Cantaloupe

GRADE K-1

Month: September
Time Required: 30 minutes
Alternative Tastings: Honeydew, Watermelon

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 recognize a minimum of one type of melon.
- ❑ Students will be able to identify the "inside" (seeds, fruit) and the "outside" (skin) parts of a melon.

Materials

- ❑ Whole cantaloupe; cut sections of cantaloupe for discussion, if not cutting whole melon in class. Consider sourcing local melon.
- ❑ Optional: cut sections of watermelon and honeydew for comparison
- ❑ Pictures of melon
- ❑ Small paper plates or napkins

If cutting in classroom:

- ❑ Knife (be mindful of school policies with sharp knives)
- ❑ Cutting Board

Preparation

- ❑ Wash the outside of the whole melon(s) under cool running water. Scrub with vegetable brush
- ❑ If not cutting cantaloupe in classroom, cut into cubes to offer students during taste-test time.

Recommended Books

"The Antelope Who Loved Cantaloupe" by Celeste Marie Halata
"The Cantaloupe Cat" by Jan Yager
" The Antelope Ate My Cantaloupe" by Jen Lee
"One Watermelon Seed" by Celia Barker Lottridge

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
Crosscutting Concept: Patterns

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

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Plant structures, like inside/outside

Engage

1. Introduction: 5 *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).

Pick a Better Snack is going to be fun, and I will come in and teach you all about different fruits, vegetables, how they grow, where they come from, and the best part is we get to taste the fruit or vegetable as part of our lesson!

What I would like you to do before we start is: Think about your favorite fruit or vegetable (point to your head), *Pair up with the person sitting next to you, and Share what you were thinking.*

Ask for volunteers to share. Once students share, say: *Some of the favorite fruits or vegetables you shared are some of the ones we will learn about this year.*

To begin our first lesson, I would like you to make a big circle. Provide detailed directions for students to form a circle.

2. Engage Activity: 10 *minutes*

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

Physical Activity: "Inside" and "Outside" Activity

As the instructor, begin by standing inside the circle while the students form the circle. Tell the students: *I am inside the circle*. Step outside the circle, telling them, *Now I'm on the outside.* Have students practice, *When I say "outside" you'll jump to the outside of the circle and when I say "inside," you'll jump inside the circle. Ready?* Practice with your students. *For this activity, any time I say the word "inside" or "outside" you're going to jump inside or outside the circle.* Check for understanding.

*Our school has an **inside** and an **outside.***

- *Think of something you like to do **inside** your classroom.* Pause to allow students to jump inside the circle. Repeat your question and allow students time to think of their response. Now, when I say the word "Melon" you're going to act out your answer. Pause. *Melon.* Acknowledge what several students are acting out. Have students freeze by saying *Everybody FREEZE!*

- *Think of something you like to play **outside** at recess.* Pause to allow students to jump outside the circle. Repeat your question and allow students time to think of their response. Now, when I say the word "Melon" you're going to act out your answer. Pause. *Melon.* Acknowledge what several students are acting out. Have students freeze by saying *Everybody FREEZE!*

Engage (Cont.)

- *Think of something you can do **inside** the cafeteria.* Pause to allow students to jump inside the circle. Repeat your question and allow students time to think of their response. Now, when I say the word "Melon" you're going to act out your answer. Pause. *Melon.* Acknowledge what several students are acting out. Have students freeze by saying *Everybody FREEZE!*

- *Think of something you could do **outside** in the school garden.* Pause to allow students to jump outside the circle. Repeat your question and allow students time to think of their response. Now, when I say the word "Melon" you're going to act out your answer. Pause. *Melon.* Acknowledge what several students are acting out. Have students freeze by saying *Everybody FREEZE!*

*Our snack today has an **inside** and an **outside.** We will be tasting a melon. S*how students a whole cantaloupe. Optional: show an image of a whole cantaloupe.

– *This melon has rough, bumpy skin on the **outside.*** Pause to allow students to jump outside the circle.

– *Melons have lots of little seeds on the **inside.*** Pause to allow students to jump inside the circle.

– *Melons have a hard shell that protects them from damage. It's on the **outside.*** Pause to allow students to jump outside the circle.

– *The part of the melon that we eat is the sweet, juicy flesh **inside**.* Pause to allow students to jump inside the circle.

While at the front of the class or on the carpet squares, this is a good time to do a waterfall (students take a deep breath, put their arms in the air and bring them down as they sit back down making a swoosh sound) or 3 deep breaths and read a book (optional). After the book, ask questions such as: *What did you learn? What was your favorite part of the book? What other fruits did you see?*

Explore

3. Experiential Learning: 5 *minutes*
This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

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

Show students a whole cantaloupe or an image of a whole cantaloupe. *We're going to taste this fruit called cantaloupe. What's this fruit called?* (choral response - *"Cantaloupe"*). *Cantaloupe is a type of melon, just like watermelon. Melons have a pattern – their insides are different than their outsides.* Demonstrate cutting open the melon (under the classroom projector if available), showing students the skin, seeds and edible inside. Note: if you are not cutting the melon in class, have a cut cantaloupe ready to go in a separate container. Show students the cantaloupe half, discussing the outside and the inside.

Explore (cont'd)

Optional: In addition to cantaloupe, show students cut sections of watermelon and honeydew with the skin. Photos can be used in place of the actual melon. Compare and contrast the inside and outside of the three melons (color, seeds, flesh, skin, size of seeds, texture, shape, etc.). Ask questions such as: *What do you notice is the same about these melons? What do you notice is different? How do you think the outside of each melon would feel?*

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, be a brave taster, be polite, etc.). Serve the class a couple of bite-size pieces of cantaloupe or a slice of cantaloupe with the skin still on (instruct students to hold the melon by the skin and take bites of the orange flesh). This is a good month to source locally. Optional: Offer fresh watermelon and honeydew to taste as well.

As students receive their samples, explain to students how to use their senses to learn about foods – a practice they'll do each month during the PABS lesson.

See: Ask students what they notice about the cantaloupe (reference earlier discussion observing whole/half cantaloupe or images.)

Touch: With eyes open or closed, ask students to feel the cantaloupe with their fingers. *How does the cantaloupe feel?*

Smell: Have students bring the cantaloupe to their nose and sniff. *How does the cantaloupe smell?*

Hear: *When I tell everyone to take a bite, listen for if the cantaloupe makes a sound? Or, when I tap on the outside of the melon (the skin/rind), how does it sound?*

Taste: When everyone is ready, taste the cantaloupe together. *How does the melon taste? What does it taste like?*

Reflect

5. Voting Activity: 2 *minute*

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

Introduce the tradition of voting with your thumb. 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. As students taste the cantaloupe, 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. 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.

Reflect (cont'd)

Program Evaluation:

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

6. Reflection: 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. Cantaloupe is a type of melon, so when I say the word, "melon," you can say your answer aloud. (Educators, at the end of each question, give the students a few seconds to think, and then say the word "melon" to have them give the response in unison.)

- *What food did we try today?* (cantaloupe)
- *What's on the outside of the cantaloupe?* (skin)
- *How does the skin look? Feel?*
- *What's on the inside of the cantaloupe?* (seeds and fruit)
- *How does the inside of the cantaloupe look? Smell? Taste?*

Asking Discussion:

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

- 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 cantaloupe? Have you ever tried to grow a cantaloupe?*

*Leave newsletters and stickers with the teachers to pass out.

Cantaloupe

Watermelon

Honeydew

Cantaloupe growing on a vine.

Watermelon growing on a vine.

Taste Testing Expectations

- Be willing to try new foods.
- Be Kind - say, “Yes” or “No thank you.”
- Wait until everyone is served before trying the food.
- Don’t say, “Yuck” or make faces.
- If you don’t like it, politely remove it with a napkin.
- Be willing to try the food again. Sometimes it takes a few tries to like something.

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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 Cantaloupe and Melons

- Look for melon that does not have cuts or bruises on the surface. It could have a sweet smell and a little softness on the end that has been picked.
- Always wash the whole fruit under running water before preparing and eating. Always use clean knives and cutting surfaces (adults should do the cutting). Store cut sections in the refrigerator.
- Cantaloupe and honeydew have a hallow cavity that is filled with seeds that are scooped out before cutting.
- Watermelons contain small black seeds throughout the flesh or come in a seedless variety.
- Cantaloupes range in size from 1-10 pounds. (Use your hands to show students the typical size of cantaloupe.)

Facts About Cantaloupe

- Melons grow on the surface of the ground on a trailing vine. They grow in Iowa.
- It takes 3-4 months for a cantaloupe to grow big enough to be picked.
- Cantaloupes only ripen on the vine. They won't get sweeter once they are picked.
- Flowers on a melon vine need to be pollinated (visited) by bees to make melons.
- Watermelon is the most common melon consumed in the United States by weight, then cantaloupe and honeydew.
- China produces the most cantaloupes in the world; United States is the 5th largest producer with over half grown in California.

Health Connection

- Cantaloupe is an excellent source of Vitamin C, to help you fight germs and keep you healthy. Put up your defense shield (cross your arms in front of your chest).
- Cantaloupe is an excellent source of Vitamin A (one of the highest among fruits), which is important for your eyesight. (Use your fingers to make goggles over your eyes.)
- Cantaloupe is high in fiber, which is good for digestion and helps you feel fuller longer (Rub your stomach for good digestion).
- Honeydew and watermelon are also good sources of Vitamin C.

References and Resources

Iowa Farm to School Virtual Field Trip – Muscatine Melons (14:12 video)
https://fruitsandveggies.org/fruits-and-veggies/cantaloupe/
https://www.watermelon.org/
https://spendsmart.extension.iastate.edu/produce-item/melon-2/
https://snaped.fns.usda.gov/seasonal-produce-guide/cantaloupe
https://fns-prod.azureedge.us/sites/default/files/resource-files/tn-growit-book5.pdf

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP. August 2025

IOWA Health and Human Services

Jicama

GRADE K-1

Month: October
Time Required: 30 minutes
Alternative Tastings: White potato, Sweet Potato, Turnip, Carrot

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 explain the function of roots.
- ❑ Students will be able to identify what plants need to grow.

Materials

- ❑ Napkins or paper plates
- ❑ Jicama, cut up and prepared to serve
- ❑ Tajín seasoning and lime juice (optional)
- ❑ Whole jicama or photo of jicama to show
- ❑ Music selection
- ❑ Item to pass around for physical activity game (ex: whole jicama, stuffed veggie character, etc.)

Preparation

- ❑ Prepare jicama samples: peel and slice jicama into chips or sticks, or purchase pre-cut or frozen jicama sticks instead to save time with prep. (Check with school food service suppliers.)
- ❑ Optional: Offer raw jicama and a lime-Tajín-flavored jicama.
  - 2 cups peeled and sliced jicama cut into small-medium sticks
  - juice from 2-3 limes
  - Tajín sprinkled on to taste (½ teaspoon)
  - Put ingredients into a large plastic bag or plastic container before lesson to enhance flavors.

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: Plants need water and light to live and grow.

First grade – 1-LS1-1.
LS1A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Roots

Recommended Books

"Tops & Bottoms" by Janet Stevens
"Oliver's Vegetables" by Vivian French
"The Gigantic Turnip" by Aleksey Nikolayevich Tolstoy

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 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).

Pick a Better Snack is going to be fun, and I will come in and teach you all about different fruits, vegetables, how they grow, where they come from, and the best part is we get to taste the fruit or vegetable as part of our lesson!

What I would like you to do before we start is: Think about your favorite fruit or vegetable (point to your head), *Pair up with the person sitting next to you, and Share what you were thinking.*

Ask for volunteers to share. Once students share, say: *Some of the favorite fruits or vegetables you shared are some of the ones we will learn about this year. To begin our first lesson, I would like you to make a big circle.* Provide detailed directions for students to form a circle.

If this is **NOT** your first lesson of the year, as part of program evaluation:

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

2. Engage Activity: *8 minutes*

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

Gather students in a large circle. *Today we'll be talking about jicama, a vegetable that grows underground.* Hold up a whole jicama or show an image of one. *Like all living things, there are certain things jicama needs to grow.* Have students discuss what plants like jicama need to grow using think-pair-share, then call on a few students to share their answers with the class. *Yes, plants like jicama need soil, water, sunlight and air to grow. Humans have things that we need to grow strong and healthy, too.* Share a personal example of something you need.

Jicama Hop:

- *Now think to yourselves, what is something you need at school or at home?* Brushing your teeth, playing with friends, eating food, drinking water might be some examples.
- *Think to yourself quietly.* Have students close their eyes, put their fingers to their temples, and think real hard.

(continued on the next page)

Engage (cont'd)

– Then, pass a whole jicama around the circle while you play music. (Optional: Roots song) Stop the music randomly. Whoever has the jicama will share their survival need aloud. As students share, ask them *why* this need is important to them. (If a whole jicama is not available for the game, pass around an alternate object like a stuffed vegetable or a ball.)
– Physical Activity: After a student shares, have the student to the left of them select a physical activity (Arm circles, squats and running in place are a few options) for the whole class to do.
– Repeat several times to ensure students get a few minutes of physical activity.

Explore

3. Experiential Learning: *8 minutes*
This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Have students sit at their desks (opportunity for 3 deep breaths.)

