ENGAGE

Materials
For each student
- BLM 4, Matching Seeds
- Seeds (acorn, bean, corn)
- Glue

Note: Use the actual seeds rather than the drawings for a more authentic learning experience.

- Instruct students to match each seed to its corresponding picture.
- Instruct students to draw a line to match seeds to the corresponding adult plant.

Facilitation Questions
- What do the acorn, bean, and corn seed have in common? (They are all seeds.)
- What is a seed used for? (A seed is planted. A plant will grow from the seed.)
- What plant will grow from an acorn? (an oak tree)
- What plant will grow from a bean seed? (a bean plant)
- What plant will grow from a corn seed? (a corn plant)

EXPLORE

Materials
For each student
- BLM 5, Observing Seeds (2 pages)
- Pencil
- Crayons
- Hand lens

For the teacher
- Knife
- 5 resealable plastic bags for each group
- Paper towel

For each group
- Seed observation bags containing the following:
  - Peach
  - Apple
  - Kiwi
  - Strawberry
  - Pecan (whole in shell)
5.2: Plants

Teacher Preparation: Prior to the lesson, prepare all but one of the seed observation bags. Cut the fruit in half leaving the seeds intact. Place each of the halves of fruit in a plastic bag and seal it. Place a whole pecan and a cracked open pecan in a plastic bag. Label each bag according to its contents. Use the last set of fruit to allow students to observe the whole fruit. Cut the last set as a part of the lesson allowing students to locate the seed(s) of each.

Note: A vegetable is the edible part of a plant, and a fruit is the plant part that forms around the seed of a flowering plant.

- Prepare the last seed observation bag. Allow students to observe the whole fruit and seeds of each.
- Pass a set of seed observation bags to each group.
- Allow adequate time for students to observe the contents of each bag.
- Ask:
  - What is in each bag? (peach, apple, kiwi, strawberry, pecan)
  - What do these items have in common? (They have seeds or are seeds. They are edible. Most of them are fruits.)
  - Do the items have the same number of seeds? (no)
- Note: An average sized, healthy apple could have 5–10 seeds. A peach has one pit, which is the seed. A kiwi has hundreds of little black seeds. An average strawberry has about 200 tiny seeds on it. The pecan itself is considered the seed.
  - Are all the seeds exactly alike? (no)
  - How are they different? (Answers may include size, color, shape, and where they are located in/on the fruit.)
- Instruct students to complete BLM 5, Observing Seeds.

EXPLAIN

Materials

For each student
- Science Reader, Learning About Plants
- BLM 6, What Do You See?
- Hand lens

For each group
- Potted plant, such as an ivy, marigold, fern, etc., in a resealable plastic bag

Note: If possible, have each group observe a different plant.

- Read aloud to the class, Learning About Plants, as they follow along.
5.2: Plants

- Instruct students to observe the plant using their sense of sight.
- Allow adequate time for students to draw, color, and label the plant in the box on BLM 6, What Do You See?.
- Instruct students to use the hand lens to observe the leaves of the plant.
- Allow adequate time for students to draw what they see in the top circle on BLM 6, What Do You See?.
- Instruct students to remove the plant from the pot slowly making sure to keep the roots intact. Model as needed.
- Instruct students to shake soil from the roots gently.
- Instruct students to use the hand lens to observe the roots of the plant.
- Allow adequate time for the students to draw what they see in the bottom circle on BLM 6, What Do You See?.

Facilitation Questions

- What do the plants have in common? *(The plants have leaves, stems, and roots.)*
- Are these plants living? Do the plants have basic needs? *(yes)*
- What are some of the parts of a plant? *(roots, stem, leaves, flowers)*
- How does each part help the plant meet its needs? *(The roots absorb water from the soil. The water travels up the stem to the other parts of the plant. The leaves absorb the light energy from the Sun to help the plant make its own food.)*
- What is your favorite vegetable to eat? *(Answers will vary.)*
- What is your favorite fruit to eat? *(Answers will vary.)*

ELABORATE

Activity 1

Materials
For each group
- Science Reader, *Grandma’s Garden*

- Read aloud to the class, *Grandma’s Garden*, as they follow along.
- Use the questions below to guide discussion.

Facilitation Questions

- What was Jimmy’s grandma doing? *(working in the garden)*
- What did Jimmy’s grandma really mean when she said she was planting a salad? *(She was really planting all the vegetables that she uses to make a salad.)*
- What was Jimmy’s grandma planting? *(vegetables, radishes, lettuce, and tomatoes)*
- Why was Grandma putting seeds in the dirt? *(Plants grow from seeds.)*
- What do the plants need to grow? *(water, food, sunlight)*
- Do all seeds sprout and grow in the same way? *(Answers will vary.)*
ELABORATE

Activity 2

Materials
For each group
- Lettuce seeds
- Radish seeds
- Clear plastic cups
- Soil
- Spray bottle, filled with water
- BLM 7, Observation Sheet: Plants (2 pages)

Materials for Optional Activity
For each student
- Connecting cube or other stackable nonstandard unit
- Crayons
- Plant from EXPLAIN

- Instruct students to plan an investigation using the materials provided to answer the following question:
  - Which seed sprouts quicker, the radish or the lettuce seed?
- Allow adequate time for students to plan and implement the investigation.
- Circulate among the groups facilitating the planning of the investigation.
- Allow each group to share its plan.

Note: Most likely, the lettuce will take about four days to sprout. The radishes may take a day or two longer. Students may create their own observation page.

Facilitation Questions
- What is being tested? (Which seed will sprout faster.)
- What is a system? (A system is a group of parts that work together to do a job or perform a function.)
- What are the parts of the plant system you created? (seeds, pot, dirt, water, sunlight)
- What are the results of your investigation? (Answers may vary.)

- Instruct students to use the connecting cubes to measure the growth of their plant as part of the Day 1, 3, 5, and 7 observations and continue until the plants are taken home.
- Instruct students to measure the growth by stacking connecting cubes beside the growth, counting the number of cubes used, and graphing that information.
- It may be necessary to model the measurement and/or graphing activities for students.
5.2: Plants

EVALUATE

Materials
For each student
- BLM 8, Assessment: Plants (3 pages)

・ Have students complete the assessment.

Answer Key
1. D
2. C
3. B
4. C

Administer Curriculum-Based Assessment 5, Life Science, Part 1, located on the CD.
A plant is a living thing. It has basic needs.

There are many kinds of plants.
A plant grows from a seed.

The seed sprouts.

It pushes up through the soil.

Leaves grow out from the stem.

The plant grows bigger.

The plant grows taller.
Plants need water to live and grow.

The roots of a plant soak up water from the soil.

Water travels up the stem.

The roots and stem help the plant meet its needs.