

**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</i> , Janet Stevens <i>The Seed Song</i> , Judy Saksie <i>A Garden in Your Bedroom</i> , Honey Andersen and Bill Reinholdt <i>Bulbs, Corms and Such</i> , Millicent Selsam <i>The Seasons of Arnold's Apple Tree</i> , Gail Gibbons <i>Vegetables from Stem to Leaves</i> , Millicent Selsam <i>The Gardener</i> , Sarah Stewart <i>Alive or Not Alive?</i> Newbridge Big Book <i>Is It Alive?</i> Newbridge Big Book <i>The Vegetable Garden</i> , Newbridge Big Book <i>Seeds, Seeds, Seeds</i> , Wright Group Sunshine Science Big Books <i>Stems</i> , RedBrick Learning <i>Plant Packages, A Book about Seeds</i> , RedBrick Learning <i>Flowers</i> , RedBrick Learning
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</i> , Janet Nickelsburg <i>Bottle Biology</i> , Kendall/Hunt Publishing <i>Audubon Adventures, Exploring the Earth's Biomes</i> , Audubon <i>Hands on Nature</i> , Vermont Institute of Nature Science <i>Garden Wizardry for Kids</i> , L. Patricia Kite <i>Backyard Science Experiments</i> , Q.L. Pearce <i>Learn and Play in the Garden</i> , Meg Herd <i>Florida Gardening</i> , Tom MacCubbin <i>Creepy Crawlies and the Scientific Method</i> , Sally Stenhouse Kneidel



	<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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GRADE 1	
BODY OF KNOWLEDGE: EARTH AND SPACE SCIENCE	
BIG IDEA 5: EARTH IN SPACE AND TIME	
<p>Humans continue to explore Earth's place in space. Gravity and energy influence the formation of galaxies, including our own Milky Way Galaxy, stars, the Solar System, and Earth. Humankind's need to explore continues to lead to the development of knowledge and understanding of our Solar System.</p>	
ESSENTIAL QUESTIONS	
<p>How many stars are in the sky? How does gravity affect our daily lives? How can magnifiers help us to make better observations? How is the Sun both beneficial and harmful to us?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.E.5.1 Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky. The student:</p> <ul style="list-style-type: none"> records personal observations of the sky during the night hours focusing on the placement and amount of stars (many or few). discusses personal observations emphasizing that there are more stars in the sky than one can easily count and they are not scattered evenly. <p>SC.1.E.5.2 Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object. The student:</p> <ul style="list-style-type: none"> explores how objects fall, or are pulled, to the Earth's surface, even when there is nothing touching the object. <p>SC.1.E.5.3 Investigate how magnifiers make things appear bigger and help people see things they could not see without them. The student:</p> <ul style="list-style-type: none"> observes various objects with and without magnifiers and discusses how observations differ. observes the differences in observations when using a variety of magnifiers (including hand lenses, telescopes, binoculars, microscopes). <p>SC.1.E.5.4 Identify the beneficial and harmful properties of the Sun. The student:</p> <ul style="list-style-type: none"> identifies the beneficial and harmful properties of the Sun through discussion, experimentation, and literature experiences. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Mighty Magnifiers Magnifying Stars Night Journals The Sun Provides Heat and Light for Earth</p>	
VOCABULARY	
stars, gravity, magnifier	
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SUPPORTING RESOURCES	
Formative Assessment	<i>Uncovering Student Ideas in Science</i> , Page Keeley SC.1.E.5.1 Vol. 2: Emmy's Moon and Stars



Probes	
Scott Foresman	SC.1.E.5.1 324-325, Guided Inquiry: 328-329 SC.1.E.5.2 246-249 SC.1.E.5.3 324-325 SC.1.E.5.4 278-279, 282-283, 318-321, 322-323, Full Inquiry: 204-205, Directed Inquiry: 276
AIMS www.aimsedu.org	SC.1.E.5.1 <i>Cycles of Knowing and Growing: Skywatchers</i>
Literature	<i>The Sky Is Full of Stars (Let's-Read-and-Find... Science 2)</i> , Franklyn M. Branley and Felicia Bond <i>The (Family Fun) Kids Book of the Night Sky</i> , Ann Love, Jane Drake, and Heather Collins <i>Harold's Trip to the Sky</i> , Crockett Johnson <i>Stars</i> , Newbridge Big Book <i>Sun and Earth</i> , Newbridge Big Book <i>The Sun</i> , RedBrick Learning <i>Day and Night</i> , RedBrick Learning
Web Links	http://kids.msfc.nasa.gov/Space/ NASA for Kids http://www.fourmilab.ch/yoursky interactive planetarium on the Web http://stardate.org/teachers/activities lessons for teachers for modeling objects in the night sky from Stardate http://starchild.gsfc.nasa.gov/docs/StarChild/StarChild.html a Learning Center for Young Astronomers. http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Earth Science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	Orlando Science Center (407-514-2000), family night watch experiences
Other	

