

## Scope & Sequence

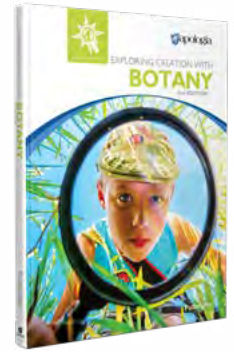
### Exploring Creation with Botany, 2nd Edition

**GRADE LEVEL:** K-6

**TEXT SUMMARY:** The content covered in this text includes the basics of plant biology. The student will learn about the structures, properties and processes of plants along with the classification of plants. In addition, the text communicates the importance and purpose of plants in creation.

Lesson	Summary	Main Themes	Supporting Activities and Experiments
<b>LESSON 1</b> <i>Why Botany Matters</i>	Students learn about the importance of botany along with taxonomy basics and an initial overview of different types of plants.	<ul style="list-style-type: none"> <li>• Botany Overview</li> <li>• 3rd Day of Creation</li> <li>• Nature Journaling</li> <li>• Understanding Botany Vocabulary</li> <li>• The Science of Botany</li> <li>• Taxonomy</li> <li>• Vascular and Nonvascular Plants</li> <li>• Seed and Seedless Plants</li> </ul>	<ul style="list-style-type: none"> <li>• Think Like a Scientist</li> <li>• Make a Nature Journal</li> <li>• Journal about Nature</li> <li>• Observe Leaf Veins</li> <li>• Observe Absorption</li> <li>• Walking Water Without a Vascular System</li> <li>• Go on a Nature Hunt</li> <li>• Grouping Plants</li> <li>• Make a Light Hut</li> <li>• Grow Edible Plants</li> </ul>
<b>LESSON 2</b> <i>Seeds</i>	This lesson focuses on the function and anatomy of a seed; and, it compares different types of seeds.	<ul style="list-style-type: none"> <li>• Dormant Seeds</li> <li>• Testa</li> <li>• Seed Anatomy</li> <li>• Monocotyledons</li> <li>• Dicotyledons</li> <li>• Germination</li> <li>• Consumers and Producers</li> </ul>	<ul style="list-style-type: none"> <li>• Design a Seed</li> <li>• Examine Your Seeds</li> <li>• Identify Dicots and Monocots</li> <li>• Label the Parts of a Seed</li> <li>• Compare Germination Conditions</li> </ul>
<b>LESSON 3</b> <i>Angiosperms</i>	Flowers are examined including their many functions and anatomy. Carnivorous plants are also discussed.	<ul style="list-style-type: none"> <li>• Flowering Plants Flower</li> <li>• Anatomy</li> <li>• Flower Families</li> <li>• Symbiosis</li> <li>• Bilateral Symmetry</li> <li>• Carnivorous Plant</li> </ul>	<ul style="list-style-type: none"> <li>• Dissect a Flower</li> <li>• Label a Flower</li> <li>• Walk in Nature</li> <li>• Plant a Sunflower</li> <li>• Label an Orchid</li> <li>• Design a Flower</li> <li>• Preserve a Fresh Flower</li> </ul>

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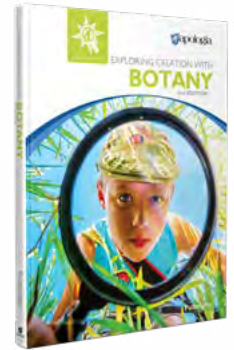


