

Plants

Frist Grade Science Action – May

Objective:

Students will:

1. Learn how important plants are.
2. Learn what plants need to grow.
3. Learn how to make a greenhouse.
4. Learn the roles of the roots, stems, leaves, and flowers of a plant.

Materials:

Activity #1 – Parts of a Plant

1. Plant posters with descriptions of each part behind “doors.”
2. Green onions with stems intact.
3. Celery with leaves attached (or carnations) that have been sitting in colored water.
4. Flowers with stems intact.
5. Fruit samples (such as apples, peaches, or oranges). Cut apples to show seeds.
6. Knife to cut open fruit.
7. Laminated pictures of roots, stems, and seeds we eat (3 types).

Activity #2 – Plant Prints

1. Cut open some fruits and vegetables. Some good ones to use are starfruit, okra, oranges, and kiwi. Anything else with an interesting pattern inside will be fine.
2. Knife to cut open fruit.
3. Paper plates with paint to dip into.
4. One piece of white construction paper for each child.
5. Markers or pens.

Activity #3

1. Make a greenhouse.
2. Greenhouse (1 per child).
3. Students will color / decorate the front of the greenhouse.
4. Wet paper towel (1 per child).
5. Pinto bean (2 per child).
6. Sandwich Size Ziploc Bag (1 per child)

Activity #4

1. Lima beans soaked in water for 48 hours prior (2 per child).
2. Paper plates (1 per child).
3. Toothpicks (1 per child).
4. Sharp knives (1 per adult).
5. Hand magnifying lenses (1 per child).

Introduction: (Full Group)

Introduce parent volunteers. Today, we are going to talk about plants, what their different parts are and how you can make new plants.

Question: If there were no plants on earth, would there be life of any kind?

Answer: Without plants, there would be no life.

Question: Can you think of things that plants do for us that make our life possible?

Answer: They produce air that we breathe, provide food, we use the plants to make clothing, medicines, trees to build shelters, and they are pretty to look at.

Question: Can anyone tell me the things you need to make a plant grow?

Answer: Plants need many of the things you and I need to grow: air, food, water, light, time, the right temperature and plenty of room to grow.

Break into four groups. Each parent team will be responsible for one activity only and the students will rotate around and visit each activity.

Activity #1: Parts of a Plant

We are going to look at all the different things that together make up a plant.

ROOTS: Hold up a green onion and point to the roots and ask if anyone knows what they are. These are the roots of the plant. What do you think they are for? The first thing they do is holding the plant in the ground, kind of like the foundation of your house. Their most important job is to get the water and nutrients from the soil. Even though they are not hollow, they are kind of like a straw because they draw the things the plant needs from the soil and take them up into the plant. Without roots, a plant cannot grow. Can you think of some plant roots we eat? (Carrots, Beets, Turnips, Parsnips)

STEM: Hold up a flower and point to the stem and ask the students to identify that part. What do you think a stem does for the plant? The stem does two things: it holds the plant up and most importantly, it takes the water and nutrients that the roots picked up and moves them to the other parts of the plant. Stems can be very tiny or huge. Can you think of a plant that has a huge stem? (Tree Trunk) Show a piece of celery with the leaves attached. This is a piece of celery. This part is the stem of the plant. Show the piece of celery (or a carnation) that has been colored in water. You can see how the colored water has traveled up the stem and into the leaves just like nutrition that the roots picked up travel up the stem. Cut the celery so that students can see a cross section of the stem and tubes that nutrients travel through – you can see the food coloring has traveled along these tubes. Can you think of another stem that we eat? (Asparagus)

LEAVES: Hold up the flower and point to the leaves and ask them to identify that part. What do you suppose the leaves do for the plant? For one, the leaves catch the sunlight for the plant. The plant needs light to help make its food. The leaves are a very busy place. This is where the food for the plant is manufactured. This is called photosynthesis. A very important part of photosynthesis is that as the plant makes its food, it gives off oxygen into the air. Do you know what oxygen is? It is what we need to breathe so the plants are very important for all living things to help us survive! Can you think of some leaves that we eat? (Lettuce, Cabbage, Spinach)

FRUIT: What is fruit? A fruit is the part of a plant that holds the seeds. Many kinds of fruits are good to eat. What kinds of fruit are good to eat? Fruit can grow on trees, bushes and vines. Show an apple, peach, orange, etc. (Show pictures if we have any.)

