Local Summer Crops
Tomatoes, Eggplant, Cucumbers

GRADE K-1

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 name a vegetable in-season in the summer.
- ❑ Students will be able to list conditions for growing summer crops.

Materials

- ❑ Images for Hot or Cold Activity (included in lesson)
- ❑ Printed "Summer Crops Need" half sheets for students
- ❑ Image of tomato plant and sun (included in lesson)
- ❑ 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

- ❑ Print images for Hot or Cold Activity. Consider cutting into cards.
- ❑ Print "Summer Crops Need" half sheets for students.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1. LS1.C: Plant survival needs

First grade - 1-ESS1-2. ESS1.A: Seasonal patterns

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Things plants need (K) and Seasonal patterns (1st)

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
"Up in the Garden and Down in the Dirt" by Kate Messner

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.

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, I would like you to make a big circle. Provide detailed directions for students to form a circle. *Here's something I want to learn about you…*

Lead students through the Hot or Cold Engage 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.

<u>Hot or Cold?</u>

Think in your head (can put fingers up to temples and close eyes), Do you like when the weather is hot or when the weather is cold? When I say the word "tomato," I want you to silently show us your preference. If you like when it's hot outside, put your arms over your head to make a big sun. If you like when it's cold outside, stretch your arms out to the side like you're a snowflake. Ready? Tomato! Observe all students' preference for hot or cold weather and ask a couple of students to share why they like hot or cold weather better with the class (use pick-a-stick to randomly select students to share). *Great job! Our classroom likes both hot and cold weather.*

<u>Physical Activity</u>

Now, we're going to look at a few pictures. When you see the picture, if you think of hot, put your arms over your head to make a big sun. If you think of cold when you see the picture, stretch your arms out to the side like you're a snowflake. Using the classroom projector, show one picture at a time, using the images below or include your own. Verbally name the image on each card and verbalize how students are responding as you move through the images. For example, *"Ice Cube - we think of cold when we see an ice cube."*

When you get to a picture of a tomato plant (or cucumber or eggplant—whatever you will be tasting), pause to see how students respond. Ask a few students, *"Why does the tomato plant make you think of hot?* Or, *Why does the tomato plant make you think of cold?"* Answers will vary. Share, *Those are great connections. Today we're going to taste a tomato [or cucumber or eggplant], a vegetable that really likes hot, sunny weather.*

Engage (cont'd)

Hot or Cold Images

Include any images of your liking! Some included within this lesson plan are:

- Ice Cube
- Campfire
- Ice cream cone
- Glass of water
- Birthday candle
- Grill
- Winter Coat
- Tomato
- Sunshine
- Flip flops

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.

Optional: Instruct students to sit down. Choose one of the recommended books or a book of your choice to read to introduce a summer vegetable.

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

Show students a whole tomato (or other summer crop you will taste). *We're going to taste this vegetable called a tomato. What's this vegetable called?* (choral response - *"tomato"*) *Vegetables - like tomatoes - 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.*

Show the image of the tomato plant and sun included in the lesson. Use the classroom projector for a better visual. *Summer crops need warm soil, lots of sunlight and high temperatures to grow.* 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.).

Pass out "Summer Crops Need" worksheets. Ask students to draw a sun and sunshine over the tomato plant and a warm base of soil under the tomato plant. Show the completed image on the classroom projector for students to reference. If you prefer not to use worksheets, ask for student helpers to draw on the board the tomato plant, sun, sunrays and bed of soil.

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)*
- *Name one vegetable that grows and is ready to eat in the summer. (Tomatoes, cucumber or eggplant)*
- *Do tomatoes [or cucumbers or eggplant] like hot or cold weather? (Hot)*
- *What do summer crops need to grow? (Sunlight, high temperatures, warm soil)*
- *Why can't summer crops grow outdoors in Iowa's winters? (Little sunlight, low temperatures, cold soil)*

Asking Discussion:

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

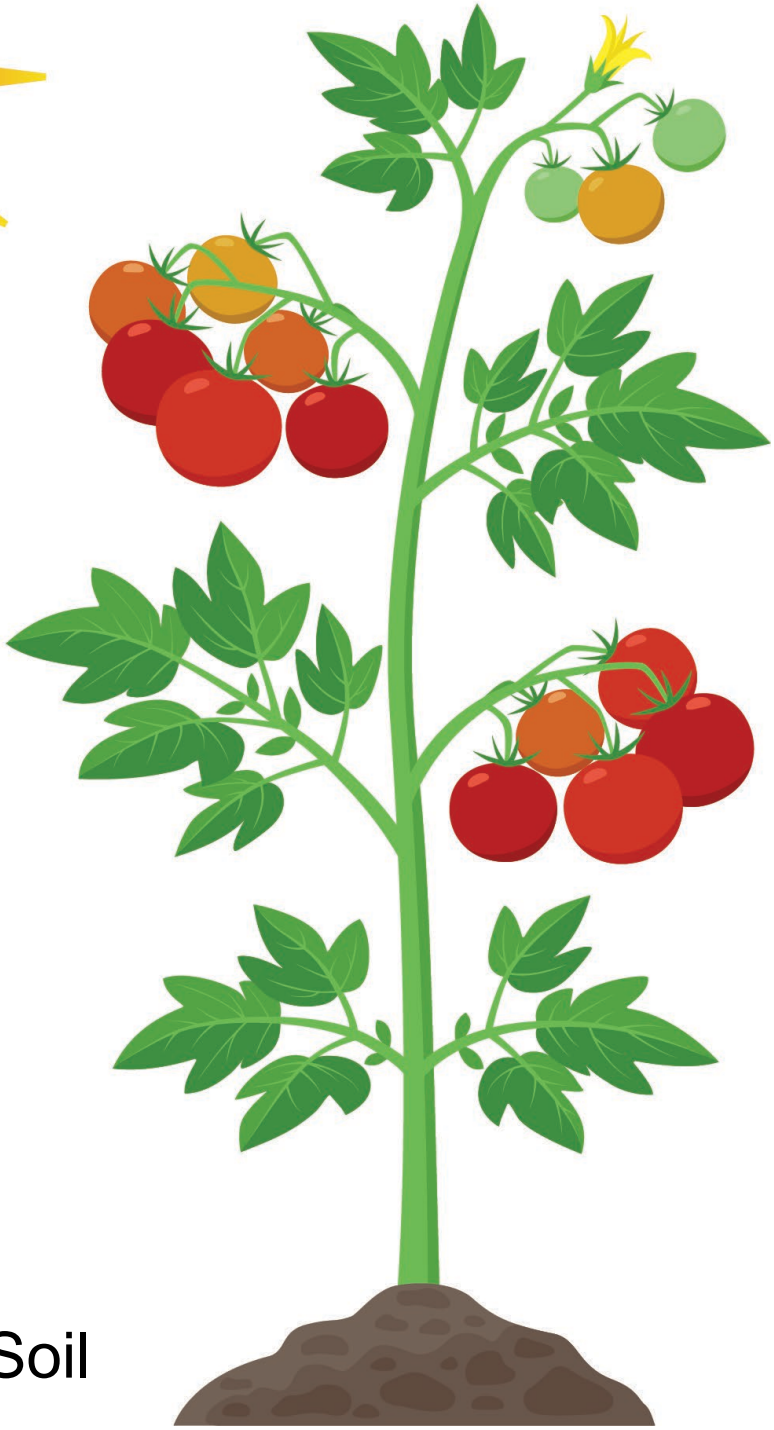
- Ask a student with a raised hand: *if you wanted to try this at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy tomatoes? What else do you know about tomatoes?*

Leave newsletters and stickers with the teachers to pass out.

Summer crops need:

Lots of Sunlight

High Temperatures



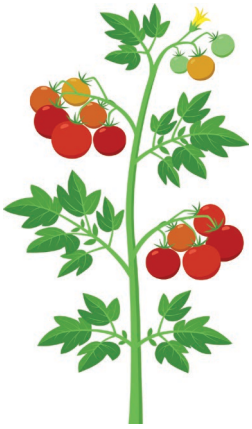
Warm Soil

Summer crops need:

1. Lots of Sunlight
Draw a big sun over the tomato plant.

2. High Temperatures
Draw sunrays coming from the sun.

3. Warm Soil
Draw a warm bed of soil under the tomato plant.



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Summer crops need:

