

Plant Parts We Eat

Objective

Students read about vegetables and answer comprehension questions. Students sort vegetables by parts. Students measure vegetables. Students write detailed descriptions of vegetables.

Background

Which parts of the plant do we usually eat? The seed? The fruit? When we eat asparagus, we are eating the stem of the plant. When we eat spinach or lettuce, we are eating the plant's leaves. We eat the fruit of squash, cucumber and tomato plants. When we eat corn or peas we are eating seeds. Cauliflower and broccoli plants produce flowers we like to eat. When we eat radish or carrot, we are eating roots. Potatoes grow underground, but the part we eat is not a root. Is it an underground stem called a tuber. Celery looks like a stem, but it is a petiole, a part of the leaf.

With some plants we eat more than one part. The root of the beet plant is what most people like to eat, but the leaves are also good to eat—in salads, when the leaves are young and tender, and cooked when they get bigger. We eat the root of the onion plant but can also eat the stems, for a milder flavor.

Some of the plants we eat are poisonous—if we eat the wrong part. The leaves of tomato plants are poisonous. For many years people would not even eat tomatoes, because they thought the entire plant was poisonous. Now we know that the fruit of the tomato plant has vitamins that are very good for us. They are also delicious—sliced or chopped fresh into salads, cooked into spaghetti sauce or processed into salsa.

Activities

ACTIVITY ONE: PRINT AWARENESS, FLUENCY, COMPREHENSION

1. Read and discuss background and vocabulary.
2. Provide copies of the Worksheet A.
 - Students will read the passage or follow along as you read.
 - Students will answer the comprehension questions included with the reading.

ACTIVITY TWO: SORTING AND VOCABULARY

1. Bring an assortment of root, stem, fruit and seed vegetables to class. (See list on Page 2.)
 - Show the vegetables one by one and ask students to identify

Standards

PRE-KINDERGARTEN

P.A.S.S.

Creative Skills—1.2,3,4
Oral Language—1.1,2; 2.5
Literacy—3.1,4,6; 7.1,3; 8.1,4; 9.3
Math—1.1; 4.2,3
Science Process—1.1,3,4
Physical Science—2.1,2,3
Life Science—3.1,2

KINDERGARTEN

P.A.S.S.

Creative Skills—1.2,3
Science Process—1.1,2
Physical Science—1.1,2,3
Life Science—2.1,2
Visual Art—3.1ac,2

COMMON CORE

Language Arts—K.RF.1; K.RI.4;
K.L.6; K.RL.4; K.W.2; K.SL.2
Math—K.MD.1,2,3; K.CC.6;
K.OA.1,2,3,4,5

GRADE 1

P.A.S.S.

Science Process—1.1,2; 2.1,2; 3.1,2;
4.3
Physical Science—1.1,2
Life Science—2.1
Visual Art—3.2

COMMON CORE

Language Arts—1.L.5; 1.RF.4;
RI.7,10; 1.W.8; 1.SL.1
Math Process—MP.1,2,3,4,5
Math Content—1.NBT.3,4; 1.OA.1,2;
1.MD.1,2

GRADE 2

P.A.S.S.

Science Process—1.1,2; 2.1,2; 3.1,2;
4.3
Visual Art—3.2

COMMON CORE

Language Arts—2.L.1,3,4,5,6;
2.RI.2,3,4,6,10; 2.RF.4; 2.SL.1,2,6;
2.W.3
Math Process—MP.1,2,3,4,5
Math Content—2.NBT.3,4; OA.1,2;
2.MD.2,9

Materials Needed

assorted examples of fresh vegetables that are roots, leaves, stems, seeds and flowers

stems: asparagus, celery

flowers: cauliflower, broccoli

root: radish, beet, carrot, parsnip

seeds: peas or beans in pod, corn on the cob

fruit: eggplant, squash, tomatoes, cucumber

leaves: lettuce, cabbage, spinach, mustard greens, beet greens

them. Ask if anyone has ever eaten any of the vegetables. Which ones are their favorites?

—Students will sort the vegetables in piles according to the part of the vegetable we eat—the root, the seed, the stem or the leaves.

2. Hand out Student Worksheet B.

—Read the worksheet with your class, and discuss the different plant parts. Help students identify the plant parts we eat.

