

MNLA Curriculum Unit A, Lesson 1

UNIT TITLE: HOOKED ON HORTICULTURE: USING GARDEN CENTERS TO DISCOVER THE WONDERS OF PLANTS

LESSON 1: Learning Plant Parts 30-40 minutes

MINNESOTA ACADEMIC STANDARDS IN SCIENCE:

- 3.4.1.1.1 -- Compare how the different structures of plants and animals serve various functions of growth, survival and reproduction.
- 3.4.1.1.2 -- Identify common groups of plants and animals using observable physical characteristics, structures and behaviors.

AUTHORS: Terry Ferriss and Kelly Holt

GRADE LEVEL / SUBJECT: 3 Science

OVERVIEW: The local garden center can provide a unique opportunity to discover the diversity of the plant world. This science activity was designed to teach students how to identify the parts of a plant, compare similar structures on different plants and how plants reproduce. Students will also be introduced to the five environmental factors required for plant growth.

OBJECTIVES:

As a result of this activity, students will be able to:

1. Identify the basic parts of the shoot and flower of plants.
2. Describe how plants reproduce.
3. Identify the five environmental factors required by plants for growth and survival.

MATERIALS:

- Cut stems of Alstroemeria (optional)
- Cut stems of Snapdragons
- Handout of basic plant parts
- Access to a whiteboard, chalkboard, or Smartboard

ACTIVITIES AND PROCEDURES:

1. Draw a picture on the board of a basic flower showing sepals, petals, pistil, and stamen. Draw pollen grains on the stamen. Describe location of each part and how the insects or wind carry the pollen from the stamen onto the pistil.
2. Tell students that the stamen are the boy parts of the plant and the pistil is the girl part of the plant.

3. Discuss how the pollen germinates and unites with the egg cell in the ovary of the pistil to create a seed (baby plant)
4. Hand out cut flower stems of cut snapdragon stems to each student.
5. Have students identify the 4 major parts of their flowers, one part at a time. Ask students to turn to a neighbor and point to each part of the flower.
6. Ask students to remove one flower from the snapdragon. Ask them to remove the sepals and petals in order to see the stamen and the pistil.
7. Ask students to remove the stamen (boy part) leaving the pistil (girl part).
8. Tell students to use their thumb nails to split open the ovary at the base of the pistil. Describe to the students that they will be looking at the immature seeds (baby plants) inside. Have students show their neighbor the seeds.
9. (Optional) Hand out Alstroemeria and repeat steps 2-8. Be sure to tell students the sepals are the same color as the petals on this plant and not green like the snapdragon's. Also describe how the markings on the petals (like lights on an airport runway) attract insects.
10. Draw a plant stem on the board. Label the parts as you go. Recommended order is: stem, petiole, leaf blade, node, internode, axillary bud, roots, flower at the top.
11. Have students locate these plant parts on the cut snapdragon. Remind students to show their neighbor each part.
12. Tell students that each part of a plant serves a purpose in its growth.
13. Ask students what plants need in order to grow. Be sure students list all 5 environmental factors required for plant growth, give clues if needed (light, temperature, water, nutrition, air).
14. Tell students that plants use water, light and air (carbon dioxide) to make their food (sugars). This is called photosynthesis.
15. Tell students that soil is not necessary but that it provides support, nutrients and water for the plants.
16. Ask students to name something they learned today. Collect answers from 3-5 students.
17. Students may take home their cut flowers. Encourage them to tell a family member about the different parts of a plant and what plants need in order to grow.