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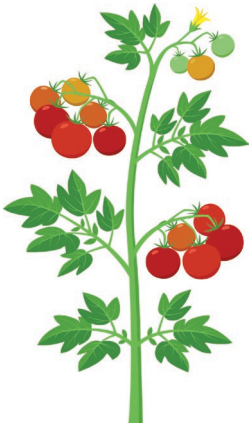
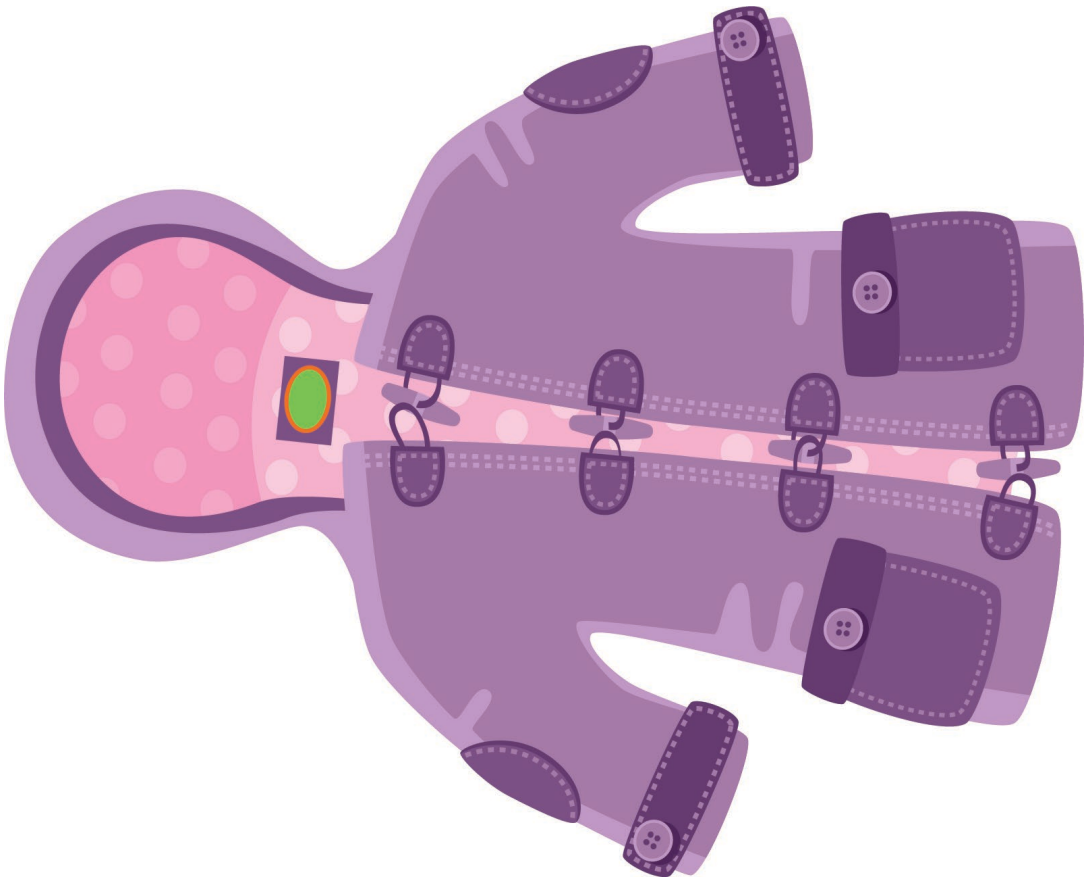
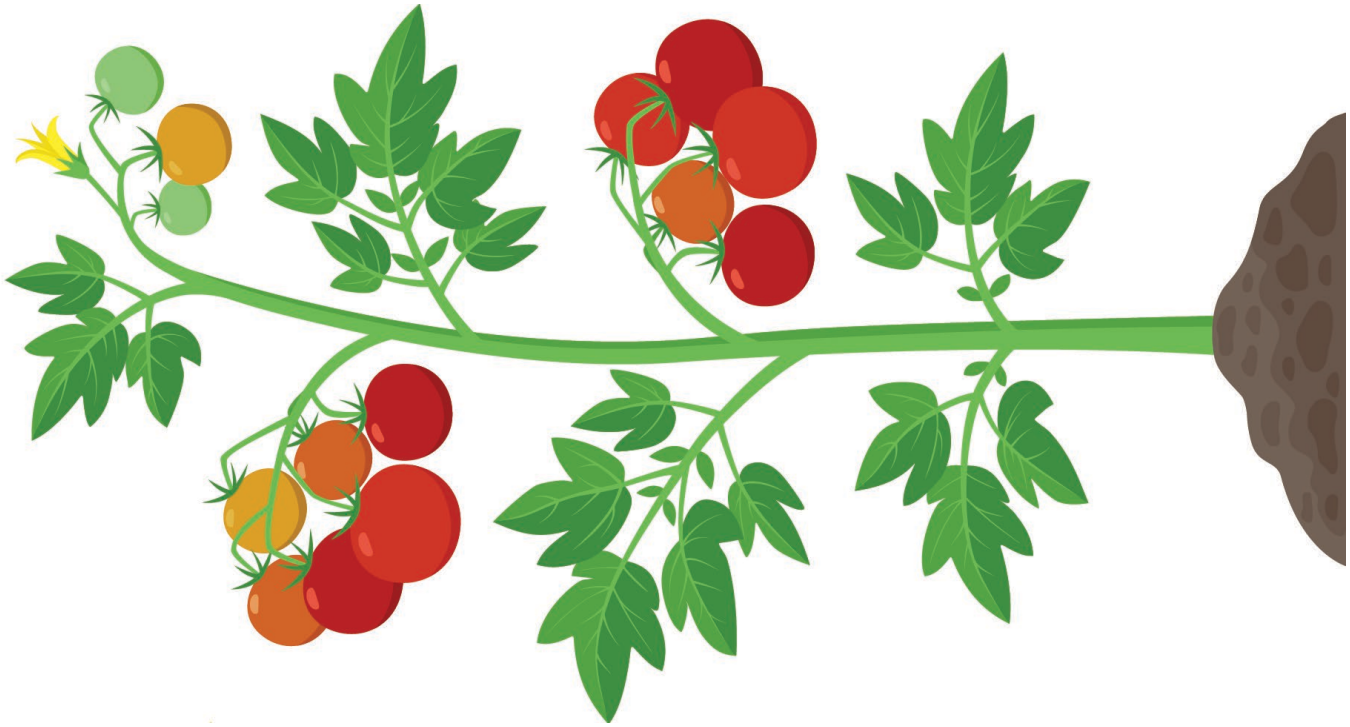
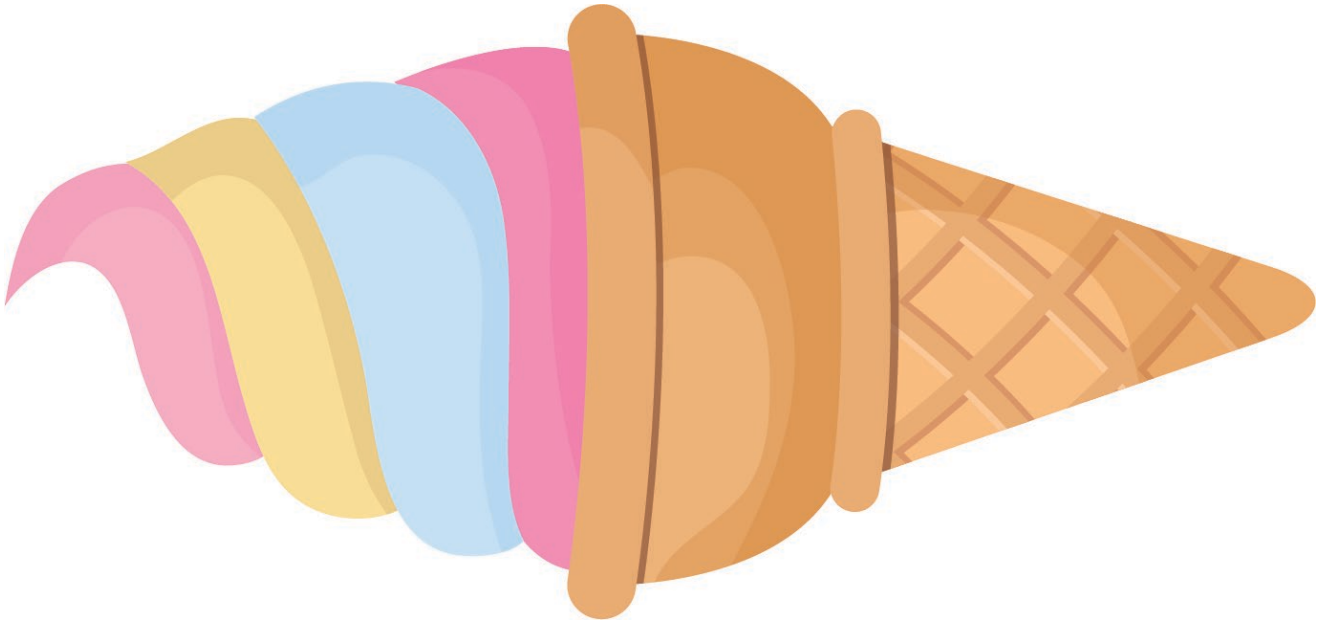
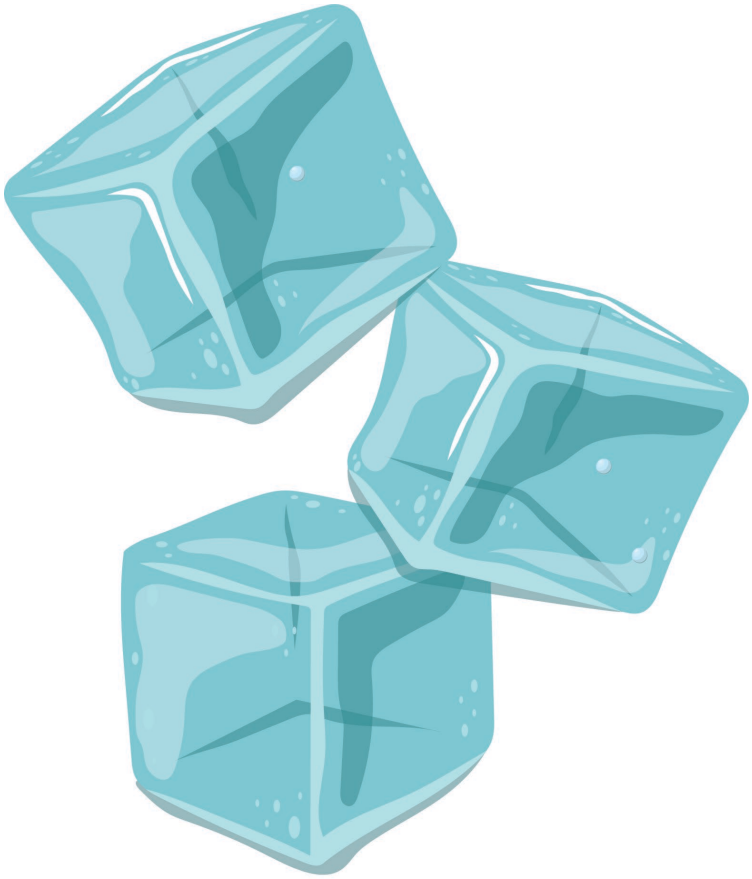


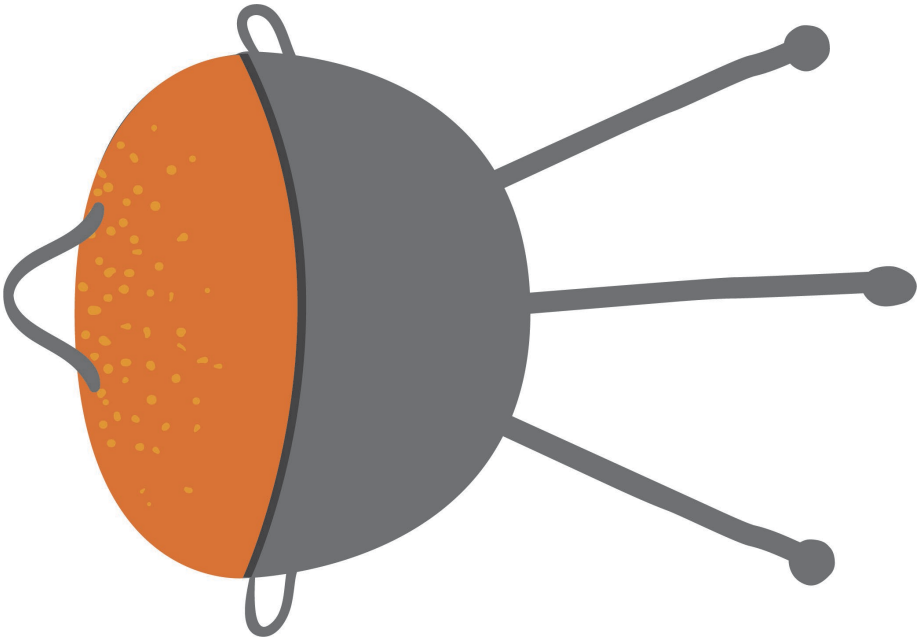
IOWA Health and Human Services

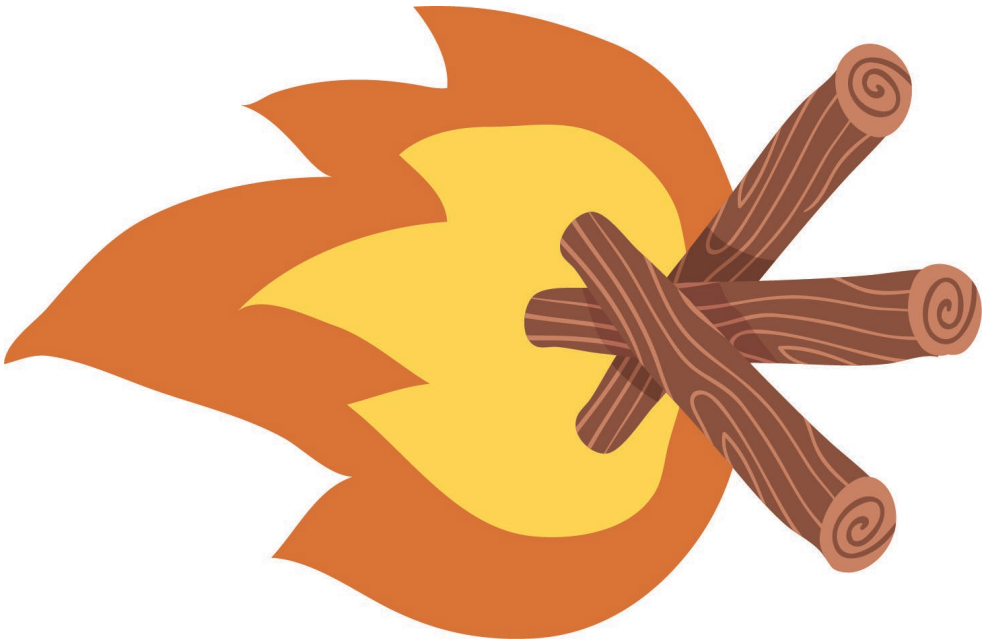












Additional Materials

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 20º 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 goggles 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

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IOWA Health and Human Services

Local Fall Fruit
Apples, Pears, Melons

GRADE K-1

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 construct a plant using six plant parts.

