

**GRADE 1
SCIENCE ORDER OF INSTRUCTION**

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
<u>Body of Knowledge:</u> Life Science (3 benchmarks)	<u>Body of Knowledge:</u> Earth and Space Science (7 benchmarks)	<u>Body of Knowledge:</u> Physical Science (3 benchmarks)	<u>Body of Knowledge:</u> Life Science (2 benchmarks)
Big Idea 14: Organization and Development of Living Organisms	Big Idea 5: Earth in Space and Time Big Idea 6: Earth Structures	Big Idea 8: Properties of Matter Big Idea 12: Motion of Objects Big Idea 13: Forces and Changes in Motion	Big Idea 16: Heredity and Reproduction Big Idea 17: Interdependence

Big Idea 1: The Practice of Science

The Practice of Science benchmarks should be introduced during the first nine weeks and then embedded in all science lessons throughout the year as they blend easily with teaching inquiry and are the basis of an activity/lab-based science classroom. In first grade, the Practice of Science focuses heavily on the introduction and implementation of science processes: raising questions, investigating questions in teams, using the five senses to make observations, comparing observations, keeping records, and generating conclusions. Lab safety and the use of scientific tools should also be introduced at the beginning of the year and re-addressed throughout the year.

Rationale for Grade 1 Order of Instruction:

1st Nine Weeks

Life Science is taught during the 1st nine weeks because brain-based research shows that kindergarten students are still developmentally “All about Me.” Teacher input was considered regarding whether to study plants early in the school year (apples and pumpkins) or in the spring (seeds, gardens, flowers). Splitting the Life Science Body of Knowledge gives the teacher/students a chance to revisit life sciences at the end of the year.

2nd Nine Weeks

Earth and Space Science is taught during the 2nd nine weeks because that time of year provides optimal opportunities for night time viewing of the sky as the sun begins to set earlier during the late fall and early winter months.

3rd Nine Weeks

Physical Science is taught during the 3rd nine weeks because force and motion concepts are more challenging and abstract, making them more appropriate for later in the year.

4th Nine Weeks

Life Science is taught during the 4th nine weeks because many teachers prefer to teach life/environmental studies in the spring. During the year, the primary students’ world expands and is no longer “All about Me.” In the fall, students are introduced to living things and their characteristics. In the spring, the understanding of living things expands to include reproduction and interdependence. This expansion coincides with the seasonal life cycle changes of living things in their changing world.



GRADE 1	
BODY OF KNOWLEDGE: LIFE SCIENCE	
BIG IDEA 14: ORGANIZATION AND DEVELOPMENT OF LIVING ORGANISMS	
<p>A. All plants and animals, including humans, are alike in some ways and different in others.</p> <p>B. All plants and animals, including humans, have internal parts and external structures that function to keep them alive and help them grow and reproduce.</p> <p>C. Humans can better understand the natural world through careful observation.</p>	
ESSENTIAL QUESTIONS	
<p>How can we use our senses to explore the world around us?</p> <p>Why is observation important in understanding the world around us?</p> <p>How can we tell if something is alive?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.L.14.1 Make observations of living things and their environment using the five senses. The student:</p> <ul style="list-style-type: none"> • records short and long term observations of living things and their environment. • discusses which sense was used to make each observation. <p>SC.1.L.14.2 Identify the major parts of plants, including stem, roots, leaves, and flowers. The student:</p> <ul style="list-style-type: none"> • uses various senses to make observations of different plants. • draws pictures of the plants observed • discusses similarities and differences in the parts drawn in the pictures • identifies stems, roots, leaves and flowers. <p>SC.1.L.14.3 Differentiate between living and nonliving things. The student:</p> <ul style="list-style-type: none"> • observes that there are similarities and differences between living and nonliving things. • investigates living and nonliving things in their environment. • explains the differences between living and nonliving things. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>How Do We Know Something Is Living?</p> <p>What Are the Needs of Living Things?</p> <p>What Plants Are in Our Community?</p> <p>Exploring Leaves</p> <p>Root for the Plants</p> <p>How Do Plants Grow?</p>	
VOCABULARY	
seed, stem, root, leaf, flower, living, nonliving	
The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.	
SUPPORTING RESOURCES	
Formative Assessment Probes	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley</p> <p>SC.1.L.14.2 Vol. 2: Is It a Plant? (You must adapt this probe for first grade.)</p> <p>SC.1.L.14.3 Vol. 1: Is It Living? (You must adapt this probe for first grade.)</p>
Scott Foresman	<p>SC.1.L.14.1 24, 74-75, 84, 130-131, 136, Guided Inquiry: 18-19; Directed Inquiry: 52</p> <p>SC.1.L.14.2 74-75, 68-71, 72-77, Guided Inquiry: 40-41, Teacher Flip Chart: 49E, 113E, Directed Inquiry: 116</p> <p>SC.1.L.14.3 6-9, 14-17, 20-21, 120-121, Teacher Flip chart: 1E, Directed Inquiry: 4</p>