We're going to taste a vegetable called jicama. Jicama is a ***root****.* Note new vocabulary word: root. Define, write out and have the class repeat the word "root." Optional: Show a video of jicama being harvested from underground (start at 2:15) *A root is a plant part that grows underground and helps jicama with two things it needs to survive:*

1. *Roots get food and water for the plant. The root is like a straw* (pretend to suck up water through a straw).
2. *Roots hold the plant in the ground. Roots grow deep into the soil to keep the plant from blowing away* (have students stand very still pretending to be roots).

We're going to watch a short video that shows how a root vegetable grows many roots before it comes out of the ground. Potato root video: https://www.youtube.com/watch?v=YbTFCh_XdYI (1:00).

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, be a brave taster, be polite, etc.). Pass out samples of fresh jicama. Optional: Offer 2 versions of jicama to sample (ex: one plain and then one with lime and Tajín).

As students receive their samples, explain to students how to use their senses to learn about foods – a practice they'll do each month during the PABS lesson. *We're going to use our senses to explore the jicama today before we taste it. We're going to take our time to eat it because we're going to explore everything we can about the jicama using our 5 senses.* Lead students through 5 senses exploration. If tasting two versions of jicama, use all 5 senses to compare and contrast the samples. Discuss flavors, textures, colors, etc. as a class.

Explore (cont'd)

- **See:** Have students carefully examine the jicama. What details do they see?
- **Touch:** With eyes open or close, the students can feel the jicama with their fingers. What does it feel like?
- **Smell:** Have students bring the jicama to their noses and inhale. Ask them to describe the smell.
- **Hear:** Using their fingers, have students snap the jicama in half. Everyone should be very quiet to listen for any sounds.
- **Taste:** Students are invited to taste the jicama.

Reflect

5. Voting Activity: *3 minutes*

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

As students taste the jicama, 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. If you also provide a sample with lime and Tajin seasoning, they can vote separately for that flavor option. Discuss different ways to try jicama (ex: dip in guacamole or hummus; mix into salads, slaw or salsa; bake in the oven/air fryer with different seasonings to make jicama "fries").

Program Evaluation:

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

6. Reflection: *4 minutes*

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

Reflection Questions:

– *What did you like or love about the jicama?* Select a few students to share.
– *Where does a root grow?* (underground)
– *What are different things that a plant like jicama needs to grow?* (water, soil, sunlight, air)
– *Show me two ways roots help jicama survive.* (getting food and water - pretending to use straw; holding the plant in place - standing very still)

Asking Discussion:

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

– 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 jicama?*

Leave newsletters and stickers with the teachers to pass out.

Whole Jicama, and sliced in half

Taste Testing Expectations

- Be willing to try new foods.
- Be Kind - say, "Yes" or "No thank you."
- Wait until everyone is served before trying the food.
- Don't say, "Yuck" or make faces.
- If you don't like it, politely remove it with a napkin.
- Be willing to try the food again. Sometimes it takes a few tries to like something.

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Additional Materials

Physical Activity - Plant Parts Song (sung to the tune of "Head Shoulders Knees and Toes")

Roots (touch toes), stems (stand up straight), leaves (put arms out) and flowers (cup hands around face)
Leaves and flowers.
Roots, stems, leaves and flowers
Leaves and flowers....
Grow to fruits then drop their seeds
Roots, stems, leaves and flowers
Leaves and flowers.

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

What You Need to Know About Jicama

- Jicama needs warm temperatures for nine months to grow.
- Jicama is available from November to May and can be purchased in Mexican markets and most large supermarkets.
- Choose firm, unblemished jicama. Store whole jicama in a dry, cool place for two weeks. Place raw, cut jicama in a plastic bag in the refrigerator for up to one week. Refrigerate cooked jicama and use within a few days.

Facts About Jicama

- Root vegetables grow underground. Many root vegetables can grow through the winter (in some climates).
- Jicama is grown in Central America and Mexico (show on a map). Optional: use Google Earth to show where jicama is grown.
- Jicama can grow up to 50 pounds, but supermarkets usually sell the 3-to-5-pound size. Jicama is sold individually, whereas potatoes are often sold in sacks.
- The jicama skin should be removed before eating as the skin can be toxic. The leaves and seeds also contain mild toxins.
- When cooked, jicama retains its crisp, water chestnut-like texture.
- Jicama is a versatile vegetable that can be enjoyed raw, in salads, stir-fried, pickled or even spiralized into noodles.

Health Connection

- Excellent source of Vitamin C, to heal our wounds and keeps us healthy (reinforce by crossing arms in an "X" for our defense shield)
- Good source of fiber, to keep us full longer and help with digestion (reinforce by rubbing stomach)

References and Resources

https://fruitsandveggies.org/stories/top-10-ways-to-enjoy-jicama/
https://aggie-horticulture.tamu.edu/vegetable/guides/specialty-vegetables/jicima/
https://livewellutah.org/2017/10/18/give-jicama-a-try/

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IOWA Health and Human Services

Cranberries

GRADE K-1

Month: November
Time Required: 30 minutes
Alternative Tastings: **Grapes**

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 explain why fresh cranberries float.
- ❑ Students will be able to compare and contrast different forms of cranberries.

Materials

- ❑ Napkins or paper plates
- ❑ Fresh cranberries and dried cranberries
- ❑ Bog Experiment
  - Clear container full of water
  - Assortment of items that sink or float (ex: dry sponge, plastic spoon, metal key, pencil, marbles, index card, raw cranberry, dried cranberry)

Preparation

- ❑ Collect an assortment of items that will sink or float (these can be reused from class to class).

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
Science & Engineering Practices: Sharing observations

First grade - 1-LS3-1.
Science & Engineering Practices: Make observations

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Making and Sharing observations

Recommended Books

"Gabe's Grocery List" by Heidi Shelton Jenck
"Fox and Rabbit's Cranberry Surprise" by Laurel Heger
"A Visit to The Supermarket" by B.A. Hoena
"Time for Cranberries" by Lisl H. Detlefsen (This book is about how cranberries are harvested so it works well in the lesson in the Explore Section.)

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: *13 minutes*

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

Choral Response:

As we start today, think about what you want to be when you grow up. What dream job do you want when you get older? Think quietly in your head and when I say the word "water," you're going to tell me what you want to be. Pause for students to think, then say "*water.*" Listen for a few examples from the group; acknowledge some of their responses.

Physical Activity:

You had some great examples of dream jobs. We're going to pretend to be some of those dream jobs today! Have all students stand up, and when the educator calls their name to share their dream job, all students should act it out, such as: professional basketball player dribbling a ball, a dancer doing warm-ups, a track star jogging in place, a rock climber stretching, etc. Instruct students to march in place after each student shares before the educator calls on the next student.

Bog Experiment

Gather students in a seated, large circle and place the bog experiment materials in the center where all students can see. Opportunity for 3 deep breaths. *Today, we're going to practice being another dream job: scientists. What do you think scientists do?* Use "Pick a Stick" (student names written on craft sticks) or select a child at random to share.

Scientists conduct experiments to help explain why things work the way they do. Scientists make guesses of what they think is going on, called a hypothesis. Have the class repeat "hypothesis" out loud. *Scientists make a hypothesis and then they create an experiment to find an answer. One question we are going to explore with these materials is: Will they sink or will they float when we put them in water? You will make a guess about whether you think the object will sink or float.*

Will it sink or float?

1. Conduct the experiment where all students can see. Test if each object will float or sink.
    a. If students think the object will sink, they should crouch to the ground.
    b. If students think the object will float, they should stretch toward the sky.
    c. Students will make a guess for each object before you place them in the water (save the cranberries for last).
2. As you test each object, make two piles: things that float and things that sink.

Engage

3. What do the things that float have in common? What do the things that sink have in common?
4. Lastly, have students make a hypothesis about the fresh cranberry and dried cranberry. Will they sink or float? (The fresh cranberry will float, and the dry cranberry will sink.)

Think-Pair-Share

Have students think, "Why did the fresh cranberry float? Why did the dry cranberry sink? What is different about them?" Pause to give students time to think, then allow them time to share with a partner.

Transition students back to their desks. *Quietly return to your desks where we'll learn why fresh cranberries float and the dry cranberries sink.*

Explore

3. Experiential Learning: *7 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.

Today, we're going to taste this fruit called a cranberry, but first, we're going to look inside to see if we can figure out why cranberries float. With a student or teacher helper, pass out a napkin to each student and place two fresh cranberries and two dried cranberries on top.

Tell students to leave the dried cranberries alone for now and to pick up one of the fresh cranberries. Have students use their fingers to break one fresh cranberry into two pieces (demonstrate this using the classroom projector if available). *What do you see inside?* Confirm that there are seeds inside and four air pockets. *The air pockets on the inside make the fresh cranberry float. Remember the dried cranberry we tested? It didn't float, because it doesn't have air pockets on the inside to make it light.*

Optional: Explain, *Fresh cranberries are harvested in a special way because they float.* Read "Time for Cranberries" by Lisl H. Detlefsen and discuss how cranberries are harvested. Show the flooded cranberry bog photo included in the lesson. Alternatively, watch Wisconsin Cranberries: Growing Strong video: https://www.youtube.com/watch?v=PIbkxXAnkIc (start at 1:33 and stop at 2:09 or 2:22).

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").

Be sure to review your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). Direct students' attention back to the fresh and dried cranberries on their napkin.

Explore (cont'd)

We're going to taste two types of cranberries today: a fresh cranberry and a dried cranberry. We are going to use all our senses to discover what is the same and what's different between the two types of cranberries. Guide students through the process of using their five senses.

See: Have students look at the fresh and dried cranberries. What details do they see? Consider size, shape, color, etc. How are they the same? Different?

Touch: Students can feel the two types of cranberries. Are they hot or cold? Smooth or rough? Hard or soft? How are they the same? Different?

Smell: Have students smell both cranberries. How do they smell? Do they smell the same or different?

Hear: When it's time to taste the cranberries, tell the class to be very quiet and listen for any sounds. How are they the same? Different?

Taste: *Before we try our cranberries, let's review the five common taste words.* On the board write: sweet, sour, salty, bitter and spicy. Review these taste words:

- Sweet is like watermelon.
- Sour is like lemons.
- Salty is like movie popcorn.
- Bitter is like really dark chocolate or plain cocoa power.
- Spicy is like hot sauce.

Instruct students to taste the fresh cranberry. Which of the five taste words – sweet, sour, salty, bitter or spicy – would you use to describe it? Call on a few students to share.

Instruct students to taste the dried cranberry. Which of the five taste words – sweet, sour, salty, bitter or spicy – would you use to describe it? Call on a few students to share.

Recap the words students used to describe each cranberry and whether the class thought they tasted the same or different. *Fresh cranberries are very sour, while dried cranberries are sweet. Fresh cranberries are so sour that we usually don't eat them plain. Instead, we eat them after they have been sweetened with sugar. Dried cranberries have sugar added to them to make them sweet.*

This may be a good time to explain that dried fruits are sticky (connect back to the senses) and will stick to your teeth. Explain the importance of brushing your teeth to prevent cavities. You may also want to explain that while dried cranberries can be a healthy snack, we don't want to eat too many of them at one time because of the added sugar.

Reflect

5. Voting Activity: 1 *minute*

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

As students taste the cranberries, have them vote with their thumbs. Vote for the fresh cranberry and dried cranberry separately. 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."

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."
(Due to time, consider asking the reflection questions as you are cleaning up the experiment.)

Reflection Questions:

Choral Response:

- *What fruit did we try?* (cranberries)
- *What did we pretend to be today?* (scientists)
- *Why do scientists conduct experiments?* (to explain why things work the way they do)
- *Did fresh cranberries sink or float?* (float)
- *What is inside the fresh cranberry that makes it float?* (air or air pockets)
- *What is one way that fresh and dried cranberries are the same? Different?*
- *What taste word did most of the class use to describe fresh cranberries?* (sour)
- *What taste word did most of the class use to describe dried cranberries?* (sweet)

Asking Discussion:

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

- 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 cranberries?*
- *How could you eat cranberries?* (for a snack, in trail mix, in oatmeal, cooked in a sauce, etc.)

Leave newsletters and stickers with the teachers to pass out.

Flooded cranberry bog

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 Cranberries

- The cranberry is a Native American wetland fruit which grows on trailing vines like a strawberry. Flowers grow on the vines in May-June, and the cranberries are ripe and ready for harvest in late September to early October.
- The American Cranberry is a low-growing, vining woody perennial. During harvest, water is used to float the fruit for easier collection. These cranberries are usually used for juice and sauce. The dry harvested fruit are combed from the vines and are used as the fresh fruit.
- Most production occurs in Wisconsin, Massachusetts, New Jersey, Oregon, Washington, Canada and Chile.
- Fresh cranberries should be firm, plump and dark red.
- Cranberries freeze well. Rinse before using, not before freezing. They will last about one year in the freezer or three to four weeks stored in the refrigerator.

Facts About Cranberries

- Cranberry juice is the most popular way cranberries are consumed, but during the holidays, cranberries are often used in stuffing, dressing, relish and cranberry sauce.
- Grapes are also a fruit that grows on vines; dried grapes are called raisins. In French, raisin means “grape.”
- Raisins vary based on the type of grape used and are found in different sizes and colors including green, black, blue, purple and yellow.

