



**UBC**  
**Botanical**  
**Garden**

**Educational**  
**Resource**  
**For Teachers**

# **Plant Unit:** **For a Grade 1 Classroom**

2024

**With work by:**  
**Christine Joe and Rose Nguyen**

## GENERAL INFORMATION

Unit Plan  
Grade 1– Science  
Christine Joe, Rose Nguyen  
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## Plant Unit For a Grade 1 Classroom

### Overview

This unit plan integrates the required learning outcomes and competencies outlined in the British Columbia (BC) curriculum. Moreover, it provides a comprehensive overview of the core competencies, big ideas, and content to be covered. Within this plan, students will actively participate in group work, engage in hands-on activities, and embark on an educational visit to the UBC Botanical Garden, allowing them to broaden their knowledge and meaningfully connect their learning to the real world. Specifically designed for Grade 1 students, this unit plan emphasizes the acquisition of plant knowledge. Each lesson is thoughtfully structured, comprising a distinct objective, an educational book, an interactive activity, and guiding questions to complement the educator's instructions. All of these lessons in this unit plan intersect with the Sustainable Development Goals ([SDG](#)).

### Core Competencies

#### *Communication:*

Students can communicate their understanding of structural features of plants through class discussions and written worksheets.

#### *Personal Awareness and Responsibility:*

Students will engage in self-reflection, considering the impact of their choices and actions, and actively explore ways to contribute to the well-being of their community.

### Curricular Competencies

Students will be able to:

#### *Questioning and predicting*

1. Demonstrate curiosity about plants
2. Make simple predictions

#### *Planning and conducting*

3. Make and record observations

#### *Processing and analysing data and information*

4. Compare observations with predictions through discussion

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## Content

*Students will know...*

1. Structural features: How do structural features of a plant (stems, roots, leaves) help plants survive in their environment?
2. The importance of nature and its role

5. Identify simple patterns and connections

### *Evaluating*

6. Compare observations with those of others
7. Consider some environmental consequences of their actions

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## Big Ideas

Living things have features and behaviours that help them survive in their environment

### *Applying and innovating*

8. Transfer and apply learning to new situations

### *Communicating*

9. Communicate observations and ideas using oral or written language, or drawing.
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## Cross-curricular + Trans-disciplinary Connections and Critical Questions

1. **Social Studies:** Exploring the cultural significance of plants in different communities and regions can tie into social studies objectives.
    - a. Learning about sustainable practices related to plant cultivation and conservation aligns with social studies themes.
    - b. How do the Sustainable Development Goals (SDGs) intersect with our learning about plants, and how can we contribute to achieving these goals through our actions and choices?
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## Equity and Diversity

These lessons aim to foster an appreciation and understanding of the role plants play in our lives. They should be delivered from a perspective that looks at plants as valuable beings, not just because of what they offer us. Teach students to respect plants and treat them kindly. Students should be encouraged to be stewards and protectors of the natural world.

Books such as “We Are the Water Protectors” provide students with examples of active

## First Peoples’ Principles of Learning

Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).

Learning involves recognizing the consequences of one’s action.

Learning requires exploration of one’s identity.


Learning involves patience and time.

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stewardship. Highlighting indigenous voices, it follows a young Ojibwe girl as she helps protect her community and the land from an oil pipeline.

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| UNIT PLAN                              |  |   |
|--|--|---|
| Lesson                                 | Resources and Materials  | Lesson Overview   |
| Lesson 1: KWL (Introduction to Plants) | <p>Materials:</p> <ul style="list-style-type: none"> <li>- “Plants Can't Stay Still” by Rebecca E. Hirsh</li> <li>- KWL Chart</li> </ul>   | <p>Objective: Students will reflect on their knowledge, questions, and interests in plants.</p> <p>Read Aloud: “Plants Can't Stay Still” by Rebecca E. Hirsh</p> <p>Activity: Students will engage in a brainstorming session to explore their existing knowledge and curiosities about plants. Students will document their responses on a KWL chart.</p>  |
| Lesson 2: The Importance of Water      | <p>Materials:</p> <ul style="list-style-type: none"> <li>- “We Are The Water Protectors” by Carole Lindstorm</li> <li>- Containers to make rainwater reservoirs</li> </ul>  | <p>Objective: Students will understand the importance of water and develop an awareness of how they can protect their water source.</p> <p>Read Aloud: “We Are The Water Protectors” by Carole Lindstorm</p> <p>Before reading, ask students if they know what a water protector is or why water is important.</p> <p>After reading the book, lead a class discussion to reinforce the importance of water and discuss ways to protect their water source.</p> <p>Guiding Questions:</p> <ol style="list-style-type: none"> <li>1. Why is water important for people, animals, and plants?</li> <li>2. What are some activities we do that require water?</li> <li>3. Where does our drinking water come from?</li> <li>4. How can we protect the water in our local area?</li> </ol> |

