vocabulary word: **preserve**. Define, write out, and have the class repeat the word "preserve." Preserving means to make something last longer. Our brains do this by making memories! When something happens in our life, when we learn something, or when we taste something, our brain preserves that experience, and it is saved as a memory. We're going to take turns sharing some food memories with each other.*

Food Memories

Use one of the options for students to share food memories.

Option #1: Use a "Think-Pair-Share" process for students to discuss food memories. Prompt student pairs with the following: *Tell your partner about something tasty you ate at school last week. Tell your partner about your favorite snack to eat at home. Tell your partner about something you liked to eat when you were a baby.* The educator can share a personal example for one or more of the prompts.

Students will:

1. *Think to yourself quietly.*
2. *Find a partner next to you.* Instruct students how to pair up. For example, they can touch elbows with the classmate closest to them for an "elbow buddy." *Turn to a partner and share.* Give students the prompts above, one at a time, to discuss.
3. After a couple minutes, bring the class back together and select students to share out. The educator can get students' attention with a special word (perhaps "pickle" or a clap back). If you use "pick-a-stick," this is a good way to randomly select students to share.

Option #2: Count students off into two equal groups. At an open space in the room, have students stand in two concentric circles. Students on the inside and the outside circles should face one another so that each student is standing across from a partner. If there isn't room to make two circles, have students stand in two lines facing one another.

I'm going to ask a question, and you and your partner - the person across from you - will take turns sharing. Hold up a high-five with your partner so we can make sure everyone is paired up. Great, now hands to your sides. You'll each have a few seconds to share, and then we'll rotate partners. Consider using a call-back that students are familiar with to progress instructions and facilitate taking turns.

1. *Outside circle, tell your partner about something tasty you ate at school last week. After a few seconds, get students' attention (call-back). Inside circle, it's your turn! Tell your partner about something tasty you ate at school last week.*

2. *Inside circle, move two spots to the right so you are now facing a new partner. Inside circle, tell your new partner about your favorite snack to eat at home. After a few seconds, get students' attention (call-back). Outside circle, it's your turn! Tell your partner about your favorite snack to eat at home.*

3. *Outside circle, move two spots to the right so you are now facing a new partner. Outside circle, tell your partner about something you liked to eat when you were a baby. After a few seconds, get students' attention (call-back). Inside circle, it's your turn! Tell your partner about something you liked to eat when you were a baby.*

Conclude the activity saying, *Thanks for sharing with your partners. Your brains have preserved some very special food memories!*

Explore

3. Experiential Learning: 8 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Have students return to their desks (opportunity for 3 deep breaths).

Explain, *For as long as humans have been eating food, they've found ways to preserve it. What does preserving mean? Reference and read posted definition together: to make something last longer. When we preserve food, we turn a fresh food into a food that is saved to eat later. Preserving foods first began as a way to save foods—to keep them from going bad, or spoiling—after the summer harvest so they could be eaten later. Think about a plant's life cycle, how they grow from tiny seedlings to fruits with new seeds. After they are harvested, fruits and vegetables only last a short time unless they are preserved. Let's explore five ways to preserve food.*

Show images of food preservation from the lesson on the classroom projector. You may prepare your own images or additional examples of fresh and preserved foods to best represent multiple cultures.

Explain various ways food is preserved so that we can eat it later.

1. *Dried foods are preserved by removing water.* Show images of fresh and dried foods (examples: apples, tomatoes, mushrooms, herbs).
2. *Frozen foods are preserved by making the food very cold.* Show images of fresh versus frozen foods (examples: peas, berries).
3. *Pickled foods are preserved by adding vinegar or salt.* Show images of fresh versus pickled foods (examples: fresh cucumbers and jar of pickles).
4. *Fermented foods are preserved by tiny living things, like healthy bacteria.* Show images of fresh and fermented foods (examples: fresh cabbage and sauerkraut or kimchi).
5. *Canned foods are preserved by sealing cans to make them air-tight and applying high heat.* Show images of fresh versus canned foods (examples: fresh tomato and canned tomato sauce).

Explore (cont'd)

Just like we have a large variety of fruits and vegetables we can grow and harvest, we have a variety of ways to preserve them. You may want to ask students to share other examples of preserved foods they have eaten.

Optional: Pass out “Food Memories are Preserved!” or “My Food Preservation!” sheets. Ask students to draw a picture of a food memory or a fruit or vegetable they’d like to preserve, depending on which worksheet you use.

4. Tasting Activity: 4 minutes

The “Tasting Activity” section is when students get to try the fruit or vegetable. Don’t forget to review your food tasting norms (for example, “don’t yuck my yum”).

Before you pass out any samples, be sure to share your brave tasting rules (for example, don’t yuck my yum, we all try together, etc.). As students receive their samples, talk the class through using their senses to explore the tasting.

Offer students one type of preserved food to taste. Examples of locally-sourced preserved food are suggested below. Consider offering the fresh version along with the preserved food to compare and contrast. Or, recall fresh versions tasted during Pick a Better Snack earlier this year, if applicable. *How do these foods look, feel, smell, sound, taste the same? How are they different?* Note that food preservation can change the look, texture and flavor of foods.

1. Dried (dried apples or other dried fruit)
2. Frozen (frozen aronia berries or other frozen fruit, frozen vegetables)
3. Pickled (pickled cucumbers or other pickled vegetables)
4. Fermented (sauerkraut, kimchi)
5. Canned (tomato sauce – consider adding pizza or Italian seasoning)

(Educators, see the “Health Connection” section at the end of this lesson for tips on choosing lower-sodium canned and pickled vegetables and little- or no-added sugar fruits.)

Local Food Facts! If you’re tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 3 minutes

This is a time for students to give their opinion on what they tried!

As students taste the preserved food, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Reflect (cont'd)

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay," "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say the word, "pickle," you can say your answer aloud. Let's practice...

- *What month is it?* (February)
- *What did we taste today?* (students recall a preserved food)
- *What does it mean to preserve something?* (to save it for later)
- *What is food preservation?* (a way to save food for later so that it doesn't spoil and still tastes good)
- *Name one way to preserve food.* (dry, freeze, pickle, ferment, can)
- *How was the food we tasted today preserved?*

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting [preserved food].

- Ask a student with a raised hand: *if you wanted to try this at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy [preserved food] or other types of preserved foods?* What else do you know about preserved foods?

Leave newsletters and stickers with the teachers to pass out.