FLOWER: Point to the flower itself and ask them to identify that part. What do you think a flower does for the plant? They are not only pretty to look at but they are important in making seeds and seeds are one of the ways we get new plants. Are there seeds that we can eat? (Peas, Corn, Nuts, Sunflower)

Activity #2: Fruit and Vegetable Prints

This activity will allow students to compare different fruits and vegetables. First show the students the cut fruit and discuss how the insides are similar and how they are different. Discuss which ones students are familiar with and which they have eaten. Discuss how they might taste? Then give the students cut fruit and have them dip it into paint and make a print of the inside. Try to have students identify plant parts in the print if possible. Put different fruit and vegetable prints on the same sheet of paper and label so they can compare them.

Activity #3: Make a Greenhouse

Greenhouse: Copy one of the greenhouse patterns on green construction paper or cardstock paper or manila folder. Cut out the middle rectangle and cut the roof to make a point. The students will color / decorate the front of the greenhouse.

Plant: Wet a paper towel and place it in a sandwich-sized bag with a zip top. Place 2 pinto beans (Remember: Pinto Beans should have presoaked for 24 hours) inside the bag on top of the wet paper towel. Staple the Ziploc bag to the back of the greenhouse so that the seeds are showing through the open rectangle. Hang in a window and enjoy watching the seeds grow!

Activity #4: Lima Bean Dissection and Study

Show students the lima beans that have been soaking in water for 2 days. Point out the various parts of the plant that have emerged at different stages (Roots, Embryo, Cotyledon, Leaves) Give each child a seed (Lima Bean – use paper plates) that has been soaking in water. Use a toothpick to show them how easily the skin (Seed Coat) comes off. Next, have the children do it. Then open the seed and show children the “embryo” or tiny plant inside.

Have them look closely with their magnifying glasses.

Explain that this is the part that will grow into a big plant when the seed is put in the soil and watered. The rest of the seed (the cotyledon) provides food for the tiny plant. All seeds have some kind of hard outer layer called the seed coating. Some are very thick (Coconut and Walnuts). It protects the seed inside from disease, drying out sometimes from being eaten. Some seed coatings are very thin. Can you think of any? (Nectarine, Plum, Grape, Corn) The seed coating holds food for the new plant to use until it grows leaves and can make its own food.

Coordinator Notes

The Week of the Lab:

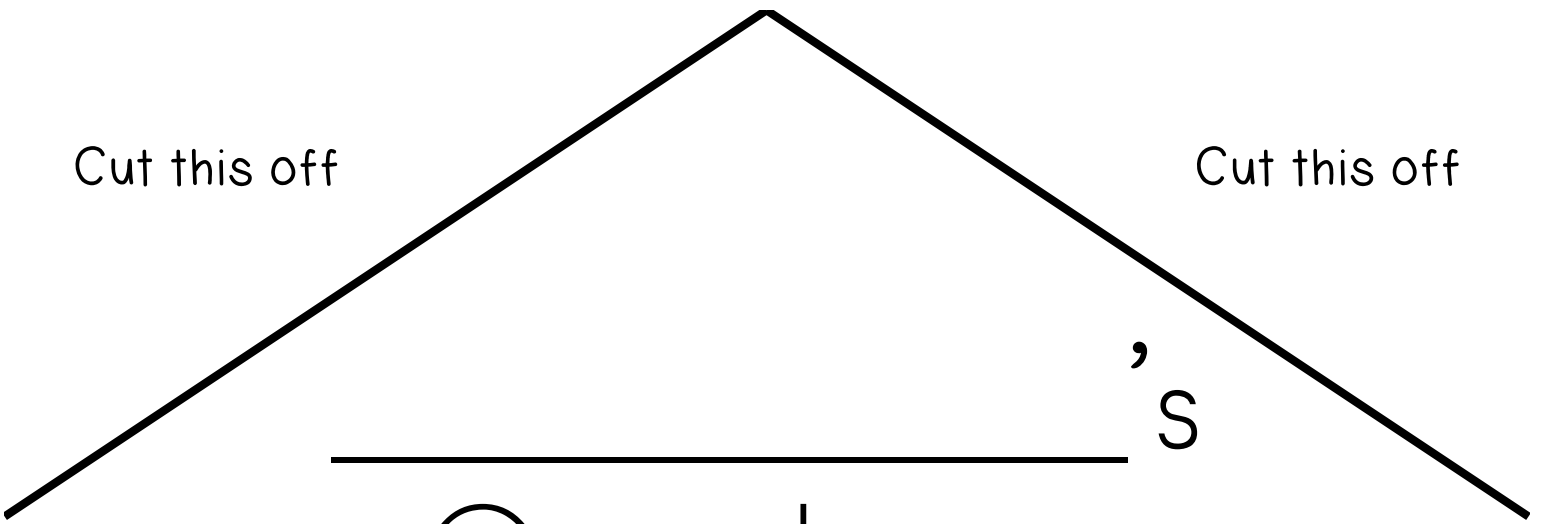
1. Purchase celery and soak celery in colored water at least 48 hours prior to the lab.
2. Begin soaking lima beans in water 48 hours prior to the lab. You will need at least 2 lima beans per student (around 250) so that they can dissect them (some of the beans will fall part, so it's good to have plenty on hand).
3. Presoak Pinto Beans 24 hours before for the greenhouse activity.
4. Purchase supplies such as apples, green onions, flowers (for showing the parts of a plant), fruit, vegetables to cup in Activity #1 and Activity #2, and other items that have a shorter shelf life.
5. Prepare parent volunteer supplies. Each station should contain only what is need for that specific activity. There will be 4 Stations.