—Discuss the colors of the different vegetables.

—Students will decide what colors the vegetables should be colored and color them.

3. Hand out Student Worksheet C.

—Students will draw lines from the plants pictured to the correct words, using Student Worksheet B as a guide.

4. Bring samples of some vegetables students might not ordinarily eat, e.g., turnips, kale, mustard greens, etc., and invite students to taste them and guess which part of the plant they came from.

5. Take a trip to a farmer's market or the produce section of a grocery store.

—Students will identify vegetables they see and designate which part of the plant is eaten.

6. Write the cafeteria menu on the chalkboard for several days.

—Students will look at the vegetable of the day and determine whether it is a stem, seed, flower, etc.

ACTIVITY THREE: MEASURING, GRAPHING, NUMBER SENSE

1. Students will use a gram scale to weigh each of the vegetables.

2. Students will measure the circumference, length, etc., of the vegetables, using standard and/or nonstandard unit of measurement.

3. Students will place the vegetables in order from shortest to longest and thinnest to thickest.

4. Bring grocery ads to class.

—Students will find the price for one pound of roots, one pound of stems, one pound of fruit and one pound of flowers.

—Students create math problems using the prices.

ACTIVITY FOUR: WRITING

1. Students will write detailed descriptions of one or more of the vegetables you have brought to class, using all five senses.

ACTIVITY FIVE: RESPONSE TO LITERATURE

1. As a class, read the book *Tops and Bottoms*, by Janet Stevens.

2. Compare *Tops and Bottoms* with the information found on the Reading Page. How is it different? How is it the same?

3. Discuss the varieties of vegetables grown in the garden.

4. Provide drawing paper, crayons, markers, etc.

5. See the example, "Tops and Bottoms Foldup Garden," provided with this lesson.

6. Students will fold the paper in half and then in half again.

7. In the two center sections students will draw a picture of a vegetable garden.
8. Explain to students that the fold represents the ground level.
9. Students will draw examples of vegetables that grow above and below the ground. (corn, radish, broccoli, carrots, etc.)
10. After their pictures are complete, students will fold the top and bottom sections of their papers toward the pictures so that the top section covers the plants growing above the ground level and the bottom section covers those growing below ground level.
11. Students will write the word “Tops” on the outside of the top flap.
12. Students will write “Bottoms” on the outside of the bottom flap.

ACTIVITY FIVE: PHYSICAL SCIENCE

1. Students will use the vegetables to conduct experiments and determine if they are heavy or light, float or sink, are rough or smooth.
2. Students will use the vegetables to conduct experiments and determine how they move. Do the slide, turn, twirl or roll?

ACTIVITY FIVE: LIFE SCIENCE

1. Early in the fall or spring, help students plant some fast-growing cool weather vegetables (radishes, lettuce, spinach, peas, beets, etc.) to harvest and eat.
—Students will observe plant growth and record their observations in a garden journal.

ACTIVITY SIX: ART EXPRESSION

1. Students will use an assortment of vegetables to make vegetable prints with tempera paint.
2. Students will create their own plants using common materials such as straws, buttons, strings, balloons, etc. Make sure the fantastical plants have roots, stems, leaves, flowers, fruit and seeds.

Extra Reading

- Blackaby, Susan, and Charlene Delage, *Plant Plumbing: A Book About Roots and Stems*, Picture Window, 2005.
- Child, Lauren, *I Will Not Ever Never Eat a Tomato*, Candlewick, 2007.
- Lee, Brenda Cartee, *Lunch at the Zoo*, Little Cottage, 2003.
- Moser, Lisa, and Ben Mantle, *Perfect Soup*, Random House, 2010.
- Salas, Laura Purdie, *Lettuce Introduce You: Poems About Food*, Capstone, 2008.
- Stevens, Janet, *Tops & Bottoms*, Harcourt Brace, 1995.
- Stone, Lynn, *Fruit (Plant Parts)*, Rourke, 2007.
- Thurman, Kathryn K., and Lindsay Ward, *A Garden for Pig*, Kane Miller, 2010.