Food Preservation

Fresh

Preserved



Dried



Frozen



Pickled

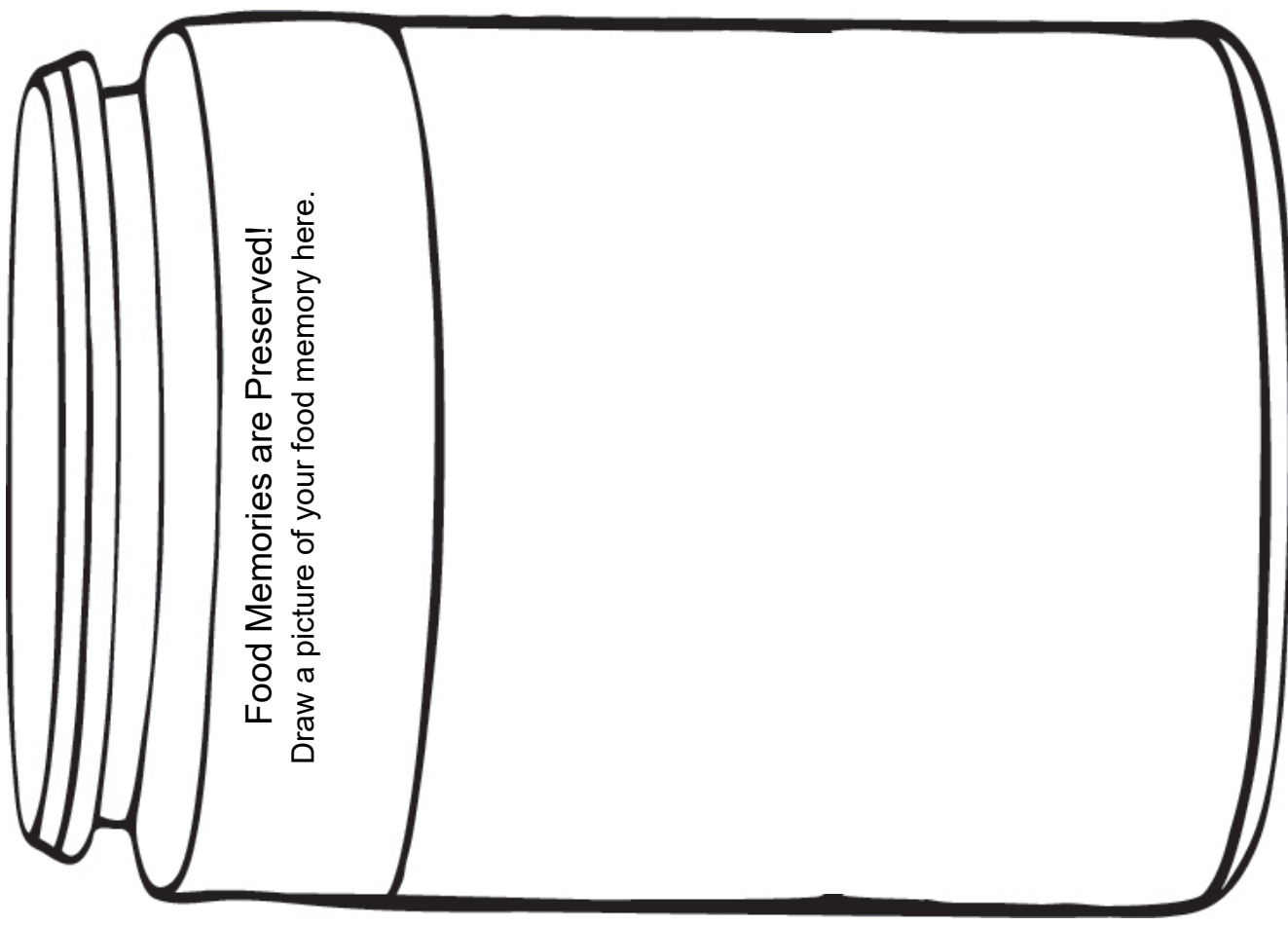


Fermented

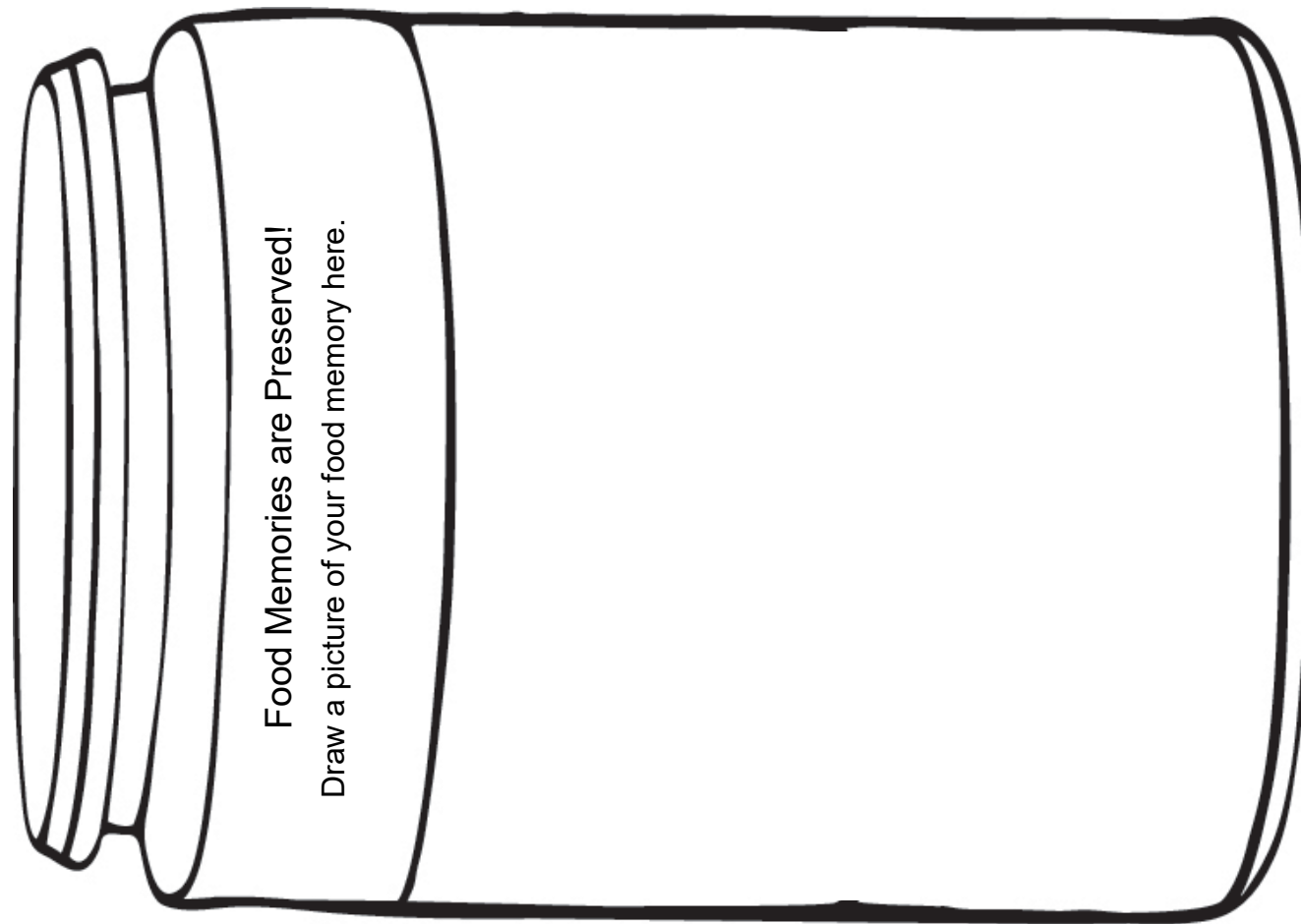


Canned

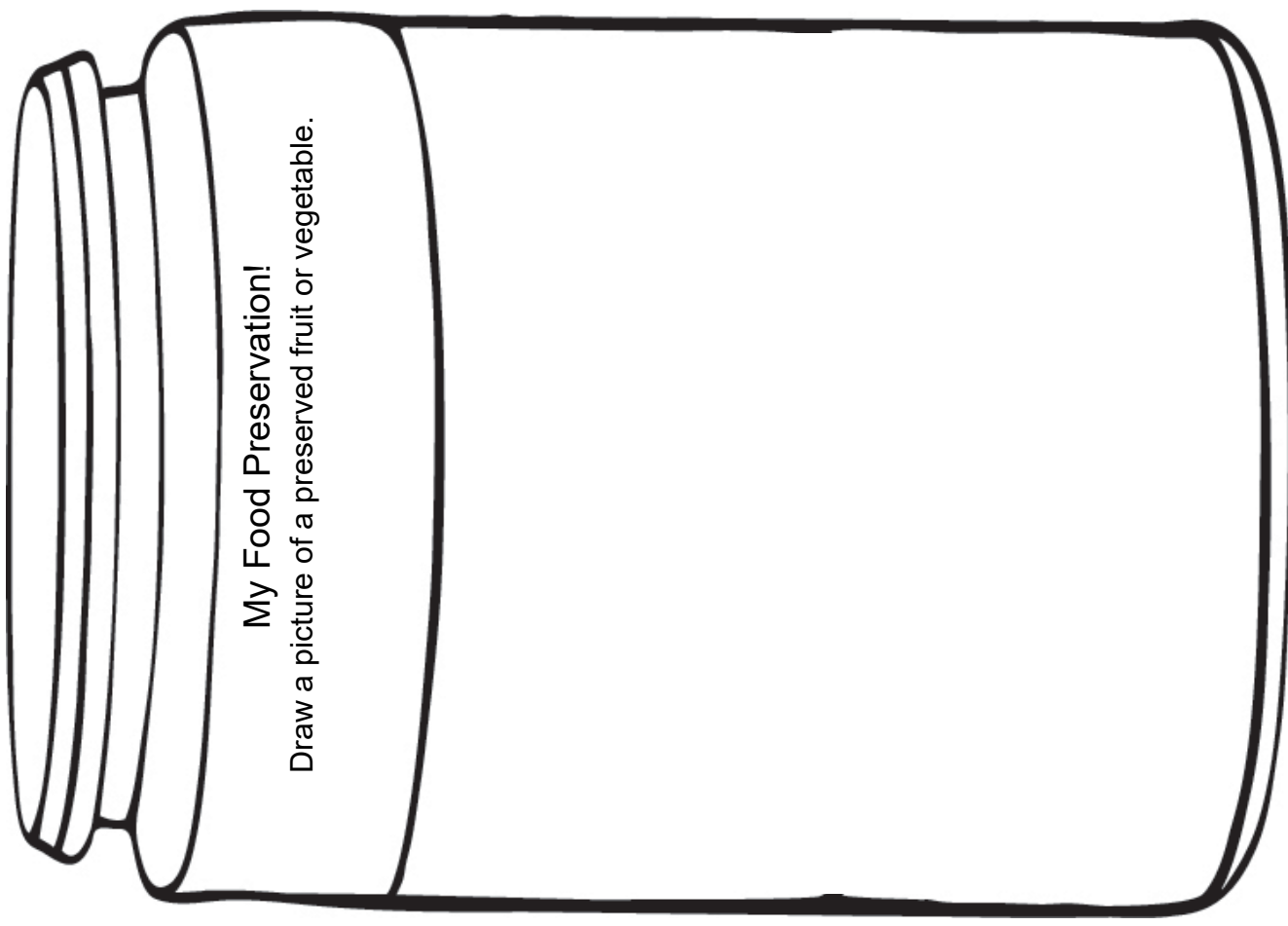




Food Memories are Preserved!
Draw a picture of your food memory here.