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<b>LESSON 4</b> <i>Pollination</i>	This lesson looks at the process of pollination including the types of pollination, other aspects of nature that are involved and the necessity of pollination.	<ul style="list-style-type: none"> <li>• Types of Pollination</li> <li>• Bees</li> <li>• Flower Attraction: Shape, Smell, Color</li> <li>• Nectar</li> <li>• Insect Pollination</li> <li>• Bird Pollination</li> <li>• Mammal Pollination</li> <li>• Wind Pollination</li> <li>• Imperfect Flowers</li> <li>• Self-Pollination</li> <li>• Pollinated Flowers</li> </ul>	<ul style="list-style-type: none"> <li>• Explore Flower Pollination</li> <li>• Build a Hummingbird Feeder</li> <li>• Illustrate Animal Pollinators</li> <li>• Illustrate What You Learned</li> <li>• Create a Comic Strip</li> <li>• Make a Butterfly Garden</li> </ul>
<b>LESSON 5</b> <i>Fruits</i>	This lesson examines fruit, the part it plays in the life cycle of a plant, and its relationship with nature.	<ul style="list-style-type: none"> <li>• A Flower's Fruit</li> <li>• Fruits and Vegetables</li> <li>• Types of Fruit</li> <li>• Seed Scattering: Human, Wind, Animal, Water, Mechanical</li> </ul>	<ul style="list-style-type: none"> <li>• Observe Insects on a Banana</li> <li>• Categorize Fleshy Fruits</li> <li>• Split a Squash</li> <li>• Find and Illustrate Fruits</li> <li>• Examine Burrs</li> <li>• Describe Seed Dispersal</li> <li>• Preserve the Color of Fruit</li> </ul>
<b>LESSON 6</b> <i>Leaves</i>	This lesson educates the student about leaves starting from the molecular functions inside the leaf all the way through the shape and arrangement of the leaf itself.	<ul style="list-style-type: none"> <li>• Stomata</li> <li>• Guard Cells</li> <li>• Carbon Dioxide and Oxygen</li> <li>• Photosynthesis</li> <li>• Energy from the Sun</li> <li>• Chlorophyll</li> <li>• Transpiration</li> <li>• Leaves in Autumn</li> <li>• Anatomy of a Leaf</li> <li>• Simple and Compound Leaves</li> <li>• Leaf Arrangement, Venation, Shape, and Margins</li> </ul>	<ul style="list-style-type: none"> <li>• Burn a Candle in a Jar</li> <li>• Block the Sun</li> <li>• Sprout Potatoes</li> <li>• Test Transpiration</li> <li>• Preserve Leaf Color</li> <li>• Illustrate the Anatomy of a Leaf</li> <li>• Make a Leaf Storybook</li> <li>• Collect Leaves</li> </ul>

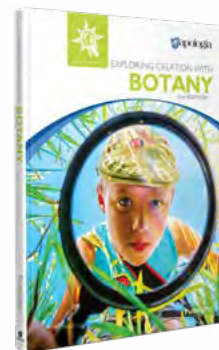
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<b>LESSON 7</b> <i>Roots</i>	Lesson 7 explores the root systems of plants. It discusses the importance of roots, not only for the plant, itself, but for all of nature.	<ul style="list-style-type: none"> <li>• Soil</li> <li>• Root Hairs</li> <li>• Root Growth</li> <li>• Preventing Erosion</li> <li>• Floating Roots</li> <li>• Geotropism</li> <li>• Root Systems</li> <li>• Geophytes</li> <li>• Rooting</li> </ul>	<ul style="list-style-type: none"> <li>• Make a Quick Compost</li> <li>• Discover Geotropism</li> <li>• Illustrate Roots</li> <li>• Classify Roots</li> <li>• Clone Vegetables Through Rooting</li> </ul>
<b>LESSON 8</b> <i>Stems</i>	Plant structure and the functions of stems are discussed in this lesson.	<ul style="list-style-type: none"> <li>• Plant Structure</li> <li>• Woody and Herbaceous Stems</li> <li>• Succulent Plants</li> <li>• Auxins</li> <li>• Phototropism</li> </ul>	<ul style="list-style-type: none"> <li>• Explore Xylem</li> <li>• Draw Woody and Herbaceous Stemmed Plants</li> <li>• Imitate Phototropism</li> <li>• Color a Flower</li> <li>• See Auxins in Action</li> </ul>
<b>LESSON 9</b> <i>Gardening</i>	Students will be taught the basics of gardening including the importance of gardening and planning a garden all the way to building an actual garden and seeing it through the seasons.	<ul style="list-style-type: none"> <li>• Edible Foods</li> <li>• History of Gardening</li> <li>• Healthier Foods</li> <li>• Garden Tools</li> <li>• Designing Your Garden</li> <li>• Soil Mixture</li> <li>• Growing Seasons</li> <li>• Planting a Garden</li> <li>• Watering a Garden</li> <li>• Maintaining a Garden</li> <li>• Pests, Disease, and Animals in Your Garden</li> <li>• Off Season Ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Create a Garden Journal</li> <li>• Plan Your Garden</li> <li>• Build Your Raised Bed</li> <li>• Journal Your Plan</li> <li>• Map Your Garden</li> <li>• Make and Irrigation System</li> <li>• Draw Your Garden</li> </ul>
<b>LESSON 10</b> <i>Trees</i>	The importance of trees is discussed in this lesson along with tree anatomy and function.	<ul style="list-style-type: none"> <li>• Importance of Trees</li> <li>• Tree Facts</li> <li>• Seed Making</li> <li>• Tree Growth</li> <li>• Twig Anatomy</li> <li>• Trunk Anatomy and Growth</li> <li>• Water Supply</li> </ul>	<ul style="list-style-type: none"> <li>• Identify Things Made from Trees</li> <li>• Plant Some Trees</li> <li>• Measure Twig Growth</li> <li>• Estimate the Height of a Tree</li> <li>• Make a Bark Rubbing</li> <li>• Diagram a Tree's Layers</li> <li>• Make a Tree Field Guide</li> </ul>