Health Connection

- Vitamin C. Cranberries have vitamin C, to help heal cuts and keep the gums and skin healthy (reinforce with crossing arms for a defense shield)
- Fiber. Cranberries have fiber, to keep us full longer and to help with digestion (reinforce by rubbing stomach)
- Potassium. Cranberries have potassium, to keep our heart healthy (reinforce by squeezing hands to show heart beating). The heart is a muscle that needs a workout. To make it stronger, be active in a way that gets you huffing and puffing.

References and Resources

https://www.cranberryinstitute.org/
https://snaped.fns.usda.gov/seasonal-produce-guide/cranberries
https://www.youtube.com/watch?v=Dkf3p2sZgLQ (10:39) – Another option for a video about harvesting cranberries. Recommend playing from 2:54 – 4:06.

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IOWA Health and Human Services

Broccoli/Cauliflower

GRADE K-1

Month: December
Time Required: 30 minutes
Alternative Tastings: Artichoke

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 recall the names of a minimum of 3 plant parts.
- ❑ Students will be able to classify broccoli and cauliflower as flowers.

Materials

- ❑ Heads of broccoli and cauliflower with leaves and stem to show or photos
- ❑ Photos of flowering broccoli and cauliflower
- ❑ Optional: dip for tasting, napkins, small paper plates

Optional, if cooking:

- ❑ Air fryer or electric skillet and power strip (with long cord)
- ❑ Plastic tote (to transport electric skillet)
- ❑ Water bottle with water
- ❑ Rags
- ❑ Spatula
- ❑ Tasting materials (plates, napkins, etc.)
- ❑ Broccoli and/or cauliflower for cooking
- ❑ Olive oil
- ❑ Spices (ex: salt, pepper, garlic, cumin, chili powder, 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.
Crosscutting Concept: Patterns

First grade – 1-LS1-1
LS1A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Parts of plant (1st) and patterns (K)

Preparation

- ❑ Wash broccoli and/or cauliflower and chop into small "trees" for tasting.
- ❑ If cooking during the lesson, portion broccoli and/or cauliflower pieces into food storage bags (one per lesson). Optional: add olive oil and spices to the bag; shake well.

Recommended Books

"Monsters Don't Eat Broccoli" by Barbara Jean Hicks
"The Boy Who Loved Broccoli" by Sarah A. Creighton
"Oliver's Vegetables" by Vivian French
"The Vegetables We Eat" by Gail Gibbons

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 you are planning on cooking your broccoli or cauliflower in an electric skillet or air fryer, you may want to start preheating (set at 375 degrees for the air fryer) your cooking instruments as soon as you arrive in the class. Alert students and teachers to the hot skillet or air fryer. If using a skillet, heat a couple tablespoons of olive oil over medium heat, leaving uncovered.

Program Evaluation:

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

2. Engage Activity: 6 *minutes*

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

If you're cooking today, show your students your container of chopped up broccoli and/or cauliflower. Before you add the broccoli to the preheated electric skillet or air fryer, ask students to listen very carefully for the "sizzle" noises. Add the broccoli and/or cauliflower. If using a skillet, leave uncovered, stir occasionally and cook for 10 minutes or until tender over medium heat.

Think-pair-share: Gather students in a large circle and have them think (have them shut their eyes, put their fingers to their temples): *what is your favorite flower or favorite color of flower?* Pair up with someone right next to them, ensuring everyone has a partner, and have them share their answer with them and discuss. After about a minute, you can pick some students to share out. You can use "pick a stick" to randomly select students if the classroom has them.

An alternative question: *Today we are going to talk about a vegetable known as the "Crown Jewel of Nutrition." Prince's and princesses wear crowns to show their power and dignity, or how special they are. Let's all make a crown with our hands over our heads. What movie have you seen about a prince or princess? What made them special in the movie?*

Explore

3. Experiential Learning: 13 *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 or a waterfall, where students take a deep breath, put their arms in the air and bring them down as they sit back down making a swoosh sound).

Explore (cont'd)

What if I told you when you eat certain vegetables, you are eating the flower of the plant! Today we are going to taste a vegetable that is a flower; we're going to try broccoli and cauliflower (or name the one you will try.) *Broccoli and cauliflower are very special plant parts. They are flowers! Some people even call them the "crowns"* (put on imaginary crowns again).

We eat broccoli and cauliflower before the flowers bloom, when they are tender and sweeter. Here is what broccoli and cauliflower look like when the flowers bloom.

- Show images of flowering broccoli and cauliflower.
- OR, pass around a flowering head of broccoli. To make the broccoli crown flower, place the stem in a jar of water for about a week, prior to your lessons. The broccoli will turn yellow as the flowers develop (and a word of caution, a certain smell may develop as well!)

We're going to explore cauliflower and broccoli that hasn't flowered yet and later we'll get a chance to taste it. First, we're going to find 3 plant parts on these vegetables. Show a head of broccoli and cauliflower with leaves and stem still intact. Point to each plant part (stem, leaves, flower) and name it. Repeat; this time asking students to name the part in unison when you point to it. Alternatively, ask for three student volunteers to come to the front of the class one at a time and point to a plant part and name it. While whole heads of broccoli and cauliflower are preferred, if needed, use the images in the lesson instead to name the plant parts. Place the images on a slide and use the classroom projector to improve visibility. Discuss the differences and similarities between broccoli and cauliflower: colors, shapes, smells, similar plant parts (stems, leaves, flowers).

Optional: After the discussion above, show students this video about parts of the plant. https://www.youtube.com/watch?v=7vZaJYTXyhs (suggest stopping at 1:39 if time is limited)

<u>Physical Activity: Plant Parts Dance</u>

Great! We found 3 plant parts on our broccoli and cauliflower. We're going to do a dance to remember these parts, and name 3 more. We can observe 6 plant parts! Lead the students in the dance by naming a plant part and performing the action. Repeat the pattern a few times and increase the speed.

- Roots (touch toes)
- Stems (stand up tall)
- Leaves (put hands out at hips)
- Flowers (frame face with hands)
- Fruits (make a circle with arms overhead)
- Seeds (sprinkle fingers from overhead down to the ground)
- **Repeat 2-3 times
- *Now that's six parts* (students say: "six parts" and hold up 6 fingers). *Six plant parts that plants and people need. "Oh yeah."*

Alternatively, play this song and perform the actions when you hear the plant part. "Roots, Stems, Leaves" by Banana Slug String Band: https://www.youtube.com/watch?v=ogW8Z7IZLNw (3:41)

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").

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, be a brave taster, be polite, etc.). As students receive their samples, ask them to use their senses (see, touch, smell, hear) while they wait to taste.

Select one of the following ways to taste broccoli and/or cauliflower. You may serve one or both vegetables.

- Raw: Cut into small "trees." You can serve plain or with a dip. If serving with a dip, try dipping the piece of broccoli or cauliflower into the dip as you serve it to each student. You can even only put dip on half the floret so students can taste it without the dip, too. Or, if preferred, bring napkins or small paper plates to serve the vegetable and dip. Dip ideas include Vegetable Dip, Savory Yogurt Dip or mix a packet of ranch seasoning into a 32-ounce container of plain Greek yogurt.
- Air fryer: Before the lesson, chop cauliflower and/or broccoli into smaller pieces. During the lesson, toss in an air fryer with olive oil and spice options (ex: garlic, pepper, paprika). Cook for ~10 minutes at 375 degrees or until tender, shaking halfway through.
- Electric skillet: Before the lesson, chop cauliflower and/or broccoli into smaller pieces. During the lesson, heat 2 tablespoons olive oil over medium heat, leaving uncovered. Add your broccoli or cauliflower to the host skillet and season with optional spices (ex: garlic, pepper, paprika).

Reflect

5. Voting Activity: 2 *minutes*

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

As students taste the cauliflower and/or broccoli, 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. You could ask the class different ways they eat broccoli and/or cauliflower.

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

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, "crown" you can say your answer aloud. (Continued on next page.)

- *What month is it?* (December)
- *What vegetable did we try today?* (broccoli and/or cauliflower)
- *What are the three plant parts we found on the heads of broccoli and/or cauliflower today?* (stem, leaves, flower) Consider holding up the head of broccoli or cauliflower, or the images, and pointing to each part for the students to name.
- *How many plant parts are there in total?* (six)
- *Which plant part of the broccoli and cauliflower did we eat today?* (flower)

Asking Discussion:

- *Raise your hand if you're excited to go home and tell your family about tasting broccoli and/or cauliflower.*
- Ask a student with a raised hand: *if you wanted to try this at home, how might you ask your grown-ups?*
- *How could you* eat broccoli and cauliflower at home? (ex: raw for a crunchy snack, cook them to make them soft, etc.)

Leave newsletters and stickers with the teachers to pass out.

Flowering broccoli

Flowering cauliflower

Cauliflower

Broccoli

Additional Materials

Physical Activity

Two other ideas for physical activity:

- 12 Days of Gym Class: https://www.youtube.com/watch?v=zZTmrWL9-9Q
- The 12 Days of Fitness: See page 35 in the Activity Breaks booklet at https://hhs.iowa.gov/pick-better-snack/materials.

What You Need to Know About Broccoli and Cauliflower

- Broccoli is a cool season crop, which means it is not affected by frost when planted in the cooler weather. We can grow broccoli in Iowa.
- California is the top producer of broccoli in the United States, growing 90% of the broccoli eaten in the U.S.
- Choose broccoli with tight florets that are dark green, purplish or bluish green. Stalks should be very firm.
- Choose cauliflower with compact creamy white buds and bright green leaves. Avoid brown spots or loose sections that are spread out.

Facts About Broccoli and Cauliflower

- The part of the broccoli that we eat is a group of buds that are almost ready to flower.
- Broccoli is known as the “Crown Jewel of Nutrition” because it is rich in vitamins and high in fiber.
- The word “cauliflower” means “cabbage flower” in Latin. It’s a cousin to cabbage, kale, and Brussels sprouts.
- Cauliflower is usually white, but it can also be orange, purple, and green.

Health Connection

- Broccoli is a good sources of vitamin A, to keep your eye healthy (Reinforce with super goggles.)
- Broccoli and cauliflower are good sources of vitamin C, for healthy skin, strong immune system and for healing wounds. (Reinforce with Vitamin C defense shield: cross arms to make an X.)
- Broccoli and cauliflower are good sources of fiber, to help with digestion and make us feel full longer (Reinforce by rubbing stomach; you can even and say “mmm fiber” when doing that motion.)

References and Resources

https://spendsmart.extension.iastate.edu/produce-item/broccoli-2/
https://spendsmart.extension.iastate.edu/produce-item/cauliflower-2/
https://snaped.fns.usda.gov/seasonal-produce-guide/broccoli
https://www.youtube.com/watch?v=EM0AUU5W6iw – Cauliflower, How Does it Grow? video
https://www.youtube.com/watch?v=TUxx0OJKJjc – broccoli video for kids (broccoli salad recipe)
https://www.youtube.com/watch?v=EYV_Pb8PVvY – cauliflower video for kids (recipe)
https://www.youtube.com/watch?v=NGoHibWQUro – broccoli farm (Iowa) video

This institution is an equal opportunity provider. This material was funded by USDA’s Supplemental Nutrition Assistance Program – SNAP. September 2025

IOWA Health and Human Services

Mango

GRADE K-1

Month: January
Time Required: 30 minutes
Alternative Tastings: Papaya

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 mango as a tropical fruit.
- ❑ Students will be able to describe what a mango needs to grow.

Materials

- ❑ Inflatable beach ball
- ❑ Mango seed
- ❑ Pictures of mangoes
- ❑ Fresh or frozen mango for tasting
- ❑ Optional: blender, tasting cups and additional ingredients if making the smoothie, or mango salsa prepared in advance

Preparation

- ❑ Determine which beach ball activity you will lead and prepare the beach ball for the physical activity.
- ❑ Send teachers links to videos and the map you want to show ahead of time. Also let teachers know you will be drawing mangoes in class and will need students to have crayons and paper or a white board.
- ❑ Determine the way you will serve mango and prepare it for class.
- ❑ Prep a mango seed by taking it out of the mango and letting it dry. Cut off the mango around the pit as much as possible, place it on a paper towel on the counter and allow it to dry for about 24 hours, turning it over at least one time. If you'd like to show the seed inside, cut off the end of the pit and use a serrated knife to **carefully** "saw" it open along the seam.

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-LS1-2
LS1.B: Growth and development of plants

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Plant habitats

Recommended Books

"Too Many Mangoes" by Tammy Paikai
"How to Eat a Mango" by Paola Santos
"Marti and the Mango" by Daniel Morton
"Handa's Surprise" by Eileen Browne
"Julie and the Mango Tree" by Sadé Smith

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: 8 *minutes*

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

Gather students in a large circle, standing. Tell students, *Today, we are going to try a fruit that grows where it is very warm; this fruit likes hot weather. But first, I want to know, what kind of weather do you like? Close your eyes and think in your head. If you like hot weather, put your hands on your head. If you like cold weather, give yourself a warm hug. If you like a little bit of both, rub your tummy.* Give students time to think and decide for themselves, keeping their eyes closed.

When I say the word "mango," you are going to open your eyes and look around. After a few moments, say *"Mango!"* Describe the class's preferences based on their chosen actions. Randomly select a few students to share why they like hot weather, cold weather or both (pick-a-stick works well here).

Optional: If you choose to read a book, this would be a good time. Point out the tropical fruit.