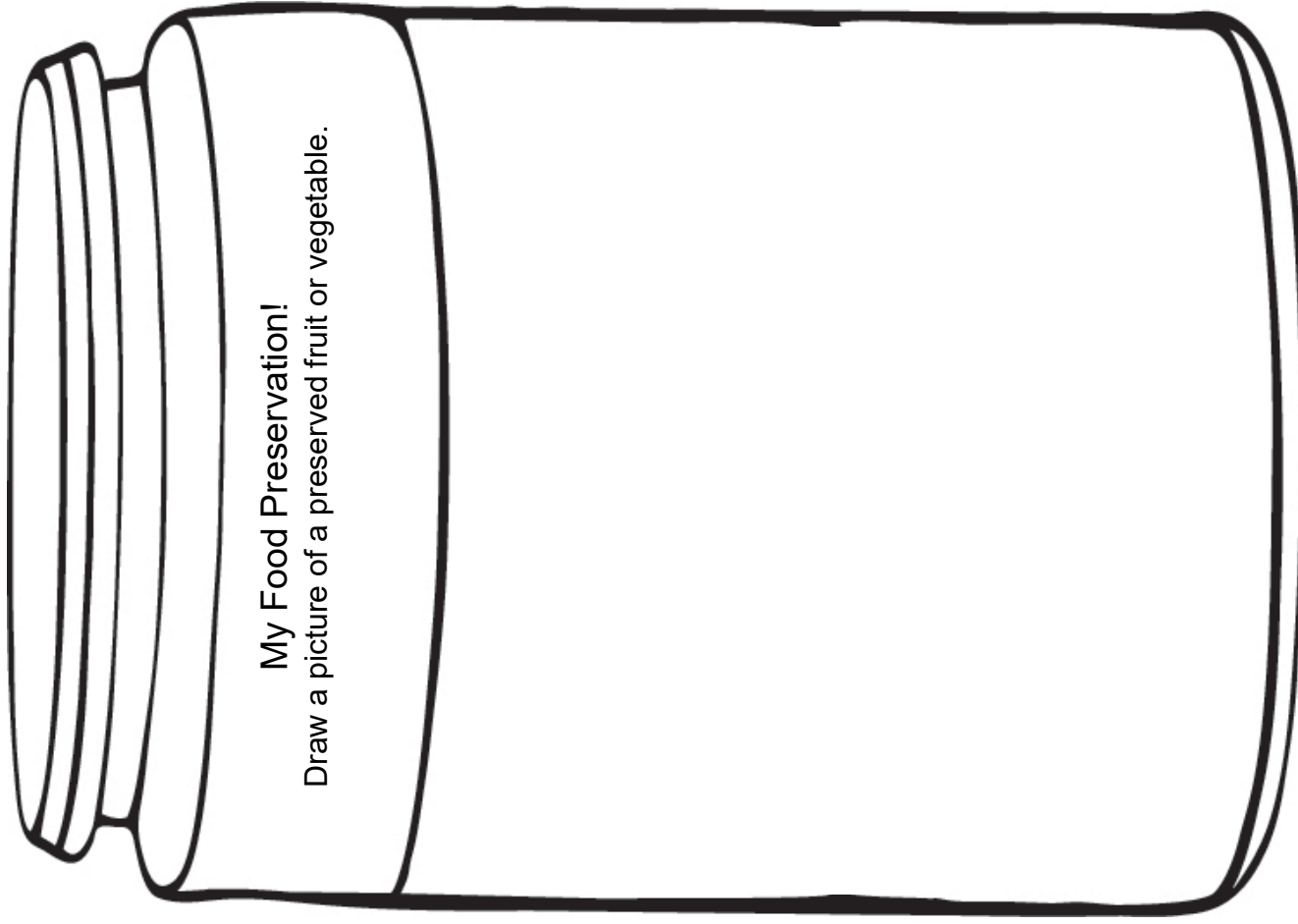


Food Memories are Preserved!
Draw a picture of your food memory here.



My Food Preservation!

Draw a picture of a preserved fruit or vegetable.



My Food Preservation!

Draw a picture of a preserved fruit or vegetable.

Additional Materials

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Preserved Fruits and Veggies

- Preserved fruits and veggies include dried, canned, frozen, pickled or fermented versions. They're a healthy option when fresh fruit and vegetables are hard to find or too expensive.
- Some advantages of preserved fruits and veggies include greater convenience, more variety of foods available and great taste. Canned fruits and veggies are usually ready to eat, so they do not require as much preparation as fresh ones.
- Some frozen fruits and vegetables contain added preservatives or sauces, so always check the ingredient list on the back of the package.
- Look for canned and frozen fruits and vegetables that say "reduced/low sodium" or "no added salt" with no added sugar. Look for fruits canned in water or 100% fruit juice.
- Look for cans that are clean with no dents, cracks, bulges or leaking.
- Dried fruits and veggies are a convenient way to eat healthy on the go. Look for dried fruits and veggies with no added sugar and low salt.

Facts About Preserved Fruits and Veggies

- Pickled vegetables are preserved with a brine (salt and water) and an acid, like vinegar.
- Fermented vegetables are preserved with a brine and a good bacteria or yeast (which creates its own acid). Different types of fermented foods include kimchi (cabbage and other vegetables), miso (soybeans), and sauerkraut (cabbage). Fermentation has been used to preserve food for centuries.
- Freezing food greatly slows down the growth of bacteria, allowing food to stay fresh for weeks to months.
- Canned foods are heated before canning, killing harmful bacteria and helping with preservation. Canned foods can generally be stored for 1-5 years!
- Store frozen foods at 0°F or below in an airtight container. Keep the freezer temperature consistent for the best quality.

Health Connection

- Look at the Daily Value percentage next to sodium on the nutrition label to determine if a food is low or high in sodium (salt). If it is $\leq 5\%$, that food is low in sodium. If it is $\geq 20\%$, that food is high in sodium. Make sure you check the serving size to see how much of the food contains that amount of sodium. Try to choose preserved fruits and veggies that are low in sodium.
- The same Daily Value recommendation applies to added sugars. Look for preserved fruits and veggies that have $\leq 5\%$ of the Daily Value for added sugars for the healthiest options.

References and Resources

[Food Preservation Resources in Food & Nutrition | Iowa State University Extension Store and Outreach](#); <https://www.youtube.com/watch?v=qnTrdAjXX8s> – kid's video, What Are Pickles? (5:01) [Foods We Ferment — And Why – KidsGardening](#); [Frozen Foods: Convenient and Nutritious Are Canned Foods Nutritious For My Family?](#); <https://frozenadvantage.org/advantage/?slide=0> ISU's Spend Smart Eat Smart videos: [Reading the Food Label](#) and [Sodium on the Food Label](#)

Local Seeds

Frozen Corn, Dried Beans

GRADE
2-3

Month: March

Time Required: 30 minutes

Tasting: Locally grown and preserved sweet corn or dried beans

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able identify corn and bean plants.
- Students will be able to describe the Three Sisters farming method.

Materials

- Images of corn, bean and squash plants included in the lesson
- Image of Three Sisters planting included in the lesson
- Iowa Farm to School Virtual Field Trip – Beans video
- Tasting materials (plates, napkins, etc.)
- Optional: Seedy Sweet Corn Salsa recipe or similar recipe with corn tortilla chips and printed recipe cards

Preparation

- Share video link with teacher in advance if helpful.
- Optional: Prepare salsa 1-2 days prior to your lesson using the Seedy Sweet Corn Salsa recipe attached, adapting as needed.
- Optional: Print recipe cards, 1 per student.