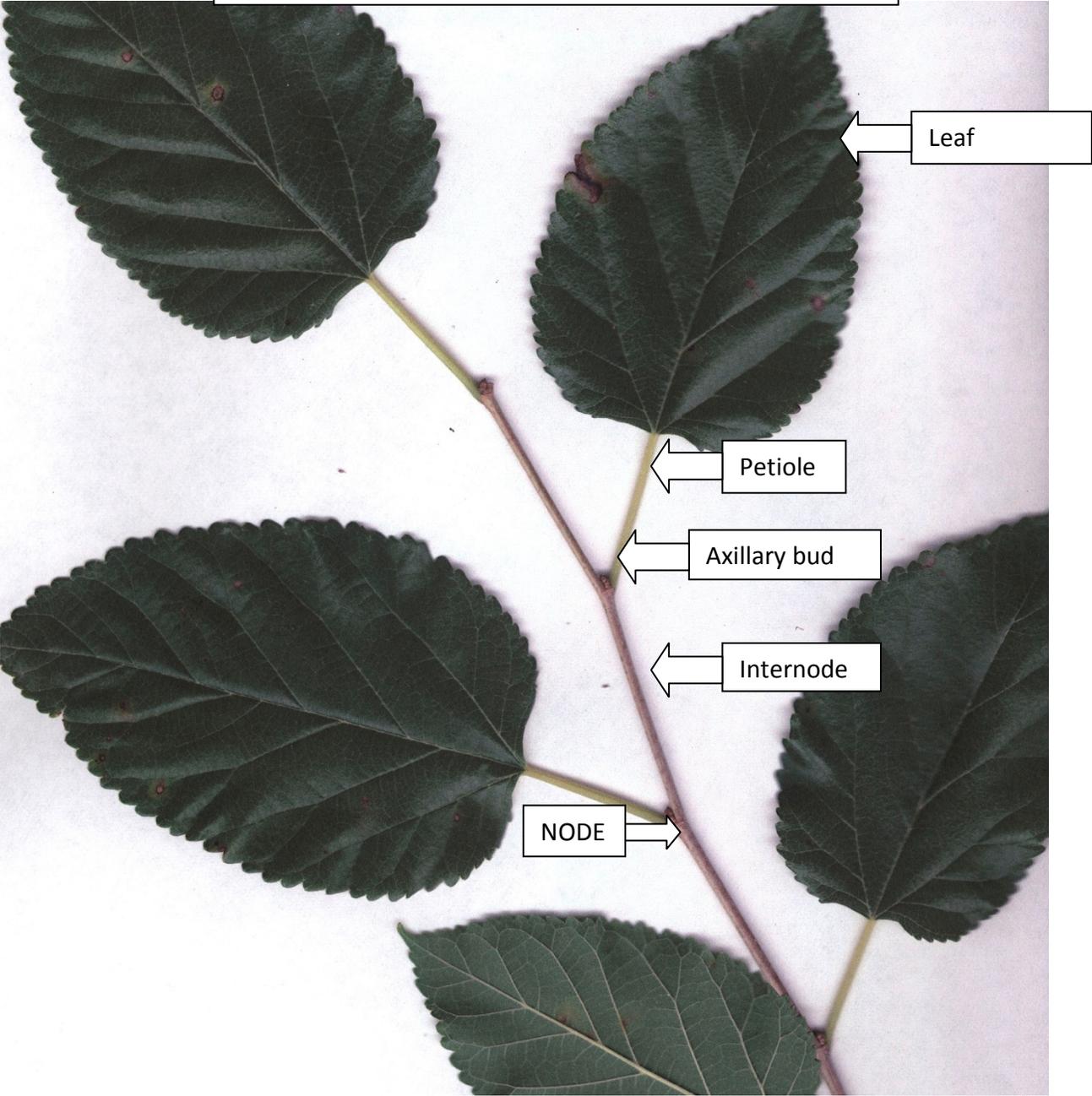
Assessment: Students will be able to label basic plant parts. See attached handouts.

Handouts and Worksheets:

- Handout on Parts of a Stem
- Handout on Parts of a Flower
- Worksheet on Parts of a Stem
- Worksheet on Parts of a Flower

Note: Worksheet and handouts are optional to use.

