

VARY YOUR VEGGIES



Objectives

Learn why it is good to eat asparagus and spinach.

Discuss basic health benefits provided by vitamins A and C.

Learn that people eat plant stems and leaves.

Explore the taste and appearance of spinach and asparagus.

Supplies Needed

May Pick a **better** snack™ & **ACT** bingo card

3rd Grade – “Spinach & Asparagus Crossword” worksheet

Spinach and asparagus for tasting, lettuce for activity

Taste Opportunities

Featured Vegetables:
Spinach
Asparagus

Background

Vitamin A is important for our eyes, healthy skin, and growth. Vitamin C helps wounds to heal and the body to withstand injury. Both vitamins help fight infection in our bodies. Infections make us feel sick, like when we have the flu.

Vitamins A and C also help protect our bodies against diseases. They do this partly by keeping our immune system strong. Our immune system tries to keep us from getting sick, and when we do get sick, we rely on the immune system to make us well again. So eating food rich in vitamins A and C is important for our health.

Asparagus is believed to have originated in Greece 2500 years ago. Royalty had servants whose entire job was to hand-pick the best stalks of asparagus. King Louis XIV even had asparagus grown in greenhouses, so it was available to him all year.

Asparagus also had medicinal purposes in ancient times. It was not uncommon to have teas made to comfort common ailments.

Asparagus is thought to have been brought to the United States by English or Dutch immigrants. Asparagus can be grown in Iowa.

Asparagus is a perennial plant that is a member of the lily family. The plant can grow 15 years or more and can be harvested after three years. We eat the stem of the plant, called “spears.” The name asparagus is a Greek word meaning “shoot” or “sprout.” An asparagus spear can grow ten inches in a 24-hour period! After two to three months of harvesting, the asparagus plant looks like a fern. Then the plant goes into a dormant stage.

Asparagus is available in green, purple and white varieties. The white variety is most common in Europe. It is white because it is grown under sandy soil and does not receive sunlight to undergo photosynthesis.

Asparagus can be eaten fresh or cooked. It has a lot of

nutrients including folic acid, potassium, fiber, vitamin B6, vitamin A and vitamin C.

Spinach is thought to have originated in modern-day Iran in the 11th century. The Chinese called it the “Herb of Persia.”

Spinach is a low-growing annual that must be replanted each year. Spinach can be grown in Iowa. We eat the leaves of the spinach plant.

We eat spinach fresh or cooked. Spinach is rich in vitamins A and C and fiber.

Web Site Resources

www.idph.state.ia.us/pickabettersnack
www.fruitsandveggiesmorematters.org
www.mypyramid.gov/kids/index.html
www.fns.usda.gov/eatsmartplayhard

Do the Activity: 2nd Grade

Thoroughly wash and drain spinach and lettuce leaves. Pass around a few leaves of spinach and a common variety of lettuce (head lettuce, for example). Students should examine the leaves but not eat them. Throw leaves away once they have been passed around. Spinach leaves can be large or small. Small spinach leaves are sometimes called “baby spinach.” Ask students to offer their observations about spinach and lettuce leaves.

3rd Grade

Review background information and distribute a “Asparagus and Spinach Crossword” worksheet to students or complete as a class using an overhead projector.

Talk It Over: 2nd Grade

There are other plant leaves that we eat. Some of them may sound strange to you. A common leaf you may eat is green cabbage (*coleslaw*). There is also Chinese cabbage and red cabbage, and even skunk cabbage! Does your family eat collard greens or dandelion greens? They are all leaves.

Following is a list of green vegetables. Have students think of as many green vegetables as they can and write them on the board. Add to the list ones they did not come up with. Go through the list and have students decide if what they eat is a leaf like spinach or lettuce or a stem like asparagus.

Artichokes	Endive
Arugula	Leafy greens
Asparagus	Leeks
Broccoli	Lettuce
Broccoli rabe	Green onion
Brussels sprouts	Okra
Chinese cabbage	Peas
Green beans	Green pepper
Green cabbage	Snow Peas
Celery	Sugar snap peas
Chayote squash	Spinach
Cucumbers	Watercress
	Zucchini

Why do we need to eat vegetables that provide vitamins A and C to our bodies? *Vitamin A is important for our eyes, healthy skin and growth. Vitamin C helps wounds to heal and the body to withstand injury. Both vitamins help fight infection in our bodies. Infections make us feel sick and we may develop a fever. Vitamins A and C also protect our bodies against diseases. They do this partly by keeping our immune system strong. Our immune system tries to keep us from getting sick and when we do get sick, we rely on the immune system to make us well again. So eating food rich in vitamins A and C is important for our health.*

Read a list of fruits and vegetables that are rich in vitamin A. (*Apricots, broccoli, cantaloupe, carrots, Chinese cabbage, collard greens, kale, mustard greens, peas, pumpkin, red peppers, spinach, sweet potato, butternut squash*)
What do they have in common? (*bright or intense colors of green, red, yellow or orange*)

3rd Grade

Apply:

What vegetables are on the May bingo card? (*spinach, asparagus and celery*)

