Objective
Students read about vegetables and answer comprehension questions. Students sort vegetables by parts. Students measure vegetables. Students write detailed descriptions of vegetables. Students read Tops and Bottoms, by Janet Stevens, and create their own Tops and Bottoms gardens.

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 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. It is a 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 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 next page.)
   —Show the vegetables one by one and ask students to identify 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

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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 color the vegetables as desired.

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: 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. (See the “Food and Fun” section on the website for instructions to make garden journals from brown grocery bags.)
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.

ACTIVITY FIVE: TOPS AND BOTTOMS FOLDUP GARDEN
1. As a class, read the book *Tops and Bottoms*, by Janet Stevens.
   — Discuss the varieties of vegetables grown in the garden.
   — Provide drawing paper, crayons, markers, etc.
   — Follow the directions included with the example, “Tops and Bottoms Foldup Garden,” provided with this lesson.
2. Alternative: Paper Plate Garden
   — Students will fold a paper plate in half and draw a line down the center.
   — Students will color one half the plate blue and the other half brown.
   — Students will draw or glue pictures of vegetables on the colored plate. The blue space will serve as the sky, so anything that grows on top should be placed on the line growing into the blue, while anything that grows from the bottom should be placed on the line growing into the brown side of the plate.
   — Students will fold another plate in half and cut along the fold. Students will write “Tops” on one half and “Bottoms” on the other half.
   — On the left side of the first plate, students will punch a hole about 3 cm in on the line.
   — Students will place the two halves on top of each other and punch a hole 3 cm in on the left side. The hole should line up with the first plate.
   — Line all the holes up and use a brad to secure the plates. Now the bottom plate should have a cover. When the “Tops” half is pulled up it should reveal the crops that grow on top. When the “Bottoms” half is pulled up it should reveal the crops that grow on bottom.

Extra Reading

Vocabulary
flower—a shoot of a higher plant that is specialized for reproduction and bears modified leaves (as petals)
fruit—the ripened ovary of a seed plant (as an apple or raspberry) when sweet and pulpy
leaf—one of the green usually flat parts that grow from a stem or twig of a plant and that function mainly in making food by photosynthesis
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

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, broccoli 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._____________________

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Plant Parts We Eat

You eat our roots.
- beet
- carrot
- radish

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

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Name____________________________________________________

Plant Parts We Eat

Draw a line from the vegetable to the part we eat.

- asparagus
- beet
- carrots
- cucumber
- cabbage
- eggplant
- cauliflower
- corn
- spinach

roots
fruit
stems
leaves
seeds
flowers
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Draw a line from the vegetable to the part we eat.

Name____________________________________________________

Plant Parts We Eat (Answers)

- asparagus
- beet
- carrots
- cucumber
- cabbage
- eggplant
- cauliflower
- corn
- spinach

- roots
- fruit
- stems
- leaves
- flowers
- seeds
Tops and Bottoms Foldup Garden

1. Read the book Tops and Bottoms, by Janet Stevens, and provide drawing paper, crayons, markers, etc.
2. Students will fold the paper in half and then in half again.
3. In the two center sections students will draw a picture of a vegetable garden, as shown below.
4. Explain to students that the fold represents the ground level.
5. Students will draw examples of vegetables that grow above and below the ground (corn, radish, broccoli, carrots, etc.). Students may also color and cut out the pictures of vegetables on the worksheets above.
6. 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.
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.

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**Fold inward**

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