Plant power

Students will plant their own seeds in potting soil and measure plant growth. Before the students' plants are visible above the soil, students will explore the parts and functions of classroom plants and compare growth between the classroom plants. Using the weather channel website, students will predict whether the day's weather conditions are excellent, good, or poor for plant growth.

A lesson plan for grades K–1 Mathematics and Science

By Rhonda Hathcock

Learning outcomes

Students will:

- identify parts of a plant.
- determine plant height by non-standard and standard units of measurement.
- place plants in order by their height (or plant growth).
- compare data to produce class graph of plant growth.

Teacher planning

Time required for lesson

2 weeks

Materials/resources

- potting soil
- seeds
- paper clips
- rulers
- crayons
- pennies
- plants
- pencils
- poster board
- post-it notes
- markers
- review worksheets

Technology resources

Classroom computer with access to the internet.

Pre-activities

Students will need to be able to identify the differences between an animal and plant. Students should evaluate plant environments and determine which types of environments promote plant growth.

Activities

1. Students discuss the different parts of a plant. After the introduction of the seed, students plant their own seed to evaluate plant growth.
2. As the class waits for their plants to grow up through the soil, discuss the other parts of the plant. Discuss each part and how it helps with the survival of the plant. Discuss the needs of the plant. Using this knowledge, provide the best environment for the plants. Check the Weather Channel website daily to predict how beneficial each day will be for our plants.
3. As the class begins to observe plant growth, compare plant growth to weather conditions each day. As a class, practice comparing objects in the classroom. Put the objects in order from shortest to tallest and begin measuring plants and objects in the classroom with a paper clip. Repeat the measuring process with a crayon, a pencil, and a penny to review the measurement process.
4. When students are comfortable with the measurement process, introduce the ruler. Students will become familiar with the inch and will measure items in the classroom in heterogeneous groups (in order to assist in understanding) to the closest inch. Students measure their plants with their ruler daily.
5. At the conclusion of the unit, students measure their plant and record their plant height and place it on our class graph. As a group, compare plants and determine which order plants will be from shortest to tallest. Check your results through the classroom graph.

Assessment

Teacher will assess students in small groups during center time and will evaluate understanding in large and small groups. Individually, students will complete a measurement worksheet for assessment and evaluation of understanding.

Supplemental information

Teacher may want to grow several types of seeds before hand to see which seeds grow faster. Teacher may want to use these plants for measurement exercises or as a guide for the students to show them how they should “take care” of their own plants.

Comments

If the weather does not cooperate, teacher may wish to use fertilizer on the plants. Teacher may choose to plant seeds in pots and place them at a classroom window, so that plants will not risk danger from lawn mowers, animals, or neighborhood children.

North Carolina curriculum alignment

Mathematics (2004)

Grade 1

- **Goal 2**: Measurement - The learner will use non-standard units of measure and tell time.
  - **Objective 2.01**: For given objects:
    - Select an attribute (length, capacity, mass) to measure (use non-standard units).
    - Develop strategies to estimate size.
    - Compare, using appropriate language, with respect to the attribute selected.

Kindergarten

- **Goal 2**: Measurement - The learner will explore concepts of measurement.

    - **Objective 2.01**: Compare attributes of two objects using appropriate vocabulary (color, weight, height, width, length, texture).
- **Goal 4**: Data Analysis and Probability - The learner will collect, organize and display data.
    - **Objective 4.01**: Collect and organize data as a group activity.

Science (2005)

Grade 1

- **Goal 1**: The learner will conduct investigations and make observations to build an understanding of the needs of living organisms.
    - **Objective 1.01**: Investigate the needs of a variety of different plants:
        - Air.
        - Water.
        - Light.
        - Space.