

GRADE 3 SCIENCE ORDER OF INSTRUCTION			
1 <sup>st</sup> Nine Weeks	2 <sup>nd</sup> Nine Weeks	3 <sup>rd</sup> Nine Weeks	4 <sup>th</sup> Nine Weeks
<p><b><u>Body of Knowledge:</u></b> <b><u>Life Science</u></b> (4 benchmarks)</p> <p>Big Idea 14: Organization and Development of Living Organisms</p> <p>Big Idea 15: Diversity and Evolution of Living Organisms</p>	<p><b><u>Body of Knowledge:</u></b> <b><u>Life Science</u></b> (2 benchmarks)</p> <p>Big Idea 17: Interdependence</p> <p><b><u>Body of Knowledge:</u></b> <b><u>Earth and Space Science</u></b> (5 benchmarks)</p> <p>Big Idea 5: Earth in Space and Time</p>	<p><b><u>Body of Knowledge:</u></b> <b><u>Earth and Space Science</u></b> (1 benchmark)</p> <p>Big Idea 6: Earth Structures</p> <p><b><u>Body of Knowledge:</u></b> <b><u>Physical Science</u></b> (4 benchmarks)</p> <p>Big Idea 8: Properties of Matter</p> <p>Big Idea 9: Changes in Matter</p>	<p><b><u>Body of Knowledge:</u></b> <b><u>Physical Science</u></b> (6 benchmarks)</p> <p>Big Idea 10: Forms of Energy</p> <p>Big Idea 11: Energy Transfer and Transformations</p>
<p><b><u>Big Idea 1: The Practice of Science and Big Idea 3: The Role of Theories, Laws, Hypotheses, and Models</u></b> These Big Ideas 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. Third grade students ask and investigate questions individually and in teams, generate explanations, compare group observations, keep appropriate records, make inferences based on observations, and understand why and how scientists use models. Lab safety and the use of scientific tools should also be introduced at the beginning of the year and re-addressed throughout the year.</p>			

**Rationale for Grade 3 Order of Instruction:**

**1<sup>st</sup> Nine Weeks**

The 1<sup>st</sup> nine weeks continue to build upon the Life Science concepts students were taught at the end of second grade. They will be able to use their prior knowledge to delve more deeply into the study of the structures and characteristics of plants and animals.

**2<sup>nd</sup> Nine Weeks**

Life Science continues during the 2<sup>nd</sup> nine weeks as students investigate how animals and plants respond to changing seasons and how plants make their own food. Earth and Space Science is also taught during the 2<sup>nd</sup> nine weeks, and students will make observations of the night skies as seasons change.

**3<sup>rd</sup> Nine Weeks**

Earth and Space Science continues during the 3<sup>rd</sup> nine weeks. Physical Science is also taught during the 3<sup>rd</sup> nine weeks. Students will focus on challenging and abstract concepts about properties of matter and changes in matter.

**4<sup>th</sup> Nine Weeks**

Physical Science continues to be taught during the 4<sup>th</sup> nine weeks when students will focus on concepts about energy. These concepts require higher level thinking skills.



<b>GRADE 3</b>	
<b>BODY OF KNOWLEDGE: LIFE SCIENCE</b>	
<b>BIG IDEA 14: ORGANIZATION AND DEVELOPMENT OF LIVING ORGANISMS</b>	
<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>	
<b>ESSENTIAL QUESTIONS</b>	
<p>How does the structure of plant parts relate to their function?</p> <p>How are the plant structures important in their survival?</p>	
<b>BENCHMARKS and TASK ANALYSES</b>	
<p><b>SC.3.L.14.1</b> Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.</p> <p>The student:</p> <ul style="list-style-type: none"> <li>• describes leaves as the structure for food production.</li> <li>• describes stems or trunks and roots as the structures for support.</li> <li>• describes roots and stems or trunks as the structures for water and nutrient transport.</li> <li>• describes flowers, cones, or spores as the structures for reproduction.</li> </ul> <p><b>SC.3.L.14.2</b> Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.</p> <p>The student:</p> <ul style="list-style-type: none"> <li>• predicts, investigates, and describes how plants respond to heat.</li> <li>• predicts, investigates, and describes how plants respond to light.</li> <li>• predicts, investigates, and describes how plants respond to gravity.</li> </ul>	
<b>OCPS ESSENTIAL LABS</b>	
<a href="http://www.science.ocps.net">www.science.ocps.net</a>	
<p>Structure and Function of Plant Leaves</p> <p>Structure and Function of Plant Stems</p> <p>Structure and Function of Plant Roots</p> <p>How Do Environmental Factors Change the Way Plants Grow?</p>	
<b>VOCABULARY</b>	
plant structures, reproduction	
<b>The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.</b>	
<b>SUPPORTING RESOURCES</b>	
<b>Formative Assessment Probes</b>	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley</p> <p><b>SC.3.L.14.1</b> Vol. 2: Needs of Seeds, Is It Food for Plants?</p> <p><b>SC.3.L.14.2</b> Vol. 2: Plants in the Dark and Light</p>
<b>Scott Foresman</b>	<p><b>SC.3.E.14.1</b> 7-19</p> <p>Directed Inquiry: How are plants alike and different? 4</p>
<b>AIMS</b> <a href="http://www.aimsedu.org">www.aimsedu.org</a>	<p><b>SC.3.L.14.1</b> <i>Primarily Plants: Root Study</i></p> <p><i>Budding Botanist: Down Under; Photosynthesis</i></p> <p><b>SC.3.L.14.2</b> <i>Primarily Plants: What Temperature Is Best?</i></p>
<b>Literature</b>	<p><i>The Tiny Seed</i>, Eric Carle</p> <p><i>A Tree is a Plant</i>, Clyde Robert Bulk</p>



