Cantaloupe

GRADE 2-3

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 define and give examples of traditions.
- ❑ Students will be able to identify see identify seeds within melons.

Materials

- ❑ Whole cantaloupe (and another melon if offering two kinds for a taste test)
- ❑ Knife
- ❑ Cutting board
- ❑ Napkins or paper plates
- ❑ Bowl for rinsing seeds
- ❑ An airtight container (such as a glass jar and lid or a food storage bag)

Preparation

- ❑ Wash the outside of the whole melon(s) under cool running water. Scrub with vegetable brush.

Recommended Books

“The Cantaloupe Cat” by Jan Yager
“The Antelope Who Loved Cantaloupe” by Celeste Marie Halata
“The Antelope Who Ate Cantaloupe Instead of French Fries and Hay” by Julie Crichton

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Second grade - 2-LS2-2. Structure and function

Third grade - 3-LS1-1 LS1.B. Growth and development

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Seeds

Engage

1. Introduction: *2 minutes*

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

As this is your first lesson of the year, introduce yourself to the class and to Pick A Better Snack. Share with students, *When I come to your classroom every month, we're going to have fun trying foods together and learn about each other. So here's something I want to learn about you… (have students stand up in 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.

With students standing in a circle, *Today we're going to start by talking about things that our families like to do together. For example, in my family we INSERT A FAMILY TRADITION. Now, think in your head, what is something special that your family likes to do together?* Encourage students to put their fingers to their temples and squint their eyes to think really hard.

Do you have it? Now, when I say the magic word "melon," I want you to turn to a friend next to you and take turns quietly sharing. "Melon." Observe students sharing, making sure all students have a partner. After a minute or two of sharing, do an attention-getter to end discussion and transition back to you. Ask a couple of students ("pick a stick" is a great way to ask at random) to step into the circle and share. Celebrate them with a "beautiful clap" (link to clap examples here). To turn this into a physical activity, have students practice the "beautiful clap" by being extra dramatic, squatting close to the ground, and then slowly rising as we do our clap. Repeat a few times.

Students return to their desks. *These special things we like to do together are examples of traditions* (recall examples from students' sharing). *Let's all say that word together: tradition* (write the word on smart board/white board). *A tradition is something that we learn from our family/community. Traditions often happen year after year and are one way in which we celebrate and share our family or community values and activities.*

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 where they will eat (opportunity for 3 deep breaths).

Show students a whole cantaloupe. *Today, we're going to taste this fruit called cantaloupe. When I say our magic word, I want you to say what you think is inside the cantaloupe. "Melon"* (activate students' prior knowledge to answer, "seeds"). *There are seeds inside the cantaloupe.* Demonstrate cutting open the melon and show students the seeds and the edible inside. *We're going to eat this part of the melon, but we're not going to eat the seeds. Instead we're going to practice a tradition called seed saving together.* Write "seed saving" on the board and have students repeat it back to you. *People all around the world, throughout all of history, have practiced seed saving as a tradition. We can dry and save these cantaloupe seeds in order to plant and grow more cantaloupe next year!*

Explore (cont'd)

Work with the teacher to prepare samples of cantaloupe, with some seeds included. *While we prepare our cantaloupe samples, please discuss softly with your table/neighbor: why do you think seed saving is an important tradition?* Pass out pieces of melon (with seeds) to all students, reminding them not to taste it yet. Ask a few groups to share their discussion, and answer any questions. *Seed saving is an important tradition because it means we can re-grow our favorite foods every year. If you see any seeds in your sample, save them on your napkin and we'll collect them at the end of our lesson. We're going to save these seeds!*

Seed Saving Experiment Instructions
Note: Complete this process as a class or leave instructions with the teacher to facilitate.

1. Collect the saved seeds from students.
2. Rinse with water and spread onto wax paper to dry for a few days.
3. Store dry seeds in a labeled jar or baggie in the classroom.
4. Extension: Consider trying to sprout the seeds indoors in the classroom later this year.

4. Tasting Activity: *3 minutes*
The "Tasting Activity" section is when students get to try the fruit or vegetable.

Before trying your samples, be sure to share your brave tasting rules (for example, don't yuck my yum, we all try together, etc.). As students receive samples, ask them to use their senses while they wait.

Melon Taste Test Option:

1. Offer classrooms 2 types of melon to sample (ex: cantaloupe, honeydew, watermelon).
2. Use all 5 senses to compare and contrast the melons.
3. Discuss flavors, textures, colors, seed shapes, etc, as a class.

Reflect

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

Introduce the tradition of voting with your thumb. *In these Pick a Better Snack Lessons, we have some traditions of our own. To show what we think of the foods we're trying, we vote with our thumbs.* 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.

Reflect (cont'd)

6. Reflection: *5 minutes*

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

Choral Response:

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

- *What month is it?* (September)
- *Whose class am I in?*
- *What food did we try today?* (Cantaloupe)
- *What can we save that's inside the cantaloupe?* (Seeds)
- *If we plant those seeds, what could we grow and harvest next summer?* (Cantaloupe)
- *What's the word for something important that we do over and over again?* (Tradition)
- You might also ask additional questions like, *where could you buy cantaloupe?*

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?*

*Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

Additional Materials

Physical Activity

Sports Galore from "Get Movin' Activity Breaks" (Variation: Have students call out sports or activities they did over the summer and mimic them.)

More ideas for physical activity are available at https://idph.iowa.gov/inn/play-your-way/brain-breaks.

What You Need to Know About Cantaloupe and Melons

- Look for a melon that is heavy for its size without cuts or bruises on the surface. The stem should give to gentle pressure.
- 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.

Facts About Cantaloupe

- Melons grow on the surface of the ground on a trailing vine. They grow in Iowa.
- Flowers on a melon vine need to be pollinated (visited) by bees to make melons.
- Cantaloupes are also known as muskmelons and rockmelons.
- 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 ward off 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 highest among fruits), which is important for your eyesight. Put on your super goggles (use your fingers to make googles over your eyes).
- Cantaloupe is high in fiber, which is good for digestion and helps you feel full longer (rub your tummy for good digestion).
- Honeydew and watermelon are also good sources of Vitamin C.

References and Resources

http://www.fns.usda.gov/sites/default/files/growit_book5.pdf
https://fruitsandveggies.org/fruits-and-veggies/cantaloupe/
https://www.watermelon.org/
http://www.extension.iastate.edu/foodsavings/content/produce-basics
https://snaped.fns.usda.gov/seasonal-produce-guide/cantaloupe

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Jicama

GRADE 2-3

Month: October
Time Required: 30 minutes
Alternative Tastings: White Potato, Sweet Potato, 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 compare the needs of plants and humans.
- ❑ Students will be able to explain the function of roots.

Materials

- ❑ An image of a plant and an image of a person, printed and labeled
- ❑ "Plant and People Needs" cards
- ❑ Venn diagram worksheet
- ❑ Napkins or paper plates
- ❑ Jicama, cut-up and prepared to serve
- ❑ Tajín seasoning (optional)

Preparation

- ❑ Printed worksheets (below); cut the attached page of "Plant and People Needs" cards, enough to give one per student or enough for students to use with partners.
- ❑ Prepare jicama samples: peel and slice jicama into chips or sticks.
  - Option: Offer raw jicama and a limey-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
Second grade - 2-LS2-1
LS2.A: Plants depend on water and light to grow

Third grade - 3-LS4-3
LS4.C: Some organisms survive well, some survive less well, and some cannot survive at all.