Materials

- ❑ 6 Plant Part Puzzles, one of each
- ❑ My Plant Part Puzzle ½ sheet, one for each student
- ❑ Tasting materials: napkins or paper plates
- ❑ Image of apple tree (included in lesson)
- ❑ 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.
- ❑ Print the full sheet, “My Plant Part Puzzle,” and cut into ½ sheets, one per student.
- ❑ 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.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1.
LS1.C: Plant survival needs

First grade - 1-LS1-1.
LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Observing similarities and differences (K) & Parts of a plant (1st)

Recommended Books

“Fall Apples Crisp and Juicy” by Martha E. H. Rustad
“Apple Farmer Annie” by Monica Wellington
“The Apple Tree” by Sandy Tharp-Thee
“The Seasons of Arnold’s Apple Tree” by Gail Gibbons

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: 4 *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 a fruit that grows in Iowa and is ready to eat in the fall. First, I want to ask you: what is something you like to do in the fall [or something you like about fall]? Have students share with one another or with the class. Share with the class one of your favorite fall activities.

We are going to learn about apples [or pears, melon] and the different parts of the apple tree [or pear tree]. This may be a good time to read one of the recommended books about apples or a similar book of your choice.

Physical Activity: Explore Iowa *(see Activity Breaks booklet, page 44)*

Did you know apples grow in Iowa? Let's take a trip across our state to get our bodies moving and see if we can find an apple tree. Instruct students to stand and lead them 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.

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.

Plant Part Puzzle!

Divide the class into 6 groups to work on a Plant Part Puzzle together (one group per plant part). Give a plant part puzzle to each group. Share, *Each group has a puzzle to solve. As a team, work together to fit the pieces of the puzzle together. Once your group has solved the puzzle, name the plant part pictured. Then, 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.

Explain to students, *Every plant is a puzzle of plant parts.* While displaying the complete image of the apple tree included in the lesson, briefly describe the function of each plant part and read the names together as a class.

- **Roots**: soak up water and keep the plant in the ground
- **Stem**: brings water up and food down
- **Leaves**: help the plant make food
- **Flowers**: grow into fruit with the help of bees
- **Fruit**: holds and spreads new seeds
- **Seeds**: help make new plants

Have groups raise their hands when you get to the plant part that was on their puzzle. Count the plant parts together, 1-6. *Plants, like this apple tree, have 6 plant parts*. *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 explore and taste some fall fruit.*

4. Tasting Activity: *8 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 taste any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.).

Explain to students, *we're going to use our senses to explore the fall fruit today before we taste it. We're going to take a really long time to eat it because we're going to explore everything we can about the fall fruit using our 5 senses.* Lead students through 5 senses exploration.

Explore (cont'd)

- **See:** Have students carefully examine the fall fruit. Ask, *What do you notice about the apple [or pear, melon].* What details do they see? Are there any other plant parts in their tasting (seeds, stem, evidence of where the flower was)?
- **Touch:** Students can close their eyes and feel the fall fruit with their fingers. What does it feel like?
- **Smell:** Have students bring the fall fruit to their noses and inhale. Ask them to describe the smell.
- **Hear:** Using their fingers, have students snap the fall fruit in half. Everyone should be very quiet to listen for any sounds.
- **Taste:** As students taste their fruit samples, talk the class through some descriptive words to describe the different fall fruit flavors.

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

5. Voting Activity: *3 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. 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.

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: *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, "apple," you can say your answer aloud. Let's practice…

- *What month is it?* (October)
- *What season is October in?* (fall)
- *What's one kind fruit that grows and is harvested to eat in the fall?* (apples, pears, melon)
- *There are 6 plant parts. Tell me the name of one of them.* Choose several students to name a plant part. (roots, stem, leaves, flower, fruit, seed)

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.

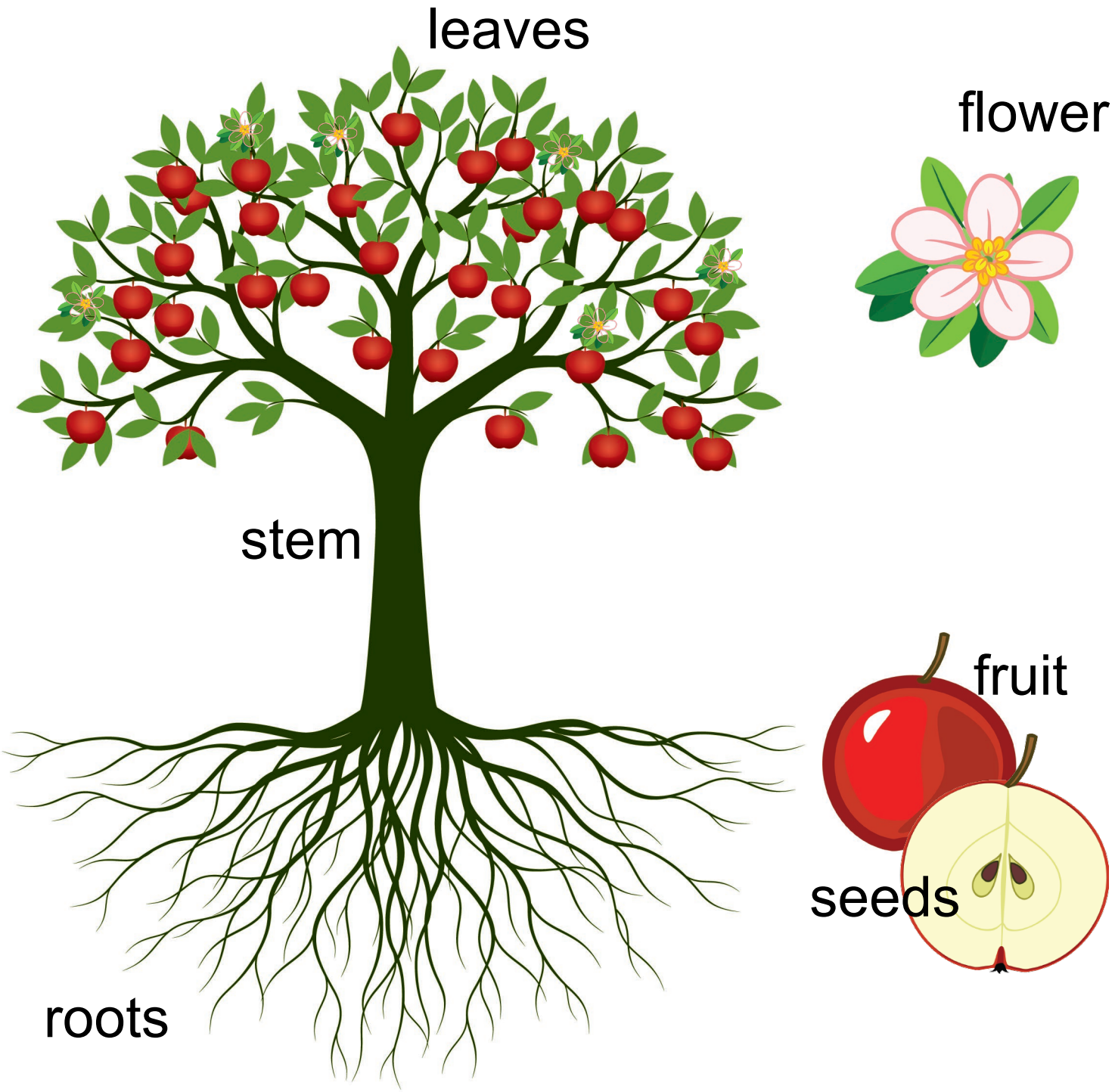
Ask a student with a raised hand: *if you wanted to try fall fruit at home, how might you ask your grown-ups?*

- You might also ask additional questions like, *where could you buy apples or other kinds of fall fruit? What else do you know about apples [or other fall fruit]?*

Optional: Student Plant Part Puzzle

Give each student the ½ sheet included in the lesson and instruct them to make their own imaginary plant part puzzle. *Use your imagination to create a new plant that has all 6 plant parts. When you're done, cut your puzzle into pieces and share it with a friend!*

Leave newsletters and stickers with the teachers to pass out.


