

# Germination Test

**Grades: 1 - 6**

**Time: 10 min. set up, germination time based on your seeds**  
(check the package or online for your seed variety)



## Lesson summary:

Germination tests are a quick and fun way to find out if your seeds are still viable to grow! This test can tell you how well your seeds will grow based on what percentage of your seeds germinate (or sprout). In this experiment children will learn what a seed needs to germinate as well as its important role in the plant life cycle.

## What's the big idea? ?

- What do seeds need to germinate?
- How can we tell if a seed is still alive (or viable)?

## Outcomes or purpose:

- Students will know the basic needs of a seed to germinate
- Students will understand that humans can help seeds better germinate by providing the right needs
- Students will learn why germination is an important step in a plant's growing process

## Teacher background:

Seeds need water and warmth to germinate. Most seeds need to germinate in the dark (think under the soil), though some wildflower seeds do require light. Moisture helps to open the seed coat and releases a seed from dormancy. A germination test can help us better understand how many seeds are likely to germinate, and we can adjust our planting numbers accordingly.



## Germination Tips:

### **Moisture:**

Adequate and consistent moisture is critical for germinating seeds. Seeds like a consistently moist but not soggy environment. They do not tolerate wet-dry cycles. If the environment becomes soggy or saturated they may suffocate or develop a fungal rot known as damping off.

### **Warmth:**

Seeds also require warmth for germination. The paper towel should provide warmth but be sure to keep in a moderately warm spot.

### **Light:**

Most seeds do not require light to germinate, but instead need dark (with the exception of some wildflower seeds).

### **Most common reasons for germination failure:**

- A** Damping off disease (seedlings suddenly fall-over)
- B** Too wet and seeds rotted
- C** Seed is no longer viable

# Germination Test

## Materials needed:

- Plastic bag
- Seeds to germinate
- Paper towel
- Water
- *Optional* - Marker



## Step by step instructions:

1.

Count the number of seeds you are going to use. This will be important to know because you will count how many seeds sprout.

2.

Wet a paper towel and spread the counted seeds over one side of the towel (Optional: draw a frame for each seed you are using on the paper towel before wetting.)

3.

Fold the other half of the towel over the seeds to ensure the wet paper towel is on both sides of the seeds. **Important: Ensure your paper towel is always consistently moist, but not soggy or too saturated.**

4.

Place the towel with seeds inside of the Ziplock bag.

5.

Check your days to germination for your particular seeds. This can be found on the seed package or online. This is the number of days it will take for the seeds to sprout.

6.

After the necessary amount of days, open up the Ziplock to see if your seeds have sprouted. Check every day for a few days.

7.

Count the number of healthy-looking sprouts and divide by the number of seeds you first laid out. This is your germination percentage. Adjust the amount of seeds you plant based on your germination percentage.

## Discussion questions:

- Draw a timeline of the seeds as they sprout. What is happening to the seed at each point on the timeline?
- What do seeds need to germinate?
- Can you think of some reasons that seeds might not germinate?
- How is germination important to the plant life cycle?
- (For Older Students) How can you display the data found in this experiment? What is the best way to chart this data?
- How does what a seed needs to germinate different from what a plant needs to grow?

## Expand the learning:

- Once the seeds have germinated, plant them in soil and continue drawing/journaling the entire plant life cycle. Observe the process of growth.
- Try to germinate another type of seed to discover the difference in time and how they may sprout.