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Roots

Recommended Books

"Tops & Bottoms" (Caldecott Honor Book) by Janet Stevens
"Stone Soup" by Ann Mcgovern

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.

Show students two large printed and labeled images of a plant and a person. Place the pictures across the classroom: the plant toward the front of the room and the person at the back of the room, for example.

2. Engage Activity: *10 minutes*

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

With students seated at their desks or carpet, pass out prepared cards that have plant and people needs listed on them; one per student or one per pair of students. *I want you to read the word on your card, think quietly to yourself and decide, is the word on your card something that a plant needs or something that a person needs? Think in your head and when I say "go," you will quietly walk to the picture that matches what you're thinking and stay there.* Give students 5-10 seconds to think; say *"go."*

Tell students, *Now we have two groups: a group that represents plants and a group that represents people. Have both groups crouch down low to the ground. I'm going to read the words that were on our cards. If I say something that a plant needs, the plant group will jump up and crouch back down. If I say something that people need, the people group will jump up and crouch back down.* Demonstrate the jump-up and share an example. Read the list of words aloud, observing and verbalizing which group jumped, or if students from both groups jumped.

- **Words on cards:** Water, House/apartment, Air, Pants, Soil, Spaghetti, Shoes, Sunlight, Love and care, Tacos

Explain, *plants and people need certain things to grow. Some of these things are very different and some of these things are the same. For example, plants need soil to grow in, but people don't. People can eat tacos or spaghetti to grow, but plants don't. Plants AND people both need water to grow.*

Add the card of the person and the plant to the middle of the room. Tell students, *I'm adding a space to the middle of the room. This is a place to stand if you think your card is something that both plants AND people need. When I say "go," you will talk with your group and decide if anyone should move to this spot. "Go."* Have students in the middle of the room read their cards aloud. *Excellent, this is a great list of things that both plants AND people need to grow!*

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. *A root is a plant part that grows underground. Just like we drink water when we're thirsty, the roots drink water when the plant is thirsty; the root is like a straw.* Show a picture of jicama growing underground. *The roots grow deep into the soil and take in water for the plant.* (Have students stand very still pretending to be roots).

Note how the jicama has smaller roots growing off the main root. *We're going to watch a short video that shows us how a root vegetable grows many roots before it comes out of the ground.*

Pass out and explain the Venn diagram worksheet (list plant needs on left side, people needs on right, other needs for both in the middle where the circles overlap). Watch the video together, and narrate for clarification. After viewing, give students a minute to list plant needs - soil, water, sunlight, air (Option to write a large Venn diagram on the board to complete with students). Watch again, giving students a second opportunity to complete their lists.

Potato root video: https://www.youtube.com/watch?v=YbTFCh_XdYI (1 minute video - can speed up the video under "settings", then click "Playback Speed")

With teacher or student helpers, pass out jicama samples to all students.

4. Tasting Activity: *2 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 while they wait until the entire class is ready to taste the jicama together.

Reflect

5. Voting Activity: *2 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. 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.

6. Reflection: *6 minutes*
Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

Reflect (cont'd)

Complete the rest of the Venn diagram worksheet. *As you finish your jicama, let's fill in the rest of our Venn diagram. List at least 3 things you need under "people need," then 3 things under "plants and people need."*

Asking Discussion:

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

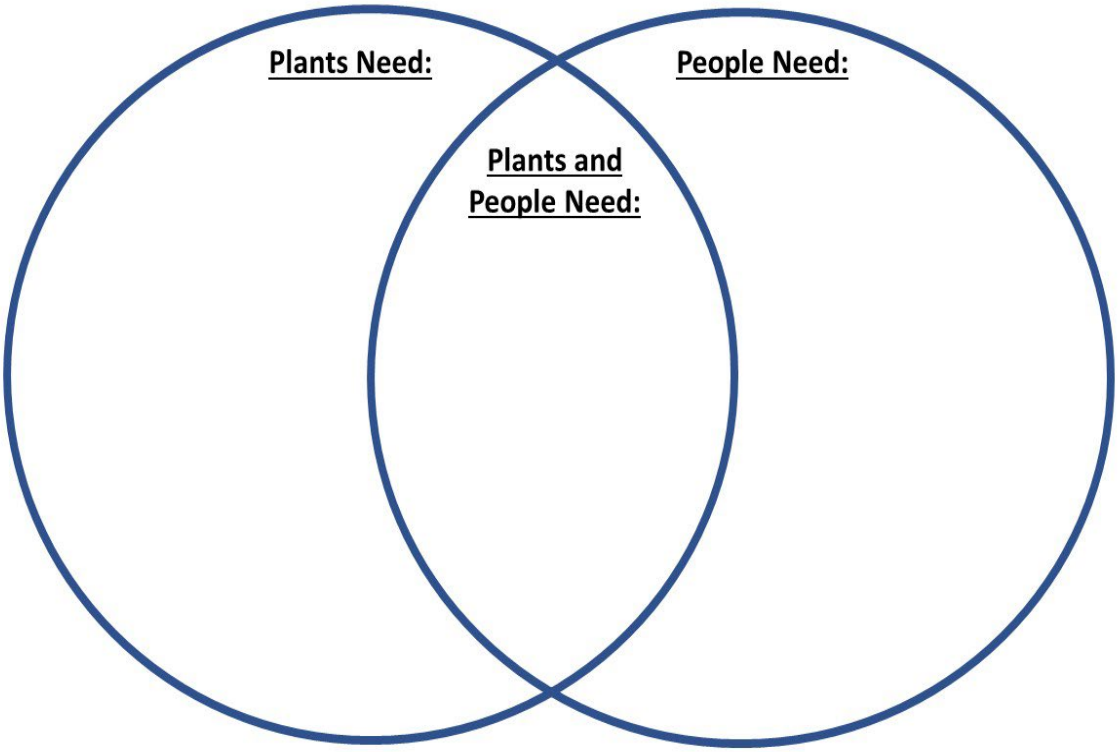
- Ask a student with a raised hand: *if you wanted to try this at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy jicama?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

PLANTS

PEOPLE

House or Apartment	Shoes
Air	Sunlight
Pants	Love and care
Soil	Water
Spaghetti	Tacos



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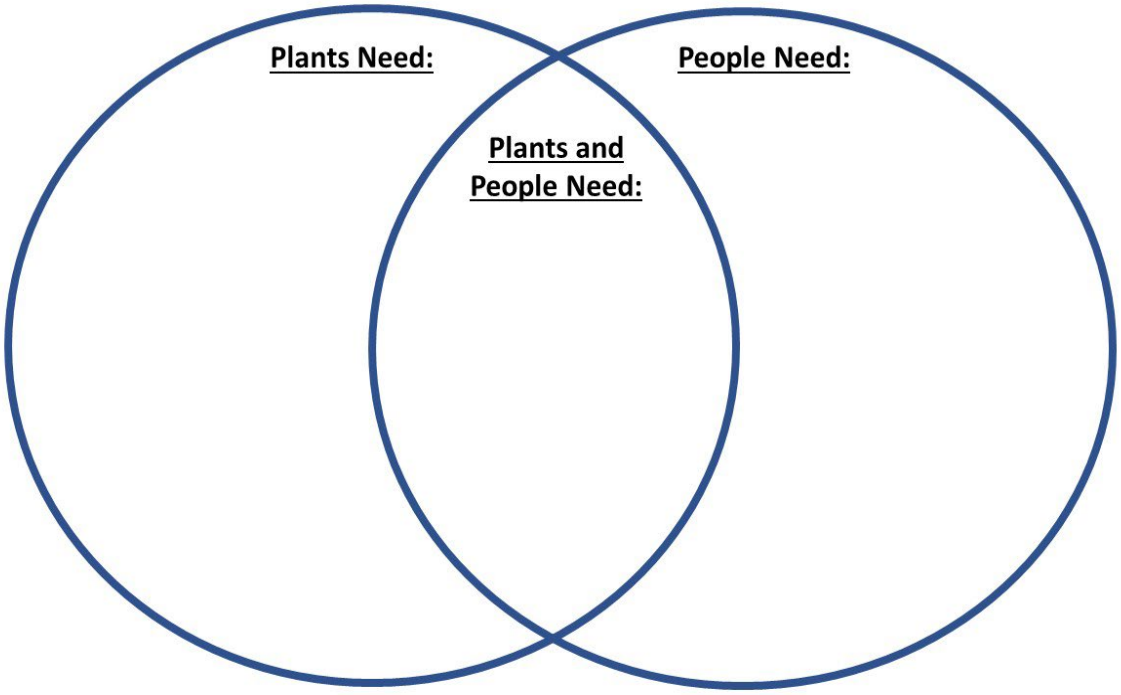
Pick a **better** snack™ Lesson