Parts of a Stem



Parts of a Flower

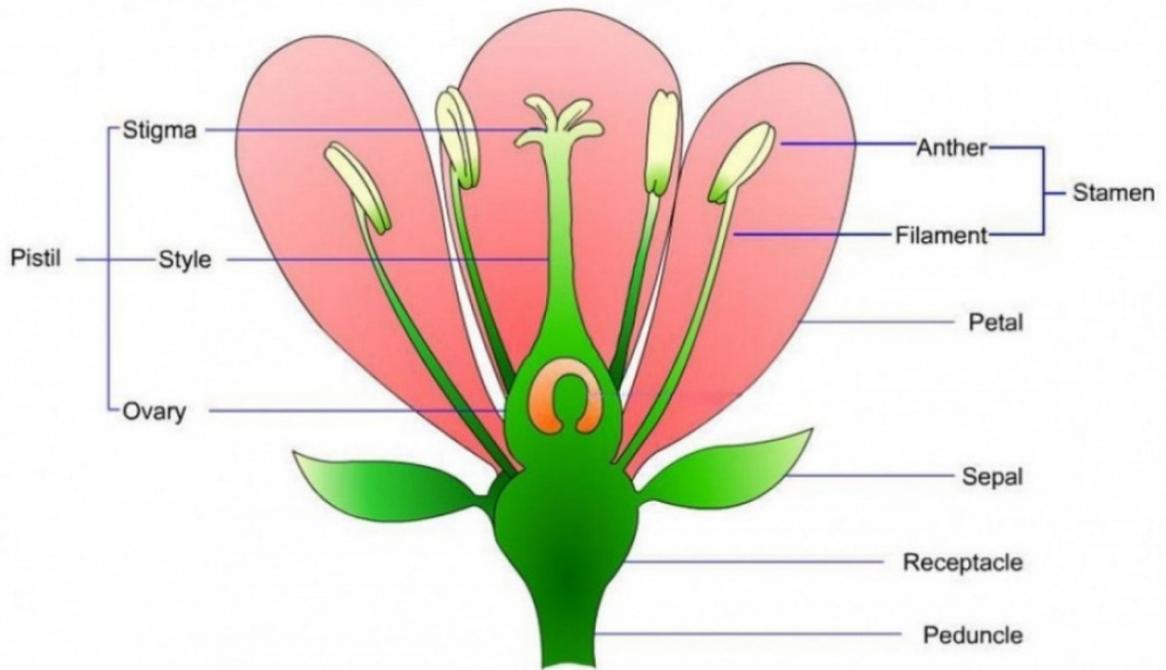
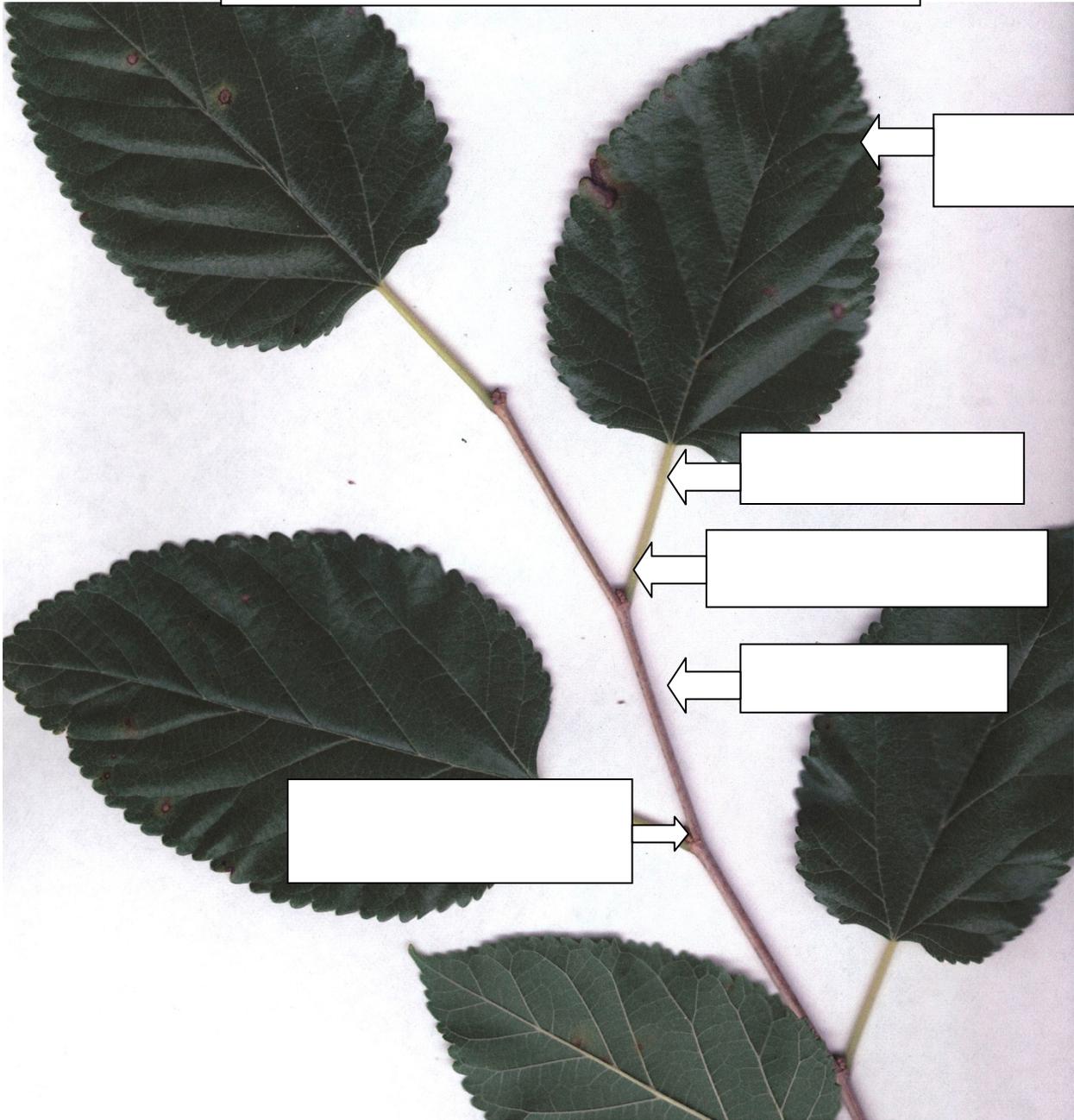