Recommended Books

“The Three Sisters” by Laura Cerier

“From Kernel to Corn” by Robin Nelson

“Corn” by Gail Gibbons

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science
Second grade - [2-LS2-1](#).
LS2.A: Interdependent relationships

Third grade - [3-LS1-1](#).
LS1.B: Growth and development

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- “Asking” Discussion
- Newsletters, Stickers
- Science Connection: plants depend on soil, water, air, and sun (2nd) & seeds and plant life cycles (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 3 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Today we’re going to learn about three vegetables that grow better when planted together than when planted by themselves. Some things are just better together—like peanut butter and jelly, cake and frosting, pencil and paper, bed and pillow. Come up with examples best suited for your class.

Tell students, *I want you to think about things that you think are better when paired together.* Give students time to think, then call on a few to share with the class. If the class uses “Pick-a-Stick,” draw sticks to randomly select students. *Those are great examples!* Share with students the example you thought of while they were thinking. (Ideas: cereal and milk, shoes and socks, soap and water, bat and ball, team and coach, etc.) *Why are these things better together? In other words, what does it mean when we say they are better together? Call on a few students to share.* Answers may include: they work better together; they can do more together; they taste better together, etc.

Just like the things you shared work or taste better together, some plants grow better when they are planted with each other. Three plants that grow better when planted together are beans, corn and squash. And guess what, all three of these vegetables grow in Iowa.

Explore

3. Experiential Learning: 15 minutes

This is a time for students to familiarize themselves with what you’ll be tasting. The best way to do this is through a hands-on or exploratory activity.

Long ago, Native Americans planted three vegetables together because they helped each other grow. Native American tribes were successful farmers. They understood how plants grew and figured out that if they planted, corn and squash close together, the plants helped each other and grew more vegetables.

Explore

Beans, corn and squash were known as the Three Sisters. The practice of planting beans, corn and squash together was called Three Sisters planting or companion planting. Companions are things or people that are closely connected and make one another better; they support each other. Beans, corn and squash each had a special purpose when planted together. We're going to learn about each of these plants and then talk about how they helped one another.

Show students the image of corn included in the lesson by displaying it on the classroom projector, if available. *You don't have to go very far to see this vegetable. What is it?* (choral response: corn) *Yes, this is a picture of corn—sweet corn! Corn grows very well in Iowa.* Ask students, *Where have you seen corn growing?* Select a few students to share. This may be a good time to explain the difference between sweet corn and “field corn.” See the last page for bulleted information and the Iowa Corn Facts website. *Look at the picture; what do you notice about corn?* (it's tall, green, has leaves up and down the stalk, maybe see some ears growing, or a tassel on top.) Did you know that corn stalks can grow taller than adults?

Next show students the image of bean plants. *This is a picture of another vegetable that grows in Iowa. What is it?* (Call on students to answer or use a choral response: beans) *Yes, these are bean plants. Ask, what do you notice about bean plants?* (lots of leaves, long pods, not very tall). *Beans aren't very tall plants, unless they grow on a tall trellis or pole* (remind students of the PABS lesson about sugar snap peas, which also grow on trellises, from a previous year if applicable). *Beans might grow as tall as between my knees and waist.* Point to your mid-thigh to illustrate the height of a typical bean plant.

Finally, show students the image of a squash plant. *This is a picture of a winter squash growing. This is a butternut squash. Winter squash, like butternut, also grows in Iowa. People may grow squash in their garden. Winter squash is cooked and eaten in the fall and winter.* Recall the December squash lesson with students, if it was taught, and ways to eat squash. *What do you notice about this plant?* (big green leaves, grows low to the ground, grows as a vine, has large yellow or orange squash). *Squash plants don't grow very tall. Some may only be as tall as my knees.* Point to your knees. *Squash grow on vines that lie on the ground.*

Now that we've talked about how each of these vegetables—corn, beans and squash—grow, let's look at them growing all together in Three Sisters farming. Show students the diagram of Three Sisters included in the lesson.

Point to each plant in the picture and explain, the corn stalk is tall, so the beans can grow up it for support. The leaves from the squash plant are covering the dirt around the corn and beans. Each plant has a job to do to help the other plants.

- The corn provides structure. The tall stalk is sturdy and is a natural trellis for the beans.
- The beans provide nutrients for the soil. It makes a natural fertilizer from the nitrogen in the air.
- The squash provide protection. The large leaves provide shade to keep the dirt from drying out too quickly, and they block the sun for weeds that try to grow.

Explore (cont'd)

Show students part of this video from the Iowa Department of Education to learn more about how beans grow, Iowa bean farms and Three Sisters planting: [Farm to School Virtual Field Trip - Meskwaki/Pocahontas Beans](#). (Consider playing 1:02 – 5:20 or find a shorter segment if preferred.) Other video options include:

- Oregon Harvest for Schools: [Oregon Harvest for Schools - Dry Beans](#) (1:20). Share that some dry beans can grow in Iowa.
- University of Minnesota Extension Harvest of the Month: [MNAG Harvest of the Month Sweet Corn](#) (3:47). Explain that Minnesota is a neighboring state that also grows sweet corn.

Physical Activity: Bear, Salmon, Mosquito

You did a good job sitting quietly and listening. Next, we're going to play a game to get our bodies moving and have a little fun! The game is called Bear, Salmon, Mosquito. Each of these three animals has a unique role, similar to how the Three Sisters vegetables have unique roles. This game is like Rock, Paper, Scissors.

- Have all students stand and face you. Students will compete against you.
- Explain that students will pick one of the three animals to act out. Bear = raise arms up to show your claws. Salmon = put your hands together to mimic swimming. Mosquitos = pinch index fingers and thumbs together to buzz around like a mosquito.
- You and the students will jump in place and count “1-2-3.” On the count of three, you and the students will land and do the action of the animal you each selected.
- Bears beat salmon (they eat salmon). Salmon beat mosquitos (they eat mosquitos). Mosquitos beat bears (they sting bears).
- Students are competing against you. If they won, they will do [select a physical activity] for 10 seconds (or the count of 10). If they lost, they will do [select a physical activity] for 10 seconds (or the count of 10).
- Repeat for several rounds.

Have students return to their desks and prepare for the tasting.

4. Tasting Activity: 4 minutes

The “Tasting Activity” section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, “don't yuck my yum”).

Before you pass out any samples, be sure to review your brave tasting rules (for example, don't yuck my yum, we all try together, etc.) As students receive their samples, ask them to use their senses to explore the vegetable(s) while they wait until the entire class is ready.

Choose one of the following options to taste below. Purchase locally-grown corn and/or beans if available (frozen corn and dried beans make local purchasing possible in March.) Explain to students that they are tasting one (or two) of the Three Sisters. Reiterate that beans and corn grow in Iowa and can be preserved to eat later (recall last month's vocab word: preserve). Tell students what kind of bean it is. This may be a good time to share additional facts about beans and corn, such as the part of the plant (seeds), why they are healthy (see the actions for protein, fiber, etc. on the last page) and when they are in season (beans: June – September; corn: July – September).

Explore (cont'd)

1. Dried beans. Examples include black beans, kidney beans, chickpeas or other locally-grown dried beans.
2. Corn (frozen).
3. Seedy Corn Salsa (see recipe included in lesson). Serve with one or two tortilla chips. Consider mixing the ingredients in class with student helpers. Other similar recipes to consider if preferred:
 - Cowboy Caviar: <https://spendsmart.extension.iastate.edu/recipe/cowboy-caviar/>
 - Black Bean Salsa: <https://spendsmart.extension.iastate.edu/recipe/quick-black-bean-salsa/>

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the beans/corn/salsa, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay, "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 4 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Reflection Questions:

- *What three vegetables are called the Three Sisters? (corn, beans, squash)*
- *Describe a corn plant? (tall, green leaves along the stalk, ears of corn, tassel on top)*
- *Describe a bean plant? (lots of leaves, long pods, can grow on something for support, not very tall)*
- *Describe a squash plant? (big green leaves, grows low to the ground as a vine, has large yellow or orange squash)*

(continued on next page)

Reflect (cont'd)

- *How do corn, beans and squash help each other when they are planted together?* (corn provides support for the beans, beans provide nutrients for the soil/create fertilizer, squash shelter the dirt from drying out from too much sun and help keep weeds from growing)
- *What do you think farmers think about today when deciding what to plant in their fields or garden?* (what grows best in Iowa's soil and climate, what grows best next to each other, what will be ready to harvest before it gets too cold, what food do we need/want to eat, what food can I sell, etc.)

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting local corn/beans!