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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://idph.iowa.gov/inn/play-your-way/brain-breaks.

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).
- 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.

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/
http://aggie-horticulture.tamu.edu/archives/parsons/vegetables/jicama.html
https://livewellutah.org/2017/10/18/give-jicama-a-try/

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Cranberries

GRADE 2-3

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 identify questions as part of the scientific method.
- ❑ Students will be able to explain why fresh cranberries float.

Materials

- ❑ Bog Experiment
  - Clear container full of water
  - Assortment of items that sink or float (dry sponge - floats, plastic spoon, metal key, pencil, marbles, index card)
  - Small bag/container of several fresh cranberries (for demonstration, not eating)
- ❑ Napkins or paper plates
- ❑ Plastic knives (optional)
- ❑ Fresh cranberries
- ❑ Dried cranberries

Preparation

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

Recommended Books

"Time for Cranberries" by Lisl H Detlefsen

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Second grade - 2-LS4-1. Planning and carrying out investigations

Third grade - 3-LS1-1. LS1.B Growth and development of organisms

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Scientific investigations (2nd) and plant diversity (3rd)

Engage

1. Introduction: *2 minutes*

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

Place all materials for the cranberry bog experiment in the center of the carpet. Write question words on the board: Who, What, Where, When, Why, How.

2. Engage Activity: *10 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, what do 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 magic 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.

Think-Pair-Share

Gather students in a seated, large circle around the bog experiment materials. *Today, we're going to practice being scientists. Does anyone know what scientists do?* Use pick-a-stick or select a child at random to share.

Scientists conduct experiments and ask questions "Who, What, Where, When, Why, and How" questions. Reference the words written on the board.

1. *Look at these items on the carpet, and in your head, think of one question you have about these things. Your question might include one of these "Wh" words. When I say "go," you'll turn to a partner and take turns asking your questions.* Move around the circle, listening to students' questions.
2. *Those were great questions! I heard question words like* [share student examples]. This is a curious classroom. *Now, think in your head, why is it important to ask questions? Again, when I say "go," you'll turn to your partner and share with each other.* Move around the circle, listening to students' discussions. Ask a couple of partners to share their answers.

We ask questions to learn. Scientists make guesses of what they think is going on, called a hypothesis. Write the word on the board, define it, and have the class repeat it 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?*

Will it sink or float?

1. Stand in a circle around the materials. You are going to 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.
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 cranberries. Will they sink or float?

The cranberries will float. Leave them in the water and transition students to desks.

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 where they will eat (opportunity for 3 deep breaths).

With a student or teacher helper, pass out a couple of fresh cranberries and a napkin to each student. *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.* Using their fingers or a plastic knife, instruct students to break one cranberry into two pieces (alternately, demonstrate this using the doc-cam). *What do you see inside?* Confirm that there are seeds inside and four air pockets. *The air pockets on the inside make the cranberry float.*

Play and narrate a short portion of a video showing footage of a cranberry harvest (options linked below). Explain, *when cranberries are ready to be harvested in the fall, the field where they are growing is flooded with water, a harvesting machine is driven through the field, and the cranberries float to the top. The cranberry farmer gathers up and collects the floating cranberries. How is this different than harvesting other fruits and vegetables?*

Wisconsin Cranberries: Growing Strong (1:33-2:09 recommended):
https://www.youtube.com/watch?v=PIbkxXAnkIc

Fresh Cranberries – Habelman Family Farm: https://www.youtube.com/watch?v=Dkf3p2sZgLQ

Cranberry Harvest, drone footage (no words):
https://www.youtube.com/watch?v=KTUbRyqo_os&feature=emb_rel_pause

We're going to taste two types of cranberries today: a fresh cranberry and a dry cranberry. As I pass out samples, talk with your table. Do you think the cranberries will taste the same or different?

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 while they wait until the entire class is ready to taste the cranberries together.

Reflect

5. Voting Activity: *2 minutes*
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. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Reflect (cont'd)

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."

Due to time, it might be wise to ask the teacher or a classroom aid to ask some of the below questions to the class while you clean up your sink/float experiment supplies.

Reflection Questions:

- Choral Response:
  - *What did we pretend to be today?* Scientists
  - *What fruit did we try?* Cranberries
  - *Did cranberries sink or float?* Float
  - *What is inside the cranberry that makes it float?* Air or air pockets

- *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?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

Additional Materials

Physical Activity

"Supermarket Shopping" from "Get Movin' Activity Breaks" (Read the story and perform each underlined word for 5-10 seconds or until the next underlined word.)
More ideas for physical activity are available at https://idph.iowa.gov/inn/play-your-way/brain-breaks.

What You Need to Know About Cranberries

- The cranberry is a Native American wetland fruit which grows on trailing vines like a strawberry.
- The American Cranberry is a low-growing, vining woody perennial (grows back each year). 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.
- The plant flowers in May-June, and the fruit is ripe in late September to early October.
- 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 - to help heal cuts and keep the gums and skin healthy (reinforce with crossing arms for a defense shield)
- Fiber - to keep us full longer and to help with digestion (reinforce by rubbing stomach)
- Potassium - to keep normal blood pressure (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.
- Sugar is added to many fruits, like cranberries, before drying. Dried fruits can be bad on teeth because sugar clings to the teeth, causing acids to build up. Make sure to brush and floss on a daily basis to remove plaque and acids that build up on your teeth.

References and Resources

http://www.choosemyplate.gov/fruit (See: What counts as a cup of fruit? Children ages 6-8 years need 1 to 1 ½ cup of fruit per day.)
https://www.cranberryinstitute.org/
https://snaped.fns.usda.gov/seasonal-produce-guide/cranberries
Fresh Cranberries – Habelman Cranberry Family Farm

This institution is an equal opportunity provider.
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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Broccoli/Cauliflower

GRADE 2-3

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 identify 6 plant parts.
- ❑ Students will be able to distinguish plants within the brassica family.

Materials

- ❑ Pictures of broccoli, cauliflower, and other brassicas
- ❑ Blank sheets of paper for reflection
- ❑ Cooler
- ❑ Electric skillet
- ❑ Plastic tote (to transport electric skillet)
- ❑ Spatula
- ❑ Power strip (with long cord)
- ❑ Water bottle with water
- ❑ Rags
- ❑ Food storage containers
- ❑ Tasting materials (plates, napkins, etc.)
- ❑ Broccoli and/or cauliflower for cooking
- ❑ Olive oil
- ❑ Salt and pepper
- ❑ Preferred spices (ex: garlic, cumin, chili powder, etc.)

