

Peas and Beans Timelapse

Subject: Observation of growth stages and changes

Duration: 1 Hour (2 days of drawing)

Setting: Classroom

Materials:

Prep: 1 paper towel (Brawny or similar), yogurt container, 3 seeds (2 beans/1 pea or 1 bean/2 peas) per student

Drawing: Journal, colored pencils, soil

National Standards – LS1.A, LS1.B, LS4.C

Guiding Theme: Growth and function; students should pay extra attention to changes as the seeds grow and become a plant. They should think about why the plant grows the way it does out of the seed and measure the length of new growths. As the seedlings grow, encourage students to notice the different leaves and to look extra closely at the roots.

Activity Instructions

Seeds will need to be started 10-14 days prior to activity that will use sprouted seeds. This prep should take ~ 5 minutes)

Prep

Give each students a paper towel, yogurt container, and 3 seeds.

First, have students draw the seeds and label the drawing with the date.

Have students put their name on their yogurt container with a sharpie.

Have students fold the paper towel neatly until it fits snugly in the yogurt container.

Fill yogurt container with water until water is just about the paper towel (about $\frac{1}{2}$ or 1 inch)

Open the last fold made in the paper, put the seeds inside, and cover them back up with paper towel layers.

Put all yogurt containers on a tray and keep them away from intense heat.

Note: students will need to keep an eye out for watering. Towels do not need to be in standing water after the 1st day, but the paper towel should stay quite wet for the duration of the experiment.

10-14 days after prep day (depending on growth): students should do drawings, blow-ups (magnification) and measurements of each 1) seed, 2) its roots, and 3) leaves (if they have started growing).

Activity Instructions Continued...

See the drawing attached on the next page as one example of how to do this exercise. Students should design their own page and use colored pencils to fill in their drawings. Once students have finished their drawings, have them do a set of INIWIRMOs.

Once students have finished their INIWIRMOs, have students come to you and you will help them poke holes (with a box knife or similar) in the bottom of the yogurt container, and fill the container with soil.

After the soil is in the container, have the students soak the soil with water and let it drain. Then, they will need to poke their fingers in the moist soil to gently plant their peas and beans.

Additional: If time allows, allow 10-15 more minutes one day, a week or two after planting the seeds, for students to draw their final pea/bean growth, this time focusing on leaves, before they take them home.

Discussion Questions

Did you watch the leaves grow over time? What did you notice?

How do you think plants grow out of the seeds?

What changes did you notice about the roots? Why do you think roots are important?

Did you measure your seedling as it grew? Was there anything surprising about how it grew?

What colors did you notice as the seedling grew?

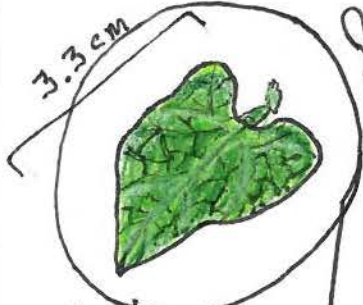
Example Journal Entry:

My BEANS & PEAS

? I wonder how much longer before I get blossoms

8/20/21

Started with wet paper towel in window



? The veins running along the leaf remind me of the alder leaf I drew

2 peas rotted

8/23/21

8/30/21

1 bean didn't grow



? I wonder why a few of my seeds didn't grow or rotted



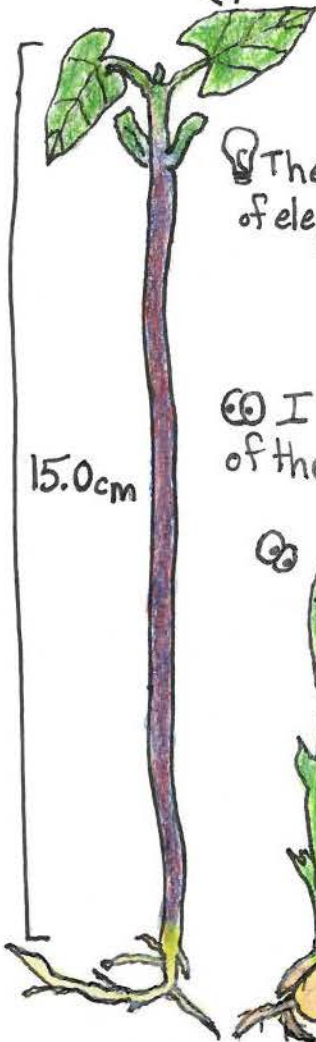
💡 The leaves remind me of elephant ear plant leaves

... 2 days later

8/25/21

🕒 I notice the stems of the plants bend towards the sunlight

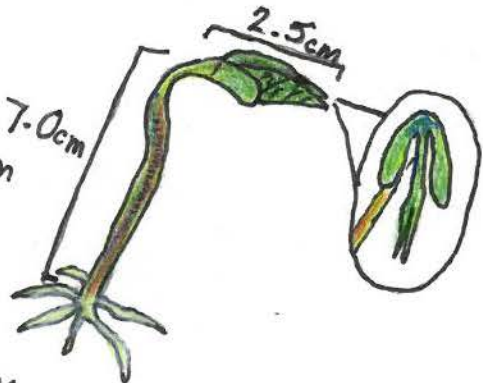
15.0cm



6.0cm



7.0cm



🕒 I notice the pea leaves are tightly packed together ... 5 days later