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|  |  | <p>5. How can we reduce our water consumption?</p> <p>6. What can happen if we do not take care of our water source?</p> <p>Activity: Create Rainwater Reservoirs. Show the students a large plastic container and explain that it will be used as a rainwater reservoir. Discuss why it is important to collect rainwater for plants instead of using tap water. Emphasize the importance of conserving water by reusing rainwater for watering plants.</p> <p>SDG: Responsible Consumption &amp; Clean water and sanitation</p>  |
| <p>Lesson 3:<br/>What do plants need in order to grow?</p> | <p>Materials:</p> <ul style="list-style-type: none"> <li>- "Seed to Plant" by National Geographic Kids</li> <li>- Materials for planting (i.e. cups, seed, soil, etc.)</li> <li>- Booklet ("What A Plant Needs" "A Plant Needs...")</li> </ul> | <p>Objective: Students will learn about the essential needs of plants in order to grow.</p> <p>Read Aloud: "Seed to Plant" by National Geographic Kids</p> <p>Guiding Questions:</p> <ol style="list-style-type: none"> <li>1. What do plants need to grow?</li> <li>2. Why is sunlight important for plants?</li> <li>3. What role does soil play in plant growth?</li> <li>4. Why do plants need water?</li> </ol> <p>Activity: Instruct students to work on their plant booklet. Students will trace letters and draw corresponding pictures. While students are working on their plant booklet, the teacher will pull small groups to plant.</p> |
| <p>Lesson 4: Plant Life Cycle</p>                          | <p>Materials:</p> <ul style="list-style-type: none"> <li>- "The Amazing Life Cycle of Plants" by Kay Barnham</li> </ul>  | <p>Objective: Students will learn about the life cycle of a plant</p> <p>Read Aloud: "The Amazing Life Cycle of Plants" by Kay Barnham</p>   |

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|                                   | <ul style="list-style-type: none"> <li>- Envelope with pictures of the plant life cycle</li> </ul>  | <p>Activity: Students will engage in a chronological ordering activity. Students will be put in pairs/or in groups. Students will be provided with an envelope of pictures of the plant life cycle. Students will need to work together to put pictures in chronological order. Introducing the idea of “First, second, third, last...” After revealing the correct order, students will need to draw, colour, and write the corresponding words for each stage, such as seed and seedling.</p> <p>SDG: Life on land</p>  |
| <p>Lesson 5: Parts of a Plant</p> | <p>Materials:</p> <ul style="list-style-type: none"> <li>- Images of plants (with roots, stem, seed, etc.)</li> <li>- Booklet (“Parts Of A Plant”)</li> </ul> | <p>Objective: Students will learn about the different parts of a plant and their functions.</p> <p>Instructions: Show students images of plants displaying different parts (roots, stem, seed, etc.). Ask students if they can identify the different structural parts of a plant and their functions.</p> <ol style="list-style-type: none"> <li>1. Flower: The flower is a beautiful and colourful part of the plant. Its main purpose is to attract pollinators like bees, butterflies, and birds. The flower produces nectar, a sweet liquid that these pollinators feed on. When a pollinator visits a flower, it picks up pollen from the flower's male parts and transfers it to other flowers, allowing them to produce seeds and fruits.</li> <li>2. Stem: The stem is the main part of the plant that grows above the ground. It holds the plant upright and provides support. The stem also transports water, nutrients, and food throughout the plant. Some stems are thick and woody, while others are thin and flexible.</li> </ol> |

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|                                    |   | <p>3. Leaf: Leaves are flat and green parts of plants. They use sunlight to make food for the plant through photosynthesis. They also help plants breathe by taking in carbon dioxide and releasing oxygen. Leaves are like little food factories that give energy to build the plant so it can grow and be healthy.</p> <p>4. Seed: A seed is a small, hard structure that contains a tiny plant inside. Seeds are usually found inside fruits or cones. The main purpose of a seed is to grow into a new plant. When a seed is planted in the soil and gets water and sunlight, it sprouts and starts to grow roots, stems, and leaves.</p> <p>5. Root: The root is an essential part of a plant that grows below the ground. Its main purpose is to anchor the plant firmly in the soil and absorb water and nutrients from the soil. The root also stores food for the plant.</p> <p>Activity: Students will work on their plant booklet by labelling the different parts of a plant and their functions.</p> |
| <p>Lesson 6:<br/>Plants We Eat</p> | <p>Materials:</p> <ul style="list-style-type: none"> <li>- “Plants Feed Me” by Lizzy Rockwell<br/><a href="https://youtu.be/Q-J9ZifyqSE">https://youtu.be/Q-J9ZifyqSE</a></li> <li>- Booklet (“Plants We Eat”)</li> </ul> | <p>Objective: Students will learn about the different plants we eat.</p> <p>Read Aloud: “Plants Feed Me” by Lizzy Rockwell <a href="https://youtu.be/Q-J9ZifyqSE">https://youtu.be/Q-J9ZifyqSE</a></p> <p>Guiding Questions</p> <ol style="list-style-type: none"> <li>1. What are some examples of plants we eat?</li> <li>2. What parts of the plants do we eat?</li> <li>3. How do plants help us stay healthy?</li> </ol>   |



