

Plants Have Parts

Standard IV

Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.

Objective 2

Living things change and depend upon their environment to satisfy their basic needs.

Intended Learning Outcomes

Communicating Science: Communicating effectively using science language and reasoning.

Content Connections: Language Arts, Math

Background Information

This lesson is brief introduction to the parts of plants. Teach it after the previous two plant lessons so that students will have a foundation of seeds and sprouting before talking about parts of plants.

Research Basis

Smith, D.C., & Neale, D. C. (1989). The Construction of Subject Matter Knowledge in Primary Science Teaching. *Teaching and Teacher Education*, 5(1), 1-20. Teachers are responsible for facilitating students' conceptual change in science. Suggested strategies for teachers to use include finding out students' prior knowledge and predictions, asking for clarification and explanation, providing discrepant events, encouraging discussion about data, and clearly presenting alternative scientific explanations.

Roth, W. M., McGinn, M.K. (1997). Graphing: Cognitive Ability or Practice? *Science Education*, 81(1), 91-105.

Graphing is a social practice that involves action and reflection, leading to understanding that is relational. Students should construct graphs from real-life situations.

Invitation to Learn

Teach students the following song. It is sung to the tune of head, shoulder, knees and toes.

Do you know the parts of plants
parts of plants, parts of plants?
Do you know the parts of plants
that help them grow and grow?

Roots hold the plant in place

plant in place, plant in place.
Roots hold the plant in place
store food and water too!

Stems carry water
water, water.
Stems carry water
through the plant all day.

Leaves turn sunlight to food
light to food, light to food.
Leaves turn sunlight to food
for the plant to eat.

The flower makes the seeds
makes the seeds, makes the seeds.
The flower makes the seeds
that grows new plants one day.

Now you know the parts of plants
parts of plants, parts of plants.
Now you know that parts of plants.
Aren't you a smarty-pants!!

Plant Parts Have Jobs

Materials

- *Plant part journal pages*
- 5 descriptions on overheads
- *Parts of a plant*
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Instructional Procedures

1. Talk about the song and have students name the parts of plants. They are seed, root, stem, leaves and flowers.
2. Ask students what they think the jobs might be of the different parts of the plants. Discuss student ideas for a few minutes.
3. Students fill out the "I think a _____ job is:" part of their plant part journal. (It is in the Each Plant Part Has a Job portion of the journal.)
4. Now discuss what the actual jobs of the plant parts are.
5. Type the following five descriptions and copy them on overhead. Students will copy the descriptions on a page in their plant journal.
6. A seed is a baby plant wrapped in a blanket and carrying its own lunch.
7. The roots take food and water from the soil.
8. The stem carries food and water through the plant.
9. The leaves turn sunlight into food for the plant.

10. The flower's job is to make seeds. The seeds will travel to the ground and grow into new plants.
11. Display one of the five sayings at a time and students handwrite in their plant journal. Make sure they use their neatest handwriting. This may be spread out over a few days if you like.
12. When this is complete return to the Each Plant Part Has a Job portion of the plant part journal and have students fill in the "I learned that a _____ job is" section. Students need to put this in their own words.
13. Color the page Parts of a Flowering Plant. Cut and glue the pieces on the right places. Then cut out the large section and glue it on the back cover of the plant parts journal.
14. Add words to the Seed/Plant word wall.

Eat Plants, Eat!

Materials

- Different parts of plants
- *Plant parts cards*
- Pictures of different plant parts
- *Plant journal*

Instructional Procedures

1. Read *Tops and Bottoms*. Talk about and review the different parts of plants. What are they? Explain that middles have different names.
2. During this activity have students complete pages in their plant journals.
3. Bring in at least one thing to eat that fits into each of the following categories. Roots, stem, leaves, flower, seeds, and fruit.
4. Discuss all the different food. What do they have in common? What makes them different? How could we categorize these foods?
5. Sort the foods a few times as suggested by students. Then sort them your way into the different parts of plants. Briefly discuss the different parts of plants and the purposes for each of them.
6. Use the plant part cards to sort, play memory or other matching games.
7. Eat all the parts of plants that you brought. Make a class graph about what part of plant the class likes best. What part do they like least?
8. Provide a variety of pictures of different parts of plants. As a class sort them into their proper categories.
9. Every student will now create a plant that is 100% edible. Let students draw and label a picture. Have them name it.
10. Let students present their imaginary 100% edible plants to the class.
11. Add words to the seed/plant word wall.

Assessment Suggestions

- Use the various worksheets.
- Have students do the plant parts sorting page with you in small groups.

- Students' plant journals are great assessment tools.
- Have students write 3-5 sentences explaining what they learned about plant parts.

