

The Kindergarten Garden

In this unit, children will explore seeds, plants, and growing things. They will make predictions and observe and record life cycles of seeds, plants, butterflies and ladybugs.

Language Arts: Children will record in journals and books. They will use pictures, words, and sentences. They will read many books, fiction and nonfiction, about plants, food, insects, and animals.

Math: Children will measure growing plants. They will use graphs to chart plant growth and record weather patterns.

Science: Children will be scientists, asking questions, making predictions, and testing hypotheses. They will plant seeds and vegetables, care for crops, and create a Kindergarten garden both inside and outside the classroom. They will learn about animals and insect life and the importance of being good stewards of the environment. They will also learn about healthy food and keeping their bodies strong by eating a variety of good foods.

Social Studies: Children will read about careers of farmers. They will learn about how food is planted and by whom, and about the progress from seed to crop to store to table. They will become aware of their ability to grow healthy food and help their community.

Unit Components:

1. Growing lima beans in a variety of conditions
2. Making daily charts
3. Observing the growth of the Painted Lady Butterfly and making butterfly journals
4. Observing the growth of ladybugs
5. Planting flowers in the traffic circle outdoors
6. Planting a raised bed vegetable garden in the back of the school
7. Growing vegetable and flower seeds in the classroom
8. Tasting a variety of seeds, flowers, and vegetables
9. Taking a field trip to the Botanic Gardens
10. Taking a field trip to the Garfield Park Conservatory

Sample Lesson: Kindergarten Science, Cameron School, Chicago

What Do Plants Need to Grow?

Objectives:

- Students open lima bean seeds to observe the start of a new plant.
- Students discuss the criteria for growth: air, water, light.
- Students will grow bean plants from seeds to take home.

Materials:

- lima beans (soaked overnight)
- magnifying glasses
- diagram showing the parts of a lima bean: new plant growing inside of it; food for the plant; seed coat
- science book, Bean and Plant, with photos of stages of growth
- baggies and paper towels
- clear cups and extra lima beans for students to plant
- ruler and non-standard units (such as cubes) to measure growth of bean plants

Activities:

Before lesson:

- Group brainstorming: what do plants need to grow? Record ideas and predictions. Scientists ask questions and try to find out answers, and the students in our class are scientists.
- Students will each split open a lima bean that has been soaked in water and use magnifying glasses to observe the new plant growing inside.
- Class will draw a diagram of the split-open lima bean and label its parts.
- Once every child has seen the start of a new plant within the split-open lima bean, discuss and make predictions about what the small plant will need in order to grow.
- After eliciting responses (air, water, light), set up the experiment. One third of the lima beans will be deprived of air (sealed in ziplock baggies); one third of the lima beans will be deprived of water (no wet paper towel); and one third of the lima beans will be deprived of light (hidden inside filing cabinet).
- Plant some extra lima beans in dirt placed inside of clear cups and place on a sunny windowsill. Water regularly.
- Check bags daily and write about the results of our experiment in our own Bean and Plant books.
- Monitor and measure the growth of our bean plants that are being grown in cups.

Outcome:

- Students will gain hands-on experience with growing plants from seed. They will learn the three requirements that plants need to grow