



AG IN THE BAG: Grow My Own Garden Lab Plan (6-8)

New Generation Science Standards:

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem

EQ: What do plants need to survive and reproduce?

Background:

Plants are an essential part of the ecosystem. Without plants an ecosystem is not balanced and that particular food web will be destroyed. What do plants need to survive? Plants need 5 essential things to survive sunlight, soil(nutrients), water, space, and air. Like humans, plants need essential items to thrive in their environment. If the soil is not nutrient enough the plant will not grow or survive. If the plant acquires too much water, a plant drowns because the cells cannot absorb all the water. If the plant lacks sunlight (light in general) photosynthesis will not occur. Plants are producers and make their own food called glucose(sugar). Plants need room to grow and can experience over population, which is called overcrowding. The last essential item plants need, air. Air for the plant is in the form of carbon dioxide, which they remove from the air.

Producers are vital to life because they can help reduce the Greenhouse Effect by removing carbon dioxide from the atmosphere, which is poisonous to humans and animals. Although the flower, leaf, and stem need carbon dioxide the roots need oxygen. With the kit the small black bags we use are biodegradable and allow the roots of the plant to breath with the small holes in the fiber. Most plant holders only have the exit for water at the bottom and no air holes throughout the container for the roots to breath.

What is soil? Where does it come from? Why is it important to provide a plant with rich soil?



AG IN THE BAG CLASSROOM KIT:

Soil³

30 Small Buckets

30 Saucers

Organic Seeds

Resource Booklet

Custom Tote Bag

MATERIALS YOU WILL NEED TO PROVIDE

Water

Sunlight

Ruler

Gardening gloves

Scoop for the soil

Video device (cell phone works well)

Procedures:

1. Make sure to use gloves when working with the soil-in a previous lesson students were allowed to touch the soil and explore
2. Pick 3 types of seed-the pictures show onion roots
3. Label buckets with student name and type of seed
4. Have students place one scoop of Soil³ on the bottom on their bucket, which should be halfway
5. Have students place their seeds in their soil (let them decide if they want to spread them out) this will lead to the discussion of space and over crowding
6. Have students place a scoop of soil on top of their seeds
7. You will notice that the Soil³ is moist, if needed add a small amount of water
8. Place container in the window seal for sunlight
9. Record daily growth on the chart along with things that were added to the soil and how much.

| Day | Growth in Inches | Journal-Observations for each day(use your recording device) |
|-----|------------------|--|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |



Challenge questions:

1. What day did you see the most growth? Why?
2. What day did your plant bloom? Take a picture and post it here.
3. Compare your plant to your partners, what similarities and difference did you notice? Why?

4. What essential thing did you realize your planted needed the most? Why?
5. If you had a friend in another country, how would you explain what you have learned this far about plants?
6. What was your favorite part about the lab? Why?