Possible Extensions/Adaptations/Integration

- Share books that talk about plant parts, although it is not a formal part of the first grade core to teach plant parts and functions. Since students will be observing plants so closely, sharing books like *Plant Leaves*, *Plant Stems and Roots*, and *A Tree is a Plant* will provide them with a richer schema for thinking about what they see.
- Provide living plants in the classroom for students to observe. Encourage them to compare and contrast different plants. Having other plants in the classroom provides a springboard for additional discussions about plant attributes and graphing.
- Talk about different ways we use plants and their different parts. (Food, clothing, paper, shelter)
- Watch Magic School Bus goes to Seed. It can be downloaded from the UEN website. Go to UEN.org from there go to Pioneer Library. Click on K-12 schools. You will have to log in here if you are not on your school Internet link. Click on e-media. Click on from. In Utah Core Area click science. In quick search Type magic school bus. Click on find. Scroll down to find the movie you want to download. Click view info. Click Download Now. Click video for download-Quick Time.

Family Connections

- Have students do a survey with family members to find out which parts of plants they like to eat most.
- Students identify a plant around or near their home. Challenge them to record as much data as they can about the plant (e.g., length, number of leaves, color, texture, fruit, seeds, bugs in residence, etc.).

Additional Resources

Books

- *From Shoot to Apple*, by Stacy Taus-Bolstad; ISBN 0-8225-0670-X
- *From Tree to Paper*, by Pam Marshall; ISBN 0-8225-0672-6
- *From Wheat to Bread*, by Stacy Taus-Bolstad; ISBN 0-8225-0673-4
- *From Flower to Honey*, by Robin Nelson; ISBN 0-8225-0667-X
- *From Cotton to T-Shirt*, by Robin Nelson; ISBN 0-8225-4732-5
- *From Grass to Milk*, by Stacy Taus-Bolstad; ISBN 0-8225-4734-1
- *Plantzilla*, by Jerdine Nolen; ISBN 0-439-67953-2
- *Weslandia*, by Paul Fleischman; ISBN 0-7636-1052-6
- *The Gardener*, by Sarah Stewart; ISBN 0-374-42518-3