Introduce the term tropical. Explain, *In Iowa, the weather changes all year – hot weather in the summer, cold weather in the winter, and mild weather in the spring and fall. In some parts of the world, the weather is more consistent. It can be very cold all year in some places and very hot all year in other places. "Tropical" is a word to describe places that are very warm and wet all year. Let's say that word together: "tropical." Tropical places are warm and wet.* (repeat together; option to write words on the board to read together). *Today we are going to learn about and taste a type of tropical fruit that grows in tropical places because tropical places have what it needs to survive. Show a side-by-side photo of Iowa winter weather and tropical weather. Discuss similarities and differences in what they see* (e.g., sunshine, water, sand, snow, ice, trees). You can use this link to show where tropical weather is on a map: Tropical Zone World Map

But first, let's play a game with a beach ball, which can be played with in tropical areas such as a beach!

Engage (cont'd)

Physical Activity:
Gather students in a large circle. Bring the beach ball!

- **Option 1:** Write several vocabulary words on the beach ball (warm, wet, tropical, mango, fruit). Instruct students to gently pass the beach ball. If their hand is on a vocabulary word when they catch it, the student can read and spell the word aloud. Then, pick a physical activity to do as the class spells the word aloud together (ex: For "fruit," do five jumps or squats while saying F-R-U-I-T). If the student's hand does not land on a word, have the student pick a word close to one of their thumbs. Do this activity for about 3 minutes.
- **Option 2:** Write the word mango on the board and spell it together as a class. Instruct students to gently pass the beach ball (or other ball/item to toss). Spell mango as a class, one letter per toss (m-a-n-g-o). Try to speed it up without dropping the ball! When the ball is dropped do 5 squats or jumps spelling out mango. Do this activity for 3 minutes.

Explore

3. Experiential Learning: 11 *minutes*
This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

Mango Life Cycle Exploration:
While holding up a fresh mango or picture of a mango say*, For our tasting today, we're going to try a tropical fruit called mango. Mangoes grow in tropical places because they need wet, warm weather all year to survive. Mangoes have one large seed inside it.* Show a real mango pit (or photo of the seed), prepared in advance and dried. If showing just the pit, explain that there is a seed inside. *The mango seed is surrounded by a large, flat covering that you can see when you cut a mango; this is what makes it difficult to cut through a mango fruit.* Pass around the mango pit if time allows.

Show the photos in the lesson as you explain each stage of the life cycle. *We are going to briefly learn about the life cycle of a mango. First, you would plant a seed under the ground and once it received enough water from the soil, it would start sprouting. The seedling would start to sprout above the ground and grow into a tree. It can take 3-7 years for the small tree to grow big enough to start flowering, which is needed to grow the mango. Once bees and bugs go from flower to flower, the flowers will start to turn into a mango and grow the fruit. Mangoes can come in many different colors including yellow, orange, red and green.*

Optional: As time allows, pick one of the following videos for your students to watch:

1. *Here is a video that shows the first year of a mango tree growing.* After the video ask questions about the video such as: *What did you notice about the seed at the beginning? What did you notice about the tree growing? Did the tree grow as big or fast as you thought it would in one year? Why or why not?*
   Growing Mango Tree video: https://youtu.be/jh_ukt8g53c?si=zxDb6rtUM_ouZvIr (2:56)
   (You can speed up to 1.5x to save on time.)

Explore (cont'd)

2. The Mango Song: https://youtu.be/2o5CVG_f4ok?si=0Nu8qDry6mYhCDs5 (3:13).
   Have students march in place for the 3-minute video; when the song says "Mango Mango," have students put their hands in the air. You can ask the students to watch for different things during the video. For example, *observe the different colors of mangoes in the video. What other types of fruits do they mention in the song? Be listening in the song for different ways they eat mango.* This video could also be the physical activity if students are moving during the whole video.

Let's quietly walk to your desks and take out a piece of paper and some crayons. (You may want to give the teacher a heads up, before arriving to class, to have paper and crayons ready or a white board for each student to make this transition quicker and easier.)

Once students are seated, *We are now going to draw a mango. Remember, this fruit can be yellow, orange, red and green. You can make your mango any of those colors or draw one with multiple colors.* As students draw, if there is time, pass around a real mango seed for them to feel or take them through another drawing of a seed sprouting into a tree. You can be as creative as time allows during this activity.

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").

Be sure to review your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). Ask students to use their senses (see, touch, smell, hear) while they wait until the entire class is ready to taste mango together.

Choose one of the following ways to taste mango:

Option 1: Give each student one or two bite-size pieces of pre-cut fresh or frozen mango.

Option 2: Mango Salsa. Pass out two chips with mango salsa that has been prepared ahead of time. If you have enough plain mango for each student, you could also give them a piece of fresh mango to try without the other ingredients in the mango salsa. (See mango salsa recipe link in the resources section on the Additional Materials page).

Option 3: Make Mango Smoothie in class. (See the mango smoothie recipe link in the Resources section on the Additional Materials page.) Pass out in small cups to students.

Reflect

5. Voting Activity: 2 *minutes*

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

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

Program Evaluation:

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

6. Reflection: 4 *minutes*

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

Reflection Questions:

- *What did you like about the mango [or tasting option you chose]?*
- *What would you change about the mango [or tasting option you chose]?*
- *What do mangoes need to grow?* (warm and wet or tropical weather, sun, dirt)
- *Do you think it would be easy to grow mangoes in Iowa? Why or why not?*
- *What are some other tropical fruits, besides mango, you can think of?* (pineapple, kiwi, pomegranate, passion fruit, papaya, bananas)

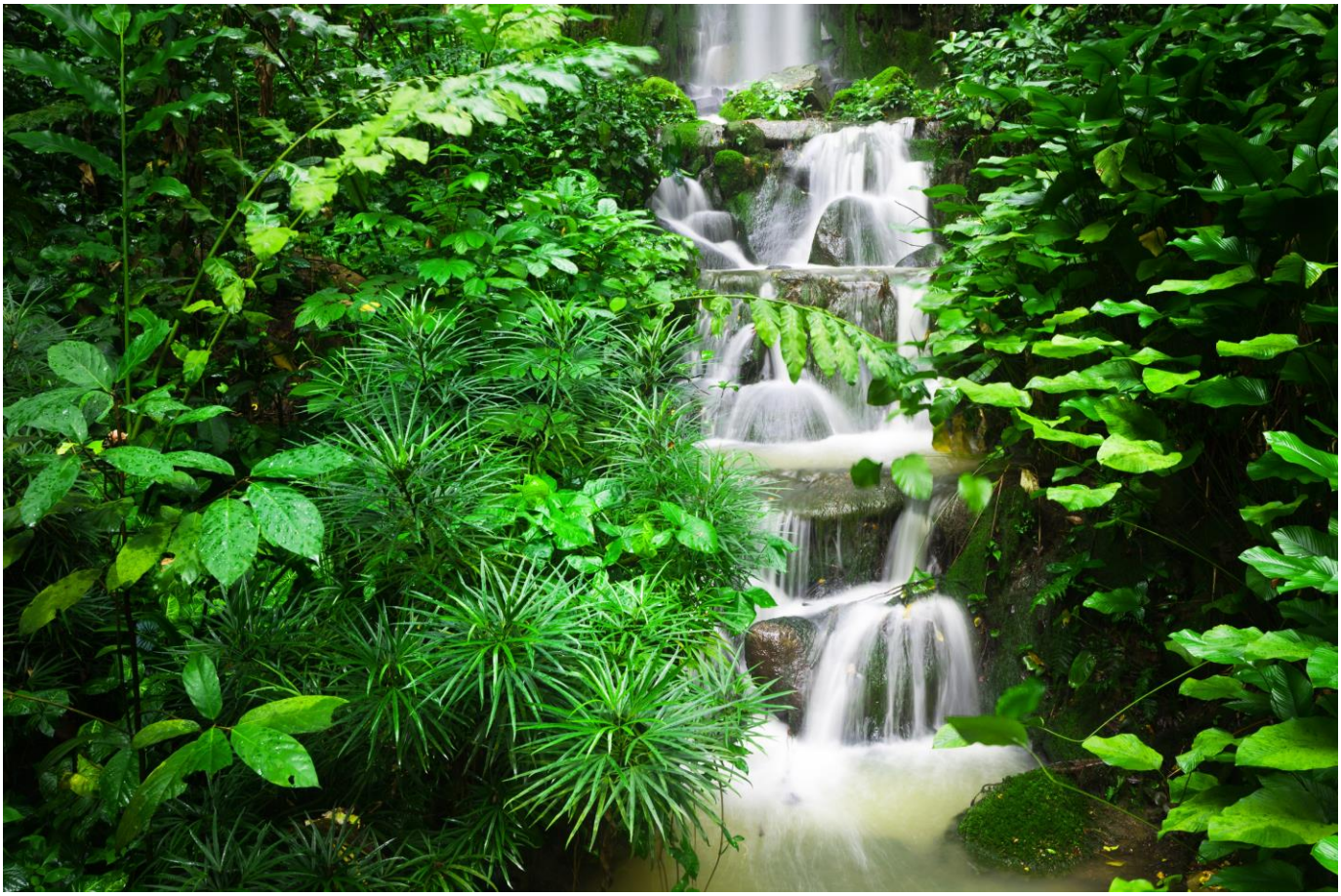
Asking Discussion:

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

- Ask students: *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 a mango?*
  - *Is there a special way your families have eaten mango?*

Leave newsletters and stickers with the teachers to pass out.

Iowa Winter Weather



Tropical Weather

Germinated mango seed (the seed is inside the pit)

Flowering mango tree

Mango tree with fruit

Mango

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 Mango

- Mango gets softer as it ripens. Judge its ripeness by feel, not color. Mangoes ripen at room temperature. You can put mangoes in a paper bag at room temperature to speed up the ripening process. Once ripe, mangoes can be stored in the refrigerator for up to 5 days.
- Mangoes are 2-4 inches in length and are very colorful. They could be green, yellow, red or orange on the skin, but all are orange-yellow on the inside and juicy and sweet when ripe.
- Mangoes have one big, flat seed that you can't eat.
- Mangoes are tropical fruit and like warm, sunny weather. Other tropical fruit include bananas, kiwi, papaya, pineapple, pomegranate, and passion fruit.
- A lot of mango is grown in India, Mexico, Pakistan, China, Indonesia, Brazil, and the Philippines. In America, much of our mangoes are grown in Florida.
- Mangoes grow on trees, some can grow as tall as 100 feet.

Facts About Mango

- The mango is called the "king of fruit" in India, where there are over 1,000 varieties.
- In India, a basket of mangoes is considered a gesture of friendship.
- Mango is the most popular fruit in the world. Its taste resembles a mix of oranges, peaches and pineapples.
- The fruit of the mango tree matures in three to five months after flowering. The fruit weighs ¼ pound to 3 pounds.

Health Connection

- Mangoes are rich n vitamin C, which helps our bodies fight infection and heal wounds. (Reinforce with a defense shield; cross your arms in front of your body to ward off germs).
- Mangoes are rich in vitamin A, which is important for healthy eyesight. (Use fingers to put on your super goggles). Mangoes contain more vitamin A than most fruits.
- Mangoes are a good source of fiber. Fiber helps with digestion and helps us feel fuller longer. (Reinforce by rubbing stomach).

References and Resources

https://snaped.fns.usda.gov/seasonal-produce-guide/mangos
https://spendsmart.extension.iastate.edu/produce-item/mango-2/
https://www.mango.org/
https://spendsmart.extension.iastate.edu/recipe/mango-salsa/ (mango salsa recipe)
https://extension.umd.edu/programs/family-consumer-sciences/snap-ed/eat-smart/recipes/mango-smoothie/ (mango smoothie recipe); dairy free recipe: https://snapedny.org/recipes/mango-smoothie/
https://youtu.be/GPQ1wt-PusY?si=az9ZMwjLoEiOqI_x – How to Cut a Mango video
https://youtu.be/ZGVPDvEzdh4?si=PAtm-8p_BSpLvpCx - cleaning, opening mango seed video
https://www.youtube.com/watch?v=_zCQj8nwZGs – PABS video, includes mango salsa snack

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP. September 2025

IOWA Health and Human Services

Bell Pepper

GRADE K-1

Month: February
Time Required: 30 minutes
Alternative Tastings: Tomato, Cucumber

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 categorize fruits and vegetables by their color.
- ❑ Students will be able to practice the concept of "Eating a Rainbow."

Materials

- ❑ Five sheets of construction paper – red, orange, yellow, green, purple. Write a different physical activity on each sheet of paper.
- ❑ Prepared rainbow outline – on a slide, flipchart or another large sheet of paper (example included)
- ❑ Fruit and vegetable images (print from lesson and cut yourself or buy reusable fruit and vegetable cutouts) and tape or magnets, etc., to attach images to the rainbow; image of bell pepper plant
- ❑ 2-3 colors per student of bell peppers strips or mini peppers
- ❑ Optional: pepper images for coloring; long piece of yarn or string for each classroom; knife and cutting board to cut a pepper

Preparation

- ❑ Prepare rainbow outline for repeated use or make one rainbow for each classroom using flipchart paper.
- ❑ Purchase a variety of reusable fruit and vegetable cutouts or print and cut a colorful array of fruit and vegetable images included in the lesson for the classroom rainbow; consider laminating these and adding magnets if they will be used on white boards.
- ❑ Cut pepper strips for tasting (2-3 different colors)
- ❑ Optional: print peppers for students to color, one per student.

