



# Training Guide:

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## Botany / How Plants Grow

### SETTING UP

#### Materials needed:

- **Homework Answers** for Review; GardenNotes #155: Botany
- **Worksheet Copies for students** (individual or small group quantities):
  - GardenNotes #150: Leaf Characteristics
  - GardenNotes #151: Plant Structures
  - GardenNotes #152: Plant Processes
- **General reference materials** or books; and GardenNotes for Botany
- Laminated **leaf set\*** (optional activity; use set if available, you can create slides with leaf images)
- **Supplies list:**

NOTE: The number you purchase/provide should allow for 3-4 people to be observing at the same time and drawing their observations.

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| <ul style="list-style-type: none"> <li><input type="checkbox"/> Hand lens (or ask students to bring their own)</li> <li><input type="checkbox"/> Cutting boards for plant dissection</li> <li><input type="checkbox"/> Knives/scalpels</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Rulers</li> <li><input type="checkbox"/> Giant post-it notes for group activity</li> <li><input type="checkbox"/> Poster markers</li> </ul> |
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- **Shopping/collection list:**
    - Fresh flowers for dissection; 1 flower for every 1-2 students
      - Recommended (select based on what you have access to): alstroemeria, lily, daffodils, tulips, etc... select flowers you can see MOST parts through simple dissection/exploration.
    - Branches for demonstrating plant growth; 1 for every 3-4 students if possible
      - A branch from each of two different trees showing 3+ years' growth. They can both be deciduous, evergreen or one of each, whatever is easiest for you to gather.
      - Recommended (select what you have access to): apples, crabapples, pears, cottonwood, chokecherry and evergreen samples.
    - Apples – Some cut in half horizontally, some vertically for observing the structure
    - Strawberries – cut in half horizontally for observation

## >>REVIEW HOMEWORK FROM ONLINE CLASS

Time: 10 minutes

### GardenNotes #155 – Botany Questions

Review student responses to the six botany-related questions.

ACTIVITY 1: GARDENNOTES WORKSHEET #151

## PLANT STRUCTURES LAB

Time: 25 minutes

### PART ONE : FLOWERS (Questions 1-2)

- Handout GN 151 Worksheets + flowers + access to cutting board/knife as needed.
- **NOTE:** *Be prepared to show students correct parts based on the flowers you are providing. Some flowers may not have all parts!*
- Have students identify the parts of the flower and complete worksheet individually or as a small group.

### PART TWO: FRUIT (Question 3)

- Make fruit (apples and strawberries) available for dissection and observation to answer this question individually or in pairs.

### PART THREE: BRANCHES (Question 4)

- Make available or hand out branch samples.
- Have students complete the worksheet individually or in small groups.

ACTIVITY 2: GARDENNOTES WORKSHEET #152

## PLANT PROCESSES GROUP ACTIVITY

Time: 25 minutes

- Break class into small groups of 4-6 people (or as appropriate).
- Assign groups #1, #2, or #3 from the worksheet.
- Have groups spend 5 minutes reading and answering the question assigned.
- Groups should use poster paper and pens to draft their response/answer.
- Spend the remaining class time sharing out these responses and discussing answers.

\*OPTIONAL\* ACTIVITY 3: GARDENNOTES WORKSHEET # 150

## LEAF CHARACTERISTICS WORKSHEET

Time: 15 minutes

- This activity is in the online course. You can choose to expand on it in class as time allows if you have samples/photos or the laminated leaf samples available.