



# Teacher Toolkit

Activity: Seed Dissection

Presented by: Civic Garden Center of Greater Cincinnati

Grade Level(s) 2<sup>nd</sup>-3<sup>rd</sup> grade

## Activity Description

Through this lesson, students will learn to use tools and data to develop scientific observations about seeds. Investigate the internal structure of a seed, use a scale to measure to weight of different seed types and quantities and collect seeds from plants in the garden.



## Ohio Standards Met

- Science, Grade 2: Changes in motion- forces change the motion of an object
- Science, Grade 3: Matter and forms of energy
- Math, Grade 2: Add and subtract within 20
- Math, Grade 3: Solve problems involving measurement and estimation of masses and objects

## Instructions

- Introduction
  - Tour the garden to be used, making observations and discussing expectations of the students.
  - Overview the stations and activities for the day.
  - Break into three groups for each of the three activity stations (or do each station as a whole class).
- Station 1- Observe: Seed Dissection
  - Share 'Seed Diagram' handout.
  - Cut open (bean) seeds and ask students to describe what they see.
  - Encourage them to find the seed coat, cotyledons and embryo inside.

Thanks to Greater Cincinnati Environmental Educators (GCEE) for collecting activities for the Teacher Toolkit



## Instructions (continued)

- Station 2- Explore: Seed Measurement
  - Explain that students will be using a scale to weigh different seeds.
  - They will record the weights on the 'How Much Do Seeds Weigh' worksheet and answering simple math questions.
- Station 3- Garden: Seed Collecting
  - Look at plants in the garden and observe their seeds.
  - If plants have seeds that are ready to be harvested, collect them (with tweezers if possible) into brown paper bags. Compare and discuss the seeds collected.
- Conclusion
  - Ask the students to share one thing that they learned or saw in the garden
  - Why did we collect seeds today? What can we do with the seeds?

## Materials Needed

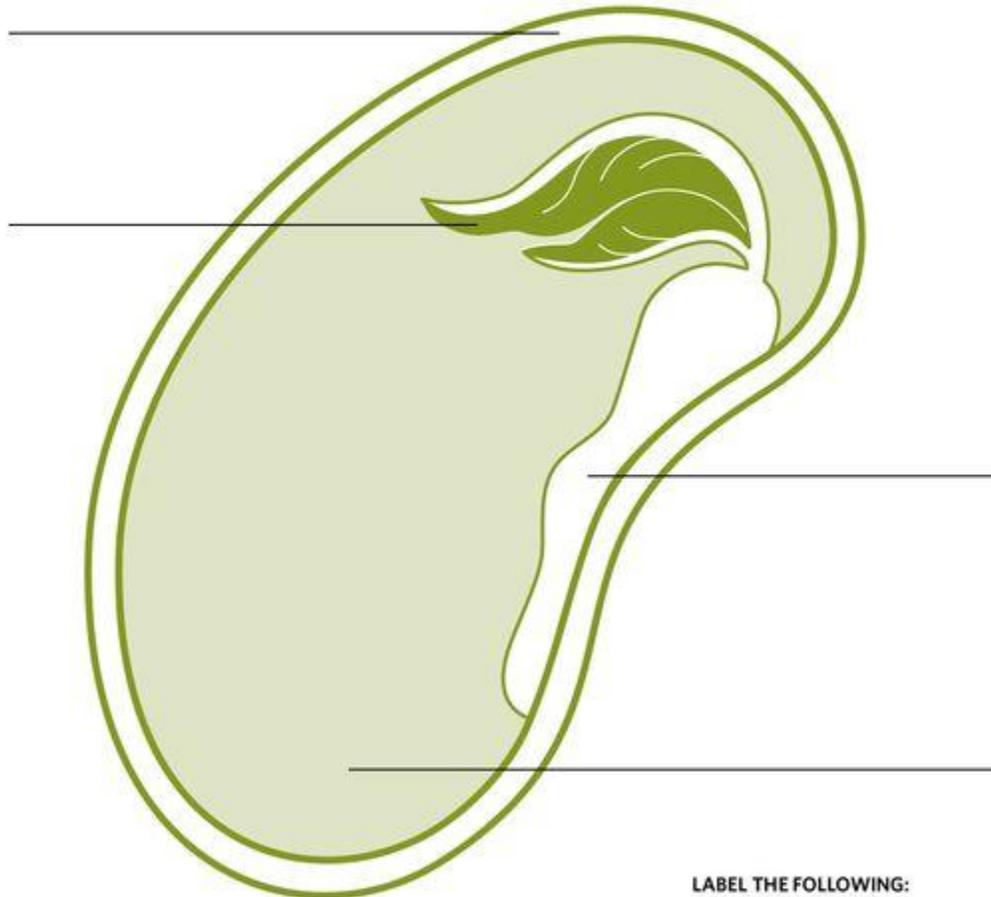
- Station 1
  - Seeds (beans) soaked for 24 hours
  - Hand lenses
  - Seed Diagram (see next page)
- Station 2
  - Seed packets
  - Scale
  - Clipboards
  - 'How Much Do Seeds Weigh' worksheet (see next page)
- Station 3
  - Hand lenses
  - Paper bags
  - Tweezers (if possible)

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## Seed Diagram

### Section 1, Lesson 1



**LABEL THE FOLLOWING:**

- seed food (cotyledon)
- root
- seed coat
- leaf



## Garden Lesson: Seed Dissection

Season: Fall

Grades: 2 and 3

Explore Station Student Worksheet

### How Much Do Seeds Weigh?

Before you start weighing the seeds, make a guess about which seed will weigh the most. Do you think the Lima Bean, Pea or Pole Bean?

Name of plant	Weight of 10 seeds	Weight of 20 seeds	Weight of 30 seeds

What type of seed weighed the most? Was your guess correct?

How much do you think 60 Lima Bean seeds will weigh?

*Building Community through Gardening, Education & Environmental Stewardship*

