

**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> (8 benchmarks) Big Idea 7: Earth Systems and Patterns Big Idea 6: Earth Structures	<u>Body of Knowledge:</u> <u>Physical Science</u> (7 benchmarks) Big Idea 8: Properties of Matter Big Idea 9: Changes in Matter	<u>Body of Knowledge:</u> <u>Physical Science</u> (5 benchmarks) Big Idea 10: Forms of Energy Big Idea 13: Forces and Changes in Motion	<u>Body of Knowledge:</u> <u>Life Science</u> (4 benchmarks) 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: EARTH AND SPACE SCIENCE

BIG IDEA 7: EARTH SYSTEMS AND PATTERNS

Humans continue to explore the interactions among water, air, and land. Air and water are in constant motion that results in changing conditions that can be observed over time.

ESSENTIAL QUESTIONS

How do weather patterns change from day to day and season to season?
How does the constant motion of air and water affect our weather?
How would your life change if you lived in a place that had a completely different kind of weather?
Why is it important for Floridians to prepare for severe weather?

BENCHMARKS AND TASK ANALYSES

SC.2.E.7.1 Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.

The student:

- records long term observations of the seasons.
- records long term observations of weather, including precipitation and temperature.
- discusses patterns in nature (seasons/day and night).

SC.2.E.7.2 Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.

The student:

- records temperatures of sunny and shady areas outside (include water, land, and air temperatures in both sunny and shady spots).
- compares the temperatures collected.

SC.2.E.7.3 Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).

The student:

- investigates and describes how water left in an open container evaporates, but water in a closed container does not evaporate.

SC.2.E.7.4 Investigate that air is all around us and that moving air is wind.

SC.2.E.7.5 State the importance of preparing for severe weather, lightning, and other weather related events.

The student:

- identifies types of severe weather (e.g., thunderstorms, lightning, hurricanes, tornadoes).
- explains the danger of severe weather.
- understands how to prepare for severe weather situations.
- practices safety measures for severe weather.

OCPS ESSENTIAL LABS

www.science.ocps.net

Be a Meteorologist
Weather Measure
Where Does Water Go?
Which Way Does the Air Blow?
Preparing for Severe Weather

VOCABULARY

weather, thermometer, temperature, precipitation, evaporation, severe weather, air, Sun's energy

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.E.7.2 Vol. 4: Warming Water SC.2.E.7.3 Vol. 1: Wet Jeans
Scott Foresman	SC.2.E.7.1 175-177, 180-187, Guided Inquiry: 194-195, Directed Inquiry: 268 SC.2.E.7.4 144-145, 174-175, 230-231 SC.2.E.7.5 188-193
AIMS www.aimsedu.org	SC.2.E.7.3 <i>Primarily Earth: A Disappearing Act</i> SC.2.E.7.4 <i>Primarily Earth: A Closer Look at Air</i>
Literature	<i>Weather Watching</i> , Denise Ryan (Top Readers Series) <i>What Will the Weather Be?</i> , Lynda Dewitt <i>Weather</i> , Caroline and John Astrop <i>Lightning</i> , Seymour Simon <i>The Rain Came Down</i> , David Shannon <i>Rising Waters a Book About Floods</i> , Rick Thomas <i>Tornadoes</i> , Seymour Simon <i>Hurricane</i> , David Wiesner <i>The Magic School Bus: Inside a Hurricane</i> , Joanna Cole and Bruce Degen <i>Close To The Wind</i> , by Peter Malone <i>The Puddle</i> , David McPhail
Links	http://www.fema.gov/kids/ FEMA information for kids, interactive games, free resource books, severe weather preparedness information www.weather.com/homepage.html National and local weather forecasts http://school.eb.com/elementary/article?articleId=353919 Britannica Online: Weather http://school.eb.com/lm/games/GS_3_2/GS_3_2.htm Britannica Online: What's That Tool Do? Match weather tools and their functions. http://www.miamisci.org/hurricane/ Visit the Storm Center to understand hurricanes from the inside out. Read survivors' stories, make a weather station, and contribute your own natural disaster stories to the Healing Quilt. http://www.edheads.org/activities/weather/frame_loader.htm Edheads Weather Activities: Learn how to report and predict the weather at the underground W.H.E.D. weather caves! http://eo.ucar.edu/webweather/ Web Weather for Kids: Learn what makes weather wet and wild, do cool activities, and become hot at forecasting the weather. http://www.skydiary.com/kids/ Kids Diary - Storm Center: Information, pictures, graphics, and links to tornadoes, lightning, hurricanes, and storm chasing. http://www.weatherwizkids.com/ Weather Wiz: Contains a wide variety of fun weather facts, weather folklore, weather games, weather jokes, and many other weather related experiments and activities. http://www.scholastic.com/magicschoolbus/games/weather/index.htm The Magic School Bus: The Adventures of Weather Lizard Game