leaves
flower
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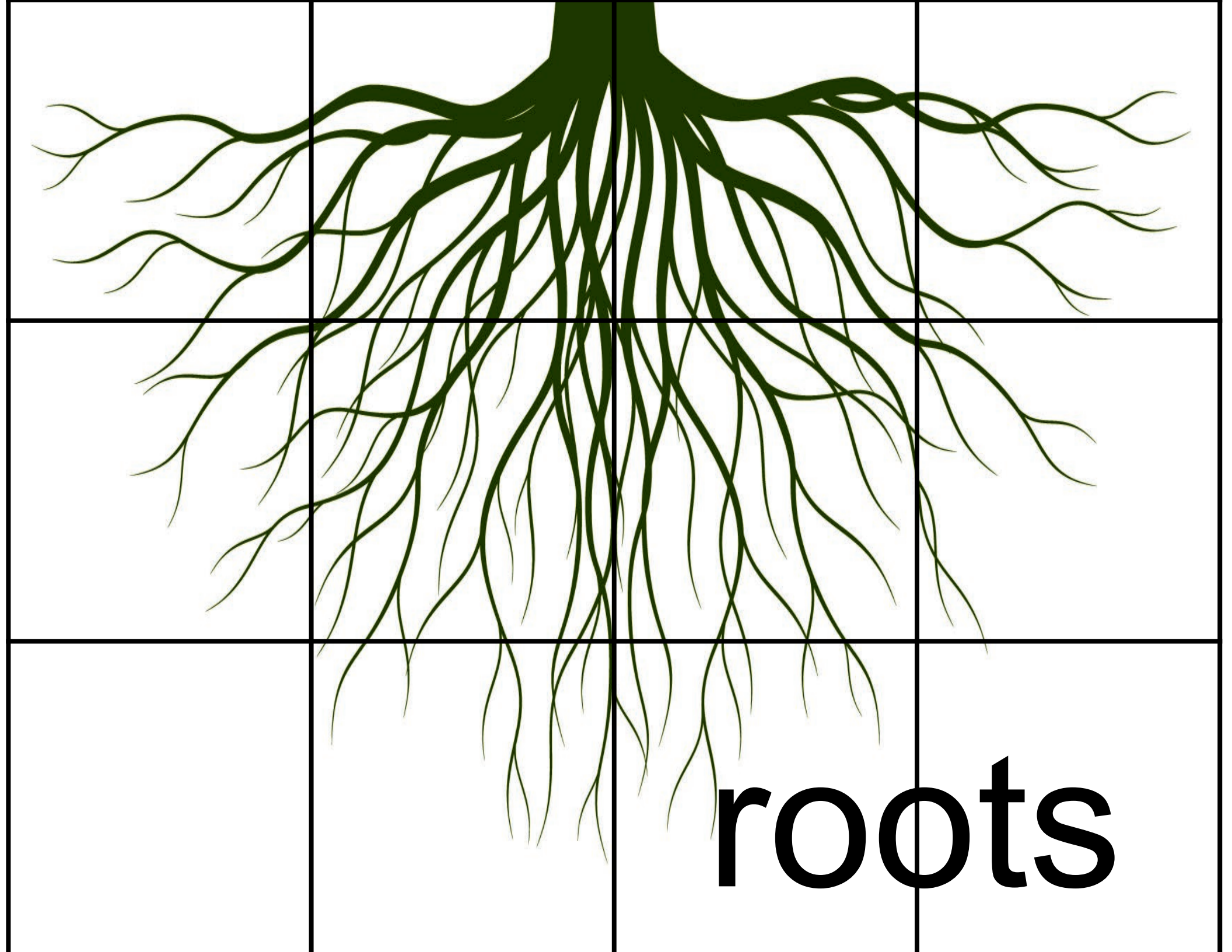
roots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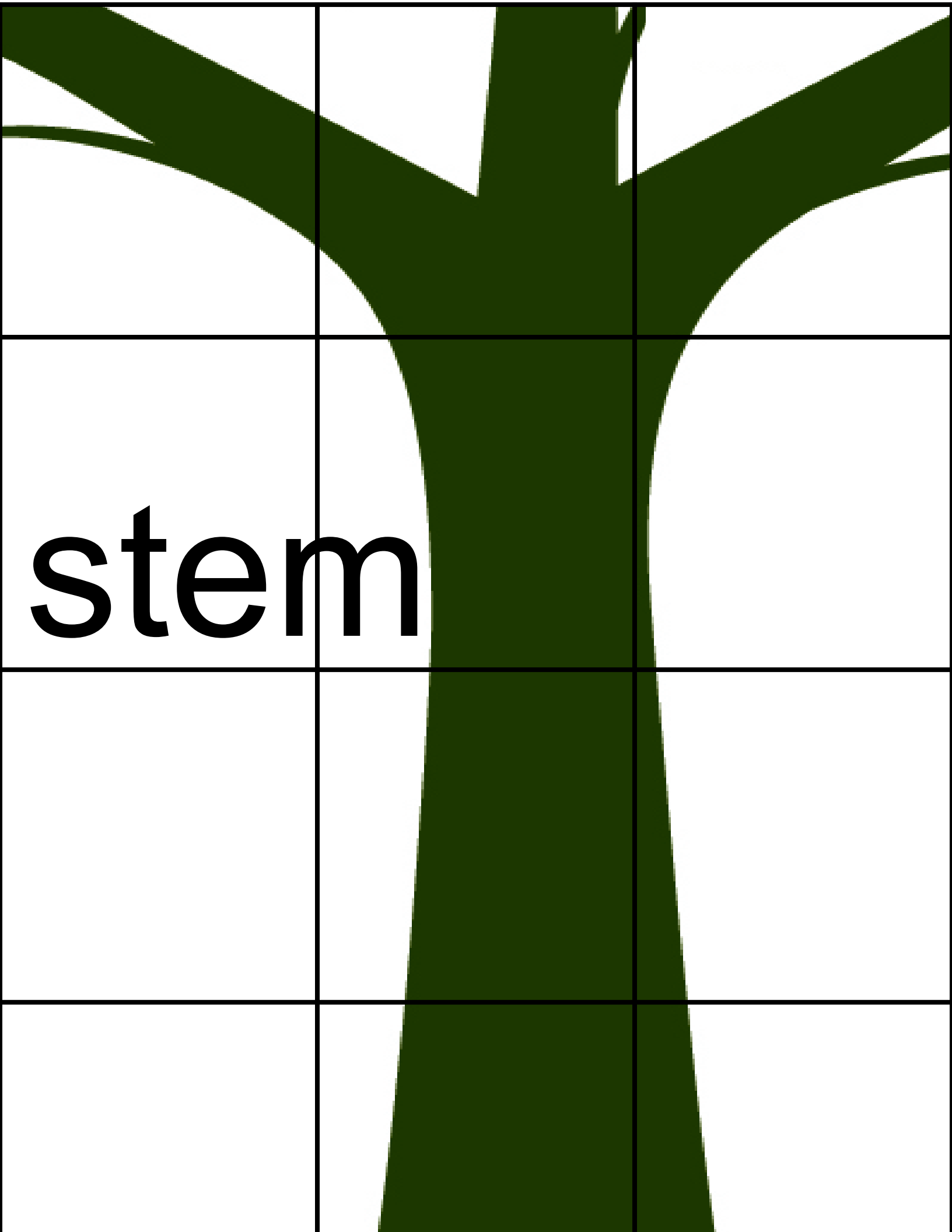
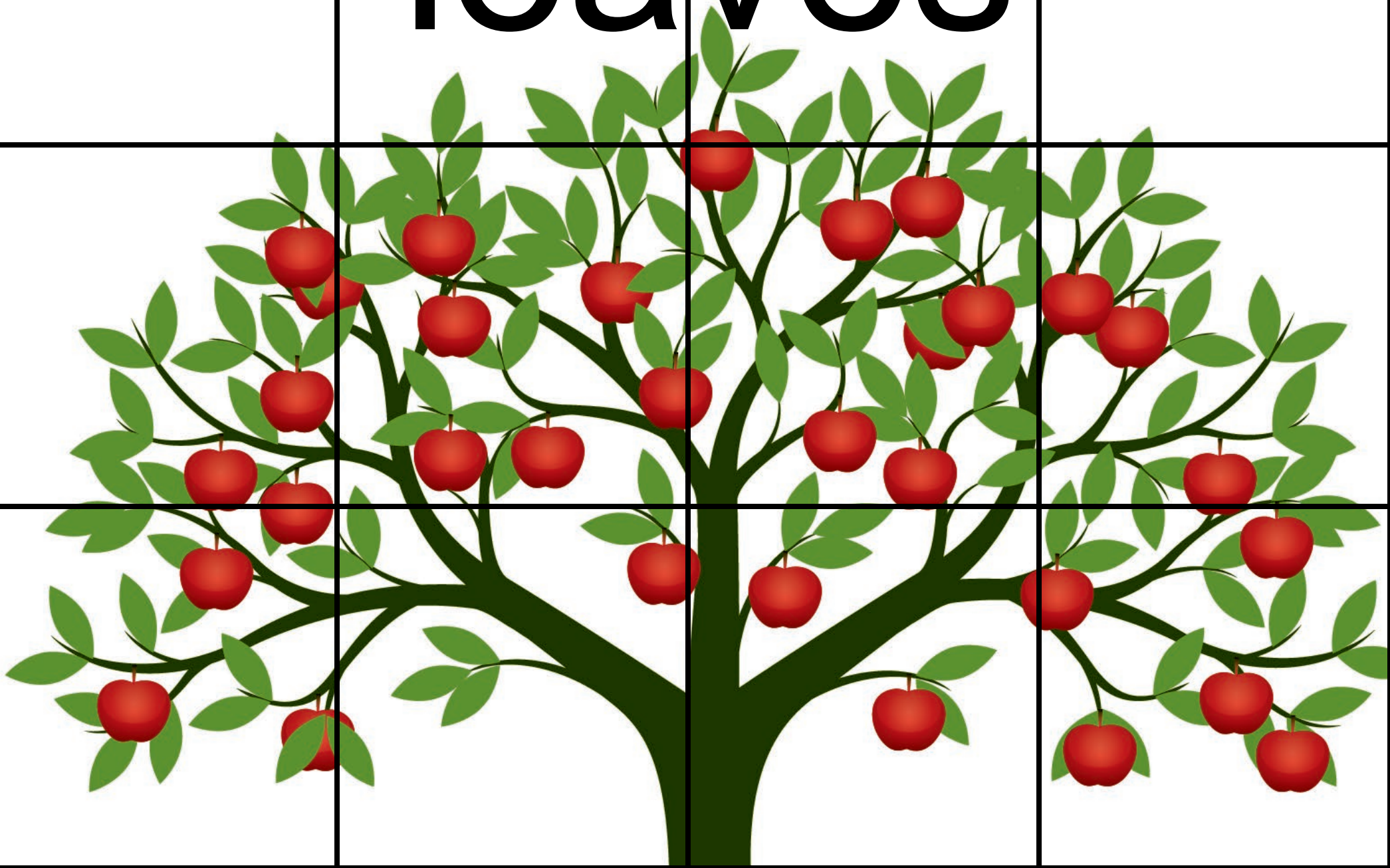
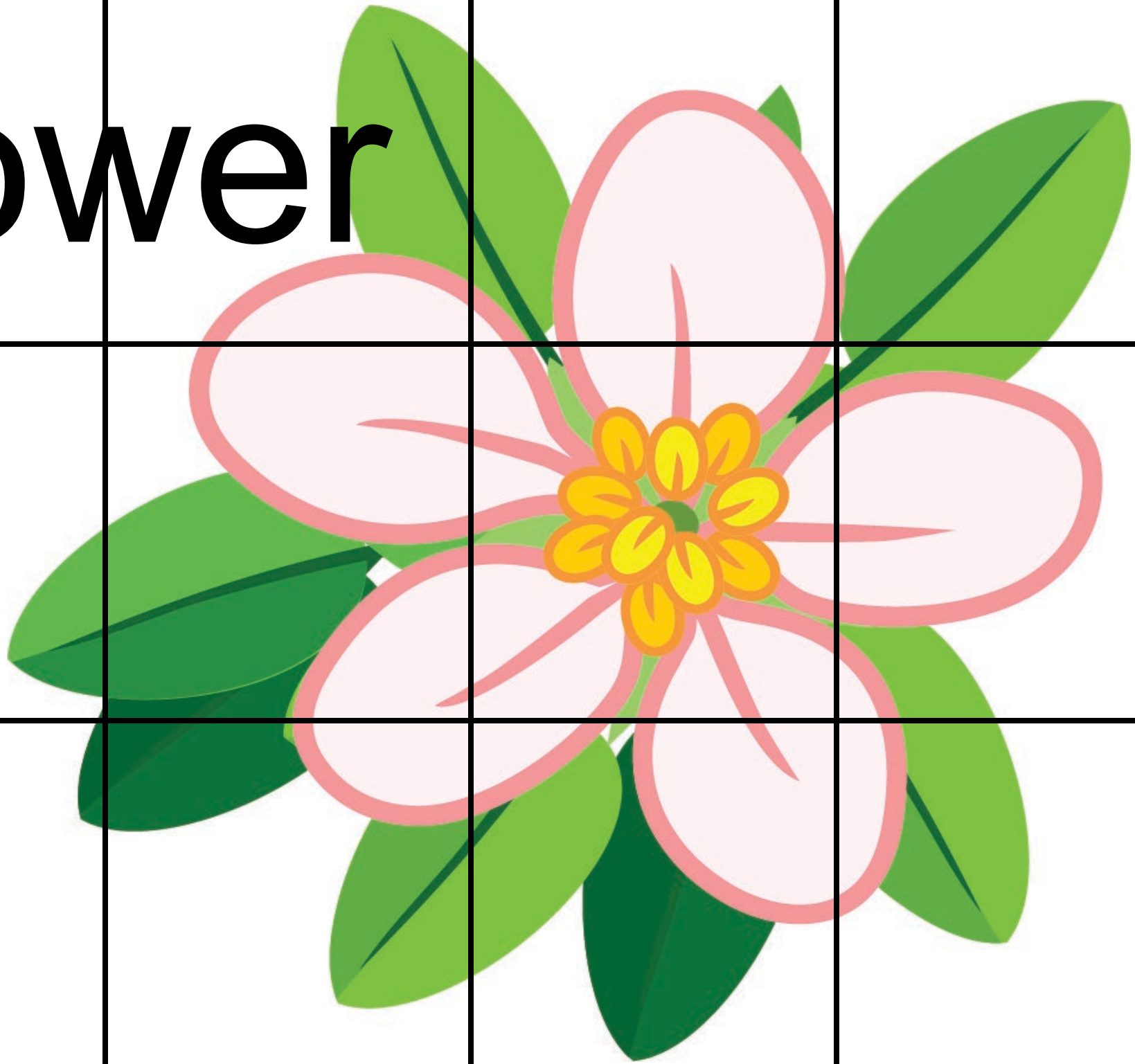