Supplies

- Knives (10)
- Sharpie Markers (25)
- Toothpicks
- Paper Plates
- Pinto Beans
- Staple and Staples
- Sandwich Size Bags

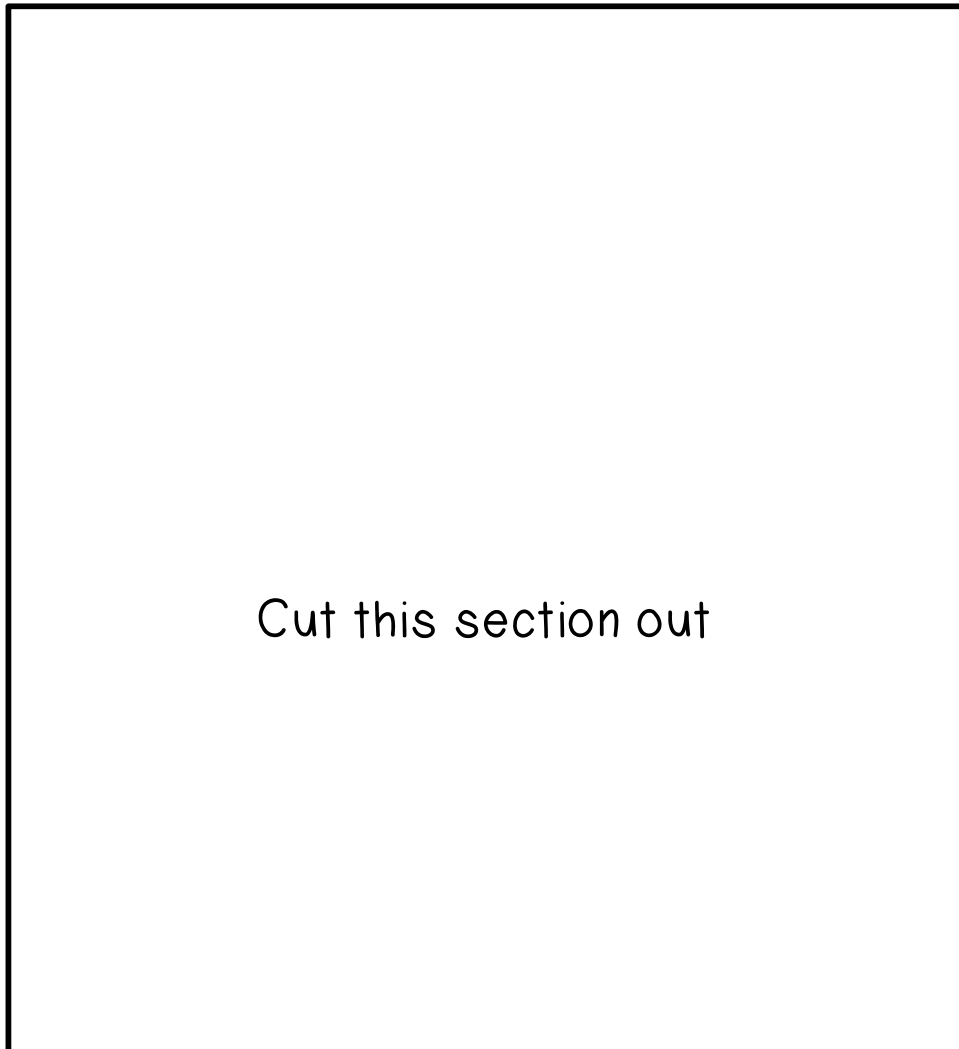
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Greenhouse

planted on _____



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