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|   |  | <p>Instructions: After reading the book, brainstorm and create a class mind map on the different plants we eat (strawberries, onion, broccoli, carrots, etc.).</p> <p>Activity: Students will have the opportunity to write about the plant they enjoy eating. They can use sentence starters such as “My favourite fruit/vegetable is ____ because ____.” or “I like to eat ____ because ____.”.</p> <p>SDG: Good health and wellbeing</p>   |
| <p>Lesson 7: Plant Observation (Journaling)</p> | <p>Materials:</p> <ul style="list-style-type: none"> <li>- Booklet (“Journaling”)</li> </ul>   | <p>Connection to Lesson 3 (planting project)</p> <p>Guiding Questions:</p> <ol style="list-style-type: none"> <li>1. What do you see happening to your plant?</li> <li>2. How does your plant feel when you touch it?</li> <li>3. What do you notice about the colour or shape of the leaves?</li> </ol> <p>Activity: Instruct students to document their observations in their plant booklet, using drawings (progressive drawing) and simple sentences. Encourage students to use their senses (sight, smell, touch) to describe their plant growth progress.</p> |
| <p>Lesson 8: Sound Map Activity</p>             | <p>Materials:</p> <ul style="list-style-type: none"> <li>- Pen and paper for each student</li> </ul>  | <p>Sound Map Activity</p> <p>Explain the concept of a sound map to the students. Describe it as a visual representation of the different sounds they hear in a particular environment.</p> <p>Show examples of sound maps or illustrations to help students understand how they can represent different sounds using symbols or drawings.</p>   |

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|                             |                   | <p>Discuss the importance of careful observation and active listening during the activity.</p> <p>Instruct students to find a comfortable spot where they can sit quietly and listen to the sounds around them.</p> <p>Instruct students to observe and listen carefully to the sounds in the forest and record them on their sound maps using symbols, drawings, or written descriptions.</p> <p>Invite a few volunteers to present their sound maps to the class.</p> <p>Connect the activity to the upcoming garden field trip, highlighting how the students will further explore nature and deepen their understanding of the natural world.</p>   |
| <p>Lesson 9: Field Trip</p> | <p>Materials:</p> | <p>Field Trip: Botanical Gardens</p> <p>At UBC Botanical Gardens, the guided tours provide students with the opportunity to partake in hands-on activities. These field trips empower students to actively engage in their own learning and apply their newfound knowledge to real-world situations, making their educational journey more meaningful and relevant. Within the gardens, students can explore the food garden, discovering various fruits and vegetables while learning how to utilize various parts of the plant. Furthermore, in the garden, there is a medicinal plant collection, where students learn about how plants hold significance beyond their nutritional value, serving diverse purposes including meditation.</p> <p>To expand on students' knowledge, garden guides will talk about three different types of trees: Douglas fir, Cedar, and Maple tree on the TreeWalk. This discussion will spark</p> |

|   |                           |  |
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|   |                           | students' curiosity about trees while equipping them with valuable information for their tree inquiry project (post activity) in class.  |
| Lesson 10:<br>Different Types of Trees<br>(Incorporation of TreeWalk) | Materials:<br>- Worksheet | <p>Objective: Students will enhance their knowledge by conducting their own tree inquiry, building upon what they learned during their visit at the UBC Botanical Garden TreeWalk.</p> <p>Activity: Group project</p> <p>Each group will be responsible for finding THREE facts about their given tree. Students will be given a worksheet for them to fill out their three facts (full sentences) and a space for them to draw a picture.</p> <p>Examples:</p> <ol style="list-style-type: none"> <li>1. Cedar             <ol style="list-style-type: none"> <li>a. Book: Strong Readers Set A: The Little Cedar Tree (Brenda Boreham)</li> </ol> </li> <li>2. Maple Tree             <ol style="list-style-type: none"> <li>a. Book: See a Plant Grow!: Maple Tree (Charlie W. Sterling)</li> </ol> </li> <li>3. Douglas Fir             <ol style="list-style-type: none"> <li>a. Book: Trees to Spot (Sam Smith)</li> </ol> </li> </ol> |
| Lesson 11:<br>Group Presentations                                     | Materials:                | <p>Objective: Students will learn collaboration and enhance their oral speaking skills as they share the facts they have found about their tree.</p> <p>Activity: Students will be given time to share with their class the three facts they found about their tree.</p>   |