stem

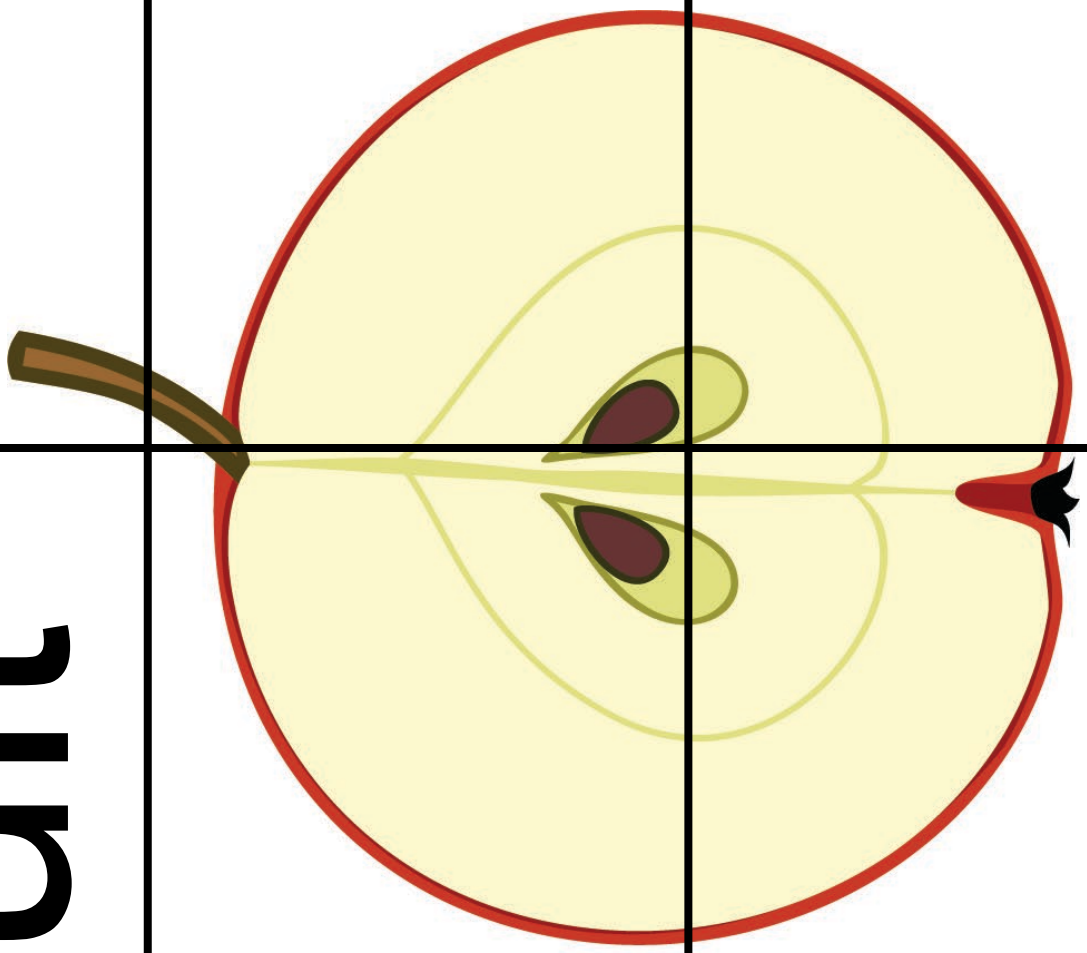
leaves

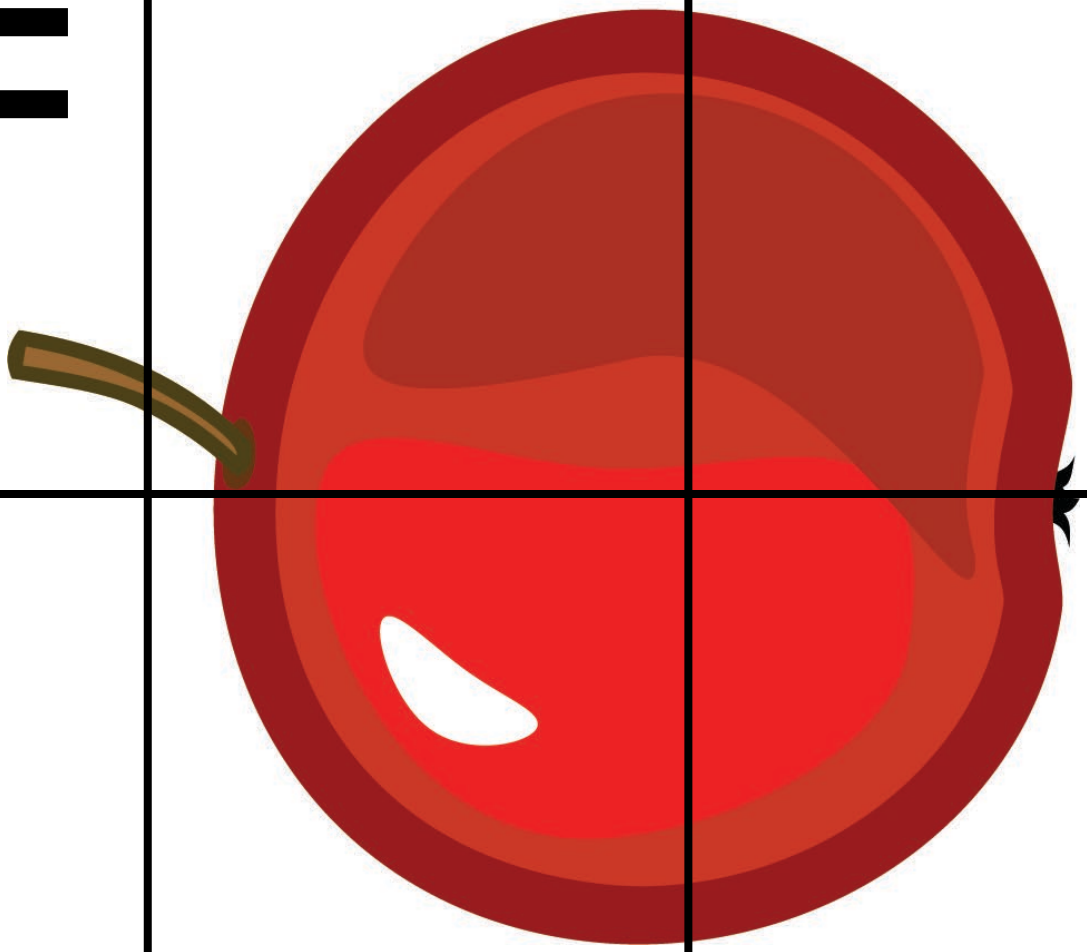


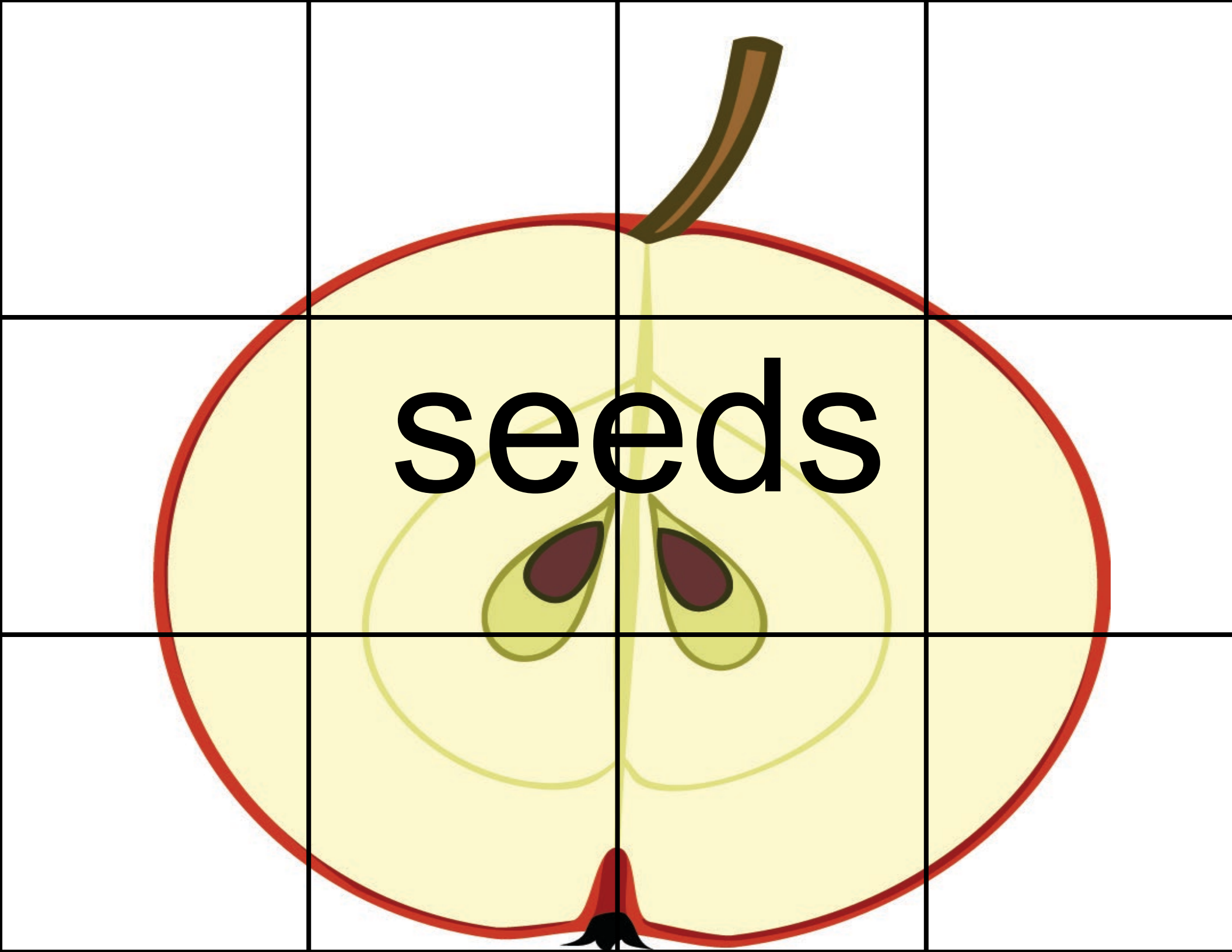
flower



fruit






seeds

_____’s Plant Part Puzzle

Draw an imaginary plant in the space below. Label it’s 6 plant parts. Cut your puzzle into pieces to make a puzzle and share it with a friend.

IOWA Health and Human Services

Pick a Better Snack Lesson

_____’s Plant Part Puzzle

Draw an imaginary plant in the space below. Label it’s 6 plant parts. Cut your puzzle into pieces to make a puzzle and share it with a friend.

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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.
- 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). Potassium helps keep our hearts and muscles healthy!

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
Great Apple Crunch: Growing Apples in Iowa.video (7:07 – consider stopping at 2:27)

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

IOWA Health and Human Services

Local Brassicas

Brussels Sprouts, Cabbage, Kohlrabi

GRADE K-1

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 recognize Brussels sprouts [or cabbage, kohlrabi] as a member of the Brassica family

Materials

- ❑ Images of Brassicas for Brussels Sprout Shout activity (included in lesson)
- ❑ Whole stalk of Brussels sprouts (preferred) or an image (included)
- ❑ 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, 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.

Recommended Books

"Plants Feed Me" by Lizzy Rockwell
"Dino-Thanksgiving" by Lisa Wheeler
"Oliver's Vegetables" by Vivian French

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1. Patterns

First grade - 1-LS1-1. LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Observing similarities and differences (K) & Parts of a plant (1st)

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 of 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: 3 *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'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.

People have families, but not all families are the same. Some families have one parent, some have two, some have more than two. Sometimes there are brothers or sisters, grandparents, aunts and uncles and cousins. Sometimes, friends are in our family. Families are different, but they're all special. I'd like you to think in your head of someone special in your family, and when I say the word, "Brussels sprouts," you can say their name out loud. As an example, share someone special in your family. *Ready? "Brussels sprouts!" Thank you for sharing the names of your special family members with us.*

Just like people have families, plants have families, too!

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.

Explain, *A plant family is a group of plants that share similar features or traits.* Show image via classroom projector. *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.*

Physical Activity: Brussels Sprout Shout!
Using the classroom projector, share images of vegetables in the Brassica family (included in lesson). Share these instructions for the activity: *We're going to look at pictures of the many different members of the Brassica family. Together, we'll quietly read the names as I point to them. When I point to Brussels sprouts, we're going to jump up in the air and say, "Brussels sprouts shout!" Let's practice.* Slowly point to each image in random order and read in a whisper voice the names of the Brassicas. Point to the Brussels sprouts image multiple times as you read through the Brassicas. When you land on Brussels sprouts, demonstrate your best Brussels sprouts shout! *Ready?* Lead students through the activity.