GRADE 2

BODY OF KNOWLEDGE: EARTH AND SPACE SCIENCE

BIG IDEA 6: EARTH STRUCTURES

Humans continue to explore the composition and structure of the surface of 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.

ESSENTIAL QUESTIONS

Why is soil essential to life?

BENCHMARKS AND TASK ANALYSES

SC.2.E.6.1 Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes.

The student:

- recognizes that Earth is made up of rocks.
- investigates the various sizes and shapes of rocks through observation and hands on exploration.

SC.2.E.6.2 Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed.

The student:

- collects and observes different types of soil.
- uses science tools to observe different soils.
- discusses where the materials found in the soils came from (decayed plants and animals) and how soil is formed.

SC.2.E.6.3 Classify soil types based on color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.

The student:

- classifies soil types based on color and texture.
- classifies soil by its ability to retain water.
- classifies soil by its ability to support the growth of plants.

OCPS ESSENTIAL LABS

www.science.ocps.net

Rock Detectives
Rock Shakers
Soil Sleuths
How Do Various Soils Change When Water Is Added?

VOCABULARY

rocks, soil

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SUPPORTING RESOURCES

Formative Assessment Probes	<i>Uncovering Student Ideas in Science</i> , Page Keeley SC.2.E.6.1 Vol. 1: Beach Sand Vol. 2: Is It a Rock? Is It a Rock Two?
Scott Foresman	SC.2.E.6.1 146-147 SC.2.E.6.2 146-149, Guided Inquiry: 160-161, Directed Inquiry: 140. SC.2.E.6.3 148-149
AIMS www.aimsedu.org	SC.2.E.6.1 <i>Primarily Earth</i> : Rock Groups, My Rock SC.2.E.6.2 <i>Primarily Earth</i> : Soil Study
Literature	<i>Let's Go Rock Collecting</i> , Roam Gans <i>Sand</i> , Ellen Prage



	<p><i>Stone Soup</i>, Marsha Brown <i>A Handful of Dirt</i>, Raymond Bial <i>Rocks in His Head</i>, Carol Otis Hurst <i>Everybody Needs a Rock</i>, Byrd Baylor <i>Magic School Bus Inside the Earth</i>, Joanna Cole</p>
Links	<p>http://www.fi.edu/fellows/fellow1/oct98/index2.html Rock Hounds: Contains lesson plans, an online quiz, and interactive puzzles, plus information on the types of rocks as well as examples from each type. http://www.bbc.co.uk/schools/scienceclips/ages/7_8/rocks_soils.shtml Rocks and Soils: Sort different types of rocks. http://www.fieldmuseum.org/undergroundadventure/ An Underground Adventure: Take a virtual tour of an underground exhibit and see what life would be like if you were a half-inch tall. http://urbanext.illinois.edu/gpe/case2/index.html Soiled Again: Find out about types of soil, what makes up soil, and how to compost. http://nationalzoo.si.edu/Education/ConservationCentral/walk/walk1_broadband.html Dirt Detective: Trees & Soils Walk: As a dirt detective, you'll investigate soil to determine its type and its pH. In the process, you'll learn that different trees prefer specific types of soil. http://www.butlerswcd.org/Education/Kid/home.htm Soil or Dirt? What is the difference between soil and dirt? Are all soils the same? This page discusses the different soil layers. http://school.discoveryeducation.com/schooladventures/soil/index.html The Dirt on Soil: Get the dirt on soil at this interactive underground site and learn about soil and some of its tiny but helpful residents.</p>
Field Experiences	
Other	