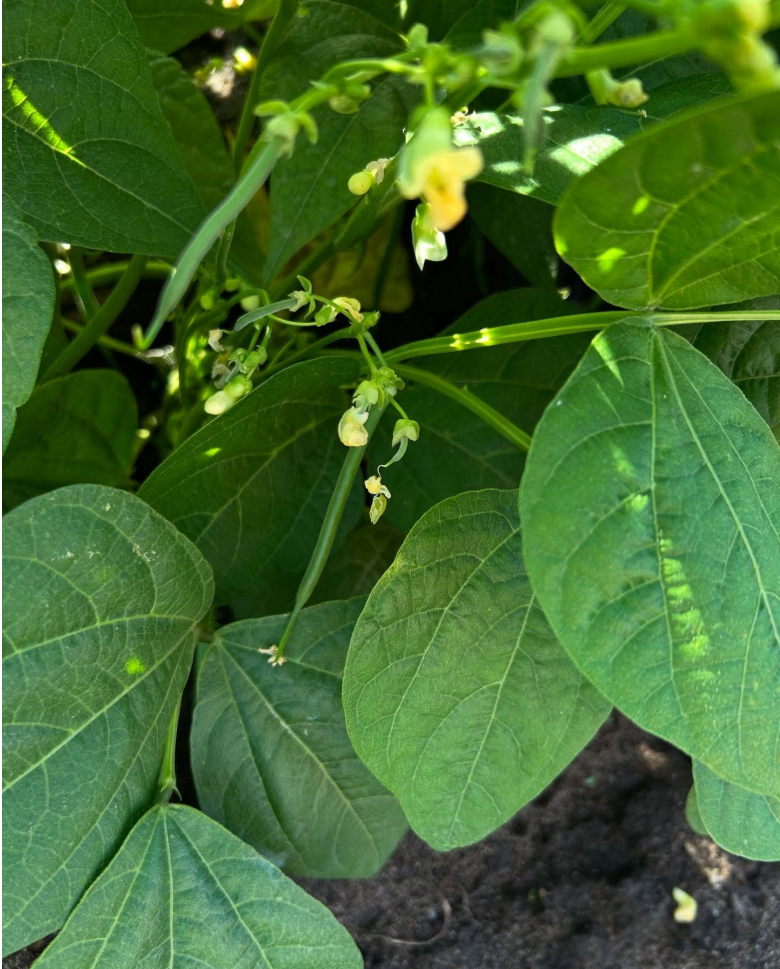
- Ask a student with a raised hand: *if you wanted to try corn/beans at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy local sweet corn or beans?*
- (If served) *When could you eat Seedy Sweet Corn Salsa? Who could help you make it?*

Optional: Send home the Seedy Sweet Corn Salsa recipe.

Leave newsletters and stickers with the teachers to pass out.



Sweet corn



Bean plants



Butternut squash

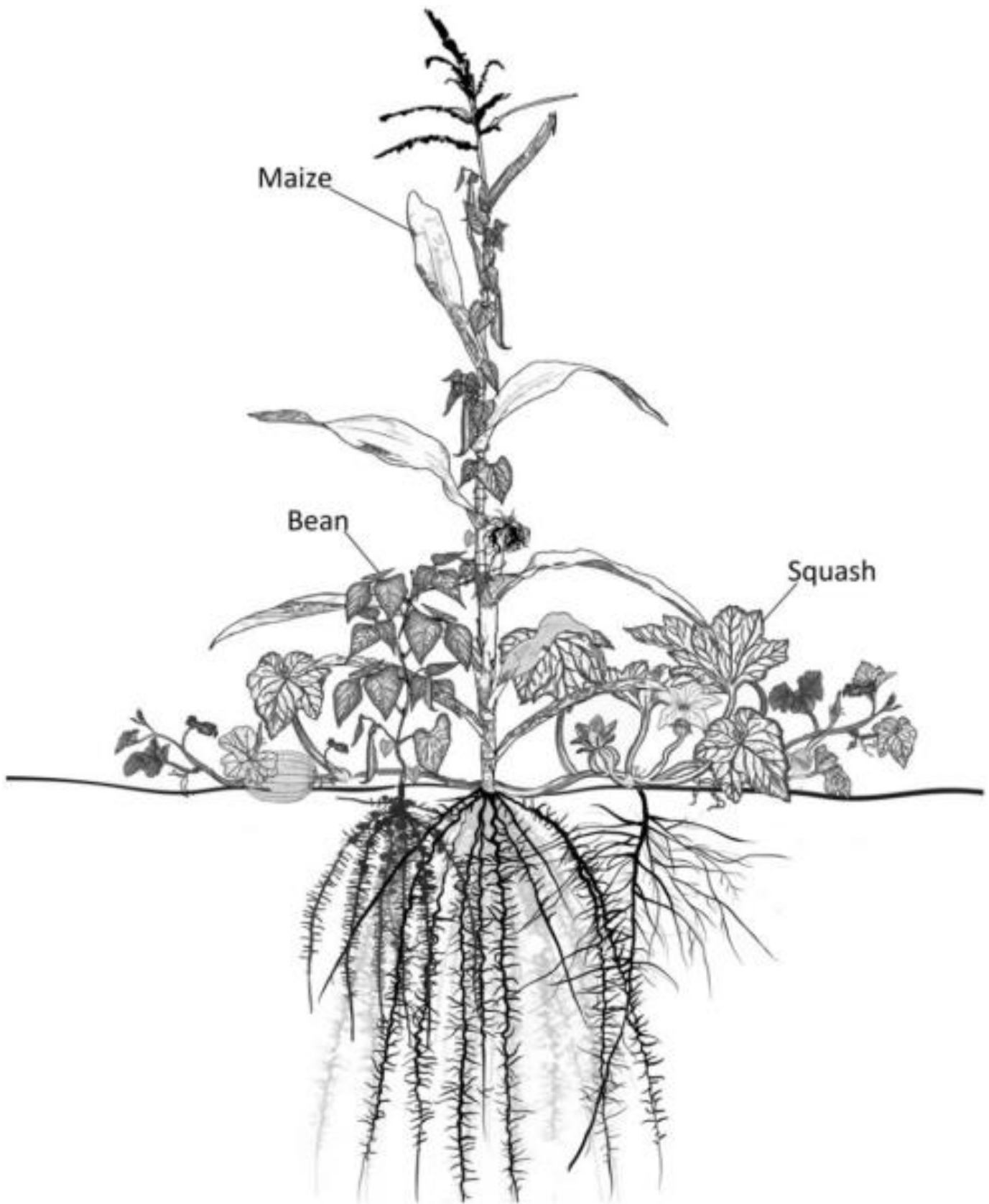


Image by Lopez-Ridaura, S., Barba-Escoto, L., Reyna-Ramirez, C. A., Sum, C., Palacios-Rojas, N., & Gerard, B. is used under the Creative Commons Attribution 4.0 International License (CC BY 4.0). [The Three Sisters of Indigenous American Agriculture | National Agricultural Library](#)

Seedy Sweet Corn Salsa

Ingredients (makes 4 cups):

- 3 cups sweet corn
- 1 cup of cooked or canned black beans, rinsed and drained
- ¼ cup fresh cilantro, chopped
- ¼ cup lime juice (about 2 limes)
- ¼ cup red onion, chopped
- salt to taste

Directions:

- In a bowl, combine all the ingredients.
- For the best flavor, allow the salsa to sit for 20 minutes before eating.
- The salsa keeps well in the refrigerator, covered, for 3-4 days.
- Eat with corn tortillas, tortilla chips, tacos, etc.

Pick a Better Snack
Eat Fruits and Veggies

Seedy Sweet Corn Salsa

Ingredients (makes 4 cups):

- 3 cups sweet corn
- 1 cup of cooked or canned black beans, rinsed and drained
- ¼ cup fresh cilantro, chopped
- ¼ cup lime juice (about 2 limes)
- ¼ cup red onion, chopped
- salt to taste

Directions:

- In a bowl, combine all the ingredients.
- For the best flavor, allow the salsa to sit for 20 minutes before eating.
- The salsa keeps well in the refrigerator, covered, for 3-4 days.
- Eat with corn tortillas, tortilla chips, tacos, etc.

Pick a Better Snack
Eat Fruits and Veggies

Physical Activity

More ideas for physical activity are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Corn and Beans

- Look for corn on the cob with a bright green husk (outer leaves) and plump kernels.
- Store corn in the refrigerator with the husk on or wrapped in plastic for 3-4 days.
- Remove the husk and silky strings and rinse under cool water before preparing.
- Look for canned corn or beans with reduced sodium or no sodium added.
- Store unopened dried and canned beans at room temperature. Refrigerate canned beans in a food storage container once opened and use them within 2-3 days.
- Look for dried beans that are clean, dry and firm. Avoid beans that are irregularly colored or shriveled. Rinse dried beans under cool water. Dried beans must be soaked in water and cooked before they are edible.