Vocabulary

flower—a shoot of a higher plant that is specialized for reproduction and bears modified leaves (as petals) leaves

fruit—the ripened ovary of a seed plant (as an apple or raspberry) when sweet and pulpy

plant—any of a kingdom of mostly photosynthetic living things usually lacking the ability to move from place to place under their own power, having no obvious nervous or sensory organs, possessing cellulose cell walls, and often having a body that is able to keep growing without taking on a fixed size and shape

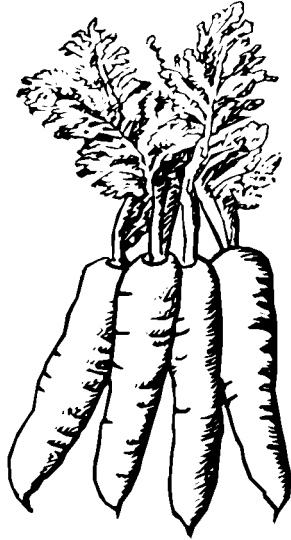
seed—a fertilized ripened ovule of a flowering plant that contains an embryo and is capable of producing a new plant; also : a plant structure (as a spore or small dry fruit) capable of producing a new plant

stem—the main stalk of a plant that develops buds and shoots and usually grows above the ground

Plant Parts We Eat

A

Which parts of a plant do we usually eat? The seed? The fruit? When we eat asparagus, we are eating the stem of the plant. When we eat spinach or lettuce, we are eating the plant's leaves. We eat the fruit of squash, cucumber and tomato plants. When we eat corn or peas we are eating seeds, and when we eat radish or carrot, we are eating roots. Cauliflower and broccoli plants produce flowers we like to eat. Potatoes grow underground, but the part we eat is not a root. Is a an underground stem called a tuber.



With some plants we eat more than one part. The root of the beet plant is what most people like to eat, but the leaves are also good to eat. We can eat beet leaves in salads when the leaves are young and tender. When they get bigger, they taste better cooked. We usually eat the root of the onion plant. The stems taste good too, when they are young and tender.

Some of the plants we eat are poisonous if we eat the wrong part. The leaves of tomato plants are poisonous. For many years people would not even eat tomatoes, because they thought the entire plant was poisonous. Now we know the fruit of the tomato plant has vitamins that are very good for us. Tomatoes are also delicious.

1. Which part of the plant do we eat? (Circle all the correct answers.)

- a. stem b. leaves c. fruit d. seeds e. flowers

2. We eat more than one part of which plants? (Circle one.)

- a. spinach and lettuce b. okra and tomatoes
c. beets and onions d. radish and carrot



3. Beet leaves taste better cooked when they get _____ ,

4. The fruit of this plant is delicious, but the leaves are poisonous. _____

Name _____

Plant Parts We Eat

B

Color the vegetables. Make them look good enough to eat.

You eat our roots.



beets



carrots



radishes

You eat my stems.



asparagus

You eat our leaves.



cabbage

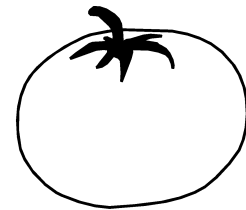


lettuce

You eat our fruit.



pepper



tomato

You eat our seeds.



corn



peas

You eat my flowers.

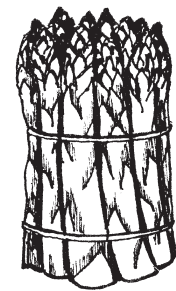


cauliflower

Name _____

Plant Parts We Eat C

Match the plants to the parts we eat.



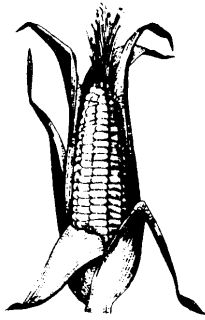
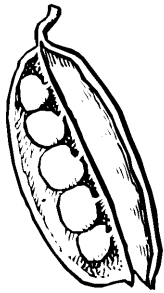
roots

