LESSON GOALS
This investigation is designed for kindergarten through second grade students. The primary goal of the lesson is to have students identify the parts of plants and their function, and how people use plants. The information presented will inform students that plants have a dual role, adding beauty and oxygen to the environment and the best area for plant growth. The investigation will be interesting to students because it will give them the opportunity to see plants germinate and how important it is that plants get their specific needs.

MATERIALS

Individual students:
- Four seeds (plant)
- Clear plastic cup
- Potting soil
- Pencil
- Chart
- Journal
- White daisy (or celery)
- Scissors
- Clip board
- Crayons
- Paper bowls
- Large paper bag
- Paint (green and brown)
- Small and large elastic bands
- Two small square sponges
- Four popsicle sticks
- Four labels
- Data sheet
- Unifix cubes (amount of cubes will vary)

Class Materials:
- Hula-hoops
- Measuring cups
- Large plastic trays
- Rulers
- Food coloring
- Schoolyard
- Masking tape
- Name plates
- Flower bed edging fence
POSSIBLE STUDENT-DRIVEN QUESTIONS

- What are the parts of a plant?
- What do plants need to grow?
- How do people use plants?
- Where do plants live?
- What area is best for plant growth?

PROCEDURE

Question: Which area is best for plant growth?

Hypothesis: Plants will grow best in areas with rich soil, water, air, and sunlight.

Prediction: If plants grow in areas with rich soil, water, air and sunlight, then plants planted in the front area will germinate first and grow at a faster rate than the other plants planted.

- Use paper bowls and bags to make camouflage hat and backpack outfit.
- Label hat and bag with student’s name first, then place small elastic band in the hats (bowl), large elastic in the backpacks (large bag).
- Using the green and brown paint and two small sponges, dip the first square sponge into green paint and dab it onto the hat and large paper bag. Repeat the same procedure with the brown paint making sure to overlap slightly with the green paint.
- Students will walk the nature trail in their camouflage outfit in preparation for the lesson.
- Students will be asked to observe and name (point to) plants.
- Sit in the outside classroom and read Franklin Plants a Tree.
- Have students recall the function of roots and the white daisy experiment (each student had a clear plastic cup filled with water and a white daisy, measured food coloring, placed the daisy with roots in water overnight to observe the functions of the roots and stem).
- Students begin this lesson by experimenting with four seeds and observing the process of germination.
- This will be a controlled experiment.
- Label the clear plastic cup, they will put two cups of potting soil and four seeds in their clear plastic cup.
- Use unifix cubes to measure each plant before planting it outside.
- Using prior knowledge, students will observe, measure, and write in their journal about the seeds (plant) activity.
- After germination, students will plant the plant in four different locations in the schoolyard.
- For planting, the areas will be marked by hula-hoops (front yard, nature trail entrance, playground, hill area by the fence) and each student will plant one plant in the assigned areas, then label their plant with a popsicle stick. Flower bed fencing will be used for long term marking.
- Using prior knowledge obtained on plants, students will observe plants on Mondays and Fridays, use unifix cubes to measure the growth, record measurements on data sheet and write in their journals about the plants.
- The plants will be observed for four weeks.

RESOURCES

- Where plants Live, Destinations in Science, Addison-Wesley, 1999
**BUDGET**

- 2 packs of bowls, $5.78
- Elastic Bands, $2.56
- Sponges, $2.38
- Other items from school science kit