<b>Web Links</b>	<p><a href="http://www.school.eb.com/elementary/article?articleId=353639">www.school.eb.com/elementary/article?articleId=353639</a> An encyclopedia article about importance and types of plants with diagram of plant growing from seed.</p> <p><a href="http://www.school.eb.com/art-68469">www.school.eb.com/art-68469</a> Learn why stems grow in the direction of a light source while roots grow downward.</p> <p><a href="http://www.school.eb.com/elementary/article?articleId=353624">www.school.eb.com/elementary/article?articleId=353624</a> Green plants use the sun's energy to manufacture their food with a process called photosynthesis.</p> <p><a href="http://www.school.eb.com/elementary/art-83774/">www.school.eb.com/elementary/art-83774/</a> Photosynthesis is vital to both plants and animals.</p>
<b>Field Experiences</b>	<p>Mead Gardens – (407) 599-3358 Harry P. Leu Gardens – (407) 246-2620 Tibet-Butler Nature Preserve – (407) 876-6696 Mayor Carl T. Langford Park – (407) 246-2150</p>
<b>Other</b>	



<b>GRADE 3</b>	
<b>BODY OF KNOWLEDGE: LIFE SCIENCE</b>	
<b>BIG IDEA 15: DIVERSITY AND EVOLUTION OF LIVING ORGANISMS</b>	
<p>A. Earth is home to a great diversity of living things, but changes in the environment can affect their survival.</p> <p>B. Individuals of the same kind often differ in their characteristics and sometimes the differences give individuals an advantage in surviving and reproducing.</p>	
<b>ESSENTIAL QUESTIONS</b>	
<p>How are animals that belong to one group different from one another?</p> <p>How are plants that belong to one group different from one another?</p> <p>Why are organisms classified into one group if they have differences?</p>	
<b>BENCHMARKS and TASK ANALYSES</b>	
<p><b>SC.3.L.15.1</b> Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.</p> <p>The student:</p> <ul style="list-style-type: none"> <li>• classifies animals as vertebrates or invertebrates.</li> <li>• classifies animals as mammals, birds, reptiles, amphibians, fish, or arthropods.</li> <li>• identifies physical characteristics of mammals, birds, reptiles, amphibians, fish, and arthropods, such as hair, wings, etc.</li> <li>• identifies behavioral characteristics of mammals, birds, reptiles, amphibians, fish, and arthropods, such as raising young, migrating, etc.</li> </ul> <p><b>SC.3.L.15.2</b> Classify flowering and non-flowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.</p> <p>The student:</p> <ul style="list-style-type: none"> <li>• observes plants that produce seeds (e.g., grasses, orange trees, conifers)</li> <li>• observes plants that produce spores (e.g., ferns, mosses)</li> <li>• classifies plants as flowering (e.g., magnolia trees, azaleas) or non-flowering (e.g., mosses, conifers such as Bald Cypress or pine trees) according to their physical characteristics.</li> </ul>	
<b>OCPS ESSENTIAL LABS</b>	
<a href="http://www.science.ocps.net">www.science.ocps.net</a>	
<p>How Do Scientists Classify Plants?</p> <p>How Do Scientists Classify Animals?</p>	
<b>VOCABULARY</b>	
vertebrates, invertebrates, birds, reptiles, amphibians, arthropods, mammals, fish, ferns, mosses, spores, cones, conifers	
<b>The textbook is NOT the curriculum. The Next Generation Sunshine State Standards for Science are the mandated curriculum.</b>	
<b>SUPPORTING RESOURCES</b>	
<b>Formative Assessment Probes</b>	<p><i>Uncovering Student Ideas in Science</i>, Page Keeley</p> <p><b>SC.3.L.15.1</b> Vol. 2: Is it a Plant?</p> <p><b>SC.3.L.15.2</b> Vol. 1: Is it an Animal?</p>
<b>Scott Foresman</b>	<p><b>SC.3.E.15.1</b> 38-43</p> <p><b>SC.3.E.15.2</b> 14-19</p> <p>Directed Inquiry: How can you make a model of a backbone? 36</p>



<b>AIMS</b> <a href="http://www.aimsedu.org">www.aimsedu.org</a>	<b>SC.3.P.15.1</b> <i>Critters: Animal Antics</i> <b>SC.3.P.15.2</b> <i>Primarily Plants: Spores: A Special Seed</i>
<b>Literature</b>	<i>The Reason for a Flower</i> , Ruth Heller
<b>Web Links</b>	<a href="http://www.perspective.com/nature/">http://www.perspective.com/nature/</a> A website offering exploration of biodiversity and biological classification. <a href="http://www.school.eb.com/lm/games/GS_1_2/GS_1_2.htm">www.school.eb.com/lm/games/GS_1_2/GS_1_2.htm</a> Determine which animals are mammals.  <a href="http://www.school.eb.com/lm/games/GS_2_4/GS_2_4.htm">www.school.eb.com/lm/games/GS_2_4/GS_2_4.htm</a> Match the animal with its usual social habits of living alone or in groups. <a href="http://www.school.eb.com/art-83541">www.school.eb.com/art-83541</a> Carl Linnaeus brought order to the study of biology when he created the classification system still in use today. <a href="http://www.backyardnature.net/fpdefine.htm">http://www.backyardnature.net/fpdefine.htm</a> Discussion about what makes a plant a flowering plant with links to photos and information on the most common types.
<b>Field Experiences</b>	Moss Park – (407) 254-6840
<b>Other</b>	

