

# DOCUMENT ORGANIZATION

## The Four Column Format

Prescribed learning outcome statements that define what students are expected to achieve at the end of each grade

Suggestions for student learning experiences directly related to the attainment of specific learning outcomes

### Kindergarten to Grade 4 Science: A Foundation for Implementation

Learning outcomes related to thematic clusters

Learning outcomes related to Cluster O, Overall Skills and Attitudes, selected to correspond to Suggestions for Instruction

#### PRESCRIBED LEARNING OUTCOMES

Students will...

**3-1-01** Use appropriate vocabulary related to their investigations of growth and changes in plants.  
Include: growing medium, nutrient, energy, root, stem, leaf, flowers, pistil, stamen, ovule, pollen, seed, fruit, adaptation, life cycle.  
GLO: C6, D1

**3-1-02** Observe, compare, and contrast the structure and appearance of several types of plants.  
*Examples: plants with different types of roots, trees with needles and trees with leaves...*  
GLO: C2, D1, E1

**3-1-03** Show respect for plants as living things.  
GLO: B5

**3-0-4h.** Follow given safety procedures and rules, and explain why they are needed. GLO: C1  
**3-0-5a.** Make observations that are relevant to a specific question. GLO: A1, A2, C2  
**3-0-5b.** Use tools to observe, measure, and construct. Include: ruler, metre stick, pan balance, magnifying glass, bathroom scale, thermometer, magnet. (Math SS-I.1.3, SS-III.1.3, SS-IV.1.3, SS-VII.4.3) GLO: C2, C3, C5  
**3-0-6c.** Place materials and objects in a sequence or in groups using two or more attributes, and describe the system used. (Math PR-I.1.3) GLO: C2, C3, C5

#### SUGGESTIONS FOR INSTRUCTION

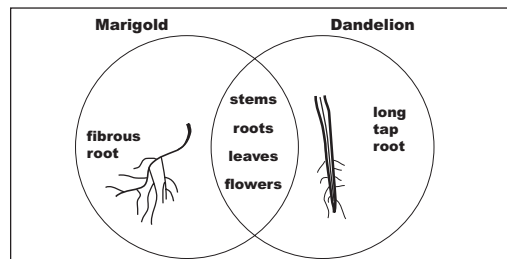
➤ Introduce, explain, use, and reinforce vocabulary throughout this cluster.

➤ **Word Cycle**  
Teach students how to use a word cycle to help them become familiar with the specific vocabulary related to the learning outcomes in this cluster. Use the word cycle to assess students' knowledge of terms studied in specific sections of this cluster (see *Success for All Learners*, 6.31).

➤ **Plant Etiquette**  
Discuss and develop a list of guidelines and safety procedures to follow to ensure students show respect for plants as living things. Guidelines might include: avoid trampling on plants, touch plants only after an adult has given permission, touch and bend the plant gently to avoid damage, observe using sense of sight and sense of smell before using sense of touch, etc.

➤ **Compare and Contrast**  
Set up a plant observation centre where students sort and classify plants. Have students explain the method used and then resort and relabel the groups. Plants should be provided that show a variety of roots, leaves, flowers, and seeds.

➤ **Venn Comparison: Plants**  
In small groups, have students select two plants to compare and contrast using a Venn diagram. Students may prefer to draw the parts of each plant to show the differences.



➤ **Art Connection**  
Have students sketch a plant and/or press a plant to make an environmental note card.

Background information and/or definitions for teachers, often beyond what students are required to know; safety information

Suggestions for assessing specific learning outcome(s)

*Grade 3, Cluster 1: Growth and Changes in Plants*

TEACHER NOTES

SUGGESTIONS FOR ASSESSMENT

**Cluster Note:** Students' achievement of the learning outcomes in this cluster is dependent on having adequate time to conduct experiments on plant growth and to follow a flowering plant through a complete life cycle.

**Caution:** Ensure that there are no dangerous plants such as poison ivy or poison berries in your local area. Check to make sure that there are no students with plant allergies in your class. (Refer to *Success for All Learners*, 9.5 for details on conducting an ecology walk.)

Have a plant collection already prepared to ensure a wide variety. Students could participate in making plant collections. Alternatives to live plant collections include pictures of plants or examples of live houseplants.