GRADE 2	
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. 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	
<p>How can objects be identified, classified, and sorted? Why do scientists classify objects? Why do we measure properties of objects?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.P.8.1 Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.</p> <p>SC.2.P.8.2 Identify objects and materials as solid, liquid, or gas.</p> <p>SC.2.P.8.3 Recognize that solids have a definite shape and that liquids and gases take the shape of their container. The student:</p> <ul style="list-style-type: none"> uses various containers to investigate the shapes of solids, liquids, and gases. <p>SC.2.P.8.4 Observe and describe water in its solid, liquid, and gaseous states.</p> <p>SC.2.P.8.5 Measure and compare temperatures taken every day at the same time. The student:</p> <ul style="list-style-type: none"> measures temperature accurately using a thermometer. maintains a log of temperatures taken in the same outdoor location, at the same time each day to compare results over an extended period of time. <p>SC.2.P.8.6 Measure and compare the volume of liquids using containers of various shapes and sizes.</p>	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>States of Matter Comparing Solids Looking at Liquids Exploring Air Changing States of Water Liquid Measurement</p>	
VOCABULARY	
<p>solid, liquid, gas, volume, magnet, attract, repel</p>	
<p>The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.</p>	
SUPPORTING RESOURCES	
<p>Formative Assessment Probes</p>	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley SC.2.P.8.1 Vol. 1: Is it Matter; Vol. 2: Comparing Cubes SC.2.P.8.4 Vol. 2: What's in the Bubbles</p>



Scott Foresman	SC.2.E.8.1 239-241, 258-259 SC.2.E.8.2 242-247 SC.2.E.8.3 242-247 SC.2.E.8.4 242-247, 252-257, 260-261, Guided Inquiry: 256-257 SC.2.E.8.5 194-195 SC.2.E.8.6 244-245
AIMS www.aimsedu.org	SC.2.P.8.1 Pouring over Matter, Vol. 11 #9, Mystery Matter, Vol. 17 #6 Property Flip, Vol. 23 #2 SC.2.P.8.2 Can it Matter? Vol. 10 #2 SC.2.P.8.5 <i>Primarily Weather: Air Temperature</i> SC.2.P.8.6 Gallons Galore, Vol. 20 #4
Literature	<i>What Is the World Made Of?</i> Kathleen Weidner Zoefeld <i>The World of Matter</i> , Newbridge: Ranger Rick Science Spectacular <i>Pop! A Book About Bubbles</i> , Kimberly Bradley (<i>Let's Read and Find Out Science Series</i>) <i>How Tall, How Short, How Faraway</i> , David Adler <i>A Drop of Water: A Book of Science and Wonder</i> , Walter Wick <i>Matter</i> , Christopher Couper
Links	http://school.eb.com/elementary/article?articleId=390607 Britannica Online: Air http://school.eb.com/elementary/article?articleId=353920 Britannica Online: Weights and Measures http://school.eb.com/lm/games/GE_1_11/GE_1_11.htm Britannica Online: Water Test. Decide if an object will sink or float when placed in water. http://school.eb.com/lm/games/GS_4_7/GS_4_7.htm Britannica Online: Solid, Liquid, or Gas? Match a substance with its most common form. http://school.eb.com/elementary/browse/art-55441/Life-as-we-know-it-is-dependent-upon-the-most Britannica Online: Water http://www.bbc.co.uk/schools/scienceclips/ages/6_7/grouping_materials.shtml Grouping and Changing Materials: Put the materials into the correct group. http://www.bbc.co.uk/schools/scienceclips/ages/7_8/characteristics_materials.shtml Characteristics of Materials: Find out the characteristics of different materials. http://www.bbc.co.uk/schools/scienceclips/ages/7_8/magnets_springs.shtml Magnets and Springs: Find out about which materials can be picked up by a magnet. http://teacher.scholastic.com/activities/studyjams/matter_states/ Study Jams! Solids, Liquids, and Gases: Watch a three-minute video and learn about the states of matter.
Field Experiences	
Other	