GRADE 1	
BODY OF KNOWLEDGE: EARTH AND SPACE SCIENCE	
BIG IDEA 6: EARTH STRUCTURES	
<p>Humans continue to explore the composition and structure of the surface of the Earth. External sources of energy have continuously altered the features of Earth by means of both constructive and destructive forces. All life, including human civilization, is dependent on Earth's water and natural resources.</p>	
ESSENTIAL QUESTIONS	
<p>What makes up the surface of the Earth? Why do we need water? How does the surface of the Earth change?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.E.6.1 Recognize that water, rocks, soil, and living organisms are found on Earth's surface. SC.1.E.6.2 Describe the need for water and how to be safe around water. The student:</p> <ul style="list-style-type: none"> • describes the need for water. • recognize how to be safe around water. <p>SC.1.E.6.3 Recognize that some things in the world around us happen fast and some happen slowly. The student:</p> <ul style="list-style-type: none"> • records long term observations of various places during different times of the year to see fast and slow changes (soil, plants, weather). • discusses current events to recognize that things can happen quickly or slowly in our world. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>What Can I Find on the Earth's Surface? Tree Observations How Do Humans Use Water?</p>	
VOCABULARY	
<p>water, rocks, soil</p>	
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SUPPORTING RESOURCES	
Formative Assessment Probes	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley SC.1.E.6.3 Vol. 2: Is It a Rock? Version 1 (You must adapt this probe for first grade.)</p>
Scott Foresman	<p>SC.1.E.6.1 150-153, 154-157, 160-165; Directed Inquiry: 148, Guided Inquiry: 168-169 SC.1.E.6.2 162-163 SC.1.E.6.3 158-159</p>
AIMS www.aimsedu.org	<p>SC.1.E.6.1 <i>Primarily Earth: Rock Groups, Where Is Water?</i> SC.1.E.6.1 <i>Cycles of Knowing and Growing: Dirt Baggers</i></p>
Literature	<p><i>Life in a Bucket of Soil</i>, Alvin Silverstein and Virginia Silverstein <i>Dirt: The Scoop on Soil (Amazing Science)</i>, Rosinsky, Natalie M, Boyd, and Sheree <i>Dirt: Jump into Science</i>, Steve Tomecek and Nancy Woodman <i>A Handful of Dirt</i>, Raymond Bial <i>Looking at Soil</i>, Newbridge Big Book</p>

	<p><i>The Giving Tree</i>, Shel Silverstein. <i>Investigation Rocks</i>, Newbridge Big Book <i>Rock Basics</i>, RedBrick Learning <i>Soil Basics</i>, RedBrick Learning <i>A Book about the Water Cycle</i>, Melvin and Gilda Berger.</p>
Web Links	<p>http://soils.usda.gov/education/ US Dept. of Agriculture's soil education site http://volcano.und.nodak.edu/ everything about volcanoes, hosted by Oregon State Univ. http://www.nsta.org/ National Science Teachers Association website http://kids.earth.nasa.gov/ NASA for kids earth science site http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Earth Science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)</p>
Field Experiences	
Other	Steve Spangler: The Huff and Puff Challenge



GRADE 1	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 8: PROPERTIES OF MATTER	
<p>A. All objects and substances in the world are made of matter. Matter has two fundamental properties: matter takes up space and matter has mass.</p> <p>B. Objects and substances can be classified by their physical and chemical properties. Mass is the amount of matter (or "stuff") in an object. Weight, on the other hand, is the measure of force of attraction (gravitational force) between an object and Earth.</p> <p>The concepts of mass and weight are complicated and potentially confusing to elementary students. Hence, the more familiar term of "weight" is recommended for use to stand for both mass and weight in grades K-5. By grades 6-8, students are expected to understand the distinction between mass and weight, and use them appropriately.</p>	
ESSENTIAL QUESTIONS	
Why is it important to recognize similarities and differences among objects?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.P.8.1 Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.</p> <p>The student:</p> <ul style="list-style-type: none"> sorts objects by what can be physically observed: size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Observing and Sorting Properties of Solids What Happens When an Object Is Placed in Water?</p>	
VOCABULARY	
sink, float	
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SUPPORTING RESOURCES	
Scott Foresman	SC.1.P.8.1 216-217, 218-221, Directed Inquiry: 212, Guided Inquiry: 232-233
AIMS www.aimsedu.org	SC.1.P.8.1 <i>Spring into Math and Science: What Do You Sink Will Float? Floating Fruit</i> <i>Sensational Springtime: Cereal Sorters</i>
Literature	<i>Changes, Changes!</i> Pat Hutchins <i>Float and Sink (Simple Science)</i> , Maria Gordon, M. Gordon, and Mike Gordon <i>Will It Float or Sink? (Rookie Read-About Science)</i> , Melissa Stewart <i>What Is Matter?</i> Newbridge Big Book <i>Sink or Float</i> , Newbridge Big Book <i>Amazing Water</i> , Newbridge Big Book <i>Is It Floating?</i> Wright Group Sunshine Science <i>What Will Float?</i> Wright Group Sunshine Science <i>Floating and Sinking</i> , Wright Group Sunshine Science
Web Links	http://www.indiana.edu/~ensiweb/lessons/threehol.html site for experiments related to matter. www.lhs.berekley.edu/kids/ Lawrence Hall of Science site with games, activities and links http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Physical Science