## Resources

### Books (included in Unit Plan)

#### *Plants Can't Stay Still* by Rebecca E. Hirsh

- This book reveals the amazing secrets of plants. Using captivating stories and scientific knowledge, Hirsh shows how plants are smart and adaptable. They have clever ways of surviving and communicating with others. This book helps us see that plants are not just passive—they play an active part in nature. With interesting facts and easy-to-understand explanations, readers will gain a deeper appreciation for the beauty and interconnectedness of plants.

#### *We Are The Water Protectors* by Carole Lindstrom

- "We Are The Water Protectors" by Carole Lindstrom is a heartfelt picture book that encourages kids to defend our water. With beautiful illustrations by Michaela Goade, this book follows a young Indigenous girl who bravely stands up to protect nature. Through simple and inspiring words, it teaches the importance of environmental justice and the power of collective action. Young readers will be inspired to become guardians of our precious water sources.

#### *Seed to Plant* National Geographic Kids

- This is an engaging book that takes young readers on a journey from seed to plant. With colorful photographs and easy-to-understand language, this book explores the fascinating process of how plants grow. From planting seeds to the emergence of leaves and flowers, children will learn about the essential elements plants need to thrive. With fun facts and interactive activities, this book sparks curiosity and a love for nature in budding botanists.

#### *Plant the Tiny Seed* by Christie Matheson

- This book is a delightful interactive picture book that invites young readers to join in the magical journey of planting and growing a garden. Through simple text and vibrant illustrations, children can follow along as they tap, clap, and blow on the pages to make seeds sprout, flowers bloom, and plants thrive. This engaging book sparks imagination, teaches basic concepts of plant growth, and encourages a love for nature and gardening.

#### *Plants Feed Me* by Lizzy Rockwell

- "Plants Feed Me" by Lizzy Rockwell is a colorful and informative children's book that explores the wonderful world of plants and how they nourish us. With engaging illustrations and easy-to-understand language, young readers will discover how plants provide us with fruits, vegetables, and grains that make up our meals. From planting

seeds to harvesting crops, this book teaches kids about the importance of plants in our diets and encourages a healthy appreciation for the natural world.

*Strong Readers Set A: The Little Cedar Tree*

- "The Little Cedar Tree" is a captivating book from the Strong Readers Set A collection. With simple language and charming illustrations, this story follows a small cedar tree's journey to find its place in the world. Kids will cheer for the little tree as it faces challenges, grows strong, and discovers its true purpose. This engaging book teaches valuable lessons about resilience, identity, and the power of believing in oneself.

*See a Plant Grow!: Maple Tree*

- "See a Plant Grow!: Maple Tree" is an exciting book that shows kids how a maple tree grows. With clear illustrations and easy-to-understand language, readers will learn about the life cycle of a maple tree—from a tiny seed to a towering tree. Readers will discover how it sprouts leaves, produces flowers, and even provides syrup. This book is a fun and educational introduction to the wonders of nature, sparking curiosity and appreciation for trees and their growth.

Other resources

<https://kids.nationalgeographic.com/>

- This website offers a range of educational materials, articles, videos, and interactive games focused on plants, animals, and ecosystems. It has dedicated sections on plants, nature, and biodiversity suitable for young learners.

<https://www.plt.org/>

- Project Learning Tree provides a variety of free, hands-on activities and lesson plans designed to engage students in exploring forests, trees, and the environment. They offer resources specifically tailored for different grade levels.

<https://kidsgardening.org/>

- This website offers a wealth of resources for teaching gardening and plant-related topics. It includes lesson plans, activities, and articles specifically designed for elementary school students, helping them learn about plants, growing food, and environmental stewardship.

<https://www.prekinders.com/garden-plant-seeds-songs-kids/>

- This page offers many songs/music resources that teachers can incorporate into their teaching about gardens, plants, and seeds.

# Grade 1 Plant Unit

Rose Nguyen and Christine Joe

START!

01  
KWL Chart  
(Formative  
Assessment)

02  
The  
Importance  
of Water

03  
What Do  
Plants Need  
to Grow?

04  
Plant Life  
Cycle

08  
Sound Map  
Activity

07  
Parts of a  
Plant

06  
Plants We  
Eat

05  
Plant  
Observations  
(Journaling)

09  
Field Trip to  
Botanical  
Garden!

10  
Different  
Types of  
Trees

11  
Group  
Presentations  
(Summative  
Assessment)

FINISH!