stems

leaves

seeds

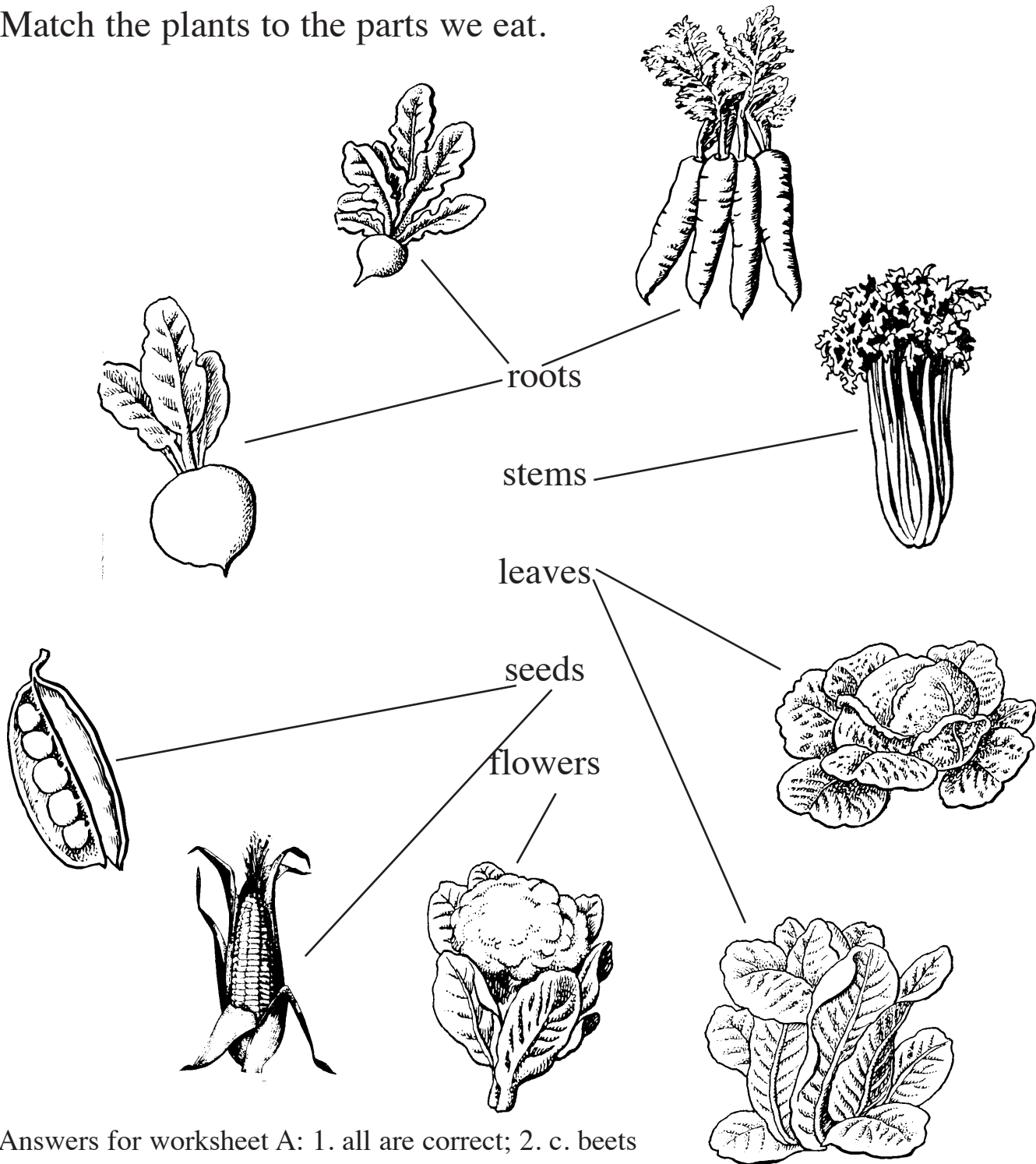
flowers



Name _____

Plant Parts We Eat (answers)

Match the plants to the parts we eat.

