

Cornell Cooperative Extension

Cornell Garden-Based Learning



KEY Monocots and Dicots



20 minutes

Learning Objective(s): Participants will...

- Understand the differences between monocots and dicots
- Identify different parts of a seed.

Supplies:

Handouts:

- Monocots and Dicots graphic

Materials:

- Bean and corn seedlings
- Soaked corn and bean seeds
- Microscope
- Hand lenses



Instructions:

Divide people into small groups. Each group will have examples of bean and corn seedlings, soaked seeds to observe and dissect, and a worksheet on which to write their answers.

Seed Activity Worksheet

1. Observe the seedlings in the cell packs – which are monocots and which are dicots? Explain why.
2. Locate the cotyledon leaves and the true leaves on the dicot seedlings. How do the vein patterns differ?
3. Where is the meristematic tissue located on the dicot seedlings? On the monocot seedlings?
4. Explain why monocots but not dicots can be grazed (or mowed) without harming the plant.

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5. Dissect a sprouted bean seed and a sprouted corn seed and locate the following parts:

- ____Seed coat
- ____Radicle
- ____Epicotyl
- ____Cotyledons

6. Summarize the four main ways in which monocots and dicots differ.

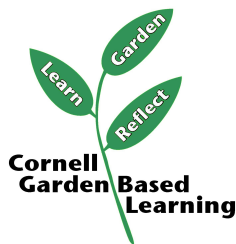
7. Name three important food crops that are monocots:

8. The most common stimulus for breaking seed dormancy is _____.

9. When a seed breaks dormancy and starts to grow this is called _____.

10. Some seeds of perennials and woody plants need to go through a period of wet cold to break dormancy. This is called _____.

11. Some seeds have a very tough seed coat – in order for these seeds to germinate the seed coat must be weakened or broken. This is called _____.



Date Published: April 2019

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