Facts About Corn and Beans

- Corn is in season July - September. It is the seed of the plant and a member of the grass plant family. It grows on stalks above the ground encased in husks.
- Corn comes in a variety of colors including yellow, white, red, pink, black, blue, and even striped! Corn is the #1 produced crop in Iowa! Most corn is not grown for our food.
- Sweet corn is harvested before the corn is fully mature; it has soft kernels full of liquid and is considered a vegetable (corn on the cob, frozen corn, canned corn). Only 1% of the corn planted is sweet corn.
- 99% of the corn grown in Iowa is "field corn," which is considered a grain. It's fully mature and dry when harvested. A small amount of field corn is processed for food, such as corn cereal, corn starch, corn oil or corn syrup, but most of it is used for livestock feed, fuel and other industrial products.
- Beans are in season June - September. They are in the Fabaceae (pea) family and can grow on a bush or climbing plant. Beans are the seeds of plants and grow in pods.
- There are many different varieties of beans including black, navy, pinto, white, kidney, soybeans and chickpeas. Beans come in a variety of shapes, too. Soybeans are the 2nd largest produced crop in Iowa! Most of the soybeans grown in Iowa are not for human food.

Health Connection

- Corn provides the antioxidant lutein, which is good for our eyes (use your hands to make super goggles over your eyes). It also provides fiber (reinforce by rubbing stomach.)
- Beans are high in protein (reinforce by flexing arms) and fiber (reinforce by rubbing stomach.). Fiber is good for our digestive systems and our hearts!

References and Resources

<https://spendsmart.extension.iastate.edu/produce-item/corn-on-the-cob/>

<https://spendsmart.extension.iastate.edu/pantry-picks/beans/>

[Freezing Corn - National Center for Home Food Preservation](#) – How to freeze sweet corn

<https://www.nal.usda.gov/collections/stories/three-sisters>

[Farm to School Virtual Field Trip - Meskwaki/Pocahontas Beans](#) (11:26 video)

[Iowa Corn Facts and FAQs | Iowa Corn Growers Association](#)

Local Leafy Greens

Microgreens, Arugula, Lettuce

GRADE
2-3

Month: April

Time Required: 30 minutes

Tasting: Available local microgreens or leafy greens

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to demonstrate differing rates of plant growth.
- Students will be able to identify a minimum of one type of leafy green.

Materials

- Green, yellow, red cards/pieces of paper
- A microgreen or a planted container of microgreens to show students, a baby leafy green and/or mature leafy green to show
- Planting materials: vegetable seeds of your choice (ex: radishes, mustard greens, kale, arugula, broccoli or peas seeds); potting soil; 4 or more shallow containers (ex: clean take-out containers, shallow cups, empty clamshells); container labels, squeeze bottle or spray bottle filled with water; sticky notes
- Leafy greens for tasting (ex: microgreens, kale, arugula, collard, mustard, lettuces, etc.)

Preparation

- Consider what type of microgreens or leafy greens you want to offer for tasting and grow with your classrooms.
- Consider pre-filling containers with soil and labeling the containers with the varieties of microgreens your classrooms will be planting.
- Plant a small container of microgreens 1-2 weeks prior to class to show students.

Recommended Books

“Seeds Move” by Robin Page
 “Lettuce Grows on the Ground” by Mari Schuh
 “Secrets of the Vegetable Garden” by Carron Brown
 “Katie’s Cabbage” by Katie Stagliano

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science
 Second grade - [2-LS4-1](#).
 LS4.D: Biodiversity
 Third grade - [3-LS1-1](#).
 LS1.B: Growth and development

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- “Asking” Discussion
- Newsletters, Stickers
- Science Connection: Biodiversity (2nd) & Plant life cycles (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day’s lesson.

This April lesson is a great opportunity to take the learning outdoors! Is there a school garden space or open green space area where classrooms can meet you? If you have access to a school garden or indoor growing space, consider planting some fast-growing greens (ex: arugula, microgreens, leaf lettuce) to harvest for this month’s lessons. Or, during the planting activity, have students plant leafy greens in the garden space. Use a table to prepare the planting materials. Keep them organized and accessible for the planting activity.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren’t influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 3 minutes

The “Engage Activity” section has two purposes: 1) to activate students’ prior knowledge and 2) to engage every student.

Choose one of the following physical activities to introduce the lesson.

Physical Activity

Option #1: Fast - Slow - Freeze!

Today, we’re going to explore fast and slow. I’m going to say an action and show a color card. Green means do the action fast. Yellow means do the action slow. And red means freeze. You will stay in your spot and move in place. For example, if I say “run” and show a green card, you will run in place fast. When I change it to yellow, you will run slowly. When I change it to red, you will freeze. Ready?

- *Jump!* Show green card, yellow card, and red card. *Freeze!*
- *Clap!* Show yellow card, green card, and red card. *Freeze!*
- *Jumping jacks!* Show green card, yellow card, and red card. *Freeze!*
- *Dance!* Show yellow card, green card, and red card. *Freeze!*
- *Think of something you like to do very fast. Ready?* Show green card, then red card. *Freeze!*
- *Think of something you like to do very slowly. Ready?* Show yellow card, then red card. *Freeze!*
- Repeat with more moves. Alternate the order of the colors. End on “Freeze!”

Thanks for showing us your fast and slow! The food we’ll be tasting today is a vegetable that grows very fast.

Option #2: Moving to the Music: A Plant Dance Party!

Today, we're going to learn about and taste a fast-growing plant. But first, let's dance. I'm going to play a recording of some different songs. As you hear the songs, show us how the music makes you want to move. When you hear a pause between songs, freeze! Play this [musical recording](#) demonstrating fast and slow instrumental songs (3:26). If it's in your skillset, consider making a compilation or playlist of fast and slow songs that your students know and love!

Great moves! Just like we can move and dance at different speeds, plants can grow at different speeds. Let's listen to the music again, this time pretending to be plants that grow from little seeds (crouch down to the ground) into bigger plants (grow up and reach into the air). The music will tell us to grow fast or slow. When you hear a pause between songs, become a seed again. Play the recording of songs one more time.

Thanks for being in the plant dance party! The food we'll be tasting today is a vegetable that grows very fast.

Explore

3. Experiential Learning: 16 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Have students sit (opportunity for 3 deep breaths). *When seeds respond to sunlight, water and air, they grow. Leafy greens are a fast-growing plant. Different sizes of plants have different names. Sometimes we eat plants as seeds, sometimes we eat plants as sprouts right after they germinate, and if we let them grow a little longer, they become seedlings, also called microgreens. Let's say that word together: microgreens. Microgreens are harvested to eat after they have formed their first pair of leaves. Microgreens are nutrient-dense and have more vitamins, minerals and phytonutrients than the larger plants in most cases. We can add them to salads, sandwiches and wraps for more flavor and a nutrition boost.* Use the actions on the last page to illustrate the different nutrients.

Show students a real edible microgreen, either a harvested green or one still growing in a traveling container you take to each class. Point out the few small leaves and short stem. Compare the microgreen to an edible baby green and a mature leafy green of the same vegetable, if possible. When preparing your container, consider planting seeds at different times so that you can demonstrate different stages of leafy greens: microgreens/seedlings, baby greens and mature leafy greens. Date your plants to share with students how long they took to grow to the different stages. Some easy to grow microgreens include radishes, mustard greens, kale, arugula, broccoli and peas.

(If indoors) *Let's watch a video to see how microgreens grow.* Show students one of these videos: [Time lapse video of microgreens growing](#) (stop video at 1:15) or [Growing Kale Microgreens Time Lapse](#) (1:36). Note and count the passing days. Narrate the process of growth from seed to microgreen. *When the seeds begin to grow, the roots grow first, then the stem, then the leaves - the part of leafy greens we eat.*

Explore (cont'd)

Planting Instructions (adapted from [Choose Iowa Food of the Month: Grow your Own Microgreens!](#))

Microgreens can be ready to eat in just about one to two weeks! We're going to work together in groups to plant some microgreens and watch them grow in your classroom. Split students into four or more small groups. Each group will plant one container of microgreens. Share instructions while you and the teacher pass out materials.

1. Give each group one labeled container filled with potting soil, at least 1-inch deep. If outdoors, consider having small groups fill their own containers.
2. Give each group a cup of seeds that corresponds to the label on their container. Instruct students to spread the seeds densely and evenly over the soil.
3. Mist water over the seeds to moisten them using a squeeze bottle.
4. Place the containers in the sun. A south-facing window is ideal.
5. *In your small groups, make a guess: how fast will they grow?* Have students predict how long it will take for their microgreens to be ready to eat. They can write their guess on a sticky note and attach it to their container.

