

Seed Germination

It's springtime, which means it's time to start planting! Have you ever wondered how seeds can grow into delicious vegetables or colorful flowers? Whether or not you have a garden of your own, you can observe how seeds develop into plants in this fun, at-home experiment. Become a scientist as you explore the process of seed germination using materials you already have on hand. Don't forget to share your fun with us on social media using #redbuttegarden. Have fun!



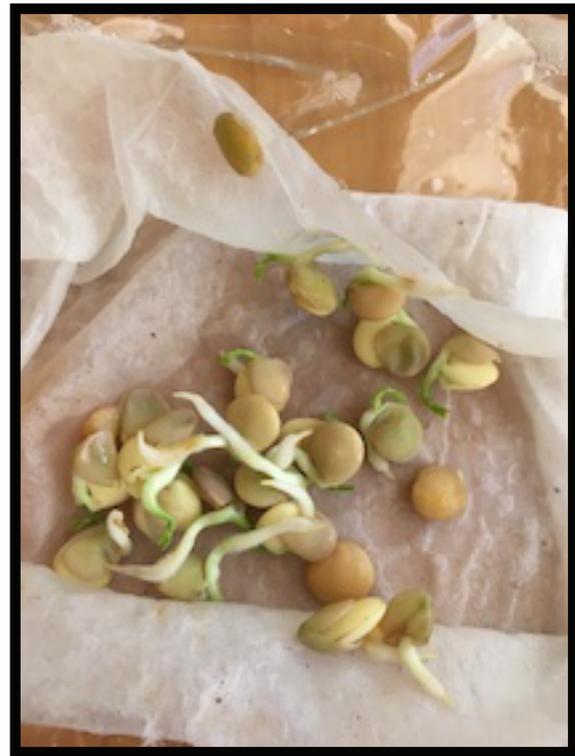
Materials

- paper towels
- water
- marker
- seeds
- zip-top baggie
- *My Seed Book* Workbook



Instructions

1. Select 5-10 seeds for your experiment. Beans and pea seeds work best, but use whatever you have available. You can use seeds from your backyard, from the produce you eat, or even dried beans.
2. Sprinkle a paper towel with water until it is completely moistened but not dripping.
3. Fold your paper towel to fit inside your zip-top baggie.
4. Spread your seeds out on top of the folded paper towel. Space the seeds so they are not touching. (See pictures on page 2.)
5. Carefully place the seed-covered paper towel into the baggie, and seal the bag closed. Try to make the seeds visible within the baggie so you can observe them while they grow.
6. Label your baggie with the date and the type of seeds.
7. Check your seeds 3 times a week for the next few weeks. Your seeds will start to lose their protective coating (known as a seed coat), grow roots, and then produce a tiny stem and leaves.
8. Complete the activities in *My Seed Book* to help you learn more about germination.
9. Once your seeds have grown roots, you can transplant them into soil. Plant them in a pot or directly into your garden. (**Hint:** Tweezers make it easier to transplant germinated seeds without damaging the tender new sprouts.)



Background Information for Caregivers

Germination is when a seed sprouts or starts growing. It usually happens after a period of dormancy or inactivity similar to sleep. Seeds remain dormant until the right conditions are met to help them “wake up.” Some seeds may lie dormant for hundreds of years before conditions are right for them to germinate!

All seeds need three basic things to germinate: air, water, and warmth. Some seeds may require additional resources like soil, fire, or darkness to germinate, but their basic needs remain the same.



Experiment Variations for Advanced Botanists

Does the type of seed affect the speed of germination? Make two or more seed baggies using a different type of seed in each bag. Watch the baggies to see which seed type germinates first and which seeds take longer to sprout.

Does light affect germination? Make two seed baggies. Place one in a sunny window and the other in a dark closet. What differences do you observe between the two baggies?

How much water do seeds need? Make two or more seed baggies. Try adding different amounts of water to each baggie. Don't forget to label each baggie with the amount of water used! How does the amount of water affect germination?