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<p style="text-align: center;"><b>LESSON 11</b> <i>Gymnosperms</i></p>	<p>Lesson 11 compares gymnosperms to other types of plants and discusses the parts of the plants that are different.</p>	<ul style="list-style-type: none"> <li>• Word Meaning</li> <li>• Conifers: Types, Leaves, Shapes, Cones</li> <li>• Conifers that Do Not Make Cones</li> <li>• Cycads</li> <li>• Ginkgo Biloba</li> <li>• Types of Forests</li> <li>• Forest Fires</li> </ul>	<ul style="list-style-type: none"> <li>• Measure General Sherman</li> <li>• Compare Transpiration</li> <li>• Identify and Illustrate Leaves</li> <li>• Write a Bristle Cone Pine Story</li> <li>• Opening and Closing Pinecones</li> </ul>
<p style="text-align: center;"><b>LESSON 12</b> <i>Seedless Vascular Plants</i></p>	<p>Lesson 12 explores plants that do not produce seeds and the part they played in cultural history.</p>	<ul style="list-style-type: none"> <li>• Sporangium</li> <li>• Fern Anatomy</li> <li>• Fern Life Cycle</li> <li>• Pteridomania</li> <li>• Types of Ferns</li> </ul>	<ul style="list-style-type: none"> <li>• Create Fern Artwork</li> <li>• Illustrate a Fern</li> <li>• Build a Small Terrarium</li> </ul>
<p style="text-align: center;"><b>LESSON 13</b> <i>Nonvascular Plants</i></p>	<p>The student will learn about different types of nonvascular plants in this lesson.</p>	<ul style="list-style-type: none"> <li>• Bryophytes</li> <li>• Mosses</li> <li>• Moss Reproduction</li> <li>• Liverworts</li> <li>• Lichens</li> </ul>	<ul style="list-style-type: none"> <li>• Hunt for Moss and Liverworts</li> <li>• Illustrate the Moss Lifecycle</li> <li>• Build a Lichen Meter</li> <li>• Create Moss Graffiti</li> </ul>
<p style="text-align: center;"><b>LESSON 14</b> <i>Mycology</i></p>	<p>Lesson 14 focuses on fungi and the study of mycology. It examines different aspects of yeast, molds, and mushrooms.</p>	<ul style="list-style-type: none"> <li>• Fungi</li> <li>• Consumers</li> <li>• Yeast</li> <li>• Molds</li> <li>• Mushrooms</li> <li>• Spore Dispersal</li> <li>• Types of Mushrooms</li> </ul>	<ul style="list-style-type: none"> <li>• Experiment with Sugar and Yeast</li> <li>• Test Mold Environments</li> <li>• Mycorrhizal Mission Story</li> <li>• Hunt Mushrooms</li> <li>• Grow Edible Mushrooms</li> </ul>

**ADDITIONAL INFORMATION:** This textbook also has a corresponding notebooking journal. An audio book version is available. Additional websites for further exploration of the topics in the text are provided at the Book Extras link for this title. You can learn more about this title at [apologia.com](http://apologia.com).