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Handout for MNLA Lesson A1

Parts of a Stem



Parts of a Flower Worksheet

Fill in the boxes with the correct name of the flower part.

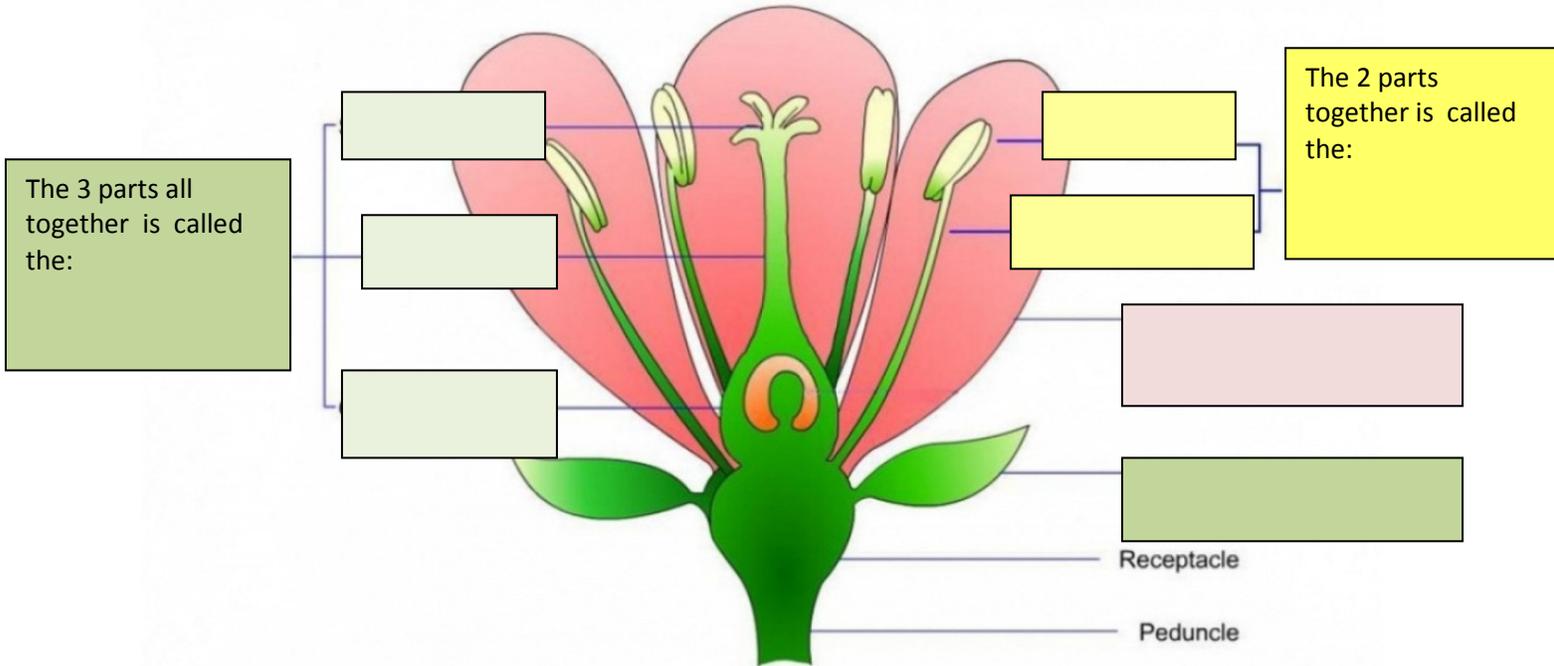


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MNLA Worksheet Lesson A1