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
- ❑ Lesson Objectives
- ❑ Science Connection: Patterns in vegetable colors (K) & plant parts (1st)

Recommended Books

"I Can Eat a Rainbow" by Olena Rose
"It's Me, Serrano the Pepper!" by Dina Attlias Nahman
"Chile Pepper Pete" by Dawn Boone (see book-related physical activity idea on last page of the lesson.)

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.

Today, we're going to learn about and practice eating a rainbow of colors. But first, I want to know, what is your favorite color? Think in your head (put fingers up to temples and close eyes) and *when I say the word, "pepper," I want you to say your favorite color out loud. Ready? Pepper.* Students say their favorite color out loud.

Excellent! Thank you for sharing your favorite colors with all of us. Next we're going to use some of these colors get our bodies moving.

Physical Activity

Use five sheets of colored construction paper (red, green, yellow, orange and purple). Each sheet has a physical activity written on it so that students can read it, such as jumping jacks (or jump up and down if space is an issue), stand on one leg, bend over to touch toes, twist at the waist and squats.

- **Round 1:** Flip through the colored paper gradually, showing one color at a time. When a student sees their favorite color, have them do the physical activity on the paper until a new color is shown.
- **Round 2:** Flip through the colored paper, showing one color for 5 – 10 seconds. Have all students do the physical activity until they see the next color.
- **Round 3:** Flip through the colored paper at a faster pace, such as 3 – 5 seconds per color. Have all students do the physical activity until they see the next color. Repeat, increasing the speed even more, like 1 – 2 seconds per color.
- **Round 4:** *Now, let's cool our bodies down a bit. Think about which of these colors is your favorite to eat. In other words, do you like green, red, yellow, orange or purple foods? When I hold up your favorite color to eat, do a star pose (arms out to side, feet spread apart) to show us that it's your favorite color of food to eat.* Flip through each color slowly, reflecting on the different colors of foods the students like to eat.

Explore (cont'd)

3. Experiential Learning: 12 *minutes*

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

Seat students together at the carpet (opportunity for 3 deep breaths).

Make a Classroom Rainbow

Display the rainbow outline included in the lesson in one of the following ways: 1) place it on a slide prior to class and project it onto the white board, 2) draw the rainbow on flipchart paper or wall post-it note paper, or 3) draw the rainbow on the white board. Explain, *Today, we'll be tasting a vegetable called a pepper. Peppers grow in a rainbow of colors* (stick the images of a red, green, yellow, orange and purple peppers included in the lesson to the large classroom rainbow; if using the whiteboard, consider attaching magnets to the pepper images). *Colorful fruits and vegetables contain different types of vitamins, mineral and other nutrients. When we eat a rainbow of colors, our body takes in a rainbow of nutrients.*

Put fruits and vegetable cutouts in the center of the carpet. *We're going to build our classroom rainbow using these colorful fruits and vegetables.* Call on 3-4 students to select an image and place it on the rainbow where they think it should go. (You could have students make a cloud with the white and brown produce or add another line for them on the rainbow.) Continue calling on students until everyone has had a turn. Discuss the different colors and fruits and vegetables in each color with the class. Ask, *What patterns do you notice on our chart?*

If you choose to read a book, this may be a good time to do so before students return to their desks.

Transition students back to their desks. This may be a good time to have students wash hands or share hand sanitizer with students on the way to their seats.

In preparation for the tasting, show students the image of the red and green pepper growing. Ask if students think these peppers are the same kind of pepper or different. Then explain that they are the same kind of pepper*. A red pepper starts out green, and with lots of sun and some time, it fully ripens and turns red. Yellow and orange peppers also start green and change to yellow or orange overtime as they ripen. Peppers become sweeter as they ripen. Red peppers are sweeter than green peppers. Yellow and orange peppers are also sweeter than green peppers.*

Hold up a fresh bell pepper and point to the stem of the pepper and ask students*, what plant part is this?* Identify the stem in the image as well, explaining to students how the stem connects the pepper to the plant. Ask, *what do you think is inside the pepper?* Consider cutting the bell pepper in class to show students the hollow inside with seeds. *We can eat all sides of the pepper after we remove the seeds and the stem.*

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").

Be sure to review your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). Ask students to use their senses (see, touch, smell, hear) while they wait until the entire class is ready to taste the peppers together.

For our tasting today, we're going to taste a rainbow of peppers; we're going to taste 3 [or 2] different colors of bell peppers, one at a time, and compare their flavors.

Give each student pepper strips in two or three different colors. Offer green peppers and then one or two additional colors of pepper (ex: green and red; or green, yellow and red). Taste one at a time and ask students to describe it. Compare the taste of each color of pepper. *Were some colors sweeter than others?* (Red, yellow or orange peppers are sweeter than green peppers because they are fully ripe.) Explain that bell peppers are not spicy like hot peppers (examples of hot peppers include chili peppers, like jalapeños, or peppers in sriracha or Tabasco sauce).

Optional: Rather than serve bell pepper strips, give students a whole or half mini sweet pepper with or without a dip. Have students look around the room at the different colors of mini peppers.

Reflect

5. Voting Activity: 3 *minutes*

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

As students taste the different peppers, 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.

<u>Program Evaluation:</u>

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

6. Reflection: 3 *minutes*

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

Reflect

Reflection Questions:

- *What does it mean to "Eat a Rainbow?"* (eat a variety of fruits and vegetables of different colors)
- *What colors of bell peppers did you see today?* (ex: red, yellow, green, orange, purple)
- *Out of the 3 [or 2] colors we tasted, what was your favorite color of pepper to eat?*
- *Did the three [or two] colors of peppers taste the same? Different? Explain.*
- *What did you like or love about the pepper? What would you change about the pepper tasting?*

Asking Discussion:

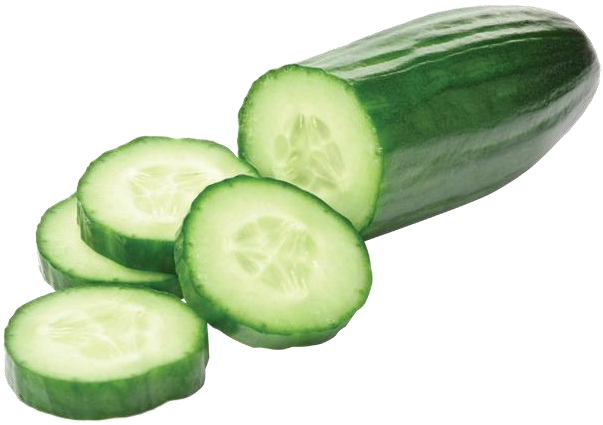
Raise your hand if you're excited to go home and tell your family about tasting peppers.

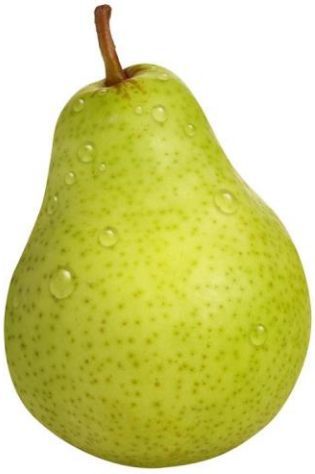
- Ask a student with a raised hand: *if you wanted to try this at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy peppers?*

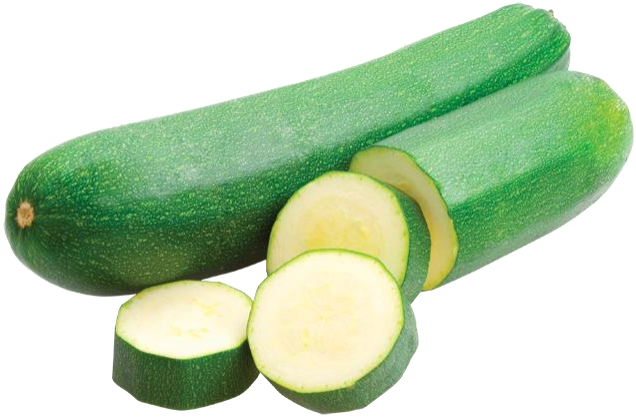
Optional: Class Rainbow

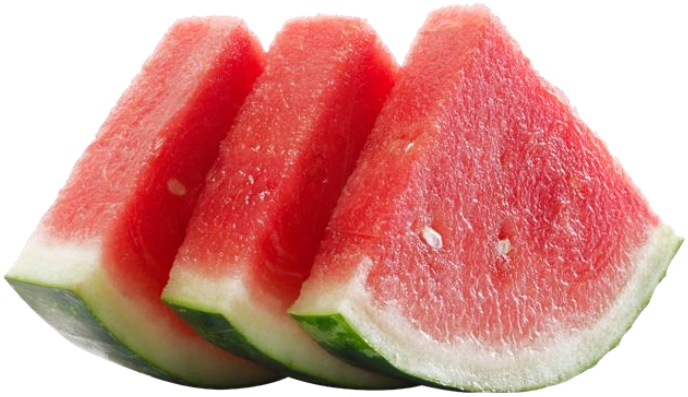
Assess teacher interest prior to the lesson and leave behind a pepper image (included in lesson) for each student to color along with a long piece of string or yarn. The teacher can attach the peppers to the string with tape and display the pepper rainbow in in the classroom.

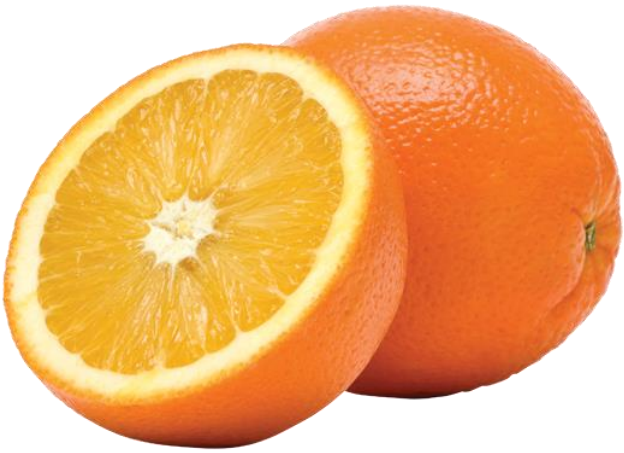
Leave newsletters and stickers with the teachers to pass out.