GRADE 2	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 9: CHANGES IN MATTER	
<p>A. Matter can undergo a variety of changes. B. Matter can be changed physically or chemically.</p>	
ESSENTIAL QUESTION	
<p>Why do we change materials in our daily lives? How do materials respond to change?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.P.9.1 Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration. The student:</p> <ul style="list-style-type: none"> • explores the way different materials react to the same change (squeeze paper and squeeze a sponge; twist clay and twist paper). • compares and contrasts results. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
Property Changes	
VOCABULARY	
properties	
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SUPPORTING RESOURCES	
Scott Foresman	SC.2.P.9.1 248-255, 264
AIMS www.aimsedu.org	SC.2.P.9.1 <i>Winter Wonders: Frosty Forms, A Matter of Change, Room for Change</i> <i>Apple Matters Heat Up, Vol. 22 #1</i> <i>Butter Up, Vol. 20 #2</i>
Literature	<i>What's the Matter in Mr. Whiskers' Room</i> , Michael Elsohn Ross <i>A World of Change</i> , Newbridge: Thinking Like a Scientist <i>From Sand to Glass</i> , Wendy Davis <i>Hot as an Ice Cube</i> , Thomas Crowell <i>Follow the River</i> , Lydia Dabovich
Links	http://school.eb.com/elementary/browse/art-55255/Testing-the-strength-of-wood-by-means-of-a-set Britannica Online: Materials Testing http://www.bbc.co.uk/schools/scienceclips/ages/8_9/solid_liquids.shtml Solids and Liquids: Experiment with different solids and liquids. http://www.bbc.co.uk/schools/scienceclips/ages/9_10/changing_state.shtml Changing State: Experiment with melting and boiling water. http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sorting_using_mate.shtml Sorting and Using Materials: Experiment with the different materials and sort them out.
Field Experiences	
Other	



GRADE 2	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 10: FORMS OF ENERGY	
<p>A. Energy is involved in all physical processes and is a unifying concept in many areas of science.</p> <p>B. Energy exists in many forms and has the ability to do work or cause a change.</p>	
ESSENTIAL QUESTIONS	
How do people use energy to make their lives easier?	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.P.10.1 Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.</p> <p>The student:</p> <ul style="list-style-type: none"> • makes real world connections to how electricity and energy are used. 	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
Energized	
VOCABULARY	
energy, electricity	
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SUPPORTING RESOURCES	
Scott Foresman	SC.2.P.10.1 272-273, 278-281, 286-289
AIMS www.aimsedu.org	SC.2.P.10.1 Powered Up, AIMS magazine May/June 2005
Literature	<i>Energy Makes Things Happen</i> , Kimberly Brubaker Bradley <i>The Powerful World of Energy with MaxAxiom</i> , Agnieszka Biskup <i>Discovering Electricity</i> , Newbridge: Ranger Rick Science Spectacular
Links	http://school.eb.com/elementary/article?articleId=353091 Britannica Online: Electricity http://www.eia.doe.gov/kids/index.html EIA Kids Page: Follow "Energy Ant" as he takes you on a journey through various forms of energy. http://flint.apogee.net/kids/ What is Energy? Explore this site to discover how electricity works. http://www.miamisci.org/af/sln/frankenstein/index.html Frankenstein's Lightning Laboratory: Learn about different forms of electricity and electrical safety. http://www.eere.energy.gov/kids/ Kids Saving Energy: Games, tips, and facts just for kids who want to save energy.
Field Experiences	
Other	