Name: \_\_\_\_\_



**PLANTS**

**K**

**W**

**L**

What I **K**now

What I **W**ant To Know

What I **L**earned

Empty rounded rectangular box for writing 'What I Know'.

Empty rounded rectangular box for writing 'What I Want To Know'.

Empty rounded rectangular box for writing 'What I Learned'.





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# Plant Booklet

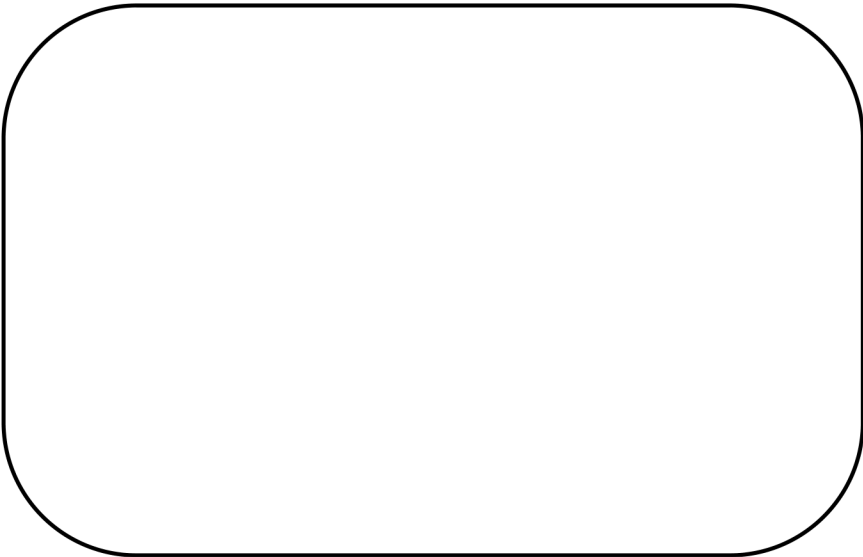