Preparation

- ❑ Wash broccoli and/or cauliflower and chop into small “trees.”
- ❑ Portion broccoli and/or cauliflower into food storage bags (one per lesson).
- ❑ Add olive oil and spices to the bag; shake well.

Recommended Book

“The Trouble with Cauliflower” by Jane Sutton

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Second Grade - 2-LS2-2.
Crosscutting Concept: Structure and function

Third Grade - 3-LS3-1
LS3.B Variation of traits

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Flowers & plant parts

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

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 be trying broccoli and/or cauliflower. If you're cooking, show your students your container of chopped up broccoli 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 or cauliflower. If using a skillet, leave uncovered, stir occasionally and cook for 10 minutes or until tender over medium or heat.

Think-pair-share: Gather students in a large circle. *I'd like to know something that is special about your family.* As an example, share something that makes your family special.

- *Think to yourself quietly.* Have students close their eyes, put their fingers to their temples, and think real hard.
- Ensure all students have a partner. Then, have students turn to a partner and share their special quality.
- After a couple minutes, bring the class back together and select students to share out. If you use "pick a stick," this is a good way to randomly select students to share.
- As students share their special quality; have them put on an imaginary crown.

That's beautiful! All of our families are different, and all of our families are special.

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 (opportunity for 3 deep breaths).

Today, we're going to try broccoli and cauliflower, two vegetables that belong to a special family of plants called brassicas (write and have class repeat the word: brassica). *There are many vegetables in the brassica family.* Show a side by side image of broccoli and cauliflower (or pass around 2 fresh heads of broccoli and cauliflower). *We can observe special traits (qualities that make a plant or animal special) that might show broccoli and cauliflower are in the brassica family.*

- *Think in your head of one way these vegetables are similar.* Use "pick a stick" to randomly select students to share.

Now, think in your head of one way these vegetables are different. Use "pick a stick" to randomly select students to share.

There are all kinds of vegetables in the brassica family. Just like our families, they are unique and special. Show image of the rest of the brassica family (name: kale, kohlrabi, cabbage, brussel sprouts).

When we eat vegetables in the brassica family, we are eating different plant parts. There are six plant parts (how many plant parts? "Six!"). Broccoli and cauliflower are flowers (what plant part are they? "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. We're going to do a dance to learn about what each plant part does.*

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

- ❑ I'm a plant and I have...
  - Roots: soak up water and keep the plant in the ground
  - Stem: the elevator that brings water up and food down
  - Leaves: help the plant make food
  - Flowers: where the bees come to drink nectar and pollinate the plant
  - Fruit: helps spread seeds
  - Seeds: help make new plants

Practice leading the dance with this Youtube video!
"Parts of Plant: A Dance Tutorial with FoodCorps" (start at 1:22):
https://www.youtube.com/watch?v=sIELVWIzfOY&t=21s

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").

As students receive their samples, ask them to use their senses while they wait.

Engage (cont'd)

There are several ways to try broccoli and/or cauliflower:

Raw: Cut into small "trees" and serve with a dip.

Air fryer: Before lesson - chop cauliflower and/or broccoli into smaller pieces. During lesson - toss in an air fryer with olive oil and spice options (ex: garlic, pepper, paprika). You can also use an oven or fry in a skillet.

Electric Skillet: Before lesson - chop cauliflower and/or broccoli into smaller pieces. During lesson - heat 2 tbsp olive oil over medium heat, leaving uncovered. Add your broccoli or cauliflower to the host skillet and season with optional spices (ex: salt, 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.

6. Reflection: *9 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."

Plant Part Art:
Using a blank sheet of paper, instruct students to trace their hands, making a head of broccoli. Use the doc-cam to demonstrate how they can choose to add different plant parts: flowers to fill-out the crown, a stem, and leaves. They may also choose to add roots, flowers, and seeds (and a crown!) to make their own special version of a broccoli plant.

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?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

The Brassica Family

Kale

Kohlrabi

Brussel Sprouts

Cabbage

Additional Materials

Physical Activity

"Frozen Vocabulary" (page 17) from "Get Movin' Activity Breaks" (Variation: Replace vocabulary words with a fruit or vegetable name. Call on a student to tell the class if the word you called out is a fruit or vegetable.)
More ideas for physical activity are available at https://hhs.iowa.gov/inn/play-your-way/brain-breaks.

What You Need to Know About Broccoli and Cauliflower

- Broccoli is one of the few vegetables that is available year round.
- California is the top producer of broccoli in the United States, growing 90% of the broccoli eaten in the U.S.
- Broccoli is a cool season crop, which means it is not affected by frost when planted in cooler weather.
- 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.
- Cauliflower and broccoli are both high in Vitamin C.

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 low in calories, rich in vitamins, and high in fiber.

Health Connection

- Vitamin A - eye health (Reinforce with super goggles.)
- Vitamin C - healthy skin, strong immune system, and for healing wounds (Reinforce with Vitamin C defense shield: cross arms to make an X.)
- Fiber - helps with digestion and makes us feel full longer (Reinforce by rubbing stomach.)

References and Resources

http://www.vermontharvestofthemonth.org/uploads/2/8/9/6/28966099/10_broccoli-cauliflower_lesson.pdf
http://www.fns.usda.gov/tn/discover-myplate-emergent-reader-mini-books
http://blogs.extension.iastate.edu/foodsavings/2015/10/19/how-to-cut-cauliflower/
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

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Mango

GRADE 2-3

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 associate tropical weather and tropical fruit.
- ❑ Students will be able to define tropical weather conditions.

Materials

- ❑ Inflatable globe beach ball or any version of a basic beach ball
- ❑ Paper plates and/or cutting boards
- ❑ Disposable or reusable plastic knives
- ❑ Forks
- ❑ Knife
- ❑ Cutting board
- ❑ Hand sanitizer
- ❑ Scissors
- ❑ Whole mango
- ❑ 1-2 mangoes per 25 students (or thaw frozen mango)
- ❑ ½ bunch of cilantro per 25 students
- ❑ ½ bunch of green onion per 25 students
- ❑ ½ fresh lime per 25 students
- ❑ ½ bag tortilla chips per 25 students

Preparation

- ❑ Determine which inflatable beach ball you will use for the physical activity.
  - Prepare globe: highlighting intertropical zone with tape and translucent paper.
  - Prepare beach ball: tape on images and names of tropical fruit
- ❑ Cut the mango into 1 inch cubes (or big enough for a student to cut into 2 or more pieces).
- ❑ Wash the cilantro, green onion and lime. De-stem cilantro and remove green onion roots. Consider using scissors to quickly cut individual student portions from the bunch during your lesson.

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Grade 2 - 2-LS4-1
LS4.D Biodiversity

Grade 3 - 3-ESS2-2
ESS2.D Weather and climate

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ “Asking” Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science Connection: Plant habitats (2nd) and climate (3rd)

Engage

1. Introduction: *2 minutes*

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

2. Engage Activity: *10 minutes*

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

Action Thermometer:

Delineate one side of the room for hot weather and one side for cold weather. Ask students, *Do you like hot weather or cold weather? Maybe you like both? Think about this in your head, and when I say the magic word, "Mango," I want you to quietly walk to this side for hot weather, this side for cold weather, or stand in the middle if you like both. When you get to your spot, take turns sharing why you like hot weather, cold weather, or both.*

- Give students time to think and make a decision; instruct them to move to their preference (or stand somewhere in the middle) and pair share with others in their group. Ask one student from each group to share reasoning.
- Remind students to make the decision for themselves and to not be swayed by where others stand.

