



Student Name:

## The Germination of a Bean Seed

Have you ever wondered what happens below ground when a plant grows? Today, you are going to watch a time-lapse video of a bean seed growing and make observations! You will write a haiku poem and draw a plant, including its hidden root system.

### Before you get started:

- Collect all materials listed below.
- Find a quiet place to sit
- Let your imagination flourish!

### Materials:

- A computer, tablet or phone to watch the video
- A piece of paper or a notebook
- A pen or pencil
- Some colored pencils or markers

### Vocabulary:

- **Germinate:** to begin to grow or develop
- **Seedling:** a young plant
- **Root:** the part of the plant that is usually below ground, affixes the plant to the soil and absorbs water and nutrients
- **Taproot:** a straight tapering root growing vertically downward and forming the center from which subsidiary rootlets spring.
- **Root Hair:** a hairlike outgrowth of a plant root
- **Leaf:** a flattened structure of a higher plant, typically green and blade-like, that is attached to a stem directly or via a stalk/stem.
- **Branch:** a part of a tree which grows out from the trunk
- **Trunk:** the thick main stem of a tree, from which its branches grow
- **Stem:** the main body of a stalk of a plant that gives rise to leaves and flowers
- **Syllable:** an interrupted segment of speech (e.g., “gar-den” has two syllables)
- **Time lapse:** a type of video or photography that shows a long time period quickly

**WATCH:** First, view the video without taking notes. Click the following link or type in the URL to watch the video: <https://tinyurl.com/ESYbean>

**READ:** Read through the [Bean Plant Video worksheet](#) in preparation for watching the video a second time.

**DO:** Watch the video again and pause it from time to time to respond to the questions in the worksheet above. <https://tinyurl.com/ESYbean>

**WRITE:** Using your notes on the worksheet, tell the story of the bean seed using a haiku.

A haiku is a Japanese poem consisting of seventeen syllables. A “syllable” is an uninterrupted segment of speech. For example, “tree” has one syllable and “pom-e-gran-ate” has four.

Here is a sample haiku about the bean’s growth:

*Searching for its life  
With vertical ambitions  
The bean seed it grows*

Please use the [Haiku Template](#) to write your haiku.

**EXPLORE/DRAW:** Find a plant growing in or around your home. You will draw what you see.

1. Take a single sheet of paper, fold it in half and then unfold it. When you unfold it, you will see a crease separating the top half from the bottom half of the page.
2. Draw what you see above ground above the crease, leaving the bottom half of your page blank for the time being.
3. Next, imagine how the roots might look below ground. Draw what you imagine the roots would look like below the crease.

**LABEL:** Please label your drawing using as many of the vocabulary words as you can!

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### IMAGINE:

Now that you know more about how plants sprout and take root, look for more plants and trees around where you live and imagine what their root systems look like!

### References

Bean Time-Lapse - 25 Days. *GPhase*. Youtube. Retrieved from <https://www.youtube.com/watch?v=w77zPAAtVTuL>.

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