

**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 <i>(3 benchmarks)</i>	<u>Body of Knowledge:</u> Earth and Space Science <i>(7 benchmarks)</i>	<u>Body of Knowledge:</u> Physical Science <i>(3 benchmarks)</i>	<u>Body of Knowledge:</u> Life Science <i>(2 benchmarks)</i>
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 16: HEREDITY AND REPRODUCTION	
<p>A. Offspring of plants and animals are similar to, but not exactly like, their parents or each other. B. Life cycles vary among organisms, but reproduction is a major stage in the life cycle of all organisms.</p>	
ESSENTIAL QUESTIONS	
How do plants and animals resemble their parents?	
BENCHMARKS and TASK ANALYSES	
<p>SC.1.L.16.1 Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population. The student:</p> <ul style="list-style-type: none"> • observes that animals closely resemble their parents. • observes that plants closely resemble their parents. • observes that variations can exist among individuals within a population. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
Meet a Mealworm How Do We Change and Grow? How Do Animals Change and Grow? Learning about Mealworms	
VOCABULARY	
grow, mealworm, parents	
The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.	
SUPPORTING RESOURCES	
Formative Assessment Probes	<i>Uncovering Student Ideas in Science</i> , Page Keeley SC.1.L.16.1 Vol. 1: Is It an Animal? (You must adapt this probe for first grade.)
Scott Foresman	SC.1.L.16.1 94-97, 104-105, Direct Inquiry: 84, Guided Inquiry: 106-107
AIMS www.aimsedu.org	SC.1.L.16.1 <i>Cycles of Knowing and Growing</i> : Look at Me Now, Just a Little Sprout
Literature	<i>A Mealworm's Life (Nature Upclose)</i> , John Himmelman <i>From Mealworm to Beetle: Following the Life Cycle (Amazing Science)</i> , Salas, Laura Purdie, Yesh, and Jeff <i>Animal Life Cycles: Growing and Changing (Nature's Changes)</i> , Bobbie Kalman <i>Pumpkin Pumpkin</i> , Jeanne Titherington <i>All from an Oak Tree</i> , Newbridge Big Book <i>Green and Growing</i> , Newbridge Big Book <i>Seeds Grow</i> , Wright Group Sunshine Science Big Book <i>Plants and Seeds</i> , Wright Group Sunshine Science Big Book <i>Life Cycle of a... series</i> , RedBrick Learning <i>Growing Things...series</i> , RedBrick Learning <i>Watch It Grow...series</i> , RedBrick Learning <i>Animals and Their Babies</i> (Benchmark Education Co.)
Web Links	http://www.imgkids.com/ gardening for kids http://www.gardenweb.com/



	<p>resource for seed exchanges, stores, and great ideas http://www.nga.com/ site for National Gardening Association with an online store, a children's site, lessons and grant opportunities http://www.bbc.co.uk/schools/scienceclips/ages/6_7/health_growth.shtml BBC website for <i>growth</i> http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Life Science</p>
Field Experiences	<p>school gardens and school yard field trips Harry P. Leu Garden (407-246-2620) Mayor Carl T. Langford Park (407-246-2150)</p>
Other	<p><i>Project Wild</i>, Environmental Education Council <i>Ten Minute Field Trips, Using Schools for Environmental Studies</i>, Helen Russell <i>The School Wildlife Activity Guide</i>, Linda Cronin-Jones</p>



GRADE 1	
BODY OF KNOWLEDGE: LIFE SCIENCE	
BIG IDEA 17: INTERDEPENDENCE	
<p>A. Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs.</p> <p>B. Both human activities and natural events can have major impacts on the environment.</p> <p>C. Energy flows from the sun through producers to consumers.</p>	
ESSENTIAL QUESTIONS	
<p>What do plants and animals need to keep them alive and help them grow? What would happen if a living thing did not meet its basic needs?</p>	
BENCHMARKS AND TASK ANALYSES	
SC.1.L.17.1	<p>Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.</p> <p>The student:</p> <ul style="list-style-type: none"> observes and recognizes that all plants and animals, including humans, need the basic necessities of air, water, food, and space
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Micro Habitats Plant Functions Sprouting Seeds What Do Plants Need to Grow?</p>	
VOCABULARY	
<p>basic needs, space, humans</p>	
<p>The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.</p>	
SUPPORTING RESOURCES	
Formative Assessment Probes	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley SC.1.L.17.1 Vol. 2: Needs of Seeds (You must adapt this probe for first grade.)</p>
Scott Foresman	<p>SC.1.L.17.1 10-11, 12-13, 18-19, 30-33, 36-37, 38-39, 122-123, 126-127, 294-295, 300-301, TE flip chart: 25E</p>
AIMS www.aimsedu.org	<p>SC.1.L.17.1 <i>Primarily Plants: What Do Plants Need to Grow?</i></p>
Literature	<p><i>What Do Pets Need?</i> Benchmark Education Co. <i>The Plant Sitter</i>, Gene Zion <i>The Tiny Seed</i>, Eric Carle <i>The Garden in the City</i>, Gerda Muller <i>Growing a Plant</i>, Benchmark Education Co. <i>The Garden from Frog and Toad Together</i></p>
Web Links	<p>http://www.nwf.org/kids/ National Wildlife Federation for Kids http://www.audubon.org/educate/aa/ Audubon Adventures http://www.bbc.co.uk/schools/scienceclips/ages/6_7/plants_animals_env_what_next.shtml BBC website for plants and animals http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Life Science and Plants</p>
Field Experience	<p>school yard field trips</p>



Other	<i>Project Wild</i> , Environmental Education Council <i>Ten Minute Field Trips, Using Schools for Environmental Studies</i> , Helen Russell
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