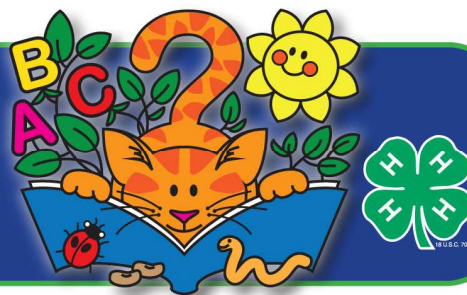


SEEDS, WEEDS & GARDEN READS

Michigan 4-H Gardening & Nutrition Activities for 5- TO 8-Year-Olds

The Giant Cabbage



Objectives:

The children will be able to:

- Explain that vegetables and other plants need air, water, food and light to grow.
- Explain that its leaves are the edible parts of a cabbage.
- Explain why some vegetables grow extra big in Alaska.

Learning and Life Skills:

- Cooperating
- Goal setting
- Problem solving
- Working in teams
- Sharing
- Healthy lifestyle choices

Ages:

5 to 8

Michigan Grade Level Content Expectations:

Science

Kindergarten through Grade 2: Make purposeful observation of the natural world using the appropriate senses (S.IP.00.11, S.IP.01.11, S.IP.02.11).

Grade 2: Identify the needs of plants (L.OL.02.14).

Listed above are the Michigan Science standards and benchmarks met through Weed, Seeds, and Garden Reads. For a correlation guide for National Common Core standards for ELA and Math go to:

TIME:

90 minutes

SETTING:

Space with tables and chairs, and preferably with running water if you'll be making coleslaw

MATERIALS:

- 1 copy of *The Giant Cabbage*. (2003). Stihler, C. B. (auth.), & Trammell, J. (illus.). Seattle, WA: Sasquatch Books.
 - Newsprint or other large paper
 - Markers
 - Masking tape
 - White or green paper plates
 - Green crayons or markers (one per child, if not using paints or green plates)
 - Scissors (one pair for every two or three children)
 - Light and dark green tissue paper
- (one sheet of each shade per child)
- Paint brushes (one per child)
 - Paint stir sticks (one per child)
 - Glue sticks (one for every two or three children)
 - Plates or cups (one per child)
 - Napkins (at least one per child)
 - Forks (one per child)
 - "Coleslaw With Apples Recipe" handout (one per child)
 - A globe or large U.S. or world map that shows Alaska where it really is near the North Pole, not as an inset that shows it out of position
 - Large photos of cabbages and other vegetables (optional)
 - As large a head of green cabbage as you can grow or buy to display (optional)

PROCEDURE:

Before the meeting:

1. Review the background information and activity directions.
2. Gather the supplies and recipe ingredients you'll need for this activity. Find a copy of *The Giant Cabbage* at your local library or bookstore.
3. Photocopy the "Coleslaw With Apples Recipe" handout and the family take-home newsletter.
4. Make a sample cabbage mask to show the children.
5. Depending on the age and skill level of your group, you may want to mark and cut out the eye holes for the cabbage masks.
6. Display the globe or map of Alaska, the large cabbage and the photos of cabbages and other vegetables where everyone can see them.
- 7.

BACKGROUND INFORMATION:

Cabbage Facts

Cabbage is a nutritious, hardy vegetable that grows fast and well in cool climates, so it has been popular in northern Europe for centuries. More than 100 varieties of cabbage are grown around the world. In the United States, most growers favor green, red and savoy varieties.

Cabbage is one tough plant! Its seeds germinate (sprout) at temperatures as low as 40 °F and it grows well at up to 85 °F. Some varieties mature in only 50 days. The really large varieties tend to take 90 or more days to mature. In Michigan, most gardeners buy cabbage seedlings to transplant.

In 2009, a grower named Steve Hubacek won the Giant Cabbage Weigh-Off at the Alaska State Fair with his 127-pounder. Fair-goers were especially impressed with Mr. Hubacek's entry, because it set a new world record!

Cabbage provides plenty of cheap, nutritious, tasty food per acre. It is high in vitamin C, beta carotene and fiber, and also contains vitamin K, folate and potassium. One-half cup of cabbage provides 30 percent to 45 percent of the daily recommended amount of vitamin C. You can eat cabbage raw, or steam, boil, braise, microwave, stuff or stir-fry it.