# What a Plant Needs

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# Journaling



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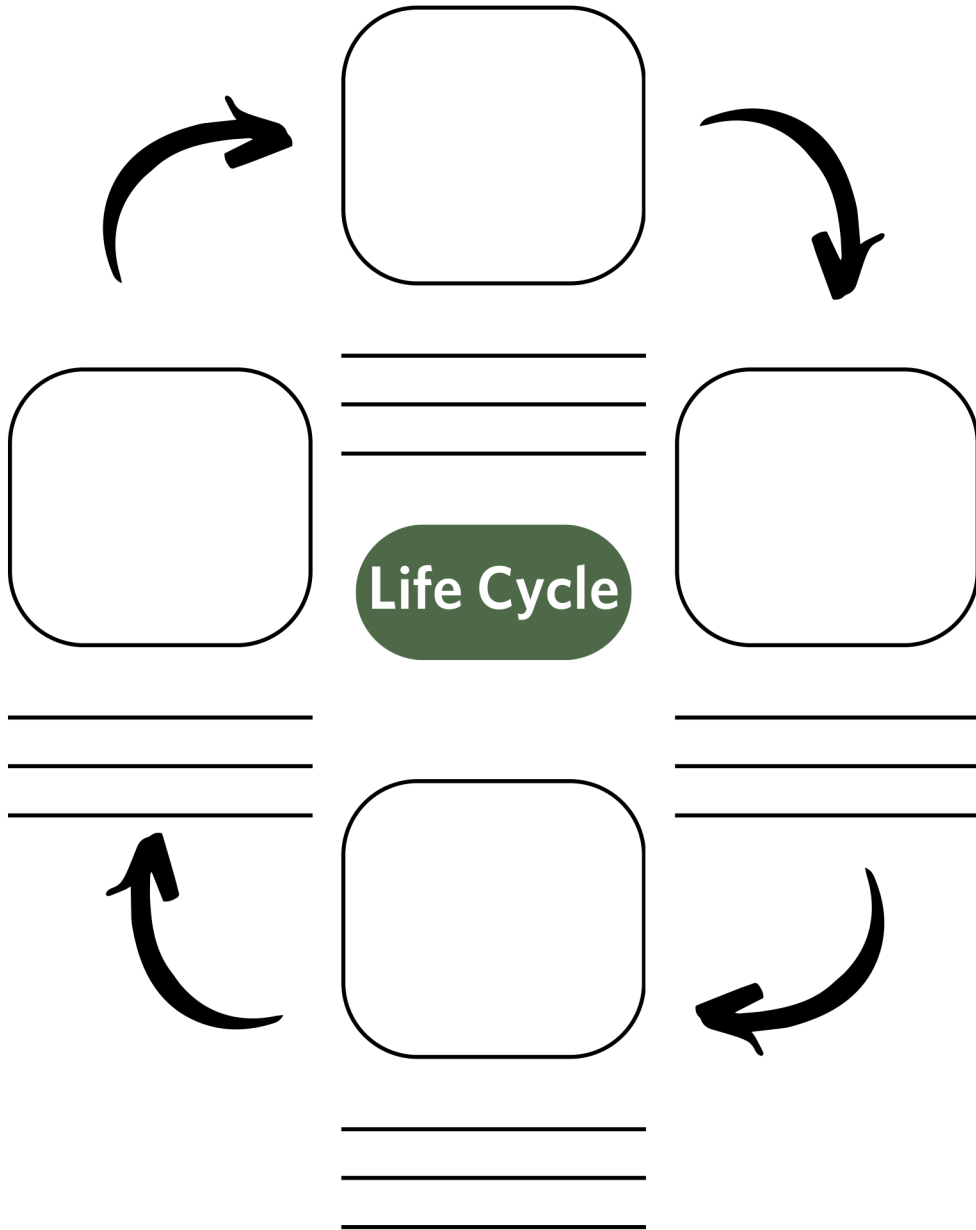
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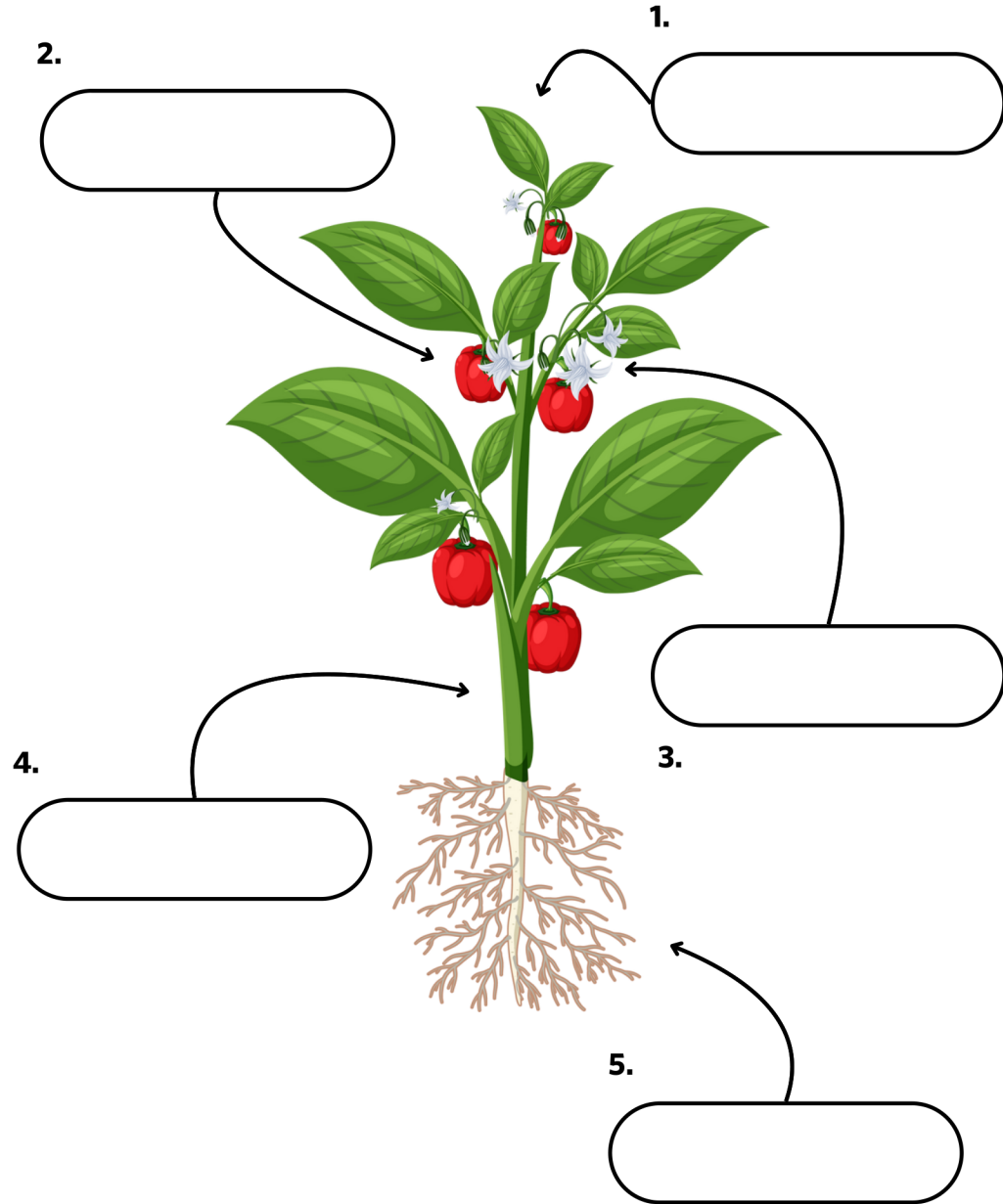
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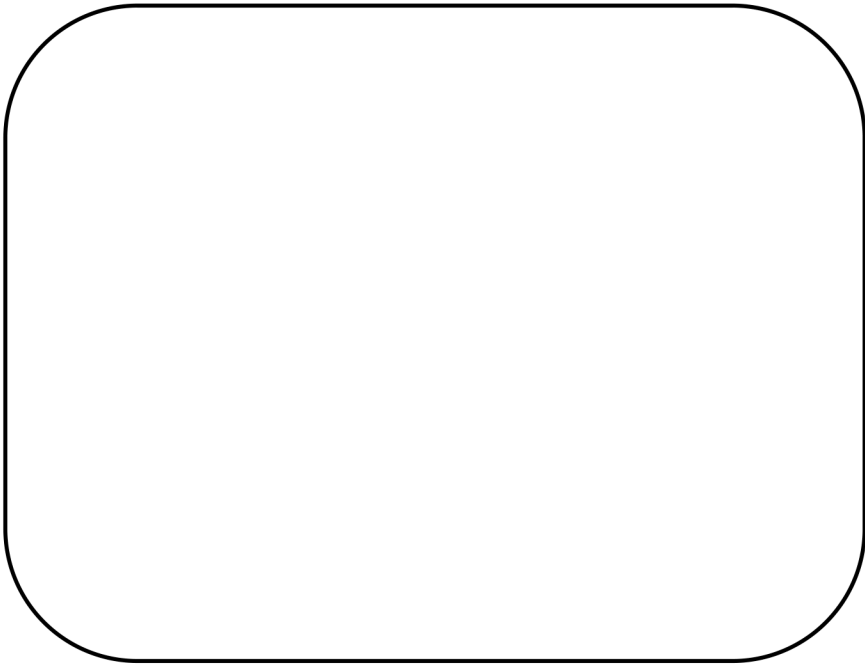
# Plant Life Cycle