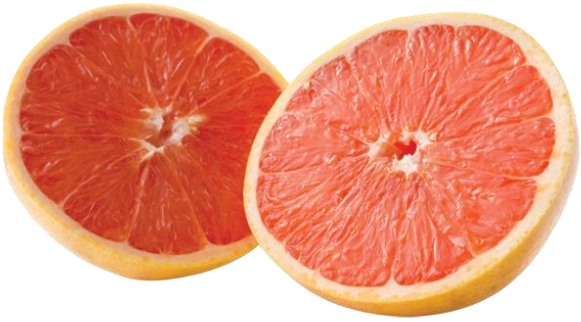


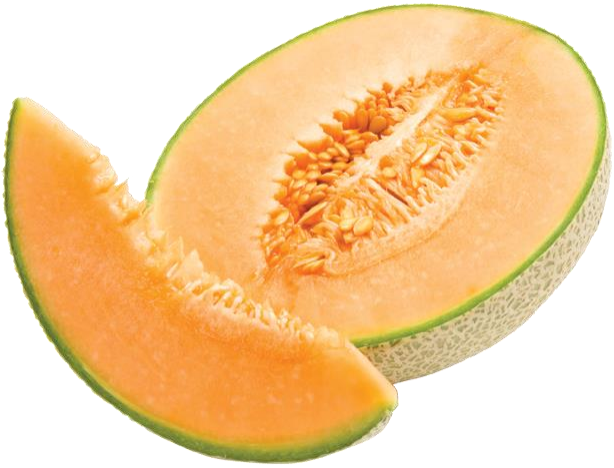




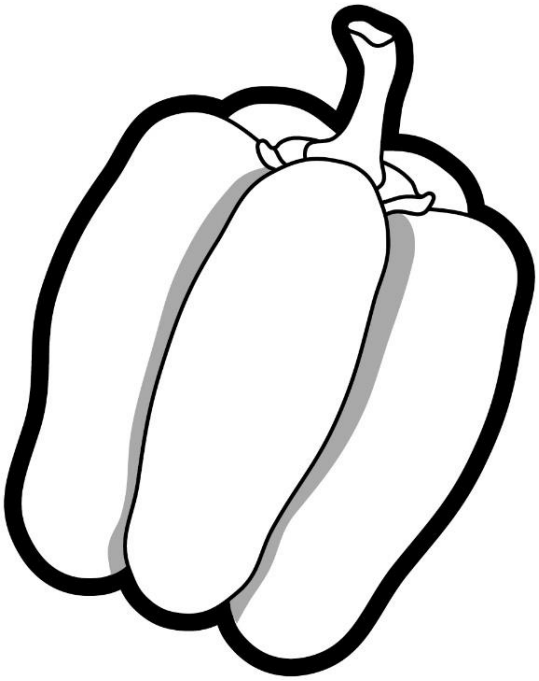


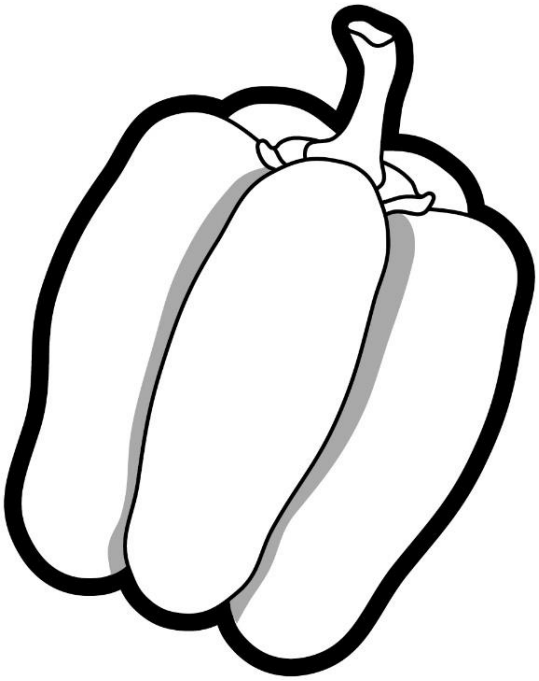


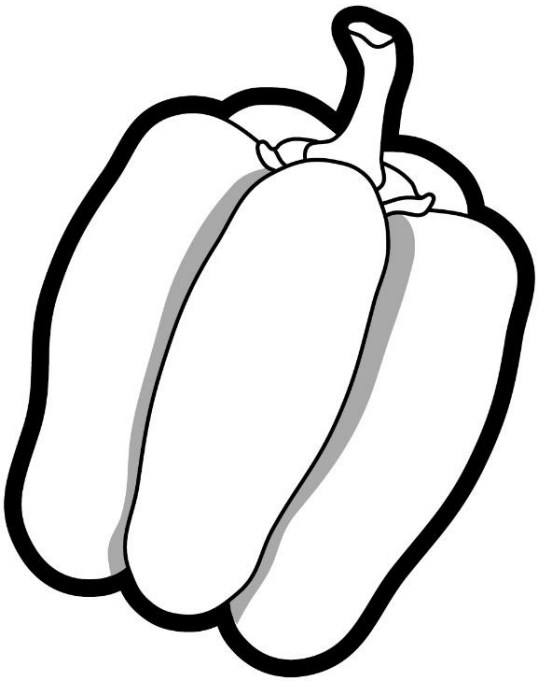


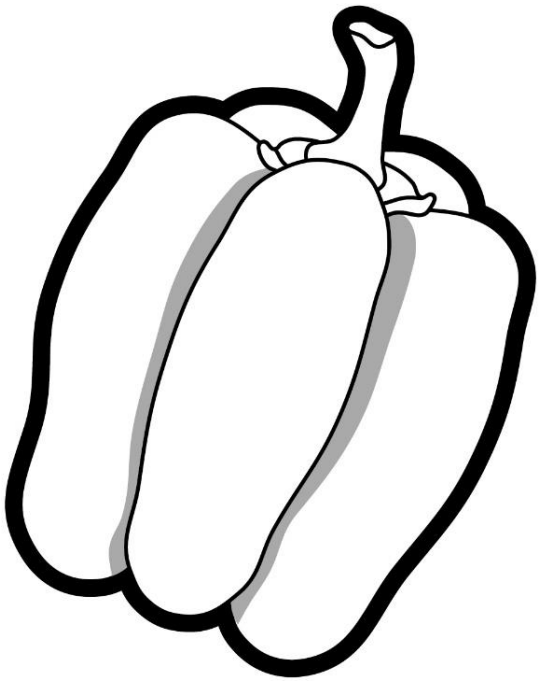


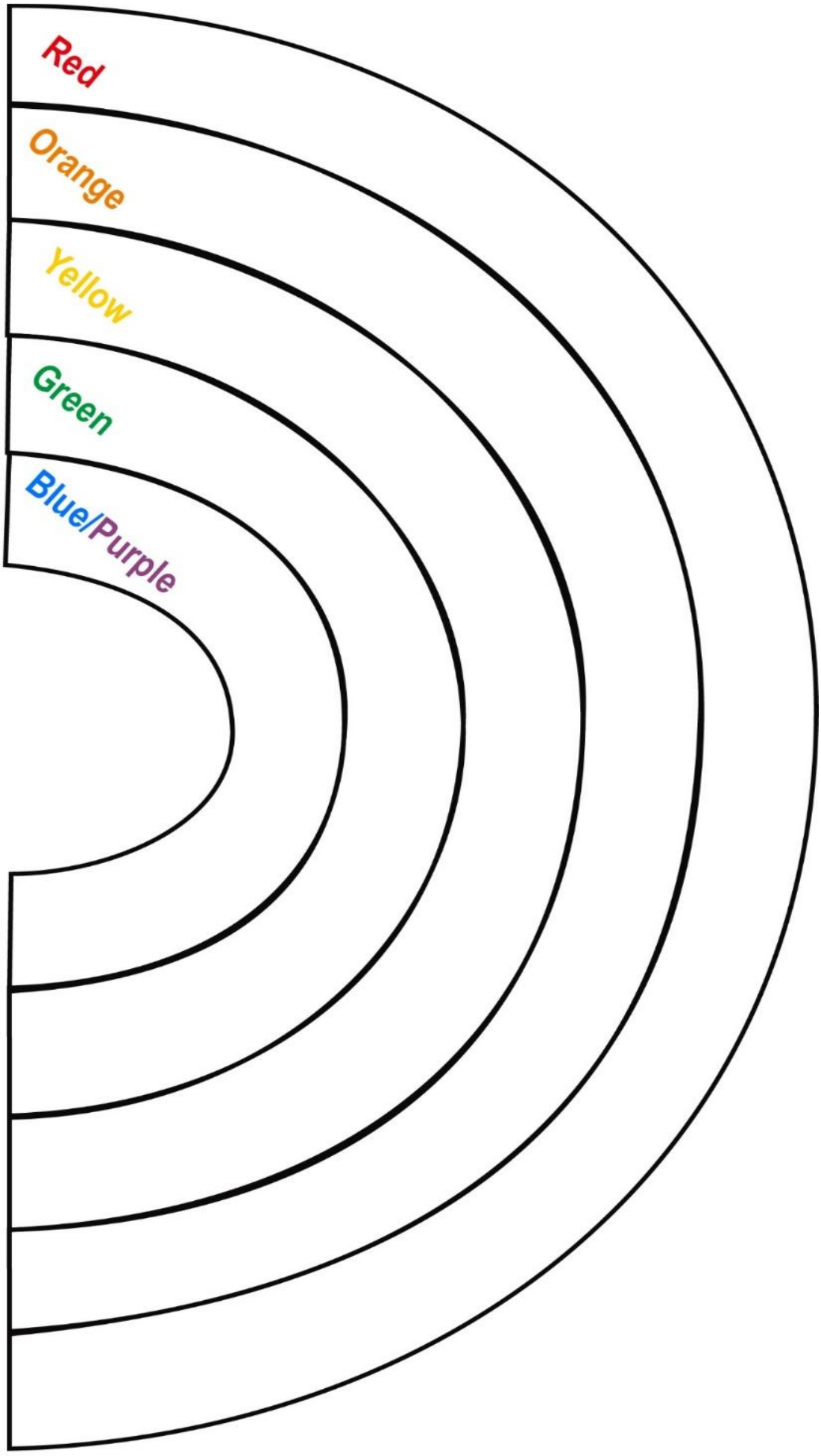
Bell pepper plants with green and red peppers










Red
Orange
Yellow
Green
Blue/Purple

Additional Materials

Physical Activity

- "Chile Pepper Pete" book (act out the sport for each pepper on the back page.)
- More ideas for physical activity are available at https://hhs.iowa.gov/pick-better-snack/materials.

What You Need to Know About Peppers

- Peppers can grow in Iowa.
- The variety and stage of ripeness determine the flavor and color of the pepper.
- As bell peppers age, they become sweeter and milder. Bell peppers are often harvested when they are green. Most but not all green peppers will turn yellow, orange or red over time. A red pepper is a mature green pepper that has fully ripened. Orange and yellow peppers are a different variety of pepper, but they also started out green.
- Select a pepper that has firm skin and is heavy for its size. The stem should be fresh and green.
- Take out the seeds before eating.

Facts About Peppers

- Peppers originated in Central and South America.
- California and Florida grow 80% of the bell peppers in the United States.
- Christopher Columbus discovered peppers in the West Indes and thought they were spices. He brought them back to Europe.
- Peppers have two broad categories: (1) hot or chili peppers, and (2) sweet or bell peppers.

Health Connection

- Peppers are high in Vitamin C, which helps fight off germs and heal cuts and wounds (Reinforce with defense shield by crossing arms).
- Peppers are a good source of Vitamin A. (Reinforce healthy eyes with super goggles).

References and Resources

https://spendsmart.extension.iastate.edu/produce-item/peppers/
https://fruitsandveggies.org/fruits-and-veggies/bell-peppers/
https://snaped.fns.usda.gov/seasonal-produce-guide/bell-peppers
https://www.youtube.com/watch?v=jHZxzQyiezw&list=PLsfcjTQBxPDHUIPCjwyIVkwpwV6iCk7Zy&index=5 – Cutting a bell pepper PABS social video (cutting with a sharp knife like this is for adults only and could be done a with smaller knife; students could cut peppers with a child knife)
https://www.youtube.com/watch?v=_zCQj8nwZGs – PABS promotion video with 3 snack ideas, including mini peppers.

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP. September 2025

IOWA Health and Human Services

Oranges/Clementines

GRADE K-1

Month: March
Time Required: 30 minutes
Alternative Tastings: **Grapefruit, Blood Orange, Lemon/Lime**

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 vitamin C as contained in oranges.
- ❑ Students will be able to describe how oranges grow on trees.

Materials

- ❑ Oranges or clementines
- ❑ Napkins or paper plates
- ❑ Paper towels or moist towelettes (consider giving one to each student to wipe their hands after tasting)
- ❑ Optional: Cutting board and knife (if cutting the oranges during the lesson)

Preparation

- ❑ If serving oranges, wash and pre-cut into 1/8ths (or cut during the lesson if time permits) and store in food storage container or bag. May serve a whole or half clementine if preferred.

Recommended Books

“An Orange in January” by Dianna Hutts Aston
“Nothing Rhymes With Orange" by Adam Rex
"Handa's Surprise" by Eileen Browne
“Oranges (What’s for Lunch)” by Claire Llewellyn
“Orange, Pear, Apple Bear” by Emily Gravett

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: What animals (including humans) need to survive

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

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: What people need to survive (K) and plant parts (1st)

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.

Gather students in a large circle. *Today, we're going to learn about and taste a fruit that helps fight off sickness. But first I want to know, who takes care of you when you are sick? It might be grandparents, aunts/uncles, neighbors, parents, siblings, friends, doctors, nurses. Think of someone in your head, and stand up when I call that person…* One by one, share examples. Ask several students to share examples of *how* they are taken care of by their grownups or community member(s) as they stand and sit. After you have run through the list, ask *"did we miss anyone?"* to see if students have any additions.

Thank you all for sharing. Isn't it nice to know we have friends and family who help take care of us!

Optional: Read a book from the recommended list on the first page of the lesson to introduce students to the food they will be learning about and tasting today.

Explore

3. Experiential Learning: 10 *minutes*

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

Seat students (opportunity for 3 deep breaths or a waterfall, where students take a deep breath, put their arms in the air and bring them down as they sit back down making a swoosh sound).

Just like our friends and family members help take care of us when we're sick, so do fruits like oranges. Oranges contain vitamin C. Note vocabulary word: vitamin C. Define, write out, and repeat "vitamin C." *Vitamins, like vitamin C, help our bodies fight off sickness and keep us feeling healthy.* Cross your forearms out in front and make an "X" for a defense shield and have students copy this motion. *Oranges contain what vitamin?* (choral response: *vitamin C*)

Oranges grow on trees. Think of another fruit that grows on a tree. Say it on the count of three, 1-2-3 (choral response: all students answer). Listen for answers, and affirm, *Yes, fruits like apples, pears, lemons and limes also grow on trees.*

Explore (cont'd)

We're going to watch a short video that shows us all about oranges growing on trees (no audio required). Allow students to quietly observe what they see. Before playing the video, change the playback speed in settings to 2x the speed. Narrate pieces of the video that shows: Oranges growing on trees in Florida (3:59) and make note of the following:

- (0:54) Oranges growing on trees in clusters.
- (1:04) Many orange trees growing together, which is called an orchard.
- (2:00) Oranges attached by the stem to the tree.
- (3:06) An orange is harvested and cut, showing the peel on the outside of the fruit and segments of the orange on the inside.

Optional: show the picture of an orange tree and discuss the main points from the video (oranges grow in clusters, oranges are attached by the stem to the tree, etc.).

Physical Activity

Let's all stand up and practice balancing like a tall orange tree. Lead students through "tree pose," taking deep breaths and balancing on one leg at a time. Grow strong branches up into the air that blow in the wind and get heavy with oranges. Switch legs.

Yogi Says: Play this game just like Simon Says but with Yoga poses.

1. The nutrition educator will be the Yogi.
2. The other students must do the yoga poses that the Yogi tells them to do if the instruction starts with "Yogi says." If the Yogi doesn't use "Yogi says," then players do not do the pose.
3. Play for several rounds and consider starting round 1 at a slow pace and speeding up after each subsequent round.