Using the image of Brassica vegetables, discuss these questions:

- *How can you tell these plants are in the same family?* All members of the family don't have the same traits, but some members will be similar to each other. Consider appearance, such as color, shape—several are globe-shaped, size, leaves, etc. *Which vegetables look alike? Why?* You can also share that Brassicas like similar weather; they like to grow in cooler weather, like spring and fall.
- *What is different about these vegetables?*
- *What plant parts do you see?* Observe the flowers (broccoli, cauliflower), leaves (cabbage, greens) and roots (radish, rutabaga, turnip).
- Count together: *How many members of the Brassica family do we see? How many are green?*
- *Do you think all these members of the Brassica family taste the same? Have you ever tasted any of these Brassicas?*
- Share with students that Brassica vegetables give us similar nutrients (vitamin C, fiber, phytonutrients, potassium; see the last page for health benefits and actions to help students remember).

Show how Brussels sprouts grow on a stalk using an actual plant. A Brussels sprout stalk is 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!

Transition students to their desks for the tasting.

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.

Choose one of the following ways 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 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 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."

Reflect (cont'd)

6. Reflection: *5 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 the Brassica family are the same?*
- *What's another kind of Brassica vegetable that you would like to try?* (can show the images from the Brussels Sprout Shout activity to help students remember other kinds of Brassicas.)
- *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 know about Brassicas?*

Leave newsletters and stickers with the teachers to pass out.

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

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

IOWA Health and Human Services

Local Root Veggies
Carrots, Beets, Potatoes

GRADE K-1

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 name at least one root vegetable.
- ❑ Students will be able to identify the needs of root vegetables, including space.

Materials

- ❑ Sample of a completed seed tape to show and seed tape supplies: 2-inch strip paper towel, pencil, carrot/beet/potato seeds and paper plate to hold seeds, white glue. Have enough supplies for each small group, if working in groups.
- ❑ Root vegetables with tops (carrot, beet, potato) to pass around
- ❑ Root vegetable image (included in lesson)
- ❑ Locally-grown root veggies of your choosing to taste; carrots, beets or potatoes store well into December.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1.
LS1.C: Plant survival needs

First grade - 1-LS1-1.
LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Things plants need (K) & Parts of a plant (1st)

Preparation

- ❑ Prepare seed tape example. Cut paper towel into 2-inch-wide strips, one per class for demonstrating during the lesson, or one per small group, if working in small groups.
- ❑ 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
“Up, Down, and Around” by Katherine Ayres
“The Creepy Carrots” by Aaron Reynold
“Oliver’s Vegetables” by Vivian French
“Potato Joe” by Keith Baker
“Two Old Potatoes and Me” by John Coy
“Carrot Soup” by John Segal
“Carrots Grow Underground” by Mari Schuh

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 or read a book at another point in the lesson.

Today, we're going to learn about root vegetables and how root vegetable plants need space to grow. Gather students in a big circle. Say, *All living things need space. In your head, think of an activity you like to do that you need space to do* (any response can work!). *For example,…* (share a personal example of something you need space to do).

Physical Activity: Hot Potato/Carrot/Beet

We're going to play a game to share something you need space to do. Instruct students to form a circle; help them space themselves out appropriately.

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 that they need space to do. Have all students act out the activity the student described.
4. Resume the music and continue playing.

Thanks for sharing! Transition students to their desks. Opportunity for three deep breaths.

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.

All living things need space. Show an image of root vegetables growing underground (example included in this lesson). *When plants grow too close together, they have to compete for the resources they need to grow, like sun, soil, water and air. When they have enough space, some plants grow into big delicious roots that we can eat. These plants are called root vegetables. What are they called?* Choral response: *("root vegetables!")* *Carrots [or beets, potatoes] are one kind of root vegetable. What are carrots [beets or potatoes]?* Choral response: *("a root vegetable!")* *We're going to taste some carrots [beets or potatoes] today after we explore their seeds.*

Explore (cont'd)

Make Room for Roots with Seed Tape!

Show students your seed tape sample that you made prior to class and say, *We're going to make seed tape to give these carrot seeds space right from the start. In the spring, when it's time to plant outdoors, we can plant our carrot seed tape in the ground for perfectly spaced root vegetables, and our carrots will have plenty of room to grow!*

Demonstrate how to make seed tape, with the assistance of a few student helpers. If you'd like to have students make their own, set up supplies at table groups and provide instruction.

1. Place a strip of paper towel, about 2" wide, on the classroom projector.
2. Make a pencil or pen mark on the paper towel every two inches or so (this can be done prior to class if you prefer).
3. Apply a small dot of white glue to each pencil or pen mark. Consider asking for a student helper for this step, demonstrating how to do it first.
4. Place a carrot seed on each glue dot. Ask for different students to assist, each placing one seed on a glue dot. Have a few seeds on a paper plate to select. You may want to use a pencil or something the seeds can stick to. Dip the pencil tip in the glue first and then use it to grab a seed. Place the seed on the glue dot.
5. Explain that you will allow the seed tape to dry and can save it for spring when it can be planted in the ground. Seed tape can help space out the carrot seeds so they don't grow too close together. Since the seeds are so small, they can be hard to space out evenly.

(Nutrition educators can watch a video for more information about making seed tape, such as this: How to Make Seed Tape.)

Pass around one or more root vegetables (carrot, beet, potato) for the students to observe, ideally with the leafy tops. You may want to begin this activity while some students are helping with the seed tape, if not making seed tape in small groups. As the root vegetables are moving around the room, have students use their senses to observe. Ask the group, *what do you notice about the carrot, beet and potato? What do you wonder about the carrot, beet and potato?*

Discuss the following about root vegetables:

- *Root vegetables need sun, soil, water, air—and space—to grow. Roots need space so that they can spread out underground. A plant's leaves need space so it can access sunlight. The plant needs space for air circulation.*
- *When we plant root vegetables in the garden, we might need to thin them, or remove some of the plants while they are small, so that the rest have enough space to grow.*
- *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.*

Explore (cont'd)

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").

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. This 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.

Before you taste any samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students taste their root veggie samples, talk the class through some descriptive words to describe the different root veggie flavors.

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.

Reflect (cont'd)

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. Let's practice…

- *What month is it?* (December)
- *What kind of vegetable grows underground?* (root vegetables)
- *What root vegetable did we taste today?* (carrots, beets or potato) *What are other root vegetables?* (radish, sweet potato, jicama, turnip)
- *What's one thing that all plants need to grow?* (space, sun, soil, water, air)

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.

Make Room for Roots!

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

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

IOWA Health and Human Services

Winter Squash
Butternut, Buttercup

GRADE K-1

Month: January
Time Required: 30 minutes
Tasting: Local winter squash (ex.: butternut, acrorn, 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 to describe characteristics of winter squash.
- ❑ Students will be able to recognize varieties of winter squash.

Materials

- ❑ Image of many varieties of winter squash (included in lesson)
- ❑ All Kinds of Squash Matching Game picture cards
- ❑ 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.)

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1. Patterns

First grade - 1-LS3-1. LS3.B: Variation of traits

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Similarities and differences in squash (K) & Diversity in squash (1st)

Preparation

- ❑ Print 2-3 sets of picture cards, depending on class size, for the All Kinds of Squash Matching Game. (There are 10 cards different cards in a set. Make sure to have at least two of every card so all students can find a match; it’s okay if 3 students have matching cards.) Cut apart the cards. You may want to laminate the cards so you can reuse them.
- ❑ 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.

Recommended Books

“Sophie’s Squash” by Pat Zietlow Miller
“Mrs. McNosh and the Great Big Squash” by Sarah Weeks
“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.

The Same and Different

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.* This may be a good time to read one of the optional books on the first page to prepare students to learn about winter squash.

Just like we are all different from each other so are winter squash. When I say, "Squash," you're going to talk with a partner sitting next to you and come up with ways you are the same as each other, and ways you are different from each other. What hair and eye color do you each have? How many ears? Do you wear glasses? Do they? What is your favorite color? What is your favorite food? Ready? "Squash!"

Use a familiar callback to get students attention after a couple minutes. *Great job! Isn't it great that there are many things that are the same and different about us. Sometimes we like different things, look different and have different families. Wouldn't it be boring if we were all the same?*

Next let's get our bodies moving with a fun game about ways we are alike and different.

Engage (cont'd)

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]

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.

Have students take a seat in a circle or at their desks. Opportunity for three deep breaths.

Show students the image of many varieties of winter squash included in the lesson. Explain, *Winter squash is a kind of vegetable that comes in a lot of different shapes, sizes and colors. There are many different kinds, or varieties, of winter squash. Each kind of winter squash looks different from other winter squash and tastes a little different too. However, they are all the from 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?*

Explore

- *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 cooling 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 this video about winter squash and how it grows: Groundwork Harvest of the Month: Wally the Winter Squash (2:33)

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.

All Kinds of Squash Matching Game*
Introduce the 10 kinds of squash featured in the game using the pictures on the cards available in the lesson or in this Pumpkins and Squash Vocabulary Flash Cards video (1:41). (The video doesn't have all the same squash as the cards so you will want to explain that they won't see all of these on the cards.) Then, hand each student a card from the matching game and have them find their match. Depending on the class size, there will be groups of 2 or 3 students with matching cards. Make sure every student has a card that will match another student's card. Next have students find someone close to them with a different picture on their card. Encourage students to compare their squash picture with a neighbor's picture. *How do the squash look the same? How do they look different?*
*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.

Explore (cont'd)

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."

Reflect (cont'd)

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.*
- *Share what you liked or loved about the winter squash?* Select a couple students to share.
- *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.)
- *What is one way varieties of squash are different from each other?* (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

Pumpkin

Blue Hubbard

Carnival 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 video (2:05)

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

IOWA Health and Human Services

Local Food Preservation
Pickled, Frozen, Dried

GRADE K-1

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 name at least one method of food preservation.
- ❑ Students will be able to recall a preserved food.

Materials

- ❑ Clear bowl
- ❑ Ice cubes
- ❑ Cooler (for ice cube experiment and transporting food tasting)
- ❑ 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, “Past, Present & Future Foods!”

Preparation

- ❑ Print “Past, Present & Future Foods!” half-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.
- ❑ Decide what tasting you would like to offer.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1. Patterns

First grade - 1-LS1-2. Patterns

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Similarities, differences and patterns (K) & (1st)

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
“Time To Learn About Past, Present & Future,” by Pam Scheunemann

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.

At the front of the classroom, place your cooler and lesson materials in a spot that will be visible to 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: *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.

Engage (cont'd)

Have students sit down, either at their desks or the carpet (opportunity for 3 deep breaths). Consider reading one of the recommended books to connect to the lesson.

Put several ice cubes in a clear bowl. Share, *Today, we're going to learn about time. All things change over time. Let's think about how these ice cubes will change over time. Right now, these are ice. If we leave them here, will they change by the end of our lesson?* Use pick-a-stick to select students or call on a few students at random to share their ideas. Summarize responses, *So we think they might change from ice cubes into water. We'll leave them here and check on them later.*

Have students stand up. *One way to think about time is in the past, present and future.*

- *Think in your head, what's something you did this morning before school? When I say the word, "pickle," say what you did out loud. For example,* (share something you did that morning). *Ready? Pickle!* Listen to student responses. *Excellent, before school, we* (repeat a few things you heard, such as eating breakfast, brushing teeth, walking to school etc.).
- *Think in your head, what's something you will do tonight after school? When I say the word, "pickle," say what you will do out loud. Ready? Pickle! Great, after school we are going to* (repeat some of the things students shared).

Explore

3. Experiential Learning: *6 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.

What you did this morning is in the past. The past means all the time before right now.
What we're doing right now, our Pick a Better Snack lesson, is the present. The present is the moment that is right now. What you will do tonight is in the future. The future is the time after right now.

