

Science
Unit 2: Plants

<p>Essential Understandings</p>	<ul style="list-style-type: none"> ▪ Scientists classify living things by characteristics. ▪ Living things depend on their environment. ▪ Living things change over time.
<p>Essential Questions</p>	<ul style="list-style-type: none"> ▪ What characteristics do all plants have? ▪ What do plants need to survive? ▪ How do plants change over time?
<p>Essential Knowledge</p>	<ul style="list-style-type: none"> ▪ All plants begin from a seed, have roots, a stem, leaves, and a blossom. ▪ Plants need air, food, water, sun, and space for survival. ▪ Energy from the sun makes plants grow. ▪ The life cycle of a plant is seed, plant, flower and/or fruit, seed. ▪ Plants have features that allow them to survive in their environment (i.e., a cactus stores water, a water lily floats). ▪ Environmental changes impact plant development. ▪ The parts of a seed include seed coat, embryo, and food. ▪ Scientists use tools to conduct investigations, gather data, and answer questions. ▪ Scientists use evidence to develop and communicate outcomes.
<p>Vocabulary</p>	<ul style="list-style-type: none"> ▪ <u>Terms:</u> <ul style="list-style-type: none"> ○ seed, seed coat, embryo, root, sprout, stem, leaves, flower, blossom, fruit, pollen, soil, survival, space, energy, characteristic, classify, life cycle, data, observe
<p>Essential Skills</p>	<ul style="list-style-type: none"> ▪ Identify the parts of a plant (e.g., seed, roots, stem, leaf, blossom). ▪ Identify what a plant needs for survival (e.g., air, food, water, sun, and space). ▪ Identify the parts of a seed (e.g., seed coat, embryo, food). ▪ Identify the life cycle of a plant (e.g., seed, plant, flower and/or fruit, seed). ▪ Compare plants that live in different environments. ▪ Make diagrams showing the parts of a plant and the stages of seed development. ▪ Observe the growth of a plant from seed to maturity. ▪ Ask questions and seek answers from reliable sources. ▪ Plan and conduct an investigation using appropriate tools. ▪ Use data to develop and communicate outcome.

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**Related
Maine Learning
Results**

Science

A. Unifying Themes

A1. Systems

Students recognize that parts work together, and make up whole man-made and natural objects.

- a. Explain that most man-made and natural objects are made of parts.

A2. Models

Students identify models and the objects they represent to learn about their features.

- a. Describe ways in which today and pictures are like the real things they model.
- b. Use a model as a tool to describe the motion of objects of the features of plants and animals.

A3. Constancy and Change

Students observe that in the physical setting, the living environment, and the technological world some things change over time and some things stay the same.

- a. Describe the size, weight, color, or movement of things over varying lengths of time and note qualities that change or remain the same.

B. The Skills and Traits of Scientific Inquiry and Technological Design

B1. Skills and Traits of Scientific Inquiry

Students conduct and communicate results of simple investigations.

- a. Ask questions and make observations about objects, organisms, and events in the environment.
- b. Safely conduct simple investigations to answer questions.
- c. Use simple instruments with basic units of measurement to gather data and extend the senses.
- d. Know what constitutes evidence that can be used to construct a reasonable explanation.
- e. Use writing, speaking, and drawing to communicate investigations and explanations.

E. The Living Environment

E1. Biodiversity

Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals.

- a. Describe similarities and differences in the observable behaviors, features, and needs of plants and animals.
- b. Describe some features of plants and animals that help them live in different environments.
- c. Describe how organisms change during their lifetime.

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<p>Related Maine Learning Results</p>	<p>E2.Ecosystems Students understand how plants and animals depend on each other and the environment in which they live. f. Compare different animals and plants that live in different environments of the world.</p> <p>E3.Cells Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive. b. List the basic things that most organisms need to survive.</p> <p>E4.Hereditry and Reproduction Students describe the cycle of birth, development, and death in different organisms and the ways in which organisms resemble their parents. b. Describe the life cycle of a plant or animal (including being born, growing, reproducing, and dying).</p> <p>E5.Evolution Students describe similarities and differences between present day and past organisms that helped the organisms live in their environment. a. Describe some organisms' features that allow the organisms to live in places others cannot.</p>
<p>Sample Lessons And Activities</p>	<ul style="list-style-type: none"> ▪ Design a variety of ways to sort and classify plants. ▪ Label the parts of a plant. ▪ Describe the life cycle of a plant. ▪ List what plants need to grow. ▪ Visit a local grocery store, farmer's market, apple orchard, greenhouse, etc. ▪ Complete "Plant Investigation."(Scientific Inquiry)
<p>Sample Classroom Assessment Methods</p>	<ul style="list-style-type: none"> ▪ Sequence the life cycle of a plant (e.g., pumpkin, apple). ▪ Sort and classify plants by attributes.

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**Sample
Resources**

- Publications:
 - Apples and Pumpkins – Anne Rockwell
 - Bright Yellow Flower - Judith Hoffman Corwin
 - A Field of Sunflower - Neil Johnson
 - From Seed to Pumpkin – Jan Kottke
 - In the Garden – David Schwartz
 - The Magic School Bus Plants Seeds - Joanna Cole
 - Muncha! Muncha! Muncha! - Candace Fleming
 - Planting A Rainbow - Lois Ehlert
 - Pumpkin Circle: The Story of a Garden – George Levenson
 - Pumpkin, Pumpkin -
 - The Seed Song - Judy Saksie
 - The Surprise Garden - Zoe Hall
 - Tiny Green Thumbs - C.Z. Guest
 - The Tiny Seed - Eric Carle
 - Tops and Bottoms - Janet Stevens
 - A Tree for All Seasons
 - From Seed To Pumpkin by Wendy Pfeffer
- Videos:
 - Too Many Pumpkins – Linda White