

Lesson Plan Activity #1

Objectives:

Without sunshine, plants cannot use the process of photosynthesis to produce food.

Discussion:

Discuss plant photosynthesis (feel free to use Carrigan Farms material).

Materials:

plant (shrub type with sturdy leaves works best etc.)

poster board

scissors and paper clips

Procedure:

Cut out shapes (rectangle, triangle, circle, oval, etc.) with poster board and paper clip the shapes to different leaves on the plant. Be sure to make shapes large enough to cover nearly half of the plant leaf.

Place the plant in a window with lots of sunlight. Be sure to observe and make observation notes of each day's weather conditions (i.e., sunny, cloudy, rainy, etc.).

After four days, remove the paper clipped sections on the leaves and observe the leaves.

Compare the areas on the leaf that were covered with the shape to other parts of the leaf (uncovered area).

Describe the effect of the lack of sunshine has on the leaves.

Assessment:

Monitor student's observation and language skills.

Ways to Extend:

Make copy of Carrigan Farms fruit life cycle photo onto transparency sheet (explain process to students)

Make copies of Carrigan Farms plant sequencing activity sheet (one copy for each student), Ask students to complete sheet (and color).

Lesson Plan Activity #2

Objectives:

Study the effects of light and air on green plants

Discussion:

Discuss the concept of photosynthesis (feel free to use Carrigan Farms material).

Materials:

Three planting containers with soil labeled "Dark", "Dark/Light", and "Light"

Seeds (Lima beans, Green beans, Pintos, or Lentils work best

Soil

Dark area (either in a dark closet or under a box) bright area with full sun

Glass bottle or jar.

Procedure:

- Soak seeds overnight in water.
- Plant a few seeds in each container
- Place one container in a dark area (closet) where it will stay for the duration of the experiment (labeled "dark"). Place another container in the closet as well (labeled "dark/light") This container will be removed from the closet each day at lunch time and placed in the full sun area. At the end of the school day this "dark/light" container will be replaced to the closet where it will stay until the next day at lunch time. Finally, place the last container in full sun where it will remain for the duration of the experiment.
- Ask students to predict/draw/record what they believe will happen to the seeds above and below the soil. (i.e. root growth, shoot growth, etc)
- Keep container in their respective locations and or rotations one week (be sure to water when soil gets dry)
- After one week, remove the seed from dark area and compare it to the one that has received some light for a few hours each day and to the one that has received full sun for the duration of the experiment. Ask students to record (write or draw) what they observe.
- Separate one seedling away from each container and compare the root systems. Ask students to record (write or draw) what they observe.
- Class discussion on **photosynthesis** -- plants using light to make food.
- Place the rest of the unhealthy seedlings in the bright area for several days -- records changes.

Assessment:

Monitor student's observation and language skills.

Ways to Extend:

Make copy of Carrigan Farms fruit life cycle photo onto transparency sheet (explain process to students)

Make copies of Carrigan Farms plant sequencing activity sheet (one copy for each student), Ask students to complete sheet (and color).