Introduce the term tropical. Explain, *In Iowa, we experience all kinds of weather - hot weather in the summer, cold weather in the winter, and mild weather in the spring and fall. The weather changes all year. 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 climate" describes places that are very warm and wet all year. Let's say that together, "tropical climate."* If you can find one, show an image of the different climate regions in the world, pointing out the tropical zone. *Today, we're going to taste a type of tropical fruit that grows in tropical climate. But first, let's play a game.*

Physical Activity:

Gather students in a large circle.

- **Option 1. Using a globe beach ball:** Show students the tropical zone on the beach ball (highlighted using tape/translucent paper/mango stickers). Instruct students to gently pass the beach ball. If their hand is on the tropical zone when they catch it, they can demonstrate a dance move or physical activity (see pages 27-28, Brain Breaks book on Play Your Way webpage) that the class can repeat.
- **Option 2. Use a basic beach ball:** Show students the tropical fruit listed on the beach ball (denoted by images/words of tropical fruit). Instruct students to gently pass the beach ball. If their hand is on a tropical fruit when they catch it, they can read the tropical fruit name. Try to speed up without dropping the ball!

Explore

3. Experiential Learning: *10 minutes*
This is a time for students to familiarize themselves with what you'll be tasting. The best way to do this is through a hands-on or exploratory activity.

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

Making Mango Salsa
While holding up a fresh mango, say, *For our tasting today, we're going to try a tropical fruit called mango. Mango grows in tropical climate where the weather is warm and wet. We can eat the sweet orange inside of the mango after we cut off the skin and remove the pit* (demonstrate if preparing tasting from fresh, whole mango or explain that this has already been done). *You're going to be a chef today and prepare your own mango salsa using mango and some additional ingredients.*

Before passing out materials, be sure to review the following safety:
- Always cut down.
- Always place your knife down on the table when you're not using it.
- Use pinching fingers or the bear claw to protect your fingers.

Pass out hand sanitizer, then paper plates to each student. Paper plates can serve as both their cutting board and their plate, if you're not using reusable cutting boards. *Before* passing out knives, pass out pieces of the mango and demonstrate how to properly cut it up. *Then* pass out knives. (Passing out plates and fruit first means no idle hands holding knives while waiting for fruit).

Continue passing out ingredients (green onion and cilantro), demonstrating how to cut.

Tell students, *Raise your hand when your ingredients are all chopped up, and I will come add one squirt of lime juice to your salsa; lime is another tropical fruit!* Serve with 2 tortilla chips.

4. Tasting Activity: *2 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").

Explain to students that *we're going to taste a bite of mango first*. 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 while they wait until the entire class is ready to taste the mango together.

Reflect

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

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

Reflect (cont'd)

6. Reflection: *4 minutes*

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

Reflection Questions:

- Can someone raise their hand and tell us what they liked or loved about their mango salsa?
- Can someone raise their hand and tell us what they would change about their mango salsa?
- Do you think it would be easy to grow mangoes in Iowa? Why or why not?

Asking Discussion:

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

- 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 mango?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

Additional Materials

Physical Activity

"Jungle Safari" (page 65) or "A Snowy Day" (page 57) from "Get Movin' Activity Breaks"
More ideas for physical activity are available at https://idph.iowa.gov/inn/play-your-way/brain-breaks.

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. Put them in a paper bag at room temperature to speed up the ripening process. Once ripe, mangoes can be stored up to five days in the refrigerator.
- Mangoes are 2-4 inches in length and are very colorful. The immature fruit has green skin that gradually turns yellow, orange, red, purple or a combination of these colors. The mango flesh is orange-yellow, juicy and sweet when ripe. Mangoes have a flat, "hairy" or fibrous seed. This impacts how you cut the mango with a knife.
- Tropical fruits – bananas, mango, kiwi, papaya, pineapple, pomegranate, and passion fruit – are cultivated mostly in countries with warm climates.
- The first mango was grown in India 5,000 years ago. Other major producers are Mexico, Pakistan, China, Indonesia, Brazil and Philippines. Mangoes grow on trees. Some trees grow as tall as 100 feet! The mango tree grows best in sub-tropical and tropical environments.
- The main producer of mangoes in the United States is Florida.

Facts About Mangos

- The mango is called the "king of fruit" in India where there are 1,000 commercial varieties.
- In India, a basket of mangoes is considered a gesture of friendship. The paisley pattern developed in India represents the mango shape.
- 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 1/4 pound to 3 pounds (show photos of mango tree).

Health Connection

- Mangoes are rich in 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 your fingers to put on your super goggles). Mangoes contain more vitamin A than most fruits.
- Mangoes are also a good source of fiber. Fiber helps with digestion and helps us feel full longer. (Reinforce by rubbing stomach).

References and Resources

https://www.mango.org/how-to-cut-a-mango/
https://www.hort.purdue.edu/newcrop/morton/papaya_ars.html
http://thaifood.about.com/od/thairecipesstepbystep/ss/howtocutapapaya.htm
https://snaped.fns.usda.gov/seasonal-produce-guide/mangos

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Bell Pepper

GRADE 2-3

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 name fruits and vegetables of different colors.
- ❑ Students will be able to explain the concept of "Eating a Rainbow."

Materials

- ❑ Several sheets of construction paper: red, orange, yellow, green, purple
- ❑ 3 colors of bell peppers (enough for each student to sample each color)
- ❑ Knife
- ❑ Cutting board
- ❑ If students prepare peppers: paper plates or cutting boards and disposable or reusable plastic knives
- ❑ Hand sanitizer
- ❑ Dip (ex: homemade dip, hummus, etc.)

Preparation

- ❑ Set or tape the 5 different colors of construction paper around the room where students can gather. This can be done before the lesson starts or during the lesson.

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Grade 2 - 2-LS4-1.
LS4.D Biodiversity

Grade 3 - 3-LS3-1.
LS3.B Variation of traits

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Plant diversity (2nd) and variation (3rd)

Recommended Books

"Chile Pepper Pete" by Dawn Boone
"Chicks and Salsa" by Aaron Reynolds
"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.

In each of the four corners and the center of the room, post pieces of paper of different colors (green, red, yellow, orange, and purple).

2. Engage Activity: *6 minutes*

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

<u>5 Colors Activity:</u>

Out of these five colors - green, red, yellow, orange, and purple - which color is your favorite? Think in your head (can put fingers up to temples and close eyes) and *when I say the magic word, "pepper," I want you to quietly walk to the space that shows your favorite color - green, red, yellow, orange, and purple. When you get to your spot, take turns sharing why that's your favorite color.*

- Give students time to think and make a decision; instruct them to move to their preference and pair-share with others in their group.
- Remind students to make the decision for themselves and to not be swayed by where others stand.

<u>Physical Activity</u>

While students are in their color groups, assign a physical activity to each color. Instruct them to do the physical activity for 15 seconds. Then have the groups rotate to the left to the next color. Instruct students to do that activity for 15 seconds. Continue rotating groups around the room through all the colors.

Examples:

- Red = march or jump in place
- Green = toe touches
- Purple = jumping jacks
- Orange = squats
- White = arm stretches or circles

Today, we're going to learn about and practice eating a rainbow of colors!

Explore

3. Experiential Learning: *12 minutes*

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

Seat students in 5 small groups, where they can work together (opportunity for 3 deep breaths).

