

## **MNLA Curriculum Unit A, Lesson 3**

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

**LESSON 3:** Transplanting and Caring for Your Plants; 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.

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**GRADE LEVEL/SUBJECT:** 3 Science

**OVERVIEW:** The Garden Center provides a unique opportunity to discover the diversity of the plant world. This activity was designed to teach children how to successfully transplant and care for their plants with a focus on identifying the 5 environmental factors required for plant growth.

### **OBJECTIVES:**

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

1. Identify the 5 environmental factors required for plant growth.
2. Implement basic cultural practices related to the 5 environmental factors to promote plant growth.
3. Successfully transplant seedlings.

### **MATERIALS:**

1 5½-6" pot for each student  
Potting media for each pot  
Annual seedling liners (plugs or pack material)- allow 1 seedling of 3-5 species for each student (bring a few extra just in case of problems)  
blank plastic pot label for each student  
sharpie marker

### **ACTIVITIES AND PROCEDURES:**

1. Ask students to raise their hand if they or someone they know has a garden. Then, ask students to raise their hand if they've helped plant a garden.
2. Explain to students that many professionals work hard to grow the fruit and vegetables they eat as well as trees, shrubs and flowers for our landscapes and all of these professionals need to know how to transplant properly so the plants will grow vigorously. Transplanting is an important part of growing plants commercially as well

as it is important in growing plants at home. Share a personal experience you have had with transplanting.

3. Ask students what professional growers need to provide in order for the plants to grow well. The objective is to get the students to name the 5 environmental factors required for plant growth (light, temperature, water, nutrition, air). Students may say soil but be sure to explain that the plants need the water and nutrients from the soil but do not actually need soil itself. Be sure to mention oxygen and carbon dioxide are the critical components of air needed by plants.
4. Introduce the 3-5 plant species which are going to be transplanted. Tell students the name and have them repeat the name to you in unison. Repetition is useful in learning; find several opportunities during the lesson to ask students the names of the plants.
5. Tell students the preferred light conditions (sun or shade) and water requirements (wet, medium, dry) for each plant species.
6. Demonstrate how to fill a pot with media, pick the roots on the seedling, and transplant. Emphasize the level of the media in the pot. Discuss the importance of stimulating root development and preventing circling roots by breaking/picking the bottom and/or sides of the root ball. Discuss proper planting depth to ensure students don't plant the seedling too deep.
7. With the assistance of the teacher, have students create a single file line to fill their pots with media and pick up a blank pot label. Be sure to allow the students to fill the pots rather than doing it for them. Instruct students to return to their seats, write their name on the blank label, and keep their hands out of their pots; don't pack the media down. Review what soil provides for a plant.
8. Leaving their pots at their desks, have students create a line again to pick up one seedling of each plant species. (It's not necessary to provide a plant label for each plant. If labels are provided there must be enough for every student) Instruct students to return to their seats and gently pick the roots and transplant.
9. Hold up a sample of each species and ask students to tell the name of the plant in unison. Then, with the assistance of the teacher, have students pair up and tell each other the names of the plants in their pots.
10. Discuss with students the proper light and temperature conditions for their potted plants.
11. Describe to students how to determine if their plants need water by the "finger test" (insert pointer finger into media; if dry to the middle knuckle you need to water; if wet don't water). Encourage students to apply enough water so that some drips out the bottom of the pot (typically around 1 cup for this size pot). Tell students not to water their plants at school; water them immediately when they get home.
12. Encourage students to tell someone at home the names of their plants and how they plan to care for their plants.

**ASSESSMENT:** Observation of students' ability to transplant and orally name the 5 environmental factors required for plant growth.

**ADDITIONAL ACTIVITIES:** If students have completed MNLA lessons A1 and A2, have students identify plant parts.

**HANDOUTS AND WORKSHEETS:** None