(Educators, here's a helpful video on [How to Grow Microgreens](#) or search for similar videos. This [article from Iowa State University Extension and Outreach](#) provides additional information.)

If it's not feasible to work in small groups, plant one container for the class and involve the students in the process. Leave the container in the class under a window for students to monitor the growth.

Tip: Microgreens are not a special type of seed. Use regular vegetable seeds. If you have many classes, consider reaching out to a farmer for seeds as they purchase large quantities and may be able to offer you a better deal rather than purchasing numerous seed packets, or purchase from commercial suppliers.

Optional: Videos featuring a variety of leafy greens are available to show as they fit into your lesson.

- [Oregon Harvest for Schools- Microgreens](#) (stop at 2:07)
- Nebraska Department of Education Harvest of the Month: [From Farm to You: Spring Greens](#) (3:37)
- Nebraska Department of Education Harvest of the Month: [From Farm to You: Kale](#) (2:30)
- University of Minnesota Extension Harvest of the Month: [MNAG Harvest of the Month Greens](#) (3:50)

4. Tasting Activity: 4 minutes

The "Tasting Activity" section is when students get to try the fruit or vegetable. Don't forget to review your food tasting norms (for example, "don't yuck my yum").

Before you pass out any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students receive their samples, talk the class through using their senses to explore the tasting.

Explore (cont'd)

Choose one of the following to taste leafy greens:

1. Offer one or multiple types of microgreens (ex: kale, arugula, collard, mustard, broccoli, pea). If tasting more than one kind, can students guess what kind of plant it is?
2. Offer classrooms one or more types of leafy greens (ex: arugula, lettuce, kale, spinach). If tasting more than one kind, compare and contrast the leafy greens (flavor, colors, shape, texture, etc.). Students may dip their green in a dab of salad dressing but are encouraged to taste it plain first.

Local Food Facts! If you're tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the leafy greens, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay," "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say "go," you can say your answer aloud.

- *What kind of vegetable did we taste today?* (microgreens, leafy greens)
- *What kind of leafy green did you plant today?* (specific name of vegetable)
- *Do leafy greens grow fast or slow?* (Fast)
- *How many leaves do microgreens have when they are ready to be eaten?* (2 leaves, 1 pair)
- *How fast will your microgreens grow?* (Students say their predictions aloud)

(continued on the next page)

Reflect (cont'd)

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting leafy greens.

- Ask a student with a raised hand: *if you wanted to try leafy greens at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy or get microgreens or other types of leafy greens? Does anyone grow leafy greens at home?*
- *How could you eat microgreens or leafy greens?* (in a salad, sandwich, wrap, smoothie, etc.)
Recall when leafy greens were or will be offered at school lunch.
- *What else do you know about microgreens?*

Leave newsletters and stickers with the teachers to pass out.

Leave these instructions for the classroom: Lightly water the trays at the beginning and the end of the day to keep the soil moist. Use scissors to harvest microgreens when they have developed one or two sets of leaves. Cut the stems right above the soil. Wash and enjoy another classroom taste test!

Additional Materials

Physical Activity

Choose a physical activity to incorporate into the lesson. Ideas for physical activities are available at <https://hhs.iowa.gov/pick-better-snack/materials#classroom-physical-activity>.

What You Need to Know About Leafy Greens

- Look for greens with a deep green color, crisp leaves and thin stems. Avoid leafy greens that are yellow or wilted.
- Greens can be stored 3-5 days in a plastic bag with a paper towel in the refrigerator. Rinse greens under cool water until the water runs clear (several times) right before eating. Do not wash before storing.

Facts About Leafy Greens

- Kale is in season May - June and September - November. It's a cruciferous vegetable in the Brassica family, the same plant family as cabbage, broccoli, and Brussels sprouts.
- Kale comes in a variety of colors including blue-green, light green, purple and red. Baby kale is a milder alternative to regular (curly) kale.
- Spinach is in season May - October. Spinach is the leaf of the plant and grows just above the ground. It is part of the amaranth plant family.
- Spinach is usually green in color, but there is also a purple variety.
- California, Texas, New Jersey and Arizona are the top spinach-producing states.
- Microgreens are immature plants harvested at less than a month old. They fall between the "sprout" and "baby green" stage.
- Common varieties of microgreens include broccoli, cauliflower, mustard, lettuce, chia, bok choy, turnip, cress and sunflower.
- Microgreens are in season year-round since they can be grown indoors or outdoors. They only need about 4 hours of sunlight a day.

Health Connection

- Dark leafy greens, like kale and spinach, provide vitamin C, Vitamin A, vitamin K, calcium, iron, fiber and many other nutrients.
- Microgreens often have the same amount or more nutrients than mature greens.
- Vitamin C helps heal our skin and helps our bodies fight off illness (reinforce by crossing your arms as a defense shield). Vitamin A is important for eyesight and keeps our skin healthy (make goggles with your hands to cover your eyes). Fiber is good for our digestive systems (reinforce by rubbing your stomach) and our hearts. Calcium helps keep our bones strong, iron helps our blood carry oxygen we breathe, and vitamin K is good for our hearts.

References and Resources

<https://spendsmart.extension.iastate.edu/cook/produce-basics/>
<https://www.iowafarmtoschoolearlycare.org/choose-iowa-campaign>
<https://www.agmrc.org/commodities-products/vegetables/spinach>
<https://snaped.fns.usda.gov/resources/nutrition-education-materials/seasonal-produce-guide/kale>

Local Spring Veggies

Radishes, Turnips

GRADE
2-3

Month: May

Time Required: 30 minutes

Tasting: Radishes, Turnips

Lesson Goals

- Students will increase their knowledge of fruits and vegetables.
- Students will learn to try new fruits and vegetables and increase their preference for them.
- Students will learn that their peers like to eat fruits and vegetables.
- Students will learn how to ask their parents/caregivers for the fruits and vegetables tasted in class.

Lesson Objectives

- Students will be able to identify spring crops like turnips and radishes.
- Students will be able to recall that colorful vegetables are good for our brains.

Materials

- Prepared image of PABS vegetables (option included)
- Whole raw radish (or turnip) or bunch of radishes to show
- Iowa Department of Education video: [Farm to School Virtual Field Trip - Coggon Radishes](#)
- Tasting materials: Consider the multiple options for exploring and sampling local spring crops!

Preparation

- Use familiar images of fruits and vegetables from PABS lessons throughout the year to create a colorful image for the memory game, if not using the image provided.
- Cut up local radishes or turnips for the tasting.

Recommended Books

"Anywhere Farm" by Phyllis Root

"Plantzilla" by Jerdine Nolen

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
[Standards 1, 2, 3, 4, 5, 7, 8](#)

Science
Second grade - [2-LS4-1](#).
LS4.D: Biodiversity
Third grade - [3-LS4-3](#).
LS4.C: Adaptation

Lesson Checklist

- Physical Activity
- Tasting
- Voting
- "Asking" Discussion
- Newsletters, Stickers
- Science Connection: Biodiversity (2nd) & the effect of weather on plants (3rd)

Engage

1. Introduction: 2 minutes

The “Introduction” section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day's lesson.

If leading any hands-on cooking, assemble your materials so that they are organized and accessible for you and the students.

Program Evaluation:

1. Ask students: *Since the last time I visited, who asked their grown-ups to have [insert name of fruit or vegetable tasted last month] at home?* Consider having students put their heads down and then raise their hands so they aren't influenced by the class.
2. Record the number of students who raised their hands.

2. Engage Activity: 6 minutes

The “Engage Activity” section has two purposes: 1) to activate students' prior knowledge and 2) to engage every student.

Today we're going to learn about building brain power—or keeping our brain healthy. Let's start off by using our brain power to think. Have students touch their brain buttons (temples). *Think in your head, what is something you learned this year in Pick a Better Snack (PABS)?* Have students share all at once as a choral response, or lead students through a think-pair-share. Once students have thought and shared, say, *Wow, we have learned so much this year!*

Physical Activity

Now, let's use our brain power to play a memory game. I'm going to show a picture on the screen for 15 seconds. Without saying anything, use your brain power and try to remember the names of all the things you see. Using the classroom projector, display a colorful image of the foods featured in the PABS lessons this year (see image included in the lesson). Hide the image after 15 seconds. *Now, I'm going to say the name of a food and if you saw it on the screen, spring up into the air.* Read through the names of the foods that were on the picture along with some things that aren't pictured (such as broccoli, strawberries or other berries, spinach, jicama, cranberries, zucchini, cucumber, cantaloupe, lemon, orange, cauliflower, etc.), allowing students to use their memory and respond with jumping. *Excellent brain power!*

Display the image of PABS foods again. *Our brain is the part of our body that helps us learn about, try, and remember the foods we ate together this year. Your brain is very hungry because it's working and growing all the time. When is your brain working and growing?* (Choral response: *all the time!*). *Colorful fruits and vegetables like these contain vitamins and nutrients that help build our brain power by feeding and keeping our brain healthy. Fruits and vegetables are good for our brains!*

Today, we're going to build our brain power and feed our brain by tasting radishes [or turnips]. Consider introducing a new action, such as touching your temples, to demonstrate radishes [or turnips] help keep our brain healthy. Follow with the actions on the last page for other nutrients we get from radishes [or turnips] and how they help our body stay healthy.

