

Student Name:

## Seed Parts and Sprouting Starts

**Summary:** Seeds are extraordinary! For example, one tiny tomato seed will grow into a beautiful tomato plant that will give over ten pounds of tomatoes! The life of nearly all plants we eat starts as a seed. Though seeds come in different shapes, sizes, and textures, they all share common parts — and contain everything a plant needs to reproduce and begin growing. In this lesson, you will investigate the parts of a seed, learn about the germination process, and try sprouting seeds yourself.

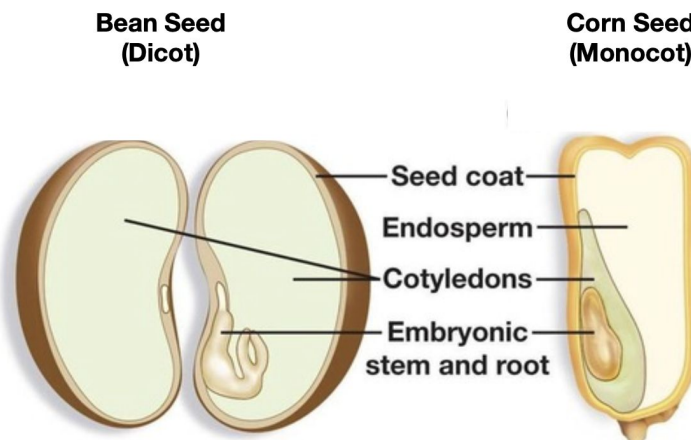
### Materials:

- Seeds
- A small plastic bag
- A paper towel

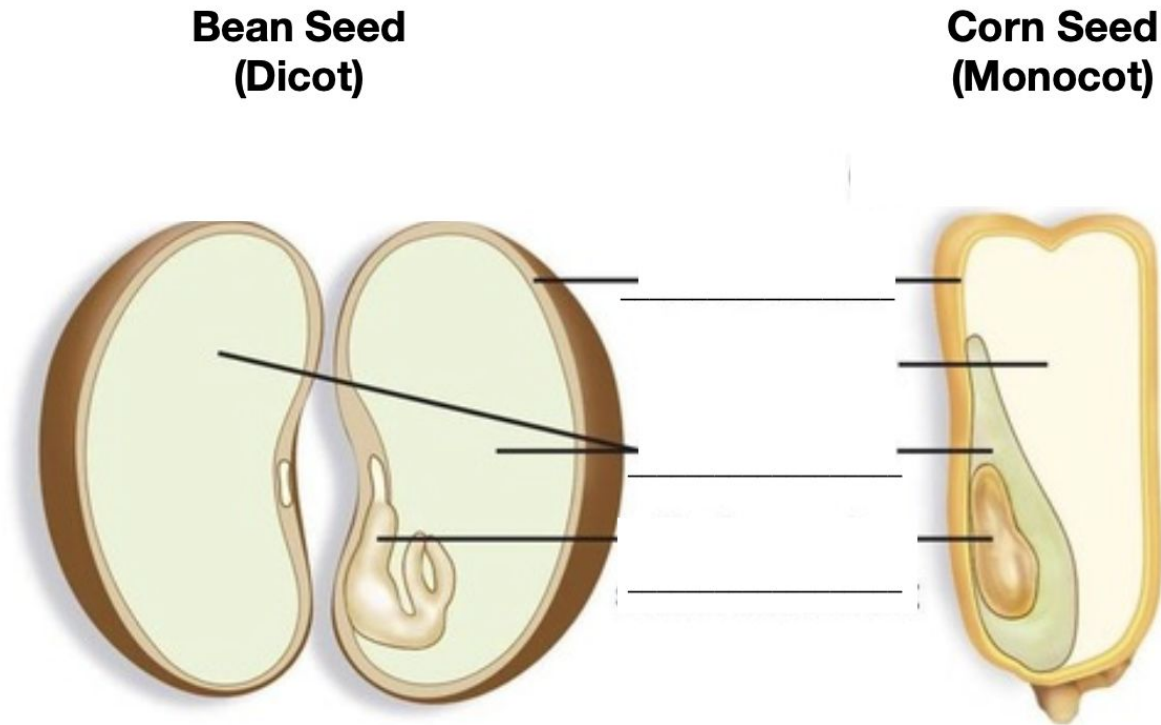
### Vocabulary:

- **Seed coat:** covers and protects the seed
- **Embryo:** forms the new plant
- **Endosperm:** acts as food for the seed and nourishes the embryo
- **Germinate:** when a seed begins to grow and put out shoots.
- **Cotyledon:** the first “leaves” of a plant
- **Monocot:** a plant with one cotyledon
- **Dicot:** a plant with two cotyledons

**READ:** Flowering plants are divided into two categories determined by the first leaves that emerge from the seed. These first leaves on a plant are called **cotyledons**. Some plants have one leaf in the seed, called **monocots**, and plants with two leaves in the seed are called **dicots**.



**LABEL:** Label the different parts of the seed. Look at the vocabulary list and the image above to help you locate the terms.



**ANSWER:** In your own words, describe what the different seed parts do.

**Endosperm:**

**Seed Coat:**

**Embryo:**

**READ:** Seeds need a moist environment and the correct temperature (warmth) to germinate. During early stages of growth, the seedling relies upon the food supplies stored within the seed. The stored food supports the embryo during seed germination. The germination process ends once a shoot emerges from the soil, but the growth of the plant is just getting started.

**DO:** Starting seeds is an easy and fun activity to do at home. You can start seeds easily and watch them grow by starting them in a plastic bag. All you'll need is a few seeds, some sandwich bags, paper towels, and water. Follow the instructions in the [Seed Starting Activity](#) sheet.

**Student Notes:**

- Now that you began exploring the germination process, watch this [time-lapse video of germination](#) and [answer questions](#) about the video.
- Learning about germination can inspire your creative side. Go to our lesson on [Germination of a Bean Seed](#) and complete the Haiku poem activity.
- What to explore seeds further? Check out our lesson on [Seeds We Eat](#) and learn about the many edible seeds that make up a large part of human diets.

**References:**

Harmier, K., (n.d). *Parts of a Seed*. Iowa Ag. Literacy. Retrieved from <https://www.iowaagliteracy.org/Article/Parts-of-a-Seed>

Seeds, Miraculous Seeds.(n.d) *Maine Agriculture in the Classroom*. Retrieved from [https://www.agclassroom.org/me/matrix/lessonplan\\_print.cfm?lpid=213](https://www.agclassroom.org/me/matrix/lessonplan_print.cfm?lpid=213)

Starting to Grow. (n.d). *Missouri Botanical Garden* Retrieved from <http://www.mbgnet.net/bioplants/grow.html>

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**Notes for Teachers and Parents:**

- This activity supports students in practicing learning by undertaking a project that has tangible results in the garden.
- This activity encourages students to feel that cooking and gardening are more accessible.
- This activity integrates experiences that support the development of relationships to food and the land.