What color are spinach and asparagus? (*green; asparagus can also be white or purple. Note to teacher: White asparagus is grown under a mound of sandy soil that prevents the development of chlorophyll.*)

What other green vegetables do you like to eat? (*green peppers, broccoli, lettuce, green cabbage, celery, cucumber, artichokes, green beans*)

Can asparagus grow in Iowa? (yes)

Have you seen asparagus growing? What does it look like? *(It looks like long stems poking straight out of the ground. If you cut them off when they are about 10 inches, they are just right for eating. If you let them keep growing, the tops turn into a fern-like bush.)*

What does spinach look like when it is growing? *(Like dark green lettuce leaves growing close to the ground.)*

Have you seen spinach growing in a garden? Can spinach be grown in Iowa? (yes)

What is your favorite way to eat spinach? *(in a salad, in a quiche, steamed with a little vinegar or margarine)*

What is your favorite way to eat asparagus? *(in soup, in a casserole, steamed with a little margarine on top)*

Did you know MyPyramid says to “Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens?” Did you eat a dark green vegetable today? Yesterday?



Taste Opportunity

Have the students wash their hands. Wash small spinach leaves and drain. Students may enjoy tasting Romaine lettuce or another loose-leaf lettuce to compare with spinach.

Wash the asparagus. If the asparagus is not tender it may be best to place in microwave for just a few minutes to soften. Cut into bite size pieces.

Both can be sampled plain and then dipped in a low-fat salad dressing.

Students may put an “X” through the bingo square of the vegetable that they sampled.

How would you prepare spinach for a snack?

- Wash. Eat. (How easy is that?)

How would you prepare asparagus for a snack?

- Wash. Cut. Eat. (How easy is that?)

The back of the Pick a **better** snack™ & **ACT** bingo card for May has information for their parents and grandparents, and recipe for the whole family.

Extend the Activity



**Art, Music
& PE**

Read Inch by Inch: The Garden Song by David Mallett, Harper Collins Publishers, 1995. Music for the song is included.



**Language Arts
& Reading**

Thomas Jefferson, the third president of the United States, grew spinach in his gardens along with many other fruits and vegetables. Research the variety of flowers, fruits and vegetables grown at Monticello, his plantation home in Virginia. <http://monticello.org/gardens/>



Math

Use Inchworm and a Half by Elinor Pinczes, Houghton Mifflin Company, 2001 to help students understand fractions and measurement as worms nibble and munch their way around the delicious vegetables in the garden.



**Science &
Health**

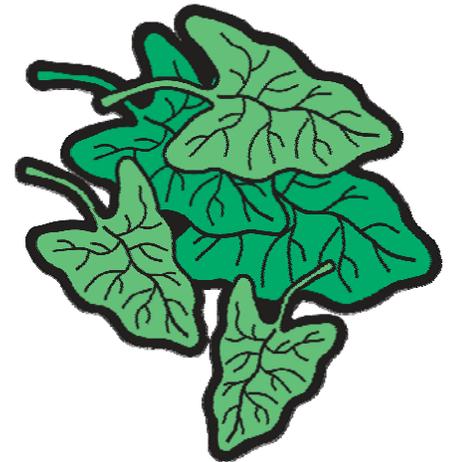
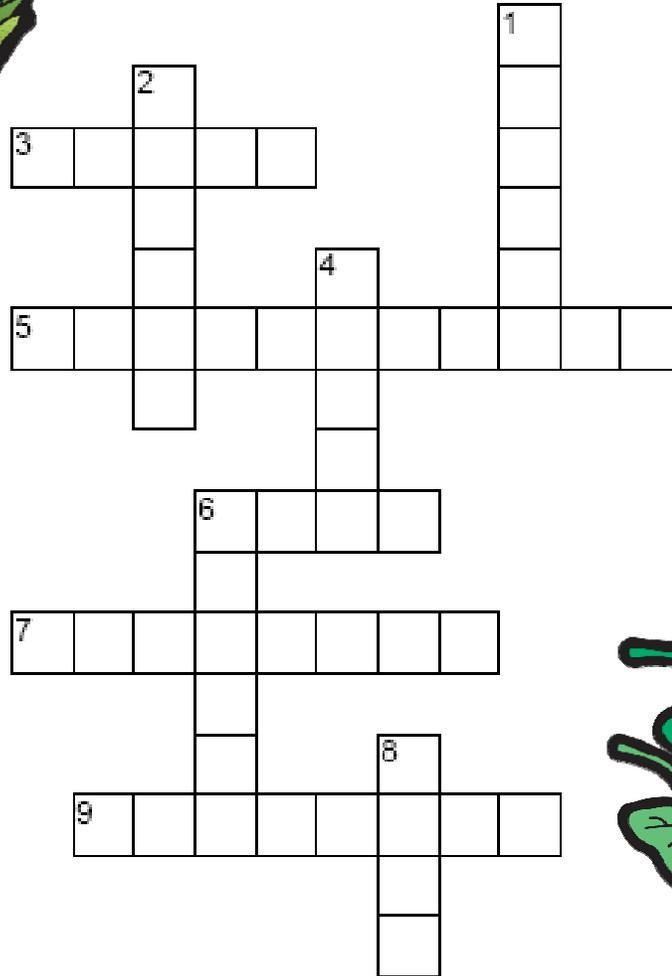
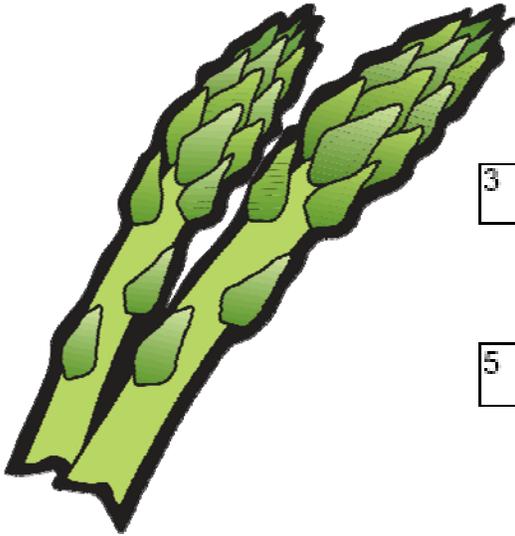
Diagram a picture of an asparagus and a spinach plant. Have students find and label each part of the plants. Grow spinach in cups on a sunny, cool location. (Instructions attached.)