	http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	
Other	



GRADE 1	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 12: MOTION OF OBJECTS	
<p>A. Motion is a key characteristic of all matter that can be observed, described, and measured.</p> <p>B. The motion of objects can be changed by forces.</p>	
ESSENTIAL QUESTIONS	
How many ways can an object move?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.1.P.12.1 Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.</p> <p>The student:</p> <ul style="list-style-type: none"> • moves objects in various ways such as in a straight line, zigzag, back and forth, round and round, fast and slow. • describes the motions they have observed. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>In What Ways Do Objects Move?</p> <p>Do All Tops Spin Alike?</p> <p>Making Objects Move</p>	
VOCABULARY	
motion	
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SUPPORTING RESOURCES	
Scott Foresman	SC.1.P.12.1 250-251, 252-255, 260-261, 268-269, Directed Inquiry, 244
AIMS www.aimsedu.org	SC.1.P.12.1 <i>E-activities:</i> Big Dog Charades, Flying Lion, Gliding Lamb Push and Pull Antics, Pushed Around
Literature	<i>Back and Forth</i> , RedBrick Learning <i>Circular Movement</i> , RedBrick Learning <i>Start and Stop</i> , RedBrick Learning <i>Zigzag Movement</i> , RedBrick Learning
Web Links	http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls_whatnext.shtml BBC website for push and pull http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; Physical science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	
Other	Steve Spangler: Soda Can Shake-Up; The Quick-Pour Soda Bottle Race; Tornado Tube Mania; Impossible Combo-Hex Nut, Ring, Bottle

GRADE 1	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 13: FORCES AND CHANGES IN MOTION	
<p>A. It takes energy to change the motion of objects. B. Energy change is understood in terms of forces--pushes or pulls. C. Some forces act through physical contact, while others act at a distance.</p>	
ESSENTIAL QUESTIONS	
How can the motion of an object be changed?	
BENCHMARKS and TASK ANALYSES	
<p>SC.1.P.13.1 Demonstrate that the way to change the motion of an object is by applying a push or a pull. The student:</p> <ul style="list-style-type: none"> changes the motion of an object by applying a push or a pull. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
What Makes Objects Move? How Can One Object Move Another? Are Hard and Soft Pushed Different? How Do Magnets Move? What Determines How Well a Ball Will Bounce?	
VOCABULARY	
push, pull	
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SUPPORTING RESOURCES	
Formative Assessment Probes	<i>Uncovering Student Ideas in Science</i> , Page Keeley SC.1.P.12.1 Vol. 3: Rolling Marbles
Scott Foresman	SC.1.P.13.1 246-249, 250-251, 254-255, 256-259; Directed Inquiry: 244
AIMS www.aimsedu.org	SC.1.P.13.1 e-activities: Discovery Bottles, Together Again
Literature	<i>The Enormous Turnip</i> , Kathy Parkinson <i>Cucumber Soup</i> , Vickie Leigh Krudwig <i>Push and Pull (Rookie Read-About Science)</i> , Patricia J. Murphy <i>Push and Pull (Investigate)</i> , Charlotte Guillain <i>What Magnets Can Do (Rookie Read-About Science)</i> , Allan Fowler <i>Magnets: Pulling Together, Pushing Apart (Amazing Science)</i> , Rosinsky, Natalie M, Boyd, and Sheree <i>Push and Pull</i> , Newbridge Big Book <i>The Mystery of Magnets</i> , Newbridge Big Book <i>Push and Pull</i> , RedBrick Learning
Web Links	http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml BBC Web site <i>Forces and Movement</i> : http://school.eb.com/elementary/subject?id=1390&subject=Science Encyclopedia Britannica Online School Edition; physical science http://www.brainpop.com/science/ BrainPop website for science video clips (site requires a paid subscription)
Field Experiences	trip to the playground - explore how objects can be pushed or pulled
Other	



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	
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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.jmgkids.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>	
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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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