Explain, *Today, we'll be tasting a vegetable called a pepper. Peppers grow in a rainbow of colors in a variety of habitats* (show image or pass out several colors of bell peppers - green, red, orange, yellow, purple). *Fruits and vegetables come in different colors and contain different types of vitamins, minerals and other nutrients.*

Fruits and vegetables have photonutrients. Photonutrient or phytochemical is the name given to substances found naturally in plants which also have health benefits for people. Say it with me: Phytonutrient. Repeat. *There are thousands of phytonutrients. Some of these photonutrients are what gives the plant it's color; it's why blueberries are blue, carrots are orange, and tomatoes are red, for example.*

Explore (cont'd)

Different photonutrients protect our bodies in different ways. They are good for our eyes, heart, brain, stomach, skin, our immune system – and more! Photonutrients help protect us from sickness and disease. We say "Eat a Rainbow of fruits and vegetables" because each color of the rainbow represents a different phytonutrient that keep our body healthy.

Give each of the 5 groups a different colored sheet of paper (red, orange, purple, green and white). Ask each group to name different fruits and vegetables of that color. Have them discuss if they've tried the fruit or vegetable before and how they like to eat it. If students struggle to name fruits and vegetables of that color, give each group the appropriate fruit and vegetable color card found at the bottom this web page.

After a couple of minutes, ask each group to share with the class 2 fruits or vegetables of that color.

When we eat a rainbow of colors, our body takes in a rainbow of nutrients.

Have students return to their desks.

Eating a Rainbow Together
While holding up a fresh bell pepper say, *For our tasting today, we're going to taste a rainbow of peppers* (serve 3 different colors of bell peppers). *We can eat all sides of the pepper after we remove the seeds and the stem* (demonstrate if preparing tasting from fresh, whole pepper or explain that this has already been done). *You're going to be a chef today and prepare your own pepper strips that we'll taste with a dip* (ex: homemade dressing or hummus).

Before passing out materials, be sure to review the following safety:
- Always cut down.
- Always place your knife down on the table when you're not using it.
- Use pinching fingers or the bear claw to protect your fingers.

Pass out hand sanitizer, then paper plates to each student. Paper plates can serve as both their cutting board and their plate, if you're not using reusable cutting boards. *Before* passing out knives, pass out pieces of the pepper and demonstrate how to properly cut it up. *Then* pass out knives. (Passing out plates and peppers first means no idle hands holding knives while waiting for peppers).

Raise your hand when your peppers are all chopped up, and I will come around to give you some dip.

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").

Explain to students that *we're going to taste different colors of peppers one at a time and compare their flavors.* 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 while they wait until the entire class is ready to taste the peppers together.

Tasting Ideas: Depending on how much time you will have for hands-on food prep during a lesson, consider chopping food ahead of time or portioning pieces of fruits and vegetables for students to chop during the lesson.
- Decorate a large cracker with a rainbow of fruits and vegetables, on hummus/cream cheese.
- Make rainbow wraps, using half a tortilla and a variety of fresh fruits and vegetables. See USDA's "Summer Food, Summer Moves" recipe for a hummus wrap for ideas.
- Consider adapting the recipe from FoodCorps' Rainbow Grain Salad Lesson to fit your lesson.
- Pepper strips in three different colors with or without a dip.

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.

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:

- *Did anyone eat their favorite color today?*
- *Out of the 3 colors we tasted, what was your favorite color of pepper?*
- *Did the three colors of peppers taste the same? Different? Explain.*
- *Would you describe your peppers as sweet or spicy?*
- *Why is it important to "eat the rainbow?" (because different colors of fruits and veggies have different nutrients for our bodies)*
- *Can someone raise their hand and tell us what they liked or loved about the pepper?*
- *Can someone raise their hand and tell us what they would change about their 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?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

Additional Materials

Physical Activity

"Fruit and Veggie Yoga" in "Brain Breaks" (page 24) or the "Chile Pepper Pete" book (act out the sports for each pepper on the back page.)

More ideas for physical activity are available at https://idph.iowa.gov/inn/play-your-way/brain-breaks.

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. Most peppers are harvested when they are green (immature). Most but not all green peppers will turn yellow to red over time. A red pepper is a mature green pepper.
- 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://www.fns.usda.gov/tn/discover-myplate-emergent-reader-mini-books
https://fruitsandveggies.org/fruits-and-veggies/bell-peppers/
https://www.health.harvard.edu/blog/phytonutrients-paint-your-plate-with-the-colors-of-the-rainbow-2019042516501
https://fruitsandveggies.org/stories/what-are-phytochemicals/
https://newsnetwork.mayoclinic.org/discussion/eat-the-rainbow-for-good-health/
https://snaped.fns.usda.gov/seasonal-produce-guide/bell-peppers

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Oranges/Clementines

GRADE 2-3

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
- ❑ Citrus press or juicer
- ❑ Oranges for juicing
- ❑ Knife and cutting board
- ❑ Clear glass

Preparation

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

Recommended Books

"An Orange in January" by Dianna Hutts Aston

Standards Connection

This lesson supports the following Iowa Core standards.

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

Science
Grade 2 - 2-LS4-1.
LS4.D: Biodiversity

Grade 3 - 3-LS1-1
LS1.B: Growth and

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Biodiversity (2nd) and life cycles of plants (3rd)

Engage

1. Introduction: *2 minutes*
The "Introduction" section is a time to introduce yourself, recap previous lessons, establish norms, or introduce the day's lesson.

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 fights 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 the community member(s) they acknowledge 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!

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.

We are going to learn about and taste oranges (or clementines). Before we do that, let's take a few minutes to stretch our bodies and get ready to learn.

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. You may want to put a picture of an orange tree on the projector (included in lesson) or show the class a photo before getting started. Play "Yogi Says" in "Brain Breaks" (page 22) for several minutes. *Great job!*

You all shared how our friends and family members help take care of us when we're sick, did you know that 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 your bodies fight off sickness and keep you feeling healthy.*

Oranges have other nutrients that help keep you healthy. They provide phytonutrients – remember we learned about phytonutrients last month? Photonutrients are substances in plants, like fruits and vegetables, that protect our bodies. Oranges give you photonutrients.

Oranges also have fiber. Fiber is good for you. It helps you feel full, helps your digestion and is good for your heart. (Educators, fiber helps lower cholesterol.) *I'm going to show you the fiber in an orange today.*

Whole fruit, like an orange, gives you more nutrition than 100% juice. You get more fiber when you eat an orange than when you drink 100% orange juice. (Educators, both whole fruit and 100% juice count as fruit. Whole fruit is fruit that is fresh, canned, frozen or dried. Beverages with less than 100% fruit juice do not count as a fruit serving.)

Explore

Demonstrate the fiber in whole fruit compared to 100% juice by juicing an orange. Cut an orange(s) in half and squeeze with your hand or use a citrus press or juicer to extract the juice. Show students the juice in a clear glass. Then show them the remaining orange half. Explain*, the juice is mostly clear* (there may be some pulp if not strained), *while the orange half still has the fleshy orange. This is where the fiber is. You can see that there is more fiber in the whole orange than the juice.*

Today we are going to taste a fresh orange (or clementine).

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").

With teacher or student helpers, pass out orange sections or clementines to all students. As students receive their samples, ask them to use their senses while they wait - especially smell!

