

Dissect A Seed

Grades: 3 - 6

Soaking Time: Overnight; Dissection Time: 20 mins.

Lesson summary:

In this activity students will dissect a seed and investigate the different parts.. Seeds come in many shapes, sizes and colours, but many share the same basic parts. If done in groups, students may observe the similarities or differences of many different seeds. Lima beans or large bean seeds work best for this activity.

What's the big idea?

- What are the parts of a seed?
- What do seeds need to germinate?
- Why do you think the seed coats are so hard?

Outcomes or purpose:

- Students will gain understanding on the parts of a seed
- Students will refine their fine motor skills while dissecting

Teacher background:

Seeds are waiting patiently for the right temperature, water, and sunlight to germinate and grow. A seed is a tiny plant in waiting. Inside its protective coating are leaf, stem, and root parts just waiting to emerge. Every seed shares the similar anatomy and has within itself the components needed to become a baby plant. These parts of a seed are:

- The *plumule*, which develops into the shoot.
- The *radicle*, which develops into the root.
- The *cotyledon*, which is the seed leaves where the food is stored. You can think of a seed like a student with its lunchbox - seeds have all of the food and nutrients they need to start growing! It is only after growing their first true leaves that they will begin to require external energy and nutrients.



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Materials needed:

- Seeds (Lima beans or large bean seeds work best for this activity)
- Water
- Tweezers

- Paper Towel (To place seeds on for dissection)
- Parts of a Seed Student Handout (Optional)

Step by step instructions:

Soak your chosen seed in water overnight to loosen its seed coat.
Ask students to lay their seeds on a paper towel.

Carefully take off the seeds' protective coating.

Discussion questions:

- What important role does the seed coat have for a seed?
- What do seeds need in order to start growing?
- Why does a seed not need soil to start growing? (seeds already have all the nutrients they need to start growing and don't need nutrients from the soil until they start to grow)



- Have students pull apart the seeds insides and observe each part of the seed.
- Ask students to fill in the worksheet 'Parts of a Seed'.

Expand the learning:

• Have students sprout their seed before dissection next time. They will have an opportunity to investigate the radicle (root) as it grows.