

Broccoli/Cauliflower

**GRADE
K-1**

Month: December

Time Required: 30 minutes

Alternative Tastings: Artichoke

Lesson Goals

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

Learning Objectives

- Students will be able to recall the names of 6 plant parts.
- Students will be able to classify broccoli and cauliflower as flowers.

Academic Standards Connection

Coming soon.

Essential Components Checklist

- Physical Activity
- “Asking” Discussion
- Voting
- Newsletters, BINGO Cards, Stickers, and Incentives
- Tasting

Materials

- Picture of flowering broccoli and cauliflower (or: prepare a live, flowering broccoli in a jar with water- see instructions within lesson)
 - Whole, raw broccoli and cauliflower (1-2 heads of each for demonstration)
 - 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
 - Pepper
 - Preferred spices (ex: garlic, cumin, chili powder, etc.)
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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

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: 8 minutes

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

If you're cooking today, show your students your container of chopped up broccoli 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 you.* As an example, share something that makes you 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.

**Alternate activity: pass an object around the circle, indicating that a student is invited to share with the rest of the class when they are holding the object. Play music while students pass the object. Then stop the music and whoever has the object will share.

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.

Have students sit (opportunity for 3 deep breaths).

Today we're going to try broccoli and cauliflower. Broccoli and cauliflower are very special plant parts. They are flowers! Some people even call them the “crowns” (put on imaginary crowns again). We eat broccoli and cauliflower before the flowers bloom, when they are tender and sweeter. Here is what broccoli and

cauliflower look like when the flowers bloom.

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

We're going to explore the parts of the cauliflower and broccoli before we eat it. We're going to find 3 plant parts on these vegetables. Split students into four smaller groups and give each group either one head of broccoli or one head of cauliflower. Ask students to explore the broccoli and cauliflower using their senses. As a group, they will find and name 3 parts of the broccoli or cauliflower plant that they can see (stem, leaves, flowers). Classroom teacher should work with two small groups as PABS educator works with the others.

- *Option: split the class into two small groups (rather than four) and the classroom teacher can work with one group.*

Once each group has come up with their three parts, compare the words as a class (stems, leaves, and flowers). Write the plant parts on the white board. Did some of the groups come up with similar words? Discuss the differences and similarities between broccoli and cauliflower: colors, shapes, smells, similar plant parts (stem, leaves, flowers).

Physical Activity: Plant Parts Dance

Great! We found 3 plant parts on our broccoli and cauliflower. We're going to do a dance to remember these parts, and name 3 more. There are 6 plant parts! Lead students in dance, repeating a few times and increasing the speed.

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

Link to Banana Slug String Band Song, "Roots, Stems Leaves,"

<https://www.youtube.com/watch?v=ogW8Z7IZLNw>

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.

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

- What month is it? (December)
- Whose class am I in?
- What food(s) did we try today? (broccoli and/or cauliflower)
- How many plant parts are there? (six)
- Which plant part is broccoli and cauliflower (flowers)

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.

Lesson Supplement

Recommended Books

“Monsters Don’t Eat Broccoli” by Barbara Jean Hicks
“Gregroy the Terrible Eater” by Mitchell Sharmatt
“The Boy Who Loved Broccoli” by Sarah A. Creighton
“Oliver’s Vegetables” by Vivian French

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://idph.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

<https://harvestofthemonth.cdph.ca.gov/Pages/Downloads.aspx>

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>