Reflect

5. Voting Activity: *3 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.

6. Reflection: *6 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".

<u>Reflection questions:</u>

- *Will someone share what they liked or loved about the orange?* Select a couple students to share.
- *Will someone share what they would change about the orange?* Select a couple students to share.
- Using choral response
  - *Where do oranges grow?* (on trees)
  - *What nutrients are inside oranges that keeps us healthy? (vitamin C, fiber, phytonutrients)*
  - *What has more fiber – a whole orange or 100% orange juice? (a whole orange)*
- *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, incentives, stickers, and BINGO sheets with the teachers to pass out.

Additional Materials

Physical Activity

Map 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 and touch opposite knee to elbow, and squats. Repeat with different exercises for each state.

More ideas for physical activity are available at https://idph.iowa.gov/inn/play-your-way/brain-breaks.

What You Need to Know About Citrus Fruits

- Citrus grows 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. They have a thicker skin and less juice than the ones grown in Florida due to drier conditions and cooler nights.
- 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 Citrus Fruits

- About 90% of Florida's citrus fruit is produced into orange and grapefruit juice.
- Limes were used in 1493 by Christopher Columbus to prevent scurvy (a disease from not eating enough Vitamin C).
- Orange is the 3rd most popular flavor worldwide after chocolate and vanilla.
- 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

- Citrus foods are high in Vitamin C. Vitamin C helps our bodies fight off infections and heal wounds. (Put up your defense shield to fight off the germs.)
- Citrus foods are a 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!)
- Citrus is a good source of fiber to help in digestion and to help us feel full longer. (Rub your tummies to show fiber is good for you!)

References and Resources

https://www.floridacitrus.org/
https://snaped.fns.usda.gov/seasonal-produce-guide/oranges
https://www.npr.org/sections/thesalt/2015/01/22/378920980/for-more-nutrients-drink-oj-or-eat-an-orange-it-s-not-so-clear-cut
https://www.nutritionletter.tufts.edu/general-nutrition/oranges-vs-orange-juice-which-is-better-for-you/

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Asparagus

GRADE 2-3

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 define and give examples of "local."
- ❑ Students will be able to compare food miles of fruits and vegetables.

Standards Connection

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

Science
Grade 2 - 2-LS4-1.
LS4.D Biodiversity

Grade 3 - 3-ESS2-2.
ESS2.D Climate

Materials

- ❑ 2-3 printed copies of Food Miles Activity Cards (attached; need 1 per student)
- ❑ Picture of asparagus stalk and plant
- ❑ Cooler
- ❑ Electric skillet
- ❑ Plastic tote (to transport electric skillet)
- ❑ Spatula
- ❑ Power strip (with long cord)
- ❑ Water bottle with water
- ❑ Rags
- ❑ Food storage bags
- ❑ Tasting supplies (plates, napkins, etc.)
- ❑ Asparagus for cooking (depending on class size)
- ❑ Olive oil
- ❑ Salt
- ❑ Pepper

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Plant diversity (2nd) & climate (3rd)

Preparation

- ❑ Food preparation:
  - Wash asparagus and cut or snap off the bottom of each stalk
  - Portion asparagus into Ziploc bags (one per lesson)
  - Add olive oil and salt and pepper to the bag
- ❑ Print and cut (perhaps laminate) 2-3 copies of attached Food Miles Activity cards

Recommended Books

"The Mighty Asparagus" by Vladimir Radunsky

"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.

*You may want to preheat your electric skillet for the cooking activity and alert students to the hot skillet. Preheat to medium, depending on the skillet.

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, 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 close their eyes, put their fingers to their temples, and think real hard.
- Then, have students turn to a partner and share their favorite local places.
- 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 next to your house would be called your "local park."* Site 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.*

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 right here in Iowa. Iowa's climate (typical weather) is just right for growing asparagus, and it is often harvested in the spring.* Show a picture of an asparagus plant. *Asparagus is a stem that moves nutrients from the roots throughout the rest of the plant.* If raw asparagus is available, encourage children to look closely at the bottom of the asparagus spear so they can see the little holes that carry water and nutrients to the plant.

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)

Physical activity: While the asparagus is cooking, gather students in a large circle for a food miles game.

- Pass out food cards to all students.
- With music playing, students will move around the room to find a partner. Option: vary how students move around the room to increase physical activity, such as walk, hop, high-knees.
- When the music stops, partners will share their cards with one another, looking at the back to see how far away that food grows from them.
- Comparing food miles, have students select the more local food. They will then do jumping jacks (counting by 5s or 10s) up to the number of food miles listed on the card.
- For each round, ask students to raise their hand if they had the more local food (the food with fewer food miles and jumping jacks).
- Play music to find new partners. Repeat until desired time.

Option: If time permits, have students work together to line-up in a half circle from most local to least local (or "global" food) and read their cards aloud.

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 while they wait. Invite students to taste asparagus.

Reflect

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

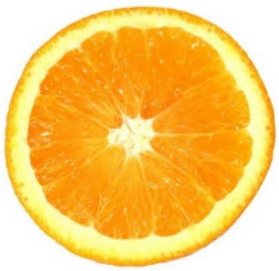
As students taste the asparagus, have them vote with their thumbs. Observe their voting and offer positive reinforcement regarding the Brave Taster Rules. If a student dislikes the tasting, perhaps ask what they would change about it.

Reflection questions:

- *What is something you remember about asparagus?*
- *Will someone share what they liked or loved about the asparagus?* Select a couple students to share.
- *Will someone share what they would change about the asparagus?* Select a couple students to share.
- *Where does asparagus grow well?*
- *Name a fruit or vegetable that does not grow well in Iowa.*
- *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, incentives, stickers, and BINGO sheets with the teachers to pass out.

Food Miles Activity Cards

Asparagus  **Local to Iowa**	Asparagus grows ***number of*** miles away from *name of PABS school community* at *name of farm or town*.	**Banana**  **Not Local to Iowa**	Bananas grow **3,000 miles** away from *name of PABS school community* in Costa Rica.
Apple  **Local to Iowa**	Apples grow _____ **miles** away from *name of PABS school community* at *name of farm or town.*	**Orange**  **Not Local to Iowa**	Oranges grow **1,000 miles** away from *name of PABS school community* in Florida.
Cabbage  **Local to Iowa**	Cabbage grows _____ **miles** away from *name of PABS school community* at *name of farm or town.*	**Pineapple**  **Not Local to Iowa**	Pineapples grow **4,000 miles** away from *name of PABS school community* in Hawaii.

Broccoli  **Local to Iowa**	Broccoli grows _____ **miles** away from *name of PABS school community* at *name of farm or town.*	**Watermelon**  **Local to Iowa**	Watermelon grows _____ **miles** away from *name of PABS school community* at *name of farm or town.*
Carrot  **Local to Iowa**	Carrots grow _____ **miles** away from *name of PABS school community* at *name of farm or town.*	**Lemon**  **Not Local to Iowa**	Lemons grow **1,500 miles** away from *name of PABS school community* in Arizona.
Beet  **Local to Iowa**	Beets grow _____ **miles** away from *name of PABS school community* at *name of farm or town.*	**Green Bean**  **Local to Iowa**	Green beans grow _____ **miles** away from *name of PABS school community* at *name of farm or town.*

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/inn/play-your-way/brain-breaks.

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) member of the lily family.
- The plant 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.

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.

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)

References and Resources

https://spendsmart.extension.iastate.edu/produce-item/asparagus/
https://snaped.fns.usda.gov/seasonal-produce-guide/asparagus
http://www.iowaagriculture.gov/AgDiversification/pdf/asparagusbrochure3.pdf

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES

Strawberry

GRADE 2-3

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 to define perennial.
- ❑ Students will be able to explain the function of strawberry runners.