GRADE 2	
BODY OF KNOWLEDGE: PHYSICAL SCIENCE	
BIG IDEA 13: FORCES AND CHANGE IN MOTION	
<p>A. It takes energy to change the motion of objects.</p> <p>B. Energy change is understood in terms of forces--pushes or pulls.</p> <p>C. Some forces act through physical contact, while others act at a distance.</p>	
ESSENTIAL QUESTIONS	
<p>How can we figure out how much force to use in different situations?</p> <p>How would our lives be different if there was no force pulling us toward the ground?</p>	
BENCHMARKS AND TASK ANALYSES	
<p>SC.2.P.13.1 Investigate the effect of applying various pushes and pulls on different objects.</p> <p>SC.2.P.13.2 Demonstrate that magnets can be used to make some things move without touching them</p> <p>SC.2.P.13.3 Recognize that objects are pulled toward the ground unless something holds them up.</p> <p>SC.2.P.13.4 Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.</p>	
OCPS ESSENTIAL LABS	
www.science.ocps.net	
<p>Give it a Push</p> <p>The Mysterious Floating Paper Clip</p> <p>Racing for Gravity</p>	
VOCABULARY	
force	
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SUPPORTING RESOURCES	
Formative Assessment Probes	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley</p> <p>SC.2.P.13.2 Vol. 4: Magnets in Water</p> <p>SC.2.P.13.3 Vol. 3: Apple on A Desk, Dropping Balls</p>
Scott Foresman	<p>SC.2.P.13.1 304-312</p> <p>SC.2.P.13.2 318-321, Guided Inquiry: 322-323</p> <p>SC.2.P.13.3 306-307</p> <p>SC.2.P.13.4 304-313</p>
AIMS www.aimsedu.org	<p>SC.2.P.13.1 <i>Sensational Springtime</i>: Flying Lion, Gliding Lamb</p> <p>SC.2.P.13.1 Pushed Around, Vol. 18 #7</p> <p>SC.2.P.13.2 <i>Primary Magnets</i>: Hungry Hounds</p> <p>SC.2.P.13.3 <i>Mostly Magnets</i>: Defying Gravity</p> <p>SC.2.P.13.4 Pushed Around, Vol. 18 #7</p>
Literature	<p><i>Forces Make Things Move</i>, Kimberly Brubaker Bradley</p> <p><i>Balance and Motion</i>, Foss Science Series</p> <p><i>Force and Motion</i>, Newbridge: Ranger Rick Science Spectacular</p> <p><i>I Fall Down</i>, Vicki Cobb</p> <p><i>What Does a Wheel Do?</i>, Jim Pipe</p>
Links	<p>http://www.bbc.co.uk/schools/scienceclips/ages/6_7/science_6_7.shtml</p> <p>BBC Science Clips, force and motion virtual experiments</p> <p>http://school.eb.com/elementary/article?articleId=353411</p> <p>Britannica Online: Magnet and Magnetism</p>



	<p>http://school.eb.com/elementary/browse/art-55621/Gravity-is-the-universal-force-of-attraction-that-acts-between Britannica Online: Gravity</p> <p>http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml Pushes and Pulls: Push and pull the horse around the track.</p> <p>http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml Forces and Movement: Why do some objects go faster than others?</p> <p>http://www.edheads.org/activities/odd_machine/frame_loader.htm Edheads Odd Machine: Learn how forces and simple machines can work together to create The Compound Machine!</p> <p>http://www.tryscience.org/experiments/experiments_newtonseggs_online.html Speed, Eggs & Slam: Design a way to keep an egg safe during a low speed crash.</p> <p>http://www.tryscience.org/experiments/experiments_usopen_online.html Hit the Spot! Find out how the laws of physics can make or break your tennis game.</p> <p>http://www.bigideafun.com/penguins/arcade/spaced_penguin/info.htm Spaced Penguin! Kevin took a wrong turn and ended up lost in space. Use the gravity of nearby planets to help send Kevin in the right direction.</p> <p>http://www.ology.amnh.org/astronomy/gravity/index.htm Our Place in Space: Gravity! Learn how it works, what it does, and what would happen if the force of gravity were turned off.</p> <p>http://ksnn.larc.nasa.gov/k2/s_magnetsWork.html Why do magnets work? Learn about magnets and their attraction to some materials.</p>
Field Experiences	
Other	



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	
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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	
life cycle	
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 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	