Social Studies

As a class, investigate the name of a President's wife used as a variety of green asparagus. (*Martha Washington*) Who was her husband? The Martha Washington variety of asparagus is strong and resilient. Did the first lady have the same characteristics?

Asparagus & Spinach



Word Bank

- everyday
- green
- greenhouses
- leaves
- lily
- salads
- sprout
- stem
- vitamins
- white

Across

- 3. MyPyramid says to "Eat more dark- _____ veggies like broccoli spinach and other dark leafy greens."
- 5. King Louis XIV had gardeners grow asparagus in _____ so he could enjoy asparagus year round.
- 6. We eat the _____ of asparagus.
- 7. We need to eat foods with vitamin C _____.
- 9. Spinach and asparagus are good sources of _____ and fiber.

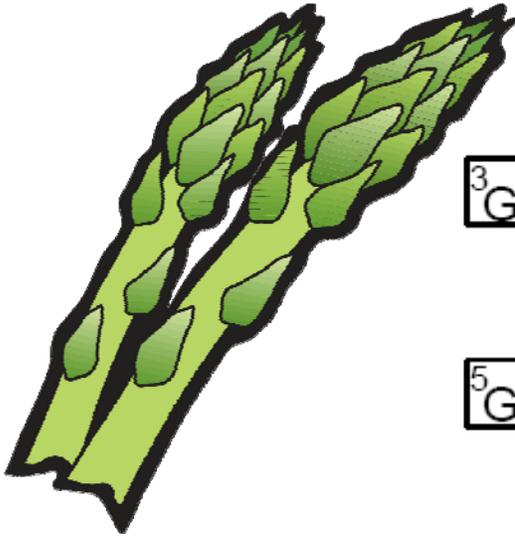
Down

- 1. Spinach tastes good in _____.
- 2. We eat the _____ of spinach.
- 4. Asparagus is available in green, purple and _____ varieties.
- 6. The name, asparagus, comes from the Greek language meaning "_____" or "shoot."
- 8. Asparagus is a member of the _____ family.

Adapted from Dole "5 A Day" Asparagus Crossword Fun

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Asparagus & Spinach



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Answer

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Across

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How to Grow Lettuce or Spinach Indoors

Materials Needed

- heavy-duty lock-type freezer bag (pint or quart size)
- lettuce seeds
- water
- potting soil

Instructions

1. Fill a plastic bag 3/4 of the way with good moist potting soil (a pot may also be used).
2. Take a little pinch of seeds and sprinkle on the soil surface.
3. Cover the seed lightly with soil.
4. Water seed with light spray. Close the top of the bag, but leave one inch open. Set in a sunny window and get ready for that salad!
5. When you see little green shoots, open the bag so that the plants have room to grow and can breathe.
6. Your plants need attention and care. That means you must water them properly and make sure your plants get enough light.

Tips on Growing Lettuce or Spinach Indoors

- You may want to cut off the corners of the bag to allow for drainage, and put bag on a tray.
- Don't use too many seeds as plants will start to crowd.
- Only 1/8 inch of soil is enough to cover the seeds.
- Water lightly so all of the soil is moist and you get good seed-to-soil contact.
- Write the date you planted the seed on the outside of the bag.
- A grow light could be used if a window is not available.
- When germination starts, open the bag. Keep it in a sunny location, and water as needed to keep it moist.
- Lettuce will grow fast in warm temperatures, but it is a lot better when grown under cooler conditions (65-70 degrees F).
- As plants start to get large and grow together, start cutting and using it in a salad.

Adapted from the Univ. of Illinois Extension web site, The Great Plant Escape, www.urbanext.uiuc.edu/gpe/index.html