Explore

3. Experiential Learning: 12 minutes

This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Seat students at their desks. Opportunity for 3 deep breaths.

Show students a whole radish (or turnip) or an image of one. *Radishes are a colorful root vegetable that grows in the spring. Foods that grow in the spring are called spring crops. During the spring season, the conditions are just right for radishes to get what they need to grow. The warm spring rain and longer, warmer days make them able to grow. When the hot summer comes, these crops do not grow well. They love spring weather, when it is cooler and not too hot! Spring crops are special because they're the first foods we can grow outdoors after winter ends!*

Let's watch this video about farmer T.D. Holub who grows radishes in Coggon, Iowa. Show students this video from the Iowa Department of Education's Farm to School Virtual Field Trip series: [Farm to School Virtual Field Trip - Coggon Radishes](#) (recommend stopping at 5:09 or watch longer if time allows). Ask students questions following the video, reinforcing concepts taught in the video and prior PABS lessons.

- *Do radishes grow fast or slow? (fast) What other vegetable did we try recently that was also a fast-growing vegetable? (microgreens, leafy greens)*
- *When do radishes grow best? (spring, fall) Why? (the days are getting longer with more sunlight; it's getting warmer, but not too hot yet like summer; warm spring rain)*
- *What part of the plant are radishes? (root) What is another root vegetable we've learned about in PABS this year? (carrot, beets, potato)*
- *In the video, we saw the radish plant start to grow—roots grew, a short stem grew up through the dirt and a pair of small leaves formed. Last month, we learned the name for these young plants that we can eat. What are they called? (microgreens) Yes, we can eat radish microgreens.*
- *What is the name of the plant family radishes belong to? (Brassica) What other vegetable did we learn about this year also belongs to the Brassica family? (Brussels sprouts, cabbage or kohlrabi)*
- *We learned in the video that radishes benefit from the frost that may happen in spring weather. How does the frost help radishes? (it makes them sweeter, better flavor – not so hot, crunchier) What other vegetable did we learn about this year that also gets sweeter with frost? (carrots) What did we call this process? (cold-sweetening)*
- *How can we eat radishes? (raw with or without dip, in sandwiches—including bánh mì sandwiches, on avocado toast, in salads, with tacos, as pickled radishes, etc.) How have you eaten a radish before?*
- *Do radishes grow in Iowa? (yes! You can plant them in an in-ground or raised bed garden or a container garden. Farmer Holub planted radishes in high tunnel, which is a structure that provides protection from bad weather and traps the heat to help plants grow.)*

Explore (cont'd)

4. Tasting Activity: 5 minutes

The “Tasting Activity” section is when students get to try the fruit or vegetable. Don’t forget to review your food tasting norms (for example, “don’t yuck my yum”).

Before you pass out any samples, be sure to share your brave tasting rules (for example, don’t yuck my yum, we all try together, etc.). As students receive their samples, talk the class through using their senses to explore the tasting. Have students notice the color of the radish or turnip skin compared to the color of the inside.

Choose one of the following ways to taste a local spring crop:

- Raw: Cut radishes or turnips into slices or half-moons and serve plain or with a dip.
- Spring Crop Crackers: whole wheat cracker, cream cheese spread and radish or turnip slices on top. Students can spread cream cheese on a cracker and add a spring crop topping.
- Make spring rolls: Bring prepared (chopped or shredded) spring roll ingredients (turnips, radishes, cabbage, carrots, rice paper, herbs, sauce) into the lesson and work with students to make their own spring roll. Check out FoodCorps’ lesson, [Rolling into Spring](#), for inspiration.
- Air fryer: Before the lesson, chop radishes or turnips into smaller pieces. During the lesson, toss in an air fryer with olive oil and spice options (ex: garlic, pepper, paprika). You can also use an oven or fry in a skillet.
- Electric skillet: Before the lesson, chop crops into smaller pieces. During the lesson, heat 2 tablespoons olive oil over medium heat, leaving uncovered. Add your spring crops to the skillet and season with optional spices (ex: salt, garlic, pepper, paprika).

Local Food Facts! If you’re tasting local food, be sure to share information about where it came from: Iowa farm/farmer, location, distance from the school (a map is a great visual here!), when it was harvested, how did you get it, etc.

Reflect

5. Voting Activity: 2 minutes

This is a time for students to give their opinion on what they tried!

As students taste the spring crops, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Reflect (cont'd)

Program Evaluation:

1. Record the number of students in the class and the number who tasted the sample to measure willingness to try the food.
2. When students vote, record the number of students for each vote: "Like it," "It's okay," "I didn't care for it today."
3. Then ask students, *Was this your first time trying [insert the fruit or vegetable]?* and record the number of students who raise their hands to indicate "yes."

6. Reflection: 3 minutes

Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Choral Response:

I'm going to ask a question and you're going to quietly think to yourself. When I say the word, "radish" [or turnip], you can say your answer aloud.

- *What vegetable did we try today?* (radishes, turnips)
- *When do radishes [or turnips] grow best?* (spring or fall, when it's not too hot)
- *What do the nutrients in colorful vegetables like radishes [or turnips] give our brains?* (brain power, they help keep our brain healthy)
- *What are some other colorful foods we can eat for brain power?* (display attached visual if students need help coming up with colorful food)

Asking Discussion:

Raise your hand if you're excited to go home and tell your family about tasting spring crops.

- Ask a student with a raised hand: *if you wanted to try spring crops like radishes or turnips at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy spring crops like turnips or radishes?*
- *What else do you know about turnips or radishes?*

Leave newsletters and stickers with the teachers to pass out.





Radishes



Turnips

Additional Materials

Physical Activity

Choose a physical activity to incorporate into the lesson. Ideas for physical activities are available at <https://hhs.iowa.gov/pick-better-snack/materials>.

What You Need to Know About Spring Root Veggies

- Look for turnips that are heavy, pearly and have fresh leaves with no soft spots. Smaller turnips taste sweeter.
- Look for radishes that are brightly colored and smooth with green tops.
- Turnips and radishes can be stored in the refrigerator for 7 days.
- Scrub radishes and turnips with a vegetable brush under cool water before eating.
- Remove radish and turnip tops and store the veggie in the refrigerator for up to 1 week. Radish and turnip tops are edible; store them in the fridge like other salad greens and eat within a couple of days.
- Raw radishes have a peppery flavor, while cooked radishes have a slightly sweet flavor.

Facts About Spring Root Veggies

- Turnips and radishes are in season late spring and late fall. Radishes are one of the first spring vegetables available.
- Turnips are a root that grows underground and a member of the mustard plant family.
- Originating in Asia, turnips are now grown all over the world in mild climates.
- Different types of turnips include purple-top white globe, scarlet queen, and Tokyo cross. Turnips are usually purple or white in color.
- Radishes are a root in the mustard plant family and come in a variety of sizes and colors, although most commonly red.
- The shape of radishes range from spherical to cylindrical and less common color varieties include white, purple, yellow and black.
- There are both summer and winter varieties of radishes grown all over the world.

Health Connection

- Turnips and radishes are high in vitamin C. They also give us fiber and potassium. Vitamin C helps heal our skin and helps our bodies fight off illness (reinforce by crossing your arms as a defense shield). Fiber helps us feel full and is good for our digestive systems (reinforce by rubbing your stomach). Potassium is good for our hearts and other muscles.

References and Resources

<https://snaped.fns.usda.gov/resources/nutrition-education-materials/seasonal-produce-guide/radishes>

[Growing Radishes in Iowa | Yard and Garden](#)

[Growing Turnips and Rutabagas in the Home Garden | Yard and Garden](#)

[Produce Basics - Spend Smart Eat Smart](#)

<https://fruitsandveggies.org/fruits-and-veggies/>

<https://www.iowafarmtoschoolearlycare.org/june-radish>

<https://www.youtube.com/watch?v=mbMffY706q4> – another video of an Iowa radish farmer