# Parts of a Plant



# Plants We Eat



Four sets of handwriting lines, each consisting of a solid top line, a dashed middle line, and a solid bottom line, for practicing writing.

# A Plant Needs...

soil

water

food

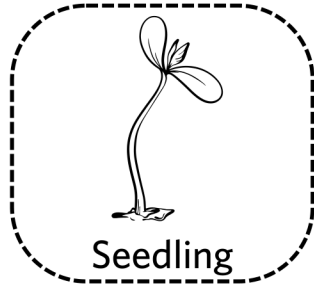
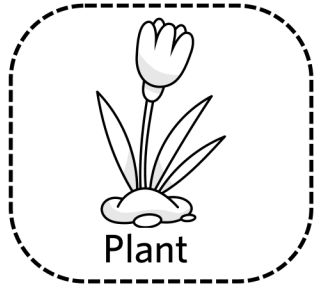
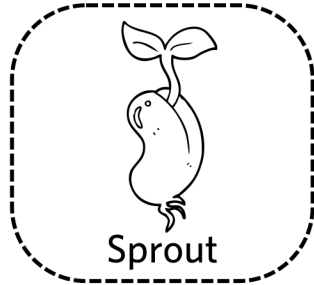
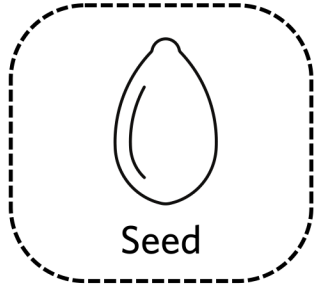
sunlight

air

space

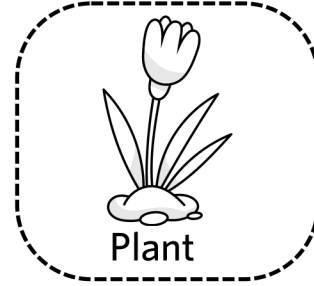
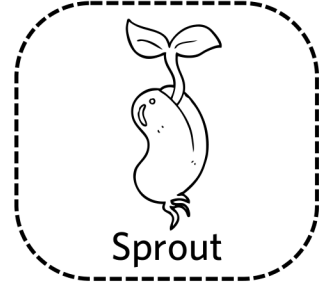
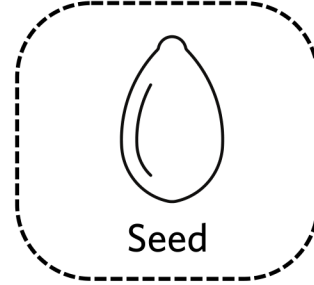
✂️-----CUT-OUTS

