

**GRADE 2
SCIENCE ORDER OF INSTRUCTION**

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
<u>Body of Knowledge:</u> <u>Earth and Space</u> <u>Science</u> <i>(8 benchmarks)</i> Big Idea 7: Earth Systems and Patterns Big Idea 6: Earth Structures	<u>Body of Knowledge:</u> <u>Physical Science</u> <i>(7 benchmarks)</i> Big Idea 8: Properties of Matter Big Idea 9: Changes in Matter	<u>Body of Knowledge:</u> <u>Physical Science</u> <i>(5 benchmarks)</i> Big Idea 10: Forms of Energy Big Idea 13: Forces and Changes in Motion	<u>Body of Knowledge:</u> <u>Life Science</u> <i>(4 benchmarks)</i> Big Idea 14: Organization and Development of Living Organisms 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. Second grade students ask and investigate questions in teams, generate explanations, compare group observations, learn to distinguish between observations and inferences, and explain that scientific investigations should yield similar conclusions when repeated. 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 2 Order of Instruction:

1st Nine Weeks

Earth and Space Science is taught during the first nine weeks because hurricane season gives teachers the opportunity to connect lessons and discussions to real-world experiences. These benchmarks involve investigations of temperature, precipitation, evaporation, severe weather preparedness, and wind. This Body of Knowledge also includes investigations of rocks and soil. Teaching this Body of Knowledge at the start of the year also gives teachers an opportunity to set up long-term investigations/observations.

2nd Nine Weeks

The Physical Science Body of Knowledge is a major focus for second grade with twelve benchmarks and requires two nine-week periods for completion. Students will explore matter during the 2nd nine weeks.

3rd Nine Weeks

The Physical Science Body of Knowledge will continue during the 3rd nine weeks as students explore forms of energy and the ways people use energy. Students will also explore forces and changes in motion during the 3rd nine weeks.

4th Nine Weeks

Life Science is taught in the spring to take advantage of the many opportunities to investigate the life cycles of plants and animals.



GRADE 2	
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	
How does the structure of a body part relate to its function?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.L.14.1 Distinguish human body parts (brain, heart, lungs, stomach, muscles, and skeleton) and their basic function.</p> <p>The student:</p> <ul style="list-style-type: none"> • identifies and labels the human body parts (brain, heart, lungs, stomach, muscles, skeleton) on a model. • explains the basic functions of specified body parts. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
Parts of the Human Body	
VOCABULARY	
brain, heart, lungs, stomach, muscles, skeleton	
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.2.L.14.1 Vol. 4: Digestive System
Scott Foresman	SC.2.L.14.1 <i>Human Body Module</i> ISBN # 0-328-36833-x
AIMS www.aimsedu.org	SC.2.L.14.1 <i>Jaw Breakers and Heart Thumpers: I've Got Rhythm, Bones and More Bones</i> (song)
Literature	<i>The Magic School Bus in the Human Body</i> , Joanna Cole and Bruce Degen <i>What Happens to a Hamburger?</i> , Paul Showers <i>The Skeleton Inside You</i> , Philip Balestrino <i>Dr. Frankenstein's Human Body Book</i> , Richard Walker <i>The Great Brain Book: An Inside Look At The Inside of Your Head</i> , H.P. Newquist <i>My Body Works: Songs About Your Bones, Muscles, Heart and More!</i> , Jane Schoenberg
Links	http://school.eb.com/elementary/article?articleId=390656 Britannica Online: Bone http://school.eb.com/elementary/article?articleId=352879 Britannica Online: Brain http://school.eb.com/elementary/article?articleId=353503 Britannica Online: Muscle http://school.eb.com/elementary/article?articleId=353813 Britannica Online: Stomach http://school.eb.com/lm/games/GS_4_3/GS_4_3.htm Britannica Online: Parts in the human body



	<p>http://school.eb.com/lm/games/GE_1_10/GE_1_10.htm Britannica Online: Body Works. Identify the function of major body parts.</p> <p>http://www.bbc.co.uk/schools/scienceclips/ages/9_10/keeping_healthy.shtml Keeping Healthy: Make Ruby sleep, sit, walk and run to learn more about keeping healthy.</p> <p>http://www3.braintrain4kids.com/ BrainTrain4Kids: Animations that help you understand the effects that medicines and substances such as alcohol and tobacco have on the brain.</p> <p>http://yucky.discovery.com/flash/body/pg000027.html Your Gross & Cool Body: Explore gross body parts and sounds to discover what makes the body work.</p> <p>http://www.kineticcity.com/controlcar/activity.php?act=4&virus=nastro All Systems Are Go! In this game, a patient is missing organs and it's your job to put them back.</p> <p>http://www.scholastic.com/magicschoolbus/tour/tour.htm?body The Magic School Bus Human Body Tour: Play a game, watch a video, take a quiz.</p>
Field Experiences	
Other	<p>ARC: die cuts of human body parts and people <i>How Your Body Works</i>, Evan-Moor, pp. 18-23, 40-77</p>