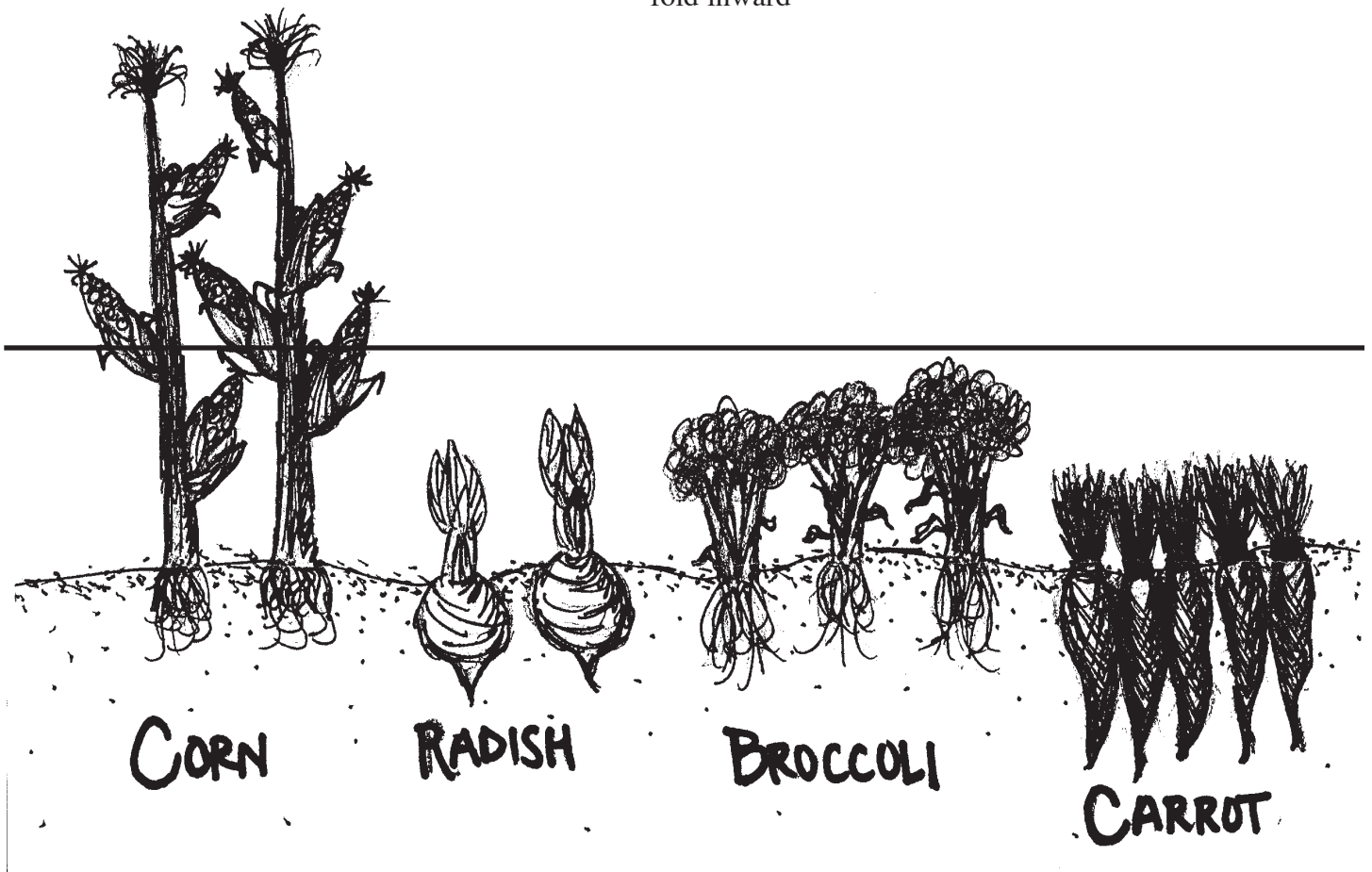


Answers for worksheet A: 1. all are correct; 2. c. beets and onions; 3. older; 4. tomato

Tops and Bottoms Foldup Garden

1. Read the book *Tops and Bottoms*, by Janet Stevens
2. Discuss the varieties of vegetables grown in the garden.
3. Provide students with drawing paper and crayons, markers, etc.
4. Students will draw their own garden with both tops and bottoms.
5. Students will fold the garden in half and in half again.
6. Students will fold the top and bottom sections of their papers inward toward the pictures they have drawn.
7. Students will write the word "Tops" on the outside of the top flap.
8. Students will write "Bottoms" on the outside of the bottom flap.

fold inward



fold inward