## Plant Life Cycle

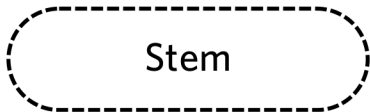


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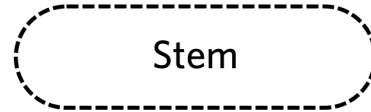
## Plant Life Cycle



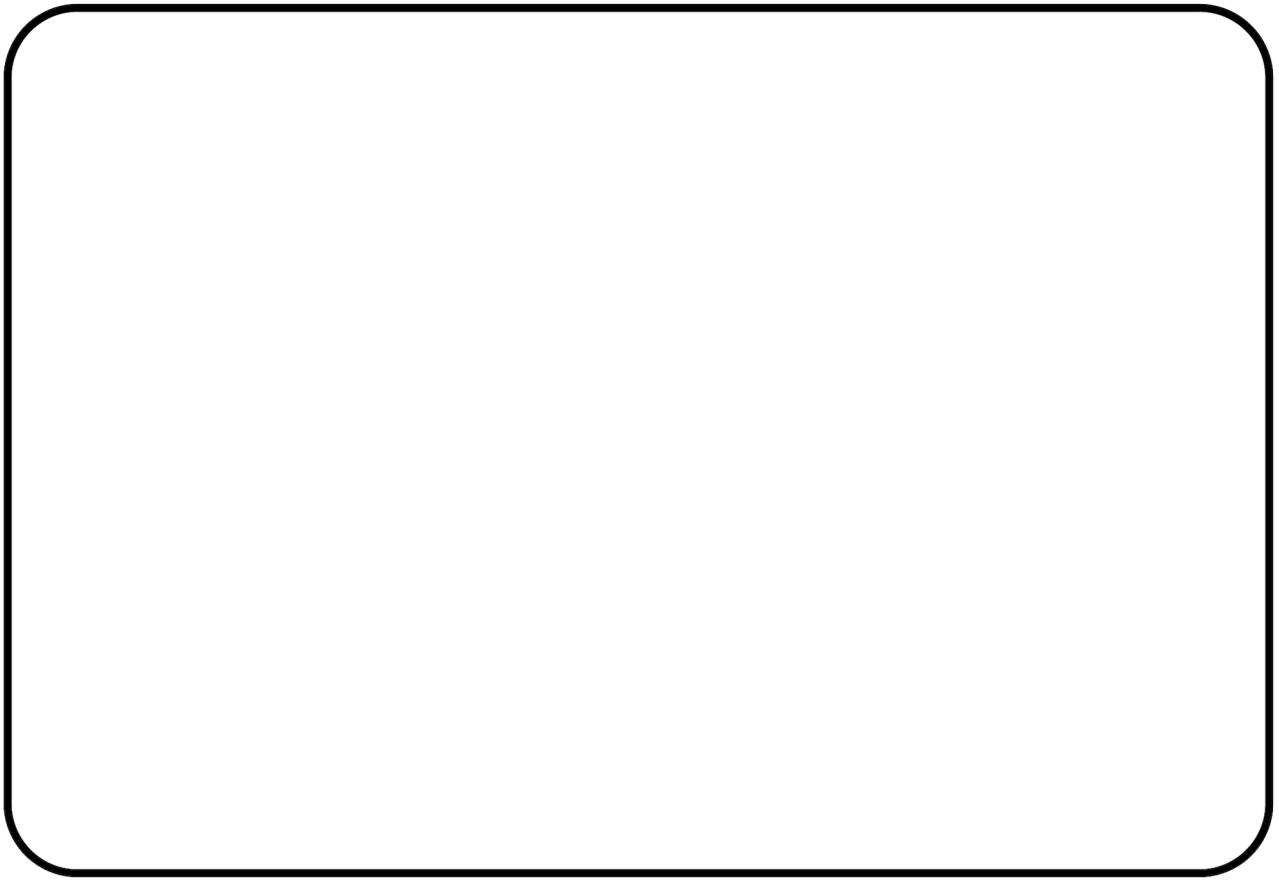
## Parts of a Plant



## Parts of a Plant



Tree: \_\_\_\_\_



**Fact #1** \_\_\_\_\_  
\_\_\_\_\_

**Fact #2** \_\_\_\_\_  
\_\_\_\_\_

**Fact #3** \_\_\_\_\_  
\_\_\_\_\_