GRADE 2	
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	
<p>How do the life cycles of different living organisms compare to each other? Do all organisms have a life cycle?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.L.16.1 Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies. The student:</p> <ul style="list-style-type: none"> • understands a variety of life cycles exist in all living things. • observes and describes major stages in the life cycle of a bean. • observes and describes major stages in the life cycle of a butterfly. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Raising Butterflies Sprouting Beans?</p>	
VOCABULARY	
<p>life cycle</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.2.L.16.1 Vol. 1: Is it an Animal? Is it Living? Vol. 2: Is it a Plant? Vol. 3: Does it have a Life Cycle?</p>
Scott Foresman	<p>SC.2.L.16.1 103-111, 114-115, Guided Inquiry: 122-123</p>
AIMS www.aimsedu.org	<p>SC.2.L.16.1 <i>Cycles of Knowing and Growing: A Time of Their Own, Just a Little Sprout</i> <i>Primarily Plants: A Seed Grows</i></p>
Literature	<p><i>Are you a Butterfly</i>, Judy Allen <i>The Very Hungry Caterpillar</i>, Eric Carle <i>A First Look at Caterpillars</i>, Millicent Selsan <i>The Life Cycle of a Butterfly</i>, Bobbie Kalman <i>Face to Face With Caterpillars</i>, Darlyne A. Murawski</p>
Links	<p>http://www.bbc.co.uk/schools/scienceclips/ages/5_6/growing_plants.shtml Growing Plants: Discover how to keep the plant alive! http://www.bbc.co.uk/schools/scienceclips/ages/6_7/plants_animals_env.shtml Plants and Animals in the Local Environment: Find out what baby plants and animals grow into. http://www.fi.edu/tfi/units/life/living/living.html The Circle of Life: Explore the life cycles of living things. http://urbanext.illinois.edu/gpe/index.html The Great Plant Escape: Unlock the amazing mysteries of plant life.</p>



	http://www.kidsbutterfly.org/ Children's Butterfly Site: Many resources, including a discussion of the life cycle of butterflies.
Field Experiences	
Other	<i>Science and Children</i> , NSTA, Feb. 2009, Vol. 46



GRADE 2	
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>How do living things survive?</p> <p>Why can particular plants and animals survive in one area but not another?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.L.17.1 Compare and contrast the basic needs that all living things, including humans, have for survival.</p> <p>The student:</p> <ul style="list-style-type: none"> • recognizes that most living things (including humans) need energy, food, water, air, shelter, and space. • compares and contrasts the basic needs that living things (including humans) have for survival. <p>SC.2.L.17.2 Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.</p>	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Home Sweet Home</p> <p>Habitats Around the World</p>	
VOCABULARY	
<p>habitat, survival</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</p> <p>SC.2.L.17.1 Vol. 2: Needs of Seeds Vol. 4: Adaptation</p> <p>SC.2.L.17.2 Vol. 2: Habitat Change</p>
Scott Foresman	<p>SC.2.L.17.1: 4, 6-9, 16-25, 42-51, 68, 71-73, Directed Inquiry: 4, Guided Inquiry: 26-27</p> <p>SC.2.L.17.2: 16-25, 42-51, 62-63</p>
AIMS www.aimsedu.org	<p>SC.2.L.17.1 Bottom Line, Vol. 4 #9, Design a Habitat Game, Caring Cubes, Vol. 13 #2</p> <p>SC.2.L.17.2 <i>Exploring Environments</i> Square Necessities, Vol. 21 #4, Bottom Line, Vol. 4 #9</p>
Literature	<p><i>An Earthworm's Life</i>, John Himmelman</p> <p><i>Life in your Backyard</i>, Newbridge: Ranger Rick Science Spectacular</p> <p><i>The Salamander Room</i>, Anne Mazer</p> <p><i>Animal Habitats</i>, Judy Press</p>
Links	<p>http://school.eb.com/lm/games/GS_1_5/GS_1_5.htm</p> <p>Britannica Online: What's Their Habitat? Select the habitats in which these animals live.</p> <p>http://school.eb.com/lm/games/GS_1_1/GS_1_1.htm</p> <p>Britannica Online: Where Do They Live? Choose the animal's habitat.</p>



	<p>http://www.bbc.co.uk/education/dynamo/lab/wheredo/index.shtml Where do I Live? Move the animals to their correct habitat.</p> <p>http://urbanext.illinois.edu/trees2/index.html Exploring the Secret Life of Trees: At this site, students will observe an animated presentation on tree parts, and learn what trees need in order to grow.</p> <p>http://www.windows.ucar.edu/tour/link=/life/life.html&edu=elem What Is Life? This page tells the needs of living organisms.</p> <p>http://nationalzoo.si.edu/Animals/WorldTour/ Animals, etc. Take a virtual tour around the world on the National Zoo's website. As you travel, try to answer the questions for each continent.</p> <p>http://www.scholastic.com/magicschoolbus/games/habitat/index.htm The Magic School Bus: The Great Habitat Match-Up Game</p>
Field Experiences	Butterfly Encounter and Lukas Nursery, www.lukasnursery.com
Other	

