



## WOW Program Lesson Plan

# Seed Germination

**Program Duration:**

Set up: 5-10 minutes

Plant growth time: 2-4 days

**Recommended Grade****Levels:**

Grades 4-5, participation for all age groups

**Materials Needed:**

- 2 seeds of your choice! (beans, peas, flowers etc.)
- 2 glass jars
- Napkin or paper towel
- Water
- Sunlight

**Learning Objectives**

1. Students will be able to describe the steps of how a plant grows, also known as germination, and what factors affect plant growth.
2. Students will be able to identify the parts of their planted seed.

**Preparation**

- Discuss the concept of plant reproduction and plant growth (germination).
- Ask students to share their ideas and thoughts about what they see when plants grow and why they think plants grow at a particular time.

**Background**

Have you ever wondered why during the cold, winter months there are less flowers and plants? Yet, during the spring and summer months, you see beautiful flowers and plants everywhere. What factors make flowers and plants more likely to grow in the spring versus the winter? Germination is the process in which seeds begin to sprout and turn into plants. Many things in nature are responsible for starting germination, which allows the plant to grow. Once started, the germination process will take a few days till when you begin to see the plant's roots, stems, and leaves. In this experiment, we will identify the different factors that affect plant growth and turn our seeds into beautiful plants!

**Activity**

1. Add a small amount of water to both jars. Fold your napkins or paper towels and place this at the bottom of the jars.
2. Place one seed of your choice in each jar, on top of the napkin or paper towel.
3. Place one jar in the sunlight and one jar in the dark.
4. Spray water in the jars every two days and wait to see your plant begin to grow!

*Optional:* Create your own seed journal to track your plant's growth! Draw a picture of the seed in the jar every couple of days.

**Questions**

1. Did both seeds grow? What does this tell you about how sunlight effects germination?
2. Was there any difference in growth between the 2 plants? What does this tell you about how sunlight affects plant growth?

3. What factors do you think helped the seed germinate and grow?

**Summary**

Both seeds should grow into plants, regardless of being placed in sunlight or not. This is because sunlight is not needed for seed germination, the process where a seed begins to sprout. For germination to happen, the seed needs air (oxygen), water, and warmth. Therefore, both plants are able to grow. However, sunlight does affect the plant after germination. The plant placed in the dark will be less green and have brown spots whereas the plant in sunlight will be green. The greener plant is healthier than the brown spotted plant. Try placing the less green plant in the sunlight for a couple days and watch it become greener!

**Extended Exploration**

- Check out this video that explains the parts of your plant and reviews germination <https://www.youtube.com/watch?v=TE6xptjgNR0>
- Remove your plant from the jar after watching the video and see if you can identify the various parts of your plant!
- After your experiment, try taking your plant out of the ground and planting it in soil – where it will continue to grow!
- Want to help birds? Follow this simple DIY to make seed balls at <https://www.audubon.org/news/making-seed-balls-help-birds>
- Want to learn more about native plants to bring more birds to your home? Then visit <https://www.audubon.org/native-plants>, enter your zip code, and find out more about the native plants to grow in your yard.