When discussing the Venn diagram introduce the related vocabulary.

**Science Journal Entry: Plant Etiquette**

Directions to students: In your science journals, finish the following sentence:

I can show respect for plants as living things by \_\_\_\_\_.

List as many examples as you can.

Look for

- examples related to avoiding damage to plants
- references to safety issues

**Observation Checklist for Student Self-Assessment**

Directions to students: At the plant observation centre you will be comparing plants to determine how they are the same and how they are different. Use this checklist to check your observation skills.

**How Are My Observation Skills?**

I used the following senses to observe:

sight    smell    touch    hearing

I used the following tools:

- magnifying glass
- centimetre ruler
- other \_\_\_\_\_

I observed the following properties:

colour    shape    texture    size

I also observed \_\_\_\_\_

\_\_\_\_\_

**Caution:** Indicates an important consideration for planning around safety issues

**Grey line** indicates the start of a new grouping of prescribed learning outcomes and associated suggestions for instruction, teacher notes, and suggestions for assessment. Included only when more than one grouping appears on a page

3.3

# Guide to Reading Specific Learning Outcomes

PRESCRIBED LEARNING OUTCOMES	SUGGESTIONS FOR INSTRUCTION
<p><i>Students will...</i></p> <p><b>3-1-01</b> Use appropriate vocabulary related to their investigations of growth and changes in plants.                      Include: growing medium, nutrient, energy, root, stem, leaf, flowers, pistil, stamen, ovule, pollen, seed, fruit, adaptation, life cycle.                      GLO: C6, D1</p>	<p>Introduce, explain, use, and reinforce vocabulary throughout this cluster.</p> <p><b>Word Cycle</b>                      Teach students how to use a word cycle to help them become familiar with the specific vocabulary related to the learning outcomes in this cluster. Use the word cycle to assess students' knowledge of terms studied in specific sections of this cluster (see <i>Success for All Learners</i>, 6.31).</p>
<p><b>3-1-02</b> Observe, compare, and contrast the structure and appearance of several types of plants.                      Examples: <i>plants with different types of roots, trees with needles and trees with leaves...</i>                      GLO: C2, D1, E1</p>	<p><b>Plant Etiquette</b>                      Discuss and develop a list of guidelines and safety procedures to follow to ensure students show respect for plants as living things. Guidelines might include: avoid trampling on plants, touch plants only after an adult has given permission, touch and bend the plant gently to avoid damage, observe using sense of sight and sense of smell before using sense of touch, etc.</p>
<p><b>3-1-03</b> Show respect for plants as living things.                      GLO: B5</p>	<p><b>Compare and Contrast</b>                      Set up a plant observation centre where students sort and classify plants. Have students explain the method used and then resort and relabel the groups. Plants should be provided to show a variety of roots, leaves, flowers, and seeds.</p>
<p><b>3-0-4h.</b> Follow given safety procedures and rules, and explain why they are needed. GLO: C1</p> <p><b>3-0-5a.</b> Make observations that are relevant to a specific question. GLO: A1, A2, C2</p> <p><b>3-0-5b.</b> Use tools to observe, measure, and construct. Include: ruler, metre stick, pan balance, magnifying glass, bathroom scale, thermometer, magnet. (Math SS-I.1.3, SS-III.1.3, SS-IV.1.3, SS-VII.4.3) GLO: C2, C3, C5</p> <p><b>3-0-6c.</b> Place materials and objects in a sequence or in groups using two or more attributes, and describe the system used. (Math PR-I.1.3) GLO: C2, C3, C5</p>	<p><b>Venn Comparison: Plants</b>                      In small groups, have students select two plants to compare and contrast using a Venn diagram. Students should label the parts of each plant to show the differences.</p>

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First digit indicates grade; second digit indicates cluster number; third digit(s) indicates specific learning outcome number

**Include:** Indicates a mandatory component of the specific learning outcome

Cross-reference to general learning outcomes (See Appendix A)

**Example:** Provides ideas of what could be included (non-mandatory)

Cross-reference to other areas: Math, ELA (English Language Arts), TFS (Technology as a Foundation Skill Area)