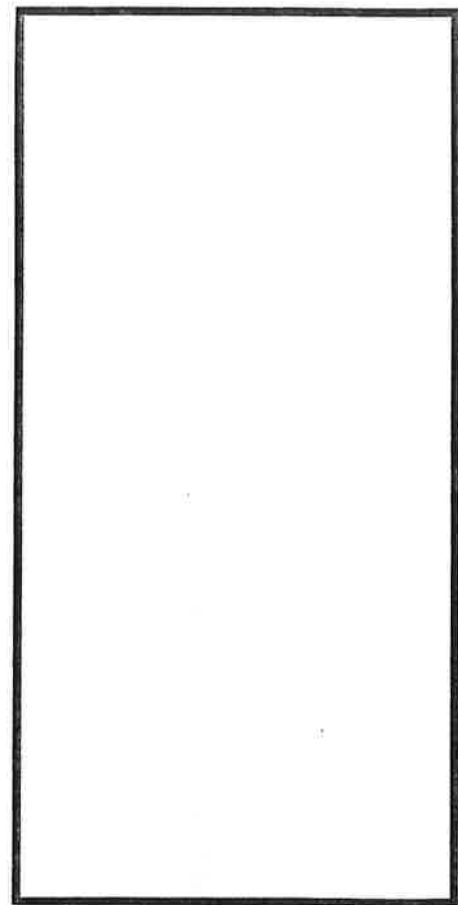
Web Sites

<http://www.angelfire.com/la/kinderthemes/pfingerplays.html>

Plant

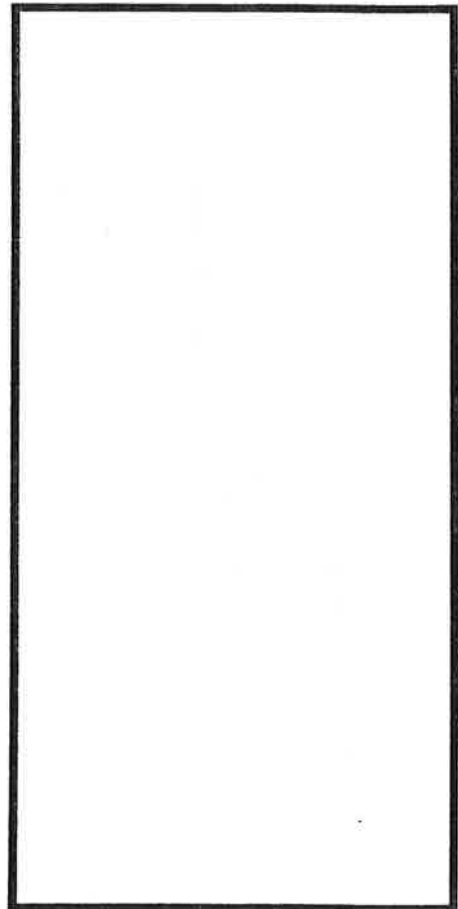
Parts

By _____



I think the roots job is to

I learned that the roots job is to



I think a seeds job is to

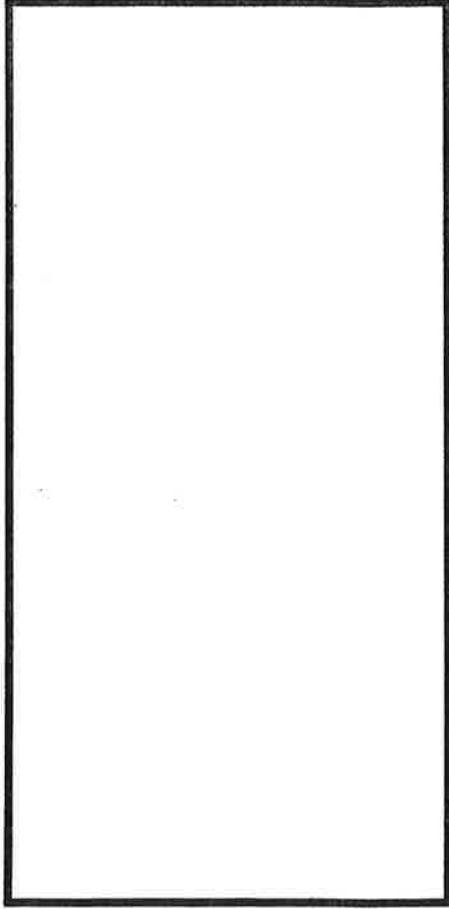
I learned that a seeds job is to

I think a stems job is to

I learned that a stems job is to

I think the leaves job is to

I learned that the leaves job is to

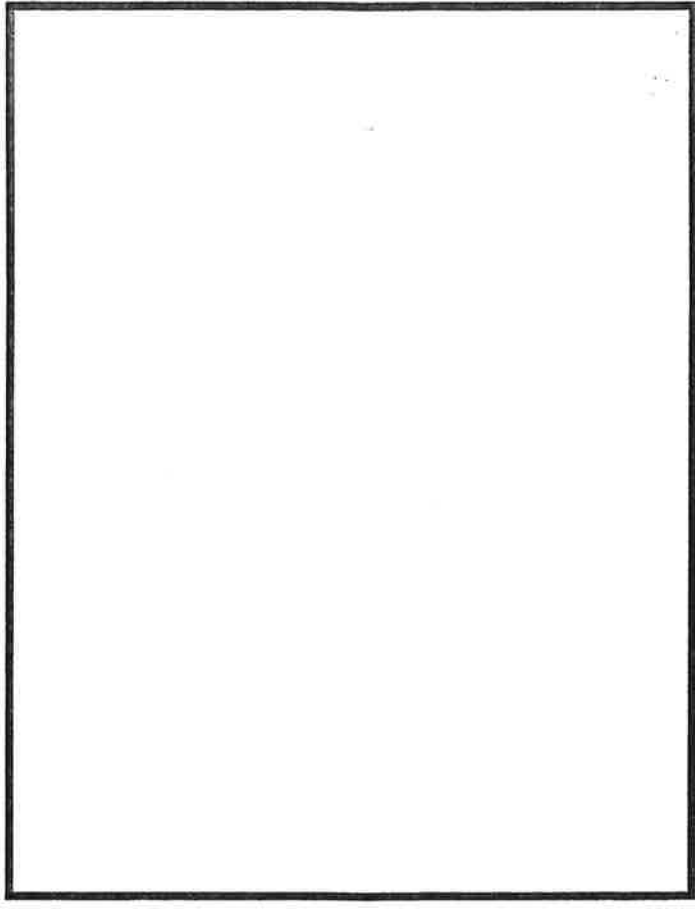


I think the flowers job is to

Four horizontal lines for writing.

I learned that the flowers job is to

Five horizontal lines for writing.



I learned that plants

Five horizontal lines for writing.

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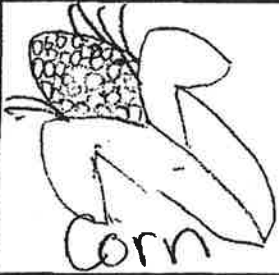




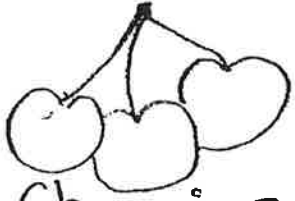
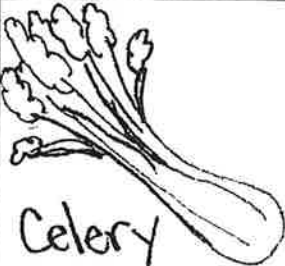







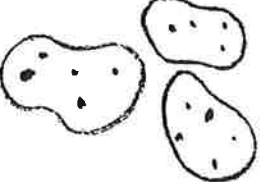

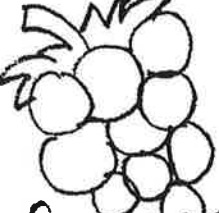





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Draw your picture here.

Plant Parts Cards

Cut apart the plant parts. Use them to sort into different categories or to play memory or other matching game.

 Lettuce	 radish	 Corn	 Asparagus
 Peas	 Broccoli	 Spinach	 Cherries
 Celery	 Cauliflower	 Carrots	 Tomato
 Apple	 Sugar Peas	 Brussel Sprouts	 Watermelon
 Potatoes	 Strawberry	 Grapes	 Rhubarb
 Broccoli stem	 Cabbage	 Turnip	 Peanuts

Color the page. Cut apart this side and glue them on the appropriate box.

Root	Stem
Leaves	Flower

