

# Garden in a Glove

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## **Standards of Learning**

Science K.1, K.7, K.9, 1.1, 1.4, 2.1, 2.4, 2.7, 2.8, 3.1, 3.8, 4.1, 4.4

## **Objective**

Students will:

- Investigate the germination of seeds
- Investigate plant needs

## **Materials**

- *Oh Say Can You Seed: All About Flowering Plants* by Bonnie Worth
- Clear plastic gloves
- Cotton balls
- Five different flowering plant seeds
- Water

## **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? All of these questions are exciting to explore with students.

Germination is when the seed sprouts and begins to grow. It is important for your students to know that it starts right when there is a bud present from the seed. Explain to your students that their sprout will need a while to grow and that every plant is different in the amount it takes for them to get to maturity. Ask them what their plant will need to grow. All plants need water, light, temperature, time, soil (nutrients), oxygen, and space to grow to full maturity, which is something you can show your students as they are creating their own dirt baby. The process that their plant is going to go through is also something that should be talked about and monitored for a few weeks. All plants go through about the same cycle of sprout, growth, flower, and fruit. However, it is important to also point out to your students what their plant parts are since they will not have flowers or fruits. The basic parts of the plant to point out are roots, leaves, stem, flower, seeds, and fruit. Make sure to point out that not all plants have every part.

## **Procedure**

1. As a class, generate a list of how plants are important to us.  
*\*\* They provide oxygen, serve as a source of food, provide useful products, help reduce soil erosion, provide shelter for animals, etc.*
2. Discuss that just like people; plants go through stages as they grow.
3. Read the book *Oh Say Can You Seed: All About Flowering Plants* by Bonnie Worth and review the stages of growth for flowering plants.  
*\*seed germinates, roots and stem develop, leaves grow from the stem, flower develops, fruit forms and contains seeds for the next cycle of plant life*
4. Inform students that they will be given the opportunity to watch some plants progress through an entire growth cycle starting with the germination of the seeds.



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5. Provide each student with a clear plastic glove and have them label the palm of the glove with their name and the fingers of the glove with the names of the seeds.
6. Students should then wet five cotton balls (wring out excess water) and place one in each finger of the glove.
7. Next, place 3 to 4 seeds on each cotton ball in the glove.  
*\*You may have students dip the damp cotton ball in the seeds then place the cotton ball in the glove to reduce the mixing of seeds in the fingertips of the glove as the students place the seeds in by hand.*
8. Finally, have students puff some air into the glove then tape their completed gloves to a window (for warmth from the sun) or place in a warm area of the room.
9. Observe seeds for several days until germination is complete  
*\*Always check seed packets for germination period*
10. Once seeds have germinated, transplant them into soil and provide them with the things they need to grow into strong plants! Make observations as the plant progresses through its various life cycle phases.

### **Extension**

- Have students keep a journal of the changes day to day. Experiment with different gloves. Do they germinate at the same rate in the dark as they do in the light?
- Have students research the plants used in Jamestown. What crops did the Indians help the settlers grow?
- Have students review information on the seed packet for growing habits of plants. What zone does Virginia fall in?
- Have students discuss the crops grown in Virginia today. How has transportation changed the variety of foods available to consumers?
- Discuss the life cycle of plants from seed to mature plant.
- Use seeds for sorting and pattern activities.
- Keep records of the classroom and outdoor temperatures. Is there an optimum temperature for germination?
- Discuss nutrients necessary for plants to grow and the components of soil.
- Collect measurements data from seed germination and growth.
- Count number of seeds on each cotton ball.

