

# Growing Flower and Vegetable Transplants From Seeds

## Unit Outline

1. Project Team Members: Doug Gayman & Kay Kring
2. Title of Course: Horticulture 1
3. Title of Unit or Project: Growing Flower and Vegetable Transplants from Seed
4. Approximate length of Unit or Project: 3- 8 weeks
5. Brief description of the Unit or Project with an expected final outcome.

This unit is designed to teach the students to grow flower and vegetable transplants from seed in the school greenhouse. The students will properly plant seeds, transplant seedlings, and care for the plants by using recommended culture methods. The plants will be grown successfully to saleable size. The students will learn to identify the plants grown in this unit.

6. Major Goals of Unit:

The student will be able to:

1. Determine planting schedule.
2. Prepare media for seeds, sow seeds, and provide the proper conditions for germination.
3. Provide cultural practices necessary for seedling growth.
4. Transplant seedlings into packs and pots.
5. Provide cultural practices necessary for transplant growth.
6. Identify the various plant species grown in this unit.

7. Sequence of balanced and integrated activities for students:

Students will complete the following activities:

1. **Seed Planting Activity**- The students will be provided with seeds, materials and equipment needed to properly sow and germinate seeds. A teacher demonstration will provide information on the correct procedure and techniques. Students will be assessed through teacher observation of student performance and project results. See Rubric # 1.
2. **Transplanting Seedlings Activity**- The students will be provided with seedlings, materials and equipment needed to properly transplant the seedlings. A teacher demonstration will provide information on the correct procedure and techniques. Students will be assessed through teacher observation of student performance and project results. See Rubric # 2.

3. **Plant Growth Product Activity-** The students will select appropriate plant growth products and apply these materials according to label instructions. Instruction will be provided by the teacher regarding label reading, safety, mixing, and application procedures. Applications will be made under teacher supervision. See Rubric # 3.
4. **Crop Scheduling Activity-** The students will calculate a seeding schedule using the textbook, calendar and predetermined market date. Assessment will be by comparison of their dates to the teacher-determined dates. Dates should be within one week of teacher-determined dates.
5. **Plant Identification Activity-** The students will identify in writing, by species name, 30 plant samples provided from the school greenhouse. Assessment will be by comparison to teacher created answer key. Students will retake test, if necessary, to achieve a 85% proficiency level.
8. Checklist or rubric of assessment components for students:

Three Rubrics are attached.

9. Specific Standards addressed in this Unit or Project:

<u>Ref. #</u>	<u>Name of Standard</u>	<u>Title of Individual Standard</u>
1.1.11	PA- RWSL	Learning to Read Independently
1.2.11	PA- RWSL	Reading Critically in all Content Areas
2.1.8	PA-M	Numbers, Number Systems & No. Relationships
2.1.11	PA-M	Computation & Estimation
2.3.11	PA-M	Measurement & Estimation
2.5.11	PA-M	Math. Problem Solving & Communication
2.8.11	PA-M	Algebra & Functions
3.6.10/12	PA-S & T	Technical Education
3.6.10/12	PA-S & T	Technical Devices
4.3.10/12	PA-E & E	Environmental Health
4.5.10/12	PA-E & E	Integrated Pest Management

**Rubric # 1****SEED PLANTING RUBRIC**

Name \_\_\_\_\_

<b>Planting Procedure</b>	<b>Possible Pts.</b>	<b>Pts. Earned</b>
Select & clean flat	5	
Wet media thoroughly	10	
Fill flat to proper depth	10	
Space and mark rows	10	
Sow seeds at recommended spacing	10	
Cover to correct depth if recommended	10	
Prepare label with required information	10	
Cover flat with transparent dome	5	
Place flat in growing area	10	
Clean work area and store materials used	10	
Germination rate	10	
<b>Total Possible Points</b>	100	

**Rubric # 2**

Name \_\_\_\_\_

**TRANSPLANTING CHECKLIST**

<b>Transplanting Procedure</b>	<b>Check when completed</b>
Select seedlings to transplant	
Wet media	
Fill packs with media	
Correctly remove seedlings from flat	
Correctly handle & separate seedlings	
Place seedling into media & firm soil	
Repeat process to fill containers	
Label packs	
Move packs to growing area	
Properly water packs	
Clean work area & store materials	
<b>Proficient at Transplanting</b>	

**Rubric # 3****Plant Growth Product Activity**

<b>Product Application Procedure</b>	<b>Check when completed</b>
Select appropriate material	
Determine rate from label	
Select safety & application equipment	
Determine size of treatment area	
Calculate mixture proportions according to label	
Apply at recommended coverage rate	
Clean work area & store materials	
<b>Proficient at Product Application</b>	