(source: Marilynn Wei, MD, JD, Harvard Medical School)

Below are some examples of yoga poses to try:

- Frog Pose – Squat with feet wide apart, and place hands on the ground between the knees.
- Star Pose – Stand with feet wide apart and arms stretched out to the sides, forming a big "X" shape
- Chair Pose – Stand with feet together, bend knees as if sitting in an invisible chair, and raise arms overhead
- Crescent Moon Pose – Stand tall, raise arms overhead, and gently bend to one side
- Triangle Pose – Stand with feet wide apart, stretch one arm down to the shin or ankle, and the other arm straight up, forming a triangle shape.
- Forward Bend – Stand tall, with arms overhead then bend forward at the hips, reaching for the toes
- Warrior 1 Pose – Step one foot forward into a lunge, back foot turned slightly out, and arms raised over head
- Windmill Pose – Stand with feet wide, arms out, and twist to touch the opposite hand to foot, then switch sides

Other yoga poses for this activity can be found at https://namastekid.com/tool-type/kids-yoga-poses/

Explore (cont'd)

Transition students back to their desks. This may be a good time to have students wash hands or share hand sanitizer with students on the way to their seats.

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, be a brave taster, be polite, etc.).

Pass out samples of the orange using option 1 or option 2.

Option 1: Cut the orange into 8 sections with the skin on (2 pieces per student) and have the students bite into it and hold it in their mouths to make "orange smiles."

Option 2: Give each student a whole clementine or cut clementines in half horizontally through the center (around its "equator") and show students how to push out the fruit by pressing with their thumbs on the skin at the bottom of the fruit. If giving students a whole clementine, have students break apart the segments after peeling it and count them. With half a clementine cut horizontally, students can count the segments before eating as well. (Educator may need to demonstrate how to peel a clementine for the class. After students receive clementines, have students raise their hand if they need help getting it started.)

As students receive their samples, explain to students that they are going to use the 5 senses to taste the food. *We're going to use our senses to explore the fruit today before we taste it. We're going to take a really long time to eat it because we're going to observe everything we can about the oranges using our 5 senses.* Lead students through 5 senses exploration.

- **See:** Have students carefully examine the orange, the outside and the inside. What details do they see? Are there any seeds? How many segments are there? Can they see where the orange was once attached to the tree?
- **Touch:** Students can close their eyes and feel the orange with their fingers. What does it feel like? How does the peel feel different from the inside?
- **Smell:** Have students bring the orange to their noses and inhale. Ask them to describe the smell.
- **Hear:** Using their fingers, have students break the orange into smaller segments. Everyone should be very quiet to listen for any sounds. If using a halved clementine, students may listen as they press their thumbs on the skin and push the fruit out. If making "orange smiles," students may listen as they try to peel the skin off one of the pieces of fruit.
- **Taste:** Invite students to taste the orange.

Ask the students to share other creative ways to eat on orange (ex: fruit salad, smoothie, squeezed into juice, rolled up in a spinach or lettuce leaf to make an "orange slice taco")

Reflect

5. Voting Activity: 2 *minutes*
This is a time for students to give their opinion on what they tried!

As students taste the orange, 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."

Reflection questions:

- *What did you like or love about the orange?* Select a couple students to share.
- *What are other ways you could eat an orange?* Select a couple students to share.
- Using choral response:
  - *Where do oranges grow?* (on trees)
  - Do you think orange trees can grow in Iowa? (Orange trees grow in tropical weather.)
  - *What vitamin is inside oranges that keeps us healthy?* Cross your forearms out in front and make an "X" for a defense shield. *(vitamin C)*

Asking Discussion:
Raise your hand if you're excited to go home and tell your family about tasting oranges.

- 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 oranges?*

Leave newsletters and stickers with the teachers to pass out.

Orange Tree

Additional Materials

Physical Activity Look at a Map of the U.S. and identify the main citrus producing states: Florida, California, Arizona and Texas. Count how many states away from Iowa each state is and perform that many repetitions of each exercise (e.g., Florida is six states away from Iowa, so do six jumping jacks). Exercise ideas include toe touches, jump in place, march in place, touch opposite knee to elbow and squats. Repeat with different exercises for each state.

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

What You Need to Know About Oranges/Clementines

- Citrus fruits like oranges grow in a topical or subtropical environment. Citrus is an important industry in Florida, California, Arizona and Texas. In the U.S., Florida produces the most oranges and grapefruit. California produces the most lemons and tangerines.
- The complete citrus fruits list is a long one and includes oranges, lemons, limes, mandarins, clementines, tangerines, grapefruits, kumquats, minneola tangelos, pomelos, oroblancos and uglis.
- Unlike many fruits, citrus does not ripen after it has been picked from the tree.
- The United States ranks third in citrus production worldwide.
- Orange trees are the most common fruit tree in the world.
- Navels and Valencia are the most popular oranges in California.
- Clementines are tiny versions of regular oranges. Mandarin oranges are sweeter and are often canned. If they are canned in syrup, they have added sugar.

Facts About Oranges/Clementines

- About 90% of Florida's citrus fruit is produced into orange and grapefruit juice. Most oranges grown in California are sold as whole fruit.
- Orange is the 3rd most popular flavor worldwide after chocolate and vanilla.
- The orange is a cross between a pomelo and a mandarin.
- Orange trees are very fragrant in full bloom because the leaf, flower and fruit all grow at the same time (show photo of orange trees).

Health Connection

- Excellent source of Vitamin C, to heal our wounds and keeps us healthy (reinforce by crossing arms in an "X" for our defense shield)
- Good source of folate which is needed to grow and develop. (Stand up tall to show you are growing and point to your head to show you are getting smart!)
- Good source of fiber, to keep us full longer and help with digestion (reinforce by rubbing stomach)

References and Resources

https://www.floridacitrus.org/
https://snaped.fns.usda.gov/seasonal-produce-guide/oranges
https://fruitsandveggies.org/blog/top-10-ways-to-enjoy-oranges/ – Different ways to try oranges

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IOWA Health and Human Services

Asparagus

GRADE K-1

Month: April
Time Required: 30 minutes
Alternative Tastings: Celery, Rhubarb

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 asparagus as the stem of a plant.
- ❑ Students will be able to compare local fruits and vegetables.

Materials

- ❑ Straw and cup/bottle of water
- ❑ 2 copies of Food Miles Activity Cards (attached: need 1 card per student)
- ❑ Tape, magnets, or items to place cards on board for activity
- ❑ Picture of asparagus plant
- ❑ Asparagus (one stalk per student)
- ❑ Tasting supplies (plates, napkins, ranch, etc.)
- ❑ **Optional:** celery plant in color dyed water

Optional: If cooking asparagus

- ❑ Cleaning supplies
- ❑ Electric skillet, spatula
- ❑ Power strip (with long cord)
- ❑ Olive oil, salt/pepper
- ❑ Tote or way to transport skillet between classrooms

Preparation

- ❑ Prepare tasting by washing asparagus stalks.
  - Portion asparagus by classroom (1 per student); wrap bottom of bundle with wet paper towel and place in food storage bag (one bag per classroom).
  - Add olive oil and salt and pepper to the bag if you plan to cook it.
- ❑ Print 2+ copies of attached Food Miles Activity cards. Cut along solid lines. Recommend laminating them for longer use across classrooms. Have magnets or tape ready to place cards on board for matching activity.
- ❑ Optional: To demonstrate water transport via the stem, place celery stalk or plant in glass of water with red or blue food coloring the day before. Be sure to trim base of stalk to better absorb water.

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-LS1-1 LS1.A: Structure and function

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Stickers
- ❑ Lesson Objectives
- ❑ Science Connection: Relationships of plant needs and the places they live (K) & plant parts (1st)

Recommended Books

"Up, Down, and Around" by Katherine Ayres

"Gus the Asparagus" by Ann-Marie Finn

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.

It is optional to cook the asparagus but if you plan to sauté it, you may want to preheat your electric skillet and alert students of the hot skillet. Preheat to medium, depending on the skillet.

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.

Gather students in a large circle. *In our town of (*community name*), there are lots of places nearby that we visit by car, by bus, by bike or by walking.* Educator can share a personal example of a place they like to visit and how they get there.

Think-Pair-Share: *What are some places you like to visit in your neighborhood or town? Do you go to your local library, park, gas station, school, splash pad, etc.?*

- *Think to yourself quietly.* Have students turn to a partner and share a favorite local place.
- After a couple minutes, bring the class back together and select students to share out. The educator can get students' attention with a special word (perhaps "asparagus" or a clap back). If you use "pick-a-stick," this is a good way to randomly select students to share.
- Ask students how they get to their favorite places as they share aloud.

Thank students for sharing and introduce a new vocabulary word: **local**. Write "local" on the board and repeat together. *All of your favorite places are called "local" because they're close to where you live. For example, the park near to your house would be called your "local park."* Cite places that students mentioned and explain how they are local.

*We can also eat **local food**, meaning food that grows in gardens or farms close to where we live. Can you think of any foods that are grown locally?* Call on a couple students to share ideas.

Optional: Read "Up, Down, and Around" by Katherine Ayres, which talks about growing vegetables in the garden, or another recommended book.

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.

Our tasting today is a vegetable called asparagus. Asparagus can be ***local****, because it can grow here in Iowa. Iowa's soil, water, temperatures and sunlight are just right for asparagus to grow, and it is often harvested in the spring.* Show a picture of an asparagus plant included in the lesson. Then play the video that talks about the different parts of the plant: roots, stems, and leaves. https://www.youtube.com/watch?v=cEX3x4-dQJI (2:28) Ask the class what part of the plant Asparagus is. *Asparagus is a stem that moves nutrients from the roots throughout the rest of the plant.*

Compare asparagus to a straw. *When you use a straw, your drink moves from the glass up through the bottom hole of straw to the top opening of the straw to your mouth, just like how a stem moves water from the roots up to the top of the plant to the leaves or flowers.* Demonstrate this by placing a straw in a glass or bottle of water and taking a drink to show water moves up to your mouth. Another option could be to ask for a student volunteer to demonstrate.

Optional: Another way to demonstrate water and nutrient transport via the stem is to place a celery plant, another stem vegetable, in a glass of water with colored dye. (Example images at end of lesson.)

1. Slice a thin layer off bottom of celery stalk. (This allows water to better move through stem.)
2. Place celery plant or stalk into a glass of water that has red or blue food coloring. (Gel food coloring is recommended as it is more concentrated and will make the dyed water more distinguishable.)
3. Set it out 24 hours in advance to allow time for the dyed water to move through the plant, slightly changing the color of the stem and leaves at top of plant.

Show the students the celery stalk and compare to one that was not placed in dyed water. If you cut a small portion off the top of one of the stalks, colored droplets should appear showing how the water moved up through the stem, via the capillaries (or xylem).

If serving raw asparagus, you can explain to the students they will get to look at an asparagus soon during the tasting.

If you are cooking the asparagus, show the bag of prepared asparagus stems and explain how you'll be cooking them. Before you add the asparagus to the preheated electric skillet, ask students to listen very carefully for the "sizzle" noises. Add the asparagus to the skillet. Leave uncovered. Stir occasionally. Cook for 8 minutes or until tender.

Explore (cont'd)

Food Miles Activity: While the asparagus is cooking, gather students in a large circle for a food matching game.

- Pass out food cards to all students, one card per student. (Be sure to pass out cards based on # of students so there are two of each card distributed. If there is an odd number, then you or the classroom teacher could be the other match.)
- Draw on the board two columns labeled "Local" and "Not Local."
- Ask the students to find the student with the fruit or vegetable that matches theirs. Once they find their match, students should talk to their partner to determine if their food item is grown here in Iowa (local) or if it grows far away (not local). Go around to each group and ask them if it's local or not local, take their card and place in correct column on the board using tape or magnets to attach to the surface.
- If desired, turn this matching activity into the physical activity part of the lesson as well. Have students hop around the room to find their match. When you ask each group if their food is local or not, have the whole class do 5 jumping jacks if it's local, and 5 squats if it's not local. Write or include an image to show which exercise goes with local and not local.

Physical Activity

If the Food Miles Activity did not include physical activity or if you have time to do both, lead students through the parts of a plant version of "Head, Shoulders, Knees, and Toes."

Flower, stem, leaves and roots. Leaves and roots.
Flower, stem, leaves and roots. Leaves and roots.
All it takes is sun, soil and water!
Flower, stem, leaves and roots. Leaves and roots

Teach them actions (listed below) to go with each word and go through the song 3-4 times; consider advancing to a quicker speed each time.

Actions for song (you are welcome to adapt the actions to what you find most fitting)
Flower = wiggle head back and forth
Stem = stand straight up with arms by side
Leaves = jazz hands
Roots = touch your toes
Sun = point to sky
Soil = point to ground
Water = wiggle fingers as your hands waterfall from above head to waist to represent rain

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 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 asparagus.

Choose to offer asparagus raw or cooked.

- Raw tasting: With a raw spear, invite the students to snap off the bottom of the asparagus spear and encourage them to look closely at the bottom so they can see the little holes that carry water and nutrients to the plant. (This is a great way to use their sense of sight and hearing.)
    - Have students try both the tip of asparagus (the crown) and the spear (the stalk), OR if you are offering it with a dipping sauce, they can pretend their asparagus is a paintbrush and dip the tip into the sauce like they were going to paint with it. You can ask them what differences they notice from tasting the tip versus the spear.
- Cooked tasting: Place cooked asparagus on a plate or napkin and distribute to each student. If they were prepared as cut sections, try to offer each student a piece that has the tip of the asparagus to compare flavors and textures of different parts of the asparagus plant.