Materials

- ❑ Image of labeled PABS tastings (attached)
- ❑ Printed Strawberry Runner Activity cards; one per student (attached)
- ❑ 2 balls of yarn, or 2 very long strings
- ❑ Fresh strawberries, 1 per student
- ❑ Napkins
- ❑ Hand sanitizer

Preparation

- ❑ Wash the strawberries before the lesson.
- ❑ Print large cards or sheets of paper showing labeled PABS tastings, or use an electronic version.
- ❑ Print Strawberry Runner Activity cards; consider laminating for re-use from class to class.

Recommended Books

"Spring is for Strawberries" by Katherine Pryor
"From Seed to Plant" by Gail Gibbons
"From Seed to Strawberry" by Mari Schuh

Standards Connection

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

Science
Grade 2 - 2-LS4-1
LS4.D Biodiversity

Grade 3 - 3-LS1-1.
LS1.B Growth and development of organisms

Lesson Checklist

- ❑ Physical Activity
- ❑ Tasting
- ❑ Voting
- ❑ "Asking" Discussion
- ❑ Newsletters, Bingo cards, Stickers, Incentives
- ❑ Science connection: Plant diversity (2nd) & plant life cycles (3rd)

Engage

1. **Introduction:** *2 minutes*

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

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 images and labels on cards or by doc-camera, review the names of all 7-8 PABS tastings as a class). *We are going to take a moment to share our favorite tastings with one another.*

Physical Activity: Have students respond to their favorite fruits and vegetables by performing an activity (ex: jump five times). Repeat the fruit and vegetable names for two more rounds with a different physical activity.

1. Showing images of vegetables, ask *Think about the diverse fruits and vegetables we tasted during PABS this year. What were your favorites? When I say the name of your favorite vegetable,… (choose any physical activity).*
   - Jicama
   - Broccoli/Cauliflower
   - Peppers
   - Asparagus
2. *Excellent! Let's see what our favorite fruits are next.* Showing images of fruit, ask *What were your favorite fruits we tasted during PABS this year? When I say the name of your favorite fruit,… (choose any physical activity).*
   - Cantaloupe
   - Cranberries
   - Mango
   - Oranges/Clementines

Wonderful! Thank you for sharing your favorite foods from this year. Look at these foods again, and think in your head, is there a fruit or vegetable that your taste buds started liking this year? Educator can share a personal example of changing food preferences. *When I say "go," please turn to a partner next to you to share. Go.*

- Give students a couple of minutes to discuss, making sure both partners have time to talk.
- Use a clap-back to get students' attention, and randomly select a couple of students to share (pick-a-stick would work well for this).
- *Our favorite foods can change as we grow and our taste buds change. Just like you will keep growing for many years, strawberry plants can grow for many years!*

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.

*Today we are tasting strawberries. Strawberries are a **perennial** plant.* Define, write out, and repeat this new vocabulary word: **perennial**. *Perennial plants grow back year after year from the same plant. Once planted in the ground, a perennial plant, like a strawberry plant, does not die in the cold winter and can grow for many years. *Cranberries and asparagus are also perennial plants.*

*Let's look at a picture of a strawberry plant (*simple diagram at the bottom of this webpage*).* Label and point-out plant parts on the diagram (roots, stems, leaves, flowers, fruits). Share, *strawberries have a special plant part called a **runner**.* Label, write out, and repeat this new vocabulary word: runner (have students run in place for kinesthetic connection). *A runner is a stem that can grow into a new strawberry plant. As a whole class, we're going to act out how this process works.*

Strawberry Runner Activity

1. Give every student one of three card options: A Plant card, Runner card, or Strawberry card
2. *Every strawberry plant needs strawberries and runners to grow new plants. If you have a plant card, hold it in the air so that our friends with runner cards and strawberry cards can come to you.* Showing their cards to others, students will have 1-minute to cluster into groups of three: 1 strawberry plant, 1 runner, and 1 strawberry (depending on class size, add extra strawberries as needed). Help students find groups when needed.
3. *Great! Now we have* (8-10 depending on class size) *complete strawberry plants.* The educator will randomly select 2 groups to be 'original' strawberry plants. Demonstrate:
    a. *These strawberry plants* (have students hold up plant cards) *are growing strawberries* (have students hold up strawberry fruit cards) *and runners* (have runners hold up runner cards). *The runners are going to stretch out and grow into new strawberry plants.*
    b. Give each of the "runners" in these two groups a ball of yarn (or a very long string); instruct them to pass it to a different group. Runners will toss or walk the yarn to another group.
4. Once connected, the 'runner' from the new group will pass the yarn to another group, connecting 3 groups total.
5. Repeat until all groups are touching the yarn. *Now, all of our strawberry plants are connected by runners. Once a runner has grown into a new plant, it can start growing strawberries. If you're holding a strawberry, put it up in the air so we can see your plant is growing.*
6. Consider repeating if time allows, narrating and answering questions for clarification.

Transition to tasting: instruct students to deposit their cards and yarn in a specific location, and pick-up a strawberry and napkin before returning to their desks.

4. Tasting Activity: *2 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 (or students pick-up) 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 while they wait.

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.

6. Reflection: *4 minutes*
Reflection is one of the most important processes for students to process and retain new information or experiences. Give students an opportunity to reflect on what they've learned or tried in your lesson. This is an excellent place for students to practice the "Asking Discussion."

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

- *What month is it?* (May)
- *Whose class am I in?*
- *What food did we try today?* (Strawberries)
- *What do we call plants that can grow back year after year?* (Perennial)
- *What strawberry **plant part** makes new strawberry plants?* (Runners)

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 eat strawberries at home, how might you ask your grown-ups?*
- You might also ask additional questions like, *where could you buy strawberries?*

Leave newsletters, incentives, stickers, and BINGO sheets with the teachers to pass out.

Pick A Better Snack Vegetables

JICAMA

BROCCOLI/ CAULIFLOWER

PEPPERS

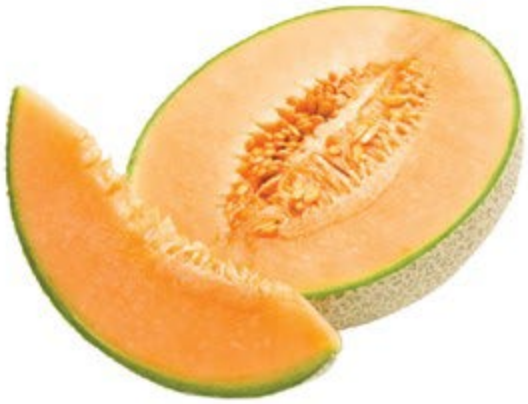
ASPARAGUS

Pick A Better Snack Fruits

CRANBERRIES

MANGO

CANTALOUPE



ORANGE/ CLEMENTINE

Strawberries

Plant

Runners

Additional Materials

Physical Activity

"Spring into Spring" from "Get Movin' Activity Breaks" (page 68)

More ideas for physical activity are available at https://hhs.iowa.gov/inn/play-your-way/brain-breaks.

What You Need to Know About Strawberries

- Strawberries are a fruit; often the first fruit to ripen in the spring.
- Strawberries grow in Iowa.
- 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

- The seeds - about 200 - are on the outside of this fruit.
- Strawberry is the most popular berry in the United States.
- California grows 83% of the strawberries in the United States.

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.

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
http://www.iowaagriculture.gov/AgDiversification/pdf/FINAL3281IowaFVmagnet.pdf

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Pick a better snack™

STATE OF IOWA DEPARTMENT OF Health AND Human SERVICES