Let's see if our ice cubes have changed since the past. Allow students to see the ice cubes.
Today we're going to learn about how we can keep food safe and good to eat over time. To ***preserve*** *means to save something for the future. What does preserve mean?* Choral response: *"save something for the future."* Note new vocabulary word. Define, write out, and have the class repeat the word "preserve." *We'll keep some ice in the cooler to see if it is preserved in the future.*

Just like we can preserve the ice cubes by keeping them in the cooler, we can also preserve food. Explain, *For as long as humans have been eating food, they've found ways to preserve it—to save it for the future. When we preserve food, we turn a fresh food into a food that is saved to eat later. Let's explore 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 for your class to best represent multiple cultures.

Explore (cont'd)

Explain different 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).

Consider having students share other examples of preserved foods they have eaten.

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: *4 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.

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."

Check back in on the ice cubes in the bowl and share with the class how they changed over time.

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?* (to save something for later)
- *How was the food we tasted preserved so that it would be safe and good to eat later?*
- *What is another way to preserve food?* (dry, freeze, pickle, ferment, can)

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?*

Optional: Pass out "Past, Present, Future Foods!" sheets. Ask students to draw some pictures of their favorite foods they ate in the past, eat now in the present, and would like to eat in the future.

Leave newsletters and stickers with the teachers to pass out.

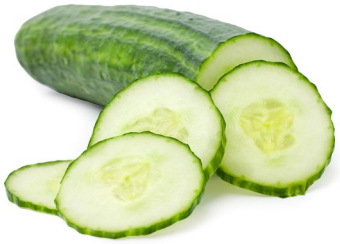
Food Preservation

Fresh

Preserved

Dried

Frozen



Pickled

Fermented

Canned

Past, Present & Future Foods!

In the past, I ate _____.	**In the present, I eat** _____.	**In the future, I will eat** _____.

IOWA Health and Human Services

Pick a Better Snack Lesson

Past, Present & Future Foods!

In the past, I ate _____.	**In the present, I eat** _____.	**In the future, I will eat** _____.

IOWA Health and Human Services

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 0ºF 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 ≤5%, that food is low in sodium. If it is ≥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 ≤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

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

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

IOWA Health and Human Services

Local Seeds
Frozen Corn, Dried Beans

GRADE K-1

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 to identify corn and beans as seeds.
- ❑ Students will be able to sequence the order of soil to food.

Materials

- ❑ Images of dirt to taco ingredients included in the lesson
- ❑ Image of corn and beans are seeds from the lesson
- ❑ Dirt Made My Lunch video or recording
- ❑ Tasting materials (plates, napkins, etc.)
- ❑ Optional: Seedy Sweet Corn Salsa or ingredients to make in class with corn tortilla chips and printed recipes

Preparation

- ❑ If not making in class, prepare salsa; make 1-2 days prior to your lesson using the Seedy Sweet Corn Salsa recipe in the lesson, adapting it as needed.
- ❑ Optional: Print recipe cards, 1 per student.
- ❑ Review the images with this lesson plan and familiarize yourself with the song, “Dirt Made My Lunch,” also linked in this lesson.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1.
LS1.C: Plant survival needs

First grade - 1-LS1-1.
LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Things plants need (K) & Parts of a plant (1st)

Recommended Books

“Right This Very Minute” by Lisl H. Detlefsen
“Plants Feed Me” by Lizzy Rockwell
“One Bean” by Anne Rockwell
“The Story of Corn” by Robin Nelson

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: *7 minutes*

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

Gather students together. Share with students, *I want to know who is someone who makes lunch for you. Share a personal example of someone who makes lunch for you* (a friend, a food service provider, a family member, etc.). *When I say the word "seeds," say your person out loud. Ready? Seeds!* Students will share their examples aloud. *Woah, so many special people make lunch for us* (repeat a few examples you heard). *Lots of people work hard to make sure we eat every day.*

Another thing that makes our lunch is dirt. We're going to learn and sing a song called Dirt Made My Lunch. With students standing, teach the words and actions to the song "Dirt Made My Lunch," popularized by the Banana Slug String Band! Sing through it a couple of times until students pick it up.

Dirt Made my Lunch (https://www.youtube.com/watch?v=XT1jUR-IbBQ) – (1:41 video)
This recording shows sign-language throughout the song. Consider learning and teaching this or coming up with your own moves!

Dirt made my lunch.
Dirt made my lunch.
Thank you, dirt!
Thanks a bunch,
For my salad, my sandwich, my milk, and my munch.
Dirt, made my lunch.

(Here is a recording of just the song: https://www.youtube.com/watch?v=ySzSVu1eERo).

Thanks for singing along.

Explore

3. Experiential Learning: *6 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 at the carpet in the front of the classroom. *Yes, everything in our lunch, everything that we eat, comes from dirt. Let's use tacos as an example.* Use the images in the lesson in the order listed to explore how each taco ingredient comes from the dirt using a choral response. Images may be printed or displayed on a classroom projector for a better visual. Students may be familiar with the concept of foods starting as seeds, and seeds growing in dirt from previous lessons and learning.

- Say, *Dirt made my* [point to the taco and signal for students to say "taco" together]. *How can that be, you might be thinking? Well, every ingredient in tacos starts with dirt*. Point to and name each of the 4 ingredients. *Let's see how that works.*
- Say, *Dirt made my* [point to tomatoes and signal for students to say "tomatoes" together]. That's right. Tomatoes are vegetables. Vegetables grow in dirt. They start as seeds. The seeds grow into a plant, a very small plant at first. The plant grows until it is big and fully mature. Then tomatoes grow.
- Say, *Dirt made my* [point to beans and signal for students to say "beans" together]. *Beans are another vegetable. The seeds are planted in the dirt. They start to grow into small plants, then get bigger and bigger, and eventually produce pods. The pods have small beans inside that we eat. These beans are also the seeds that can be planted to grow new bean plants. When we eat beans, we are eating seeds!*
- Say, *Dirt made my* [point to the tortilla and signal for the students to say "tortilla" together]. *Even tortillas, which are not a vegetable, need dirt. That's because tortillas are made from corn. Corn grows from a seed planted in the dirt. A small plant grows, and grows, and grows, until it becomes a tall corn stalk with ears of corn. If the corn is not harvested right away* (it's considered a vegetable at this stage), *it eventually dries out and is made into corn flour* (it's considered a grain at this stage). *Tortillas are made from corn flour.* Contrast this with flour tortillas which are made from wheat.
- *Say, Dirt made my* [point to the cheese and signal for students to say "cheese" together]. *You're catching on! Cheese does not come from a plant, but it needs dirt, too. Cheese is made from milk. Milk comes from cows. Cows eat plants. And plants need dirt to grow. So without dirt, we wouldn't have cheese.*
- *Now you know how dirt makes tacos! Let's say it together, Dirt made my taco!*

Optional: Read "Right This Very Minute" by Lisl H. Detlefsen or another related book of your choice. The story shows appreciation for hard working farmers who grow our food and where our food comes from.

Explore (cont'd)

Physical Activity

Now it's time to get our bodies moving and our hearts pumping! I'm going to go back through each ingredient for our tacos again, and we are going to do a physical activity for each one. Instruct students to stand up.

- Pick a physical activity, such as jumping jacks. Go through the pages again, one at a time, and explain to students that they will do a jumping jack for each step/circle. Example: For "Dirt made my tacos," students do 4 jumping jacks since there are four ingredients/steps to a taco. For "Dirt made my tomatoes," students do 3 jumping jacks since there are three steps in the growing process. Continue in this manner through all the pages.
- Alternately, pick a different physical activity for each page. Example: For the first page, "Dirt made my tacos," students do a jumping jack for each step/circle in the process. For the second page, "Dirt made my tomatoes", students do squats for each step/circle in the process. Continue with different physical activities and the appropriate reps for each page.
- Lead students through the images for about 3 minutes of physical activity. Repeat as needed.

Transition students to their desks for the tasting. Opportunity for 3 deep breaths.

4. Tasting Activity: *8 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").

We can think of all kinds of foods and trace them back to the dirt. While showing the image of corn and beans from the lesson, say, *We're going to taste [one or two, depending on selected tasting option] of the ingredients from our taco ingredients. We're going to taste [sweet corn, beans or sweet corn and beans in a recipe called Seedy Sweet Corn Salsa]. Corn and beans are seeds. Seeds are part of the plant that we put in the ground to grow a new plant. What plant part are corn and beans?* (choral response - *"seeds"*) *When we eat corn or beans, we are eating the seeds of the plant.* (Educators, corn is immature at the stage we eat it and could not be planted to grow more plants. It would have to grow to full maturity and dry before it could be planted.)

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.) Reiterate that beans and corn grow in Iowa and can be preserved to eat later (recall last month's vocab word: preserve). This may be a good time to share additional facts about beans and corn, such as 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: *5 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."

Reflect (cont'd)

Choral Response:

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

- *What month is it?* (March)
- *What's one kind of seed we tried today?* (Corn, beans)
- *Where does all of our food come from?* (Dirt)

Optional: Sing another round of Dirt Made my Lunch (youtube video)!

Dirt made my lunch.
Dirt made my lunch.
Thank you dirt!
Thanks a bunch,
For my salad, my sandwich, my milk, and my munch.
Dirt, made my lunch.

Asking Discussion:

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

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

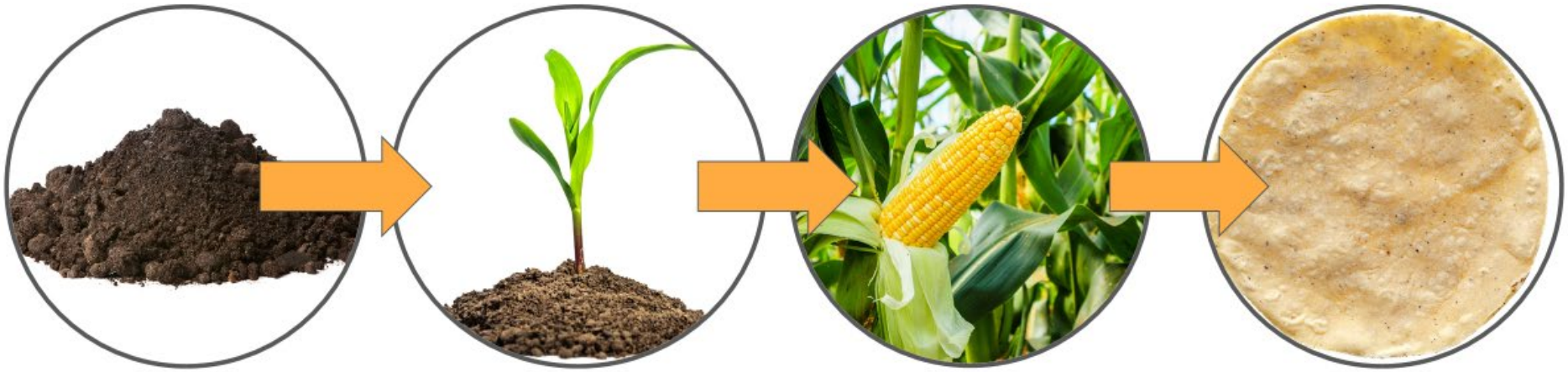
Leave newsletters and stickers with the teachers to pass out.

Dirt made my tacos!

Dirt made my tomatoes!