Reflect

5. Voting Activity: *2 minutes*

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

As students taste the asparagus, 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.

<u>Program Evaluation:</u>

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."

Reflection questions:

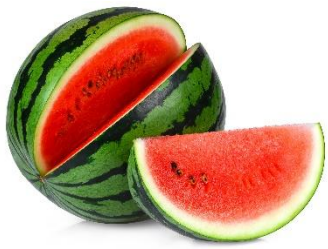
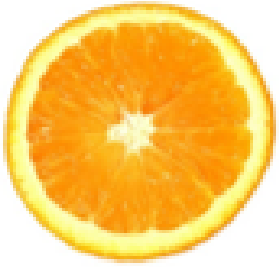
- *What is something you remember about asparagus?*
- *Name a fruit or vegetable that is local to us because it grows in Iowa.* (From the Food Miles Activity: asparagus, broccoli, watermelon, apple, carrot, cabbage, beet, green bean. Students may respond with other local produce as well.)
- *Name a fruit or vegetable that is not local to us because it cannot grow in Iowa.* (From the Food Miles Activity: lemon, oranges, pineapple, banana. Students may respond with other local produce as well.)
- *Asparagus is what part of a plant?* (stem)
- *How does the stem help the plant?* (it moves water and nutrients from the soil up from the roots to the leaves and holds the plant in the ground)

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

- 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 asparagus?*

Leave newsletters and stickers with the teachers to pass out.

Food Miles Activity Cards: Cut along the solid lines to make 12 cards. Consider laminating them to better withstand repeated use.

Asparagus 	**Broccoli** 	**Banana** 	**Watermelon** 
Apple 	**Carrot** 	**Orange** 	**Lemon** 
Cabbage 	**Beet** 	**Pineapple** 	**Green Bean** 

Key

Local to Iowa: Asparagus, Broccoli, Watermelon, Apple, Carrot, Cabbage, Beet, Green Bean

Not Local: Banana (Costa Rica), Orange (Florida), Lemon (Arizona), Pineapple (Hawaii)

Asparagus plant

Celery stalk placed in cup of water with blue dye. Note the top of stalk on left is turning blue and some of the leaves are blue at the tips.

This image shows what it may look like if you cut one of the celery stalks off towards top of stem. The blue dyed water appears in the capillaries or tiny tubes that span the length of stem, known as xylem.

Additional Materials

Physical Activity

"Exercise Your Name" (page 12) in "Brain Breaks" (consider spelling "local" or "asparagus")
More ideas for physical activity are available at https://hhs.iowa.gov/pick-better-snack/materials.

What You Need to Know About Asparagus

- Asparagus grows in Iowa in the spring.
- Asparagus is a perennial plant (meaning it grows back year after year), a member of the lily family.
- It is a perennial plant that can grow for 15 years and can be harvested after three years.
- After two to three months of harvesting, the plant looks like a fern and then goes to a dormant stage.
- Choose firm stalks with tight tops ("tips" or "crowns"), avoiding wilted stalks.
- Thinner stalks tend to be tender and sweeter compared to thicker stalks.
- Break or cut off the woody bottom end of the stalk and eat the rest as it is more tender. The stalk will usually snap at the natural break between the woody end and the rest of the stalk.

Facts About Asparagus

- Asparagus is believed to have originated in Greece 2,500 years ago.
- The name asparagus is from a Greek word meaning short or sprout.
- A spear can grow 10 inches in 24 hours (demonstrate with a ruler).
- There are green, white and purple varieties. The green variety is the most popular.
- In Iowa, it is common to find asparagus growing in roadside ditches which can be a local treasure when found.

Health Connection

- Good source of Vitamin C, to keep students healthy and to heal cuts and scrapes (cross arms to reinforce the super defense shield)
- Good source of Vitamin A, to help our eyes, especially our night vision (reinforce with super goggles on the eyes)
- Great source of Fiber, to help you with digestion and to feel full longer. (Reinforce by rubbing stomach)

References and Resources

https://spendsmart.extension.iastate.edu/produce-item/asparagus/
https://snaped.fns.usda.gov/seasonal-produce-guide/asparagus
https://www.chooseiowa.com/asparagus
https://www.youtube.com/watch?v=cEX3x4-dQJI - Parts of a Plant: Roots, Stems, Leaves (2:28)
https://www.youtube.com/watch?v=MJz2ZLm852s - Asparagus, How Does it Grow video (8:25)
https://www.youtube.com/watch?v=YNjSPkKYG6k - Time Lapse Video of Asparagus growing (0:31)

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IOWA Health and Human Services

Strawberry

GRADE K-1

Month: May
Time Required: 30 minutes
Alternative Tastings: Blueberry, Raspberry, Blackberry

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 describe a change in a strawberry as it ripens.
- ❑ Students will be able to identify seeds on the outside of strawberries.

Materials

- ❑ Image of labeled PABS tastings (attached)

Tasting option 1:

- ❑ Fresh strawberries, 1 per student

Tasting option 2: Strawberry Graham Slam

- ❑ Graham cracker squares
- ❑ Yogurt
- ❑ Strawberry slices
- ❑ Napkins
- ❑ Spoon to scoop and spread yogurt on cracker

Preparation

- ❑ Wash the strawberries before the lesson
- ❑ If serving Graham Slam, cut strawberries into slices and store in a food storage container.
- ❑ Print the images of PABS fruits and vegetables included in the lesson or place the images on a slide to project in class.

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
- ❑ Lesson Objectives
- ❑ Science Connection: Observing plant patterns (K) & plant parts (1st)

Recommended Books

"The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear" by Don Wood
"From Seed to Plant" by Gail Gibbons
"Spring is for Strawberries" by Katherine Pryor

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: *8 minutes*

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

This year in Pick a Better Snack, we've learned about and tasted many fruits and vegetables. You've been brave tasters and practiced trying foods, like…(Using the images included in the lesson on the classroom projector or show the paper of printed images, review the names of all 7-8 PABS tastings so far as a class.)

Physical Activity: *Let's do an activity to see how our taste buds have grown and changed this year. I'm going to say a sentence and when you agree, you will show us by doing a double thumbs-up jump* (students will jump up with both thumbs up), *then freeze* (if you don't want to have students jump, use any physical activity of choice). *If you do not agree, do not jump. For example, jump if you agree: I am your class's Pick a Better Snack teacher* (students jump). *Great! Ok, jump if you agree…*

- *I tasted different fruits and vegetables this year.*
- *I liked a fruit or vegetable that I didn't like before.*
- *I learned something new about how fruits and vegetables grow.*
- *I had fun exploring and tasting fruits and vegetables with my friends.*
- *I enjoyed using my 5 senses to explore fruits and vegetables.*
- *I tried a fruit or vegetable this year that was green.* (you can use other colors you tried)
- *My favorite vegetables were…*(point to and read names of vegetables off classroom projector or hold up a picture to show an example). Note, you can encourage them if they have multiple favorites or liked the ones named, they can do the physical activity too.
  - *Jicama*
  - *Broccoli/Cauliflower*
  - *Peppers*
  - *Asparagus*
- *My favorite fruits were…*(point to and read names of vegetables off classroom projector or hold up a picture to show an example)
  - *Cantaloupe*
  - *Cranberries*
  - *Mango*
  - *Oranges/Clementines*
- *I am a brave taster*

Thank you for sharing! You and your taste buds have grown and changed this year in (kindergarten or first grade). Today, for our last Pick a Better Snack Lesson, we are going to taste a fruit that grows and changes before we eat it.

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.

Seat students (opportunity for 3 deep breaths or a waterfall where students take a deep breath, put their arms in the air and bring them down as they sit back down making a swoosh sound).

Read "The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear" by Don Wood, or choose another book from the recommended list. Discuss the book afterwards by asking students a few questions, such as: *Why did the mouse want to eat the strawberry?* (It looked so good and sweet). Transition with, *Yes, the strawberry looked so good and sweet because it was* ***ripe***. (if you chose to read a different book, think of a few questions to ask the students that will allow you to introduce the word "ripe.")

Repeat, write and define the new vocabulary word: **ripe**. *When food is ripe, it means that it is fully grown and ready to eat. We can use our senses to observe food becoming ripe—it changes color, it feels softer, and it tastes and smells sweeter. When food is growing and changing, it is* ***ripening.***

For our tasting today, we're going to try a fruit called a strawberry. Let's watch a video of a strawberry growing. Show the Time Lapse Strawberry Ripening video (0:15). Pause the video to point out parts of the strawberry plant. *How did the strawberry change in the video? Did it get bigger or smaller? How did the color of the strawberry change? Do you see the seeds on the outside of the strawberry? Are they big or small?* Watch again, narrating as the strawberries ripen. Explain that fruits often change colors to show us when they are ready to eat. Option: ask students to give a thumbs-up when students think the strawberry is ripe and ready to eat in the video.

4. Tasting Activity: *6 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 one of the following ways to taste strawberries.

Option 1: Give students a fresh strawberry. Explain to students, *we're going to use our 5 senses to observe the fruit today before we taste it.* Lead students through 5 senses observation.

- **Touch:** Students can close their eyes and feel the strawberry with their fingers. *What does it feel like? Bumpy, smooth, hard or soft? How does the bottom feel different from the top?*
- **See:** Have students carefully examine the strawberry, looking very closely at the outside and the inside. Can they see where the strawberry was once attached to the plant? What details do they see?
    - Observe the seeds! *Strawberry seeds grow on the outside of the fruit. Most other fruits grow their seeds on the inside. Can you count how many seeds are on the outside of the strawberry?*

Explore

- **Smell:** Have students bring the strawberry to their noses and inhale. Ask them to describe the smell.
- **Taste/Hear:** Everyone should be very quiet to listen for any sounds. Students are invited to taste the strawberry. Demonstrate how students can hold the green top of the strawberry like a handle and prepare to take a bite!

Option 2: Strawberry Graham Slam.* Spread yogurt on a graham cracker square and top with strawberry slices. Prepare the tasting for each student by putting a spoonful of yogurt on the cracker and spread briefly with the back of the spoon. Place a few slices of strawberries on top. Ask the classroom teacher or associates in the room to assist. Select a couple of students to assist if needed. Have helpers preparing the food use hand sanitizer and wear gloves. Another idea is to show a read-aloud video of the selected book, such as this video, and prepare the tasting during the video.

*With multiple ingredients for this option, make sure to check all allergens and not just students with a strawberry allergy.

With either option, you can also show students the Pick a Better Snack Graham Slam video: https://www.youtube.com/watch?v=LfShWWVfqQo (0:15). Encourage students to make the snack at home with a grown-up. Or, if you haven't shown the Pick a Better Snack video with the three snacks (mango salsa, mini sweet peppers and dip, and strawberry graham slam), you could show it now and point out the fruits and vegetables tasted in Pick a Better Snack this year. https://www.youtube.com/watch?v=_zCQj8nwZGs (0:30)

Reflect

5. Voting Activity: *2 minutes*

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

As students taste the strawberry, 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, "strawberry," you can say your answer aloud. Let's practice…

- *What month is it?* (May)
- *What fruit did we try today?* (Strawberries)
- *What does it mean when I say, "The strawberry is ripe"?* (it's ready to eat, it's done growing)
- *How does a strawberry change as it ripens* (turns red inside and out, smells sweeter, tastes sweeter, softens)
- *Do strawberries grow seeds on the inside or the outside?* (Outside)
- *If you were to pick a strawberry from a strawberry plant, do you reach up high or bend down low?* (down low, strawberries grow on small plants low to the ground)

Asking Discussion:

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

- 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 strawberries?*
- *Has anyone ever gone to a strawberry patch to pick their own strawberries?*

Leave newsletters and stickers with the teachers to pass out.

Pick A Better Snack Vegetables

JICAMA

BROCCOLI/ CAULIFLOWER

PEPPERS

ASPARAGUS

Pick A Better Snack Fruits

CRANBERRIES

MANGO

CANTALOUPE

ORANGE/ CLEMENTINE

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 Strawberries

- Strawberries are a fruit; often the first fruit to ripen in the spring.
- Once picked, strawberries don't continue to ripen.
- Strawberries grow in Iowa and are in-season in June.
- Strawberries are a small, low growing perennial (meaning it comes back each year) with "runners" that take root to make new plants.
- After the strawberry plant flowers, bees pollinate the flower to make the fruit. It usually takes 30 days for the flower to develop the fruit, which starts white, then turns red.
- ½ cup of sliced strawberries = 4 large strawberries

Facts About Strawberries and Other Berries

- The seeds - about 200 - are on the outside of the strawberry.
- Strawberry is the most popular berry in the United States.
- The green top on the strawberry is called the "cap" or "hull."
- California grows 83% of the strawberries in the United States.
- The strawberry and raspberry plants are members of the rose family.
- Blueberries are known as a superfood for all the antioxidants and nutrients found in them
- Blackberries start red before they ripen to their usual color.

Health Connection

- High in Vitamin C, to fight off germs and heal cuts and wounds (reinforce with defense shield by crossing arms)
- Good source of fiber, to help you with digestion and to help you feel full longer. (Reinforce by rubbing stomach)

References and Resources

https://spendsmart.extension.iastate.edu/produce-item/berries-strawberries-blueberries-raspberries/
https://snaped.fns.usda.gov/seasonal-produce-guide/strawberries
http://www.californiastrawberries.com/health_and_nutrition/whats_in_a_strawberry

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