AIMS www.aimsedu.org	SC.1.L.14.2 <i>Primarily Plants: A Plant Begins, Little Brown Seeds, Seed Soakers, Observe a Leaf, Stem Study, Root Study, This Is My Flower</i>
Literature	<i>Top and Bottoms, Janet Stevens</i> <i>The Seed Song, Judy Saksie</i> <i>A Garden in Your Bedroom, Honey Andersen and Bill Reinholdt</i> <i>Bulbs, Corms and Such, Millicent Selsam</i> <i>The Seasons of Arnold's Apple Tree, Gail Gibbons</i> <i>Vegetables from Stem to Leaves, Millicent Selsam</i> <i>The Gardener, Sarah Stewart</i> <i>Alive or Not Alive? Newbridge Big Book</i> <i>Is It Alive? Newbridge Big Book</i> <i>The Vegetable Garden, Newbridge Big Book</i> <i>Seeds, Seeds, Seeds, Wright Group Sunshine Science Big Books</i> <i>Stems, RedBrick Learning</i> <i>Plant Packages, A Book about Seeds, RedBrick Learning</i> <i>Flowers, RedBrick Learning</i>
Web Links	http://www.chameleonjournals.com/ all about chameleons http://www.jmgkids.com/ gardening for kids http://www.gardenweb.com/ resource for seed exchanges, stores, and great ideas http://www.nwf.org/kids/ National Wildlife Federation for Kids http://www.audubon.org/educate/aa/ Audubon Adventures http://www.earthlife.net/insects/six.html great reference center with garden/ecology related activities http://www.nga.com/ site for National Gardening Association with an online store, a children's site, lessons, and grant opportunities http://www.earthlife.net/insects/six.html Insect World: All about spiders and insects, complete with a library, book reviews and links http://www.cnr.berkeley.edu/citybugs/ great site from the University of California to help kids learn about insects http://www.bbc.co.uk/schools/scienceclips/ages/5_6/ourselves.shtml BBC Web site <i>Living/Nonliving</i>
Field Experiences	Mayor Carl T. Langford Park (407-246-2150) Harry P. Leu Gardens (407-246-2620) school garden experiences
Other	<i>Nature Activities for Early Childhood, Janet Nickelsburg</i> <i>Bottle Biology, Kendall/Hunt Publishing</i> <i>Audubon Adventures, Exploring the Earth's Biomes, Audubon</i> <i>Hands on Nature, Vermont Institute of Nature Science</i> <i>Garden Wizardry for Kids, L. Patricia Kite</i> <i>Backyard Science Experiments, Q.L. Pearce</i> <i>Learn and Play in the Garden, Meg Herd</i> <i>Florida Gardening, Tom MacCubbin</i> <i>Creepy Crawlies and the Scientific Method, Sally Stenhouse Kneidel</i>



	<p><i>The Youth Gardening Book</i>, Lynne Ocone <i>Gardening Together with Children: Roots, Shoots, Buckets and Boots</i>, Sharon Lovejoy <i>GrowLab, Activities for Growing Minds</i>, National Gardening Association <i>The Tree Trunk</i>, Georgia-Pacific Corporation</p>
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