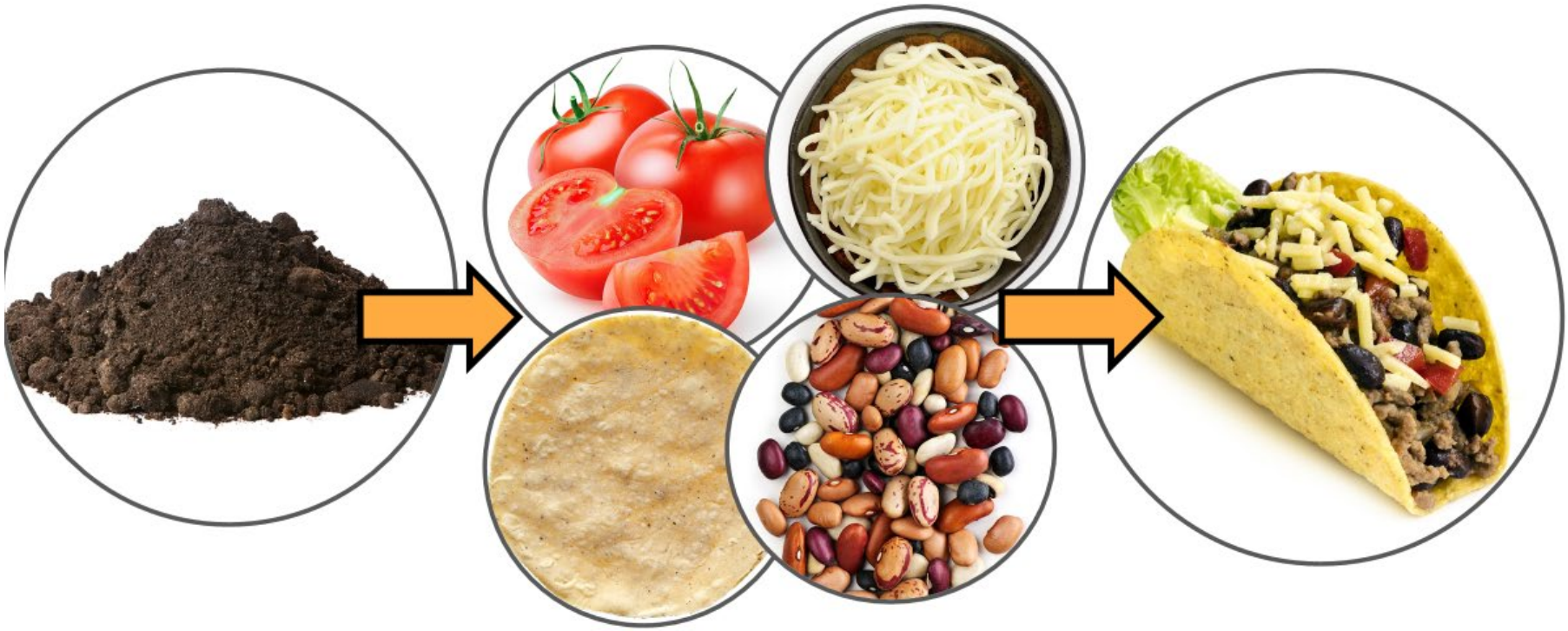
Dirt made my beans!

Dirt made my corn tortilla!



Dirt made my cheese!

Dirt made my tacos!



Corn and Beans are **Seeds**!

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

IOWA Health and Human Services

Seedy Sweet Corn Salsa

Ingredients (makes 4 cups):

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- 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:

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- Eat with corn tortillas, tortilla chips, tacos, etc.

Pick a Better Snack

Eat Fruits and Veggies

IOWA Health and Human Services

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 Corn and Beans

- Look for corn on the cob with a bright green husk (outer leaves) and evenly spaced, 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 a seed and a member of the grass plant family. It grows on stalks above the ground encased in husks.
- The first corn crop began in Mexico about 10,000 years ago. It is now a staple crop in many countries around the world. Corn is the #1 produced crop in Iowa!
- Corn comes in a variety of colors including yellow, white, red, pink, black, blue, and even striped!
- Depending on when corn is harvested, its use and nutritional value varies. Corn harvested with soft kernels full of liquid is a vegetable (corn on the cob, frozen corn, canned corn). Corn harvested at full maturity is dry and is processed as a grain (corn flour, corn meal). Popcorn is considered a whole grain.
- 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!

Health Connection

- Corn provides the antioxidant lutein, which is good for our eyes (use your hands to make super goggle 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
Farm to School Virtual Field Trip - Meskwaki/Pocahontas Beans (11:26 video)
Oregon Harvest for Schools - Dry Beans (1:20 video)
MNAG Harvest of the Month Sweet Corn (3:47 video)

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

IOWA Health and Human Services

Local Leafy Greens
Microgreens, Arugula, Lettuce

GRADE K-1

Month: April
Time Required: 30 minutes
Tasting: **Available local 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 name the part of the plant we eat when we eat leafy greens.
- ❑ Students will be able to identify leafy greens as fast-growing plants.

Materials

- ❑ Green, yellow, red cards/pieces of paper
- ❑ A microgreen or a planted container of microgreens to show students
- ❑ 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.)

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-LS1-1.
LS1.C: Plant survival needs

First grade - 1-LS1-1.
LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Things plants need (K) & Parts of plant (1st)

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

“A Green, Green Garden” by Mercer Mayer
“From the Garden: A Counting Book About Growing Food” by Michael Dahl
“Lettuce Grows on the Ground” by Mari Schuh
“Secrets of the Vegetable Garden” by Carron Brown
“Muncha! Muncha! Muncha!” by Candace Fleming and G. Brian Karas

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.

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.

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). *Some foods grow very slowly. Once planted, we have to wait a long time before they are ready to eat. Some foods can grow very fast. Leafy greens, like microgreens, grow fast!*

(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 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. Point out the parts of the plant. *When the seeds begin to grow, the roots grow first, then the stem, then the leaves. The leaves are the part of the leafy greens we eat. What part of the plant are leafy greens?* (choral response: leaves) If outdoors, consider having students act out a fast and slow version of a seed growing into a plant.

This may be a good time to read one of the recommended books about leafy greens on page 1 before transitioning to the planting activity or choose the time that works best for your class.

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 tray 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 over the soil evenly.
3. *Plants need water and sunlight.* Mist water over the seeds to moisten them using a squeeze bottle. Place the containers in the sun. A south-facing window is ideal.
4. *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.

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. Tell them to watch their planted tray over the next 1-2 weeks for their very own microgreens!

Explore

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.

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 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."

Reflect (cont'd)

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 vegetable did we plant today?* (specific name of vegetable)
- *Do leafy greens grow fast or slow?* (Fast)
- *How fast will your microgreens grow?* (Students say their predictions aloud)
- *What do microgreens need to grow?* (Water, sunlight, soil)
- *What part of the plant do we eat when we eat microgreens or leafy greens?* (leaves)

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 or leafy greens?*

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

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IOWA Health and Human Services

Local Spring Veggies
Radishes, Turnips

GRADE K-1

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
- ❑ "Rah, Rah, Radishes!: A Vegetable Chant" by April Pulley Sayre
- ❑ 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.

Standards Connection

This lesson supports the following Iowa Core standards.

Health Education
Standards 1, 2, 3, 4, 5, 7, 8

Science
Kindergarten - K-ESS3-1
ESS3.A: Natural resources

First grade - 1-ESS1-2.
ESS1.B: Seasonal patterns

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Science Connection: Things humans and plants need (K) & seasonal patterns (1st)

Recommended Books

"Rah, Rah, Radishes!: A Vegetable Chant" by April Pulley Sayre
"Anywhere Farm" by Phyllis Root
"This Year's Garden" by Cynthia Rylant

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

Choose one of the following physical activities.

Option #1: Would You Rather

Now, let's use our brain power to make decisions. I'm going to ask you a question and you have to decide which option is the best for you. For the option you choose, you will [insert a physical activity] to indicate your answer. Choose one physical activity for this exercise, such as jump in place, squat in place, stand on one leg for 5 seconds, do 5 calf raises, do 5 high knees, etc.

Read the questions one at a time from the list below. For each question, ask students which option they would choose. Students will indicate their choice by performing the physical activity when their choice is presented. For example, ask, *Would you rather have a dog or a cat?* Then say, *Those who would rather have a dog, jump in place five times.* (Those who choose cat stand still while the students selecting "dog" jump.) Now say, *Those who would rather have a cat, jump in place five times.* (Those who choose dog stand still while the students selecting "cat" jump.) Try switching to a different physical activity halfway through the list of questions.

Engage

My questions are related to springtime since it's May, and summer will soon be here. Adapt the questions as needed for your class and add additional questions if desired.

- *Would you rather have an umbrella or a raincoat in rainy weather?*
- *Would you rather have ducklings (baby ducks) or chicks (baby chickens) at your house?*
- *Would you rather go fishing or go to the zoo?*
- *Would you rather ride a bike or ride a scooter?*
- *Would you rather eat strawberries or watermelon?*
- *Would you rather play soccer or baseball/softball?*
- *Would you rather grow flowers or grow vegetables?*
- *Would you rather go to the park or go camping?*
- *Would you rather find a caterpillar or a worm?*
- *Would you rather not get any mosquito/bug bites this spring and summer or not get any sunburns?*

Great job using your brain power to make decisions!

Option #2: Memory Game

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, allowing students to use their memory and respond with jumping. Some produce not pictured include broccoli, strawberries or other berries, spinach, jicama, cranberries, zucchini, cucumber, cantaloupe, lemon, orange, cauliflower, etc., *Excellent brain power!*

No matter which physical activity you use, discuss how colorful fruits and vegetables are good for our brain. Display the image of PABS foods. *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 the ones in this picture contain vitamins and nutrients that help build our brain power—they feed our brain and keep it 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 that 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.

Have students take a seat. Opportunity for 3 deep breaths.

Explore (cont'd)

Show students a whole radish (or turnip) or an image of one. Since students will taste cut-up radishes, it's important to show students how they look before they're prepared to eat. Ask, *what color is the radish [or turnip] skin? What color do you think is on the inside?* You may be able to buy radishes by the bunch and show them the leaves, stems and roots. Pass around a whole radish for the students to see and feel. Ask, *how does it feel?* (soft or hard, smooth or bumpy/rough, etc.) *What else do you notice?* (dirt, perhaps) Explain that radishes [and turnips] grow beneath the ground in the dirt and are the root of the plant.

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, they get the conditions they need to begin 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! When do radishes [or turnips] grow the best? (choral response: spring)

Radishes, like other colorful vegetables, help keep our brains healthy. We've tasted many colorful vegetables in Pick a Better Snack this year. I have a fun book to read to you that highlights many colorful vegetables we can eat. Use your brain power to remember the vegetables in this book so that you can answer my questions afterwards.

Read "Rah, Rah, Radishes!" by April Pulley Sayre. After reading the book, close the book and ask students, *What vegetable to do you remember from the book?* Encourage them to use their brain power. Call on students to share a vegetable they recall from the book. When they share, ask the class to answer questions about the vegetable, such as:

- *Did we taste it in Pick a Better Snack this year? A previous year?*
- *How do you like to eat it? Or how would you like to eat it?*
- *When/where have you seen it at school?* (ex: lunch line, salad bar, snack time, school garden, etc.)
- *What part of the plant is it?*
- *Does it grow in Iowa?* (Of those featured, some grow in Iowa more easily, but generally all the vegetables highlighted in the book can grow in Iowa. True yams can't grow in Iowa, but sweet potatoes can. A few vegetables require a longer growing season and may have to be started indoors.)

Thank you for using your brain power! I had fun remembering and talking about different vegetables we've tasted in Pick a Better Snack. Give directions to transition the students for the tasting.

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, have students notice the color of the radish or turnip skin compared to the color of the inside.

Explore (cont'd)

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.

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: *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," you can say your answer aloud. Let's practice…

- *What did we try today?* (turnips, radishes)
- *When do radishes [or turnips] like to grow?* (spring, fall)
- *What's one thing spring crops need to grow?* (water, sunshine)
- *Why can't spring crops grow outdoors in Iowa's winters?* (little sunlight, cold temperatures, cold soil)
- *What do the nutrients in colorful vegetables like radishes [or turnips] give our brains?* (brain power, colorful vegetables are good for our brains)
- *What are some other colorful foods we can eat for brain power*? (display attached visual if needed)

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 turnips or radishes 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://www.iowafarmtoschoolearlycare.org/june-radish
https://fruitsandveggies.org/fruits-and-veggies/
Farm to School Virtual Field Trip - Coggon Radishes – video of Iowa radish farmer
https://www.youtube.com/watch?v=mbMffY706q4 – another video of an Iowa radish farmer
Oregon Harvest for Schools- Radishes - YouTube

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