Twenty-five states have towns, streams, valleys, hills, swamps, islands or other places named for cabbage. Florida has the most "cabbage places," with more than 30, while Michigan seems to have only one: Cabbage Creek in Alcona County.

Alaska Facts

Alaska is so far north that in the summer, the northernmost town, Barrow, has 24 hours of daylight. That's why one of Alaska's nicknames is "The Land of Midnight Sun." (By contrast, in East Lansing, Michigan, the longest summer day lasts 15 hours and 19 minutes.)

Though individual days can be long in Alaska, the growing season can be very, very short. Barrow, at about 17 days, has almost no growing season at all. Surprisingly, though, the growing season in some parts of the state can be longer than it is in parts of Michigan. The growing season in the state capital of Juneau (in the southeastern corner of the state) is 172 days. Around Anchorage, near where The Giant Cabbage is set, the growing season varies from 107 to 120 days. The growing season around East Lansing is about 150 days.

Gardeners in Alaska are advised to build sturdy fences around their gardens, not to keep the deer away, as Michigan gardeners seek to do, but to keep the moose out!

During the meeting:

1. Have the group sit in a circle around you. Read aloud or paraphrase the following:
We're going to read a story called The Giant Cabbage that's about a moose who grows a giant cabbage in his vegetable garden in Alaska. Moose is so proud of his giant cabbage that he decides to enter it in the Giant Cabbage Contest at the fair. But he has a few problems to solve before he can do that. As you listen to the story, think about the problems Moose is having and how he decides to solve them. You'll have to sit quietly and listen carefully for clues.
2. Read the story aloud to the group, showing them the pictures as you go. Encourage them to hold their comments and questions about the story until you're finished reading. (Note: Read just the story at this point, not the supplemental information at the back of the book.)
3. When you've finished reading the story, give the group a minute or so to think about Moose's problems and how he solved them. Then ask for volunteers to share their answers to the following questions. Write their responses on the newsprint.
 - *How else could Moose have solved the problem of the cabbage being too heavy for him to move by himself?*
 - *Tell us about a time you had to ask for help in solving a problem. Were you and your helpers able to solve the problem and finish the job?*
 - *After the cabbage had won the price at the fair, Moose and his friends cut it up and made soup with it and some other ingredients they*

shared together. What else could they have done with that enormous, prize-winning cabbage? What other ways could they have celebrated their accomplishment?

- Sometimes people share meals called “potlucks” that feature foods that people from different households bring. Have you ever been to a potluck? What makes a potluck special? (Variety of foods, nobody gets stuck with all of the work, eating with friends and other people)
 - What were some of the words the author used to describe the cabbage? (*big, huge, pretty big, enormous, giant*) What are some other things that you could describe with those words?
4. Now it's time to share the information at the back of *The Giant Cabbage* about the long days of summer in Alaska and how gardeners and farmers really are able to grow some huge vegetables there. Ask the group the following questions:
 - What four things do plants need to grow? (*Air, water, food and light*)
 - What one of those things does Alaska have a lot of during the summer? (*Sunlight*)
 - How does that extra sunlight help cabbages and other vegetables grow extra big? (*The plants have extra hours in which to grow.*)
 5. Ask for a volunteer to find Michigan on the globe or map (you may need to help him or her do so). Then help the volunteer find Alaska. Ask the group what they know about Alaska and if any of them have ever visited Alaska.
 6. Next ask if any of them have gardens, and if they do, what they grow in those gardens. Record their answers on the newsprint. Then ask the following questions:
 - Have you ever grown cabbage?
 - What color was your cabbage?
 - How big did the cabbage heads grow?
 - What part of the cabbage do we eat? (*The leaf.*)
 - What other vegetables do we eat the leaves of? (*Lettuce, Brussels sprouts, spinach, collards...*)
 7. Now tell the group that they're going to create their own giant cabbage masks.
 8. Hand out the paper plates, paint stir sticks,
 9. Give the group a few minutes to color or paint the front side of their paper plates. If you did not pre-cut the eye holes, have the children do so.
 10. Next tell the children to glue “leaves” (scrunched up tissue paper in shades of green) to the front sides of their masks.
 11. Finally, have the group glue their paint stir sticks to the back of their masks to use as a handle. Have the group write their names on the back sides of their masks, then lay the masks aside to dry in a safe place while they prepare and enjoy the “Coleslaw With Apples” snack.

Growing for a Record!

