



Thinking Like a Researcher



About this Learning Resource

This resource involves students growing beans and observing change over time. It encourages students to think about the skills researchers need and how they can practice these before or after a visit to Chelsea Physic Garden.

It is a starting point for thinking about why we might study plants and what can be learned from close observation and data collection.

How to use this resource:

- You will need: a variety of dried beans (kidney, lima, or any large beans), paper towels, pencils, water, rulers, and clear plastic bags.
- Before beginning, the teacher may soak a variety of dry beans overnight to speed up growth.
- In small groups, students take a collection of beans and 'plant' them in a damp paper towel, making sure the beans are covered. Place the paper towel in the plastic bag and seal it. Keep the towel damp over the two weeks. (N.B. the beans should never be submerged in water, always drain off any excess.)
- Each student has a research log to record observations. Every day for at least two weeks, students record observations and make drawings of the beans.
- Students may discuss in groups what skills they think researchers need. The teacher may provide a word bank, including: curious, observant, creative, patient, accurate, thoughtful, good at recording and taking measurements, keen to discover new things, inquisitive, careful, persistent.
- Discuss with students why people study plants. Examples could include: increasing food productivity, improving the taste of food, learning about materials for making different objects, using plants to develop medicine, learning about the ecosystem, understanding climate change, etc.

National Curriculum Links:

KS1 Science

- Observing closely, using simple equipment.
- Gathering and recording data to help in answering questions.

KS2 Science

- Working scientifically.

Chelsea Physic Garden Visit

This resource supports the Seed Dispersal session at Chelsea Physic Garden and can be used in the classroom pre-visit, or at any time.

Learning Objectives:

- Students will know the importance of data collection and careful observation.
- Students will think about and apply the skills needed to be a researcher.
- Students will foster their curiosity and work on their observational skills.





Thinking Like a Researcher: Data Collection Activity



Place your selection of beans onto the damp towel, making sure they are covered, place them in the plastic bag, and seal the bag. Each day, ensure they are still wet and add water when needed. But, make sure they are not submerged in water.

Use the table below to record your observations and collect your data.

Day	Describe how the beans are different or similar to each other	Measure each bean	Draw your beans
Week 1			
Day 1: Monday			
Day 2: Tuesday			
Day 3: Wednesday			
Day 4: Thursday			
Day 5: Friday			
Week 2			
Day 6: Monday			
Day 7: Tuesday			
Day 8: Wednesday			
Day 9: Thursday			
Day 10: Friday			