

Living Magnets

Standards of Learning

Science K.1, K.7, K.9, 1.1, 1.4, 2.1, 2.4, 3.1, 3.8, 4.1, 4.4

Objective

The student will be able to:

- investigate plant needs
- identify conditions necessary for seed germination

Materials

- clear test tubes or pill bottles (using test tubes will allow you to use the lines for measurement of growth) with tops
- adhesive magnets
- cotton balls
- water
- various seeds
- permanent markers

Background Knowledge

Seeds vary greatly in germination rate, amount of time needed for plant maturity, and growing conditions. Some seeds, like radishes, only need 4-6 weeks to grow to maturity, while corn and soybeans require several months. The purpose of this activity is to provide students with an opportunity to observe the germination process. What does it look like when the sprout breaks through the seed coat? Is there a difference between dicot and monocot seed germination? How long will the seed take to grow?

Procedure

1. Write the word "germination" on the board. Review that germination refers to a seed beginning to sprout. Have the class brainstorm words that go with germination (ex: plants, seeds, water, growth, soil). Sort the brainstormed list to create a concept web, with germination in the middle.
2. Tell students that you will be germinating your own seeds. Review the conditions necessary for germination.
3. Pass out test tubes, cotton balls, seeds, and water (you may use spray bottles or small cups with water). Have students identify the purpose for each of these materials.
4. Have students first write their names or initials on test tubes with the permanent markers.
5. Wet 1-2 cotton balls, they should be wet but not dripping. Place down into test tube. Insert 2-3 seeds on top of the cotton balls. Place the cap on the tube (this will keep your seeds from drying out).
6. Now pass out adhesive magnets (you may also use craft glue if you cannot find the magnets with adhesive backing). Attach to the side of the test tube.
7. Stick the magnets to the board so that students may observe their seeds' growth each day. You may choose to use the lines on the test tubes to have students track and graph the growth.

Extension

- Use a variety of seeds and observe and graph their growth to determine which ones germinated fastest.
- Once seeds have sprouted you may remove them from the test tubes/pill bottles and replant them either outside or in a container. You do not have to separate them from the cotton balls.

