

Pea Plant Observations

Gregor Mendel used pea plants to study and determine his principles of inheritance. Peas are a great model organism because they grow fast and are easy to take care of.

We're going to use peas to learn to make observations, a very important part of the scientific process.

So what is an observation?

A dictionary definition tells us that an observation is: "the action or process of observing something or someone carefully or in order to gain information." In this case, it means you'll be watching and measuring your pea plants as they grow. Writing down your observations is an important step in the scientific method.

What are we measuring?

Every good experiment has a goal or a question it is trying to answer. For our pea plants we're going to focus on the question below:

"Where does a pea plant grow tallest?"



Let's get growing!

Materials needed:

- Pea seeds
- Soil
- 4 Peat pots or other containers (make sure all containers are the same)
- Measuring cup or measuring spoon
- Ruler
- Notebook to make observations



Procedure:

1. Fill your pots up with soil, leaving about 0.5 inches from the top
2. Use your finger to press a hole into the center of the soil, try to go the same depth in every pot (follow the instructions on your seeds to know how deep to make this hole)
3. Place a pea seed into each hole and then cover gently with soil, do not pack the soil



4. Water all your pots. Use a measuring cup or spoon to water all pots the same amount. This first watering should get the soil wet all the way through.



5. Record how much you watered each pot in your notebook.
6. Place each pot in a location with different amounts of light. To see what happens to a plant without any light, try putting one in a closet or cabinet where the door is not opened often.
7. Make some observations in your notebook about the amount of light each location gets. Is it sunny in the morning? Is there a lot of sun directly on the pot or none at all?

8. Check on your pots daily, watering when needed. Keep notes of what you see, how much water you give the plants, and anything else of interest (e.g., temperature, draft, color of the plant, etc.)
9. When the plants begin to grow, use a ruler to measure their height. You could do this daily or every other day—just be consistent with whichever process you use.
10. Keep going as long as you want. When you're done, look over the data you collected and decide which plant you think was in the location for optimal growth. Which plants were the tallest? Do you think they were the healthiest plants? What relationships about sunlight and plant height can you make?

Extensions

If you have a garden or larger pot, try moving your plants outside and see how they grow on your porch or deck.

If your plants flower, try cross-pollinating with a small paintbrush. Carefully collect pollen from one plant and place it in the flower of another. Note the flower color or any other interesting traits of the plants. If the plant produces seeds (the peas), try planting one or two and see what the offspring looks like. You'll be experimenting the same way Mendel did!