To grow your own giant cabbage to exhibit at the fair, to show off in your neighborhood or to share with your family, pick a variety such as 'King Cole,' 'Megaton Hybrid' or 'King Slaw Hybrid.' After the danger of heavy frost is past in your area, plant cabbage seedlings in rich, well-drained soil, in full sun. (They can tolerate light shade, especially if summer heat comes early.) Plant the seedlings in rows about 24 inches apart and cover them lightly with ¼-inch to ½-inch of soil.

Water the plants if there is less than 1 inch of rain a week to help them withstand the hot summer sun and grow quickly. Keep the area around your cabbages weed-free so they don't have to compete for nutrients and water in the soil.

Growing big vegetables takes lots of nutrients, so apply a balanced fertilizer (one in which the percentages of nitrogen, phosphorus and potassium are the same, this information is on the fertilizer bag with the big number by the letters NPK) or compost regularly.

To reduce the risk of pest problems, don't plant cabbages in the same place in your garden two years in a row.

Cabbages are mature and ready to harvest when the heads are solid. Cut off the stems at ground level and remove the outer leaves, but keep four or five wrapper leaves in place as protection. Cabbage stores well in cool temperatures and high humidity.

Curiosity Cat says, “I love to read about growing things!”



TALKING IT OVER:

After everyone has enjoyed the snack and the room is cleaned up, bring the children's attention back to the group and ask the following questions:

- *Had you ever eaten cabbage before today? How was it prepared?*
- *Had you ever eaten coleslaw before today? Did it taste different from ours? What ingredients do you think made it taste different?*
- *What other foods with vegetables in them do you like to eat?*
- *If today was your first time eating cabbage or coleslaw, will you be willing to give other new vegetables a try another time? Why?*
- *Can you think of other leafy vegetables we eat? (Lettuce, spinach, kale, collards, Swiss chard)*

TRY THIS, TOO:

- Have the group work in teams to measure and plan a garden plot for growing giant cabbages. Use string or masking tape to mark off an area for each team to work. Give the teams measuring tapes and green paper plates or construction paper. Tell them that to grow really big cabbages, they'll need to space the cabbages about 24 inches (61 cm) apart. Ask them to use the measuring tape and paper "cabbages" to figure out how many rows of how many real cabbage plants they could fit in their plots.
- Give the participants paper and pencils or crayons and have them write or draw their ideas about other ways that Moose could have loaded the giant cabbage onto his truck in *The Giant Cabbage*.
- Organize a "How Big Is This Cabbage?" contest. Ask the children to guess how much the head of cabbage you brought to show them weighs and how wide

RECIPE

Coleslaw With Apples

"Cole" is the name for the group of vegetables that includes broccoli, Brussels sprouts, cabbage and cauliflower. The tasty salad we call "coleslaw" usually has raw, sliced cabbage as its main ingredient. It often also includes carrots, onions and other vegetables. This version includes apples to increase its "kid appeal."

INGREDIENTS:

- ½ cup low-fat lemon yogurt
- 2 tablespoons cider vinegar
- 1 tablespoon light mayonnaise or salad dressing
- ¼ teaspoon salt
- ¼ teaspoon ground pepper
- 4 cups thinly sliced or shredded green and/or red cabbage
- 1 medium apple, cut in thin wedges

EQUIPMENT:

- Large mixing bowl
- Whisk
- Paring knife (Check with the sponsoring organization of your meeting about their policy on children handling knives.)
- Cutting board
- Dry measuring cups
- Measuring spoons
- Serving spoon (one per mixing bowl)

PROCEDURE:

1. Have the group members wash their hands with soap and warm water for 20 seconds before beginning to prepare the recipe. Be sure that all work surfaces are clean.
2. If the cabbage is not shredded, use the paring knife to cut it into short, thin slices. (Smaller slices will be easier for the children to eat without making a mess.) Cut the apple into thin wedges.
3. In the large bowl, whisk together the yogurt, vinegar, mayonnaise, salt and pepper.
4. Add the cabbage and apple and toss to coat.
5. Serve and enjoy!

Makes 8 servings.

it is. Have the contestants write their names on slips of paper, with their weight and width guesses. Weigh and measure the cabbage and award prizes for the closest guesses.

- Sponsor a giant cabbage (or other vegetable) growing contest for your group. At the start of the contest, give everyone

who wants to participate a few seeds of the same variety of cabbage. Set a planting date and a date for the weigh-in, and let the sun, soil, wind and rain take it from there. This could be an especially interesting project for a group of community gardeners.