

**Inquiry Investigations™**  
**Kingdoms of Life MODULE - 1294372**  
**Grades: 7-10**

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**New Jersey Academic Standards**  
**Science**  
**Grade 7**

<b>STANDARD</b>	<b>NJ.5.1.</b>	Scientific Processes: All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.
<b>STRAND</b>	5.1.8.A.2.	<p>Habits of Mind: Communicate experimental findings to others.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND</b>	5.1.8.A.3.	<p>Habits of Mind: Recognize that the results of scientific investigations are seldom exactly the same and that replication is often necessary.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>

STRAND	5.1.8.B.1.	<p>Inquiry and Problem Solving: Identify questions and make predictions that can be addressed by conducting investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.B.2.	<p>Inquiry and Problem Solving: Design and conduct investigations incorporating the use of a control.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area)</li> </ul>

		<p>Survey</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.B.3.	<p>Inquiry and Problem Solving: Collect, organize, and interpret the data that result from experiments.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.C.1.	<p>Safety: Know when and how to use appropriate safety equipment with all classroom materials.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>

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STRAND	5.1.8.C.2.	<p>Safety: Understand and practice safety procedures for conducting science investigations.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.2.	<p>Science and Society: All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.</p>
STRAND	5.2.8.A.1.	<p>Cultural Contributions: Recognize that scientific theories: develop over time, depend on the contributions of many people, and reflect the social and political climate of their time.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>

STRAND	5.2.8.A.2.	<p>Cultural Contributions: Know that scientists are men and women of many cultures who often work together to solve scientific and technological problems.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
STRAND	5.2.8.B.1.	<p>Historical Perspectives: Describe the impact of major events and people in the history of science and technology, in conjunction with other world events.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
STANDARD	NJ.5.3.	<p>Mathematical Applications: All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.</p>
STRAND	5.3.8.A.1.	<p>Numerical Operations: Express quantities using appropriate number formats, such as: decimals, percents, scientific notation.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.8.B.1.	<p>Geometry and Measurement: Perform mathematical computations using labeled quantities and express answers in correctly derived units.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.8.C.1.	<p>Patterns and Algebra: Express physical relationships in terms of mathematical equations derived from collected data.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> </ul>

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STRAND	5.3.8.D.1.	<p>Data Analysis and Probability: Represent and describe mathematical relationships among variables using: graphs; tables.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.3.8.D.2.	<p>Data Analysis and Probability: Analyze experimental data sets using measures of central tendency: mean, mode, median.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.8.D.3.	<p>Data Analysis and Probability: Construct and use a graph of experimental data to draw a line of best fit and identify a linear relationship between variables when appropriate.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.3.8.D.4.	<p>Data Analysis and Probability: Use computer spreadsheets, graphing and database applications to assist in quantitative analysis of data.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STANDARD	NJ.5.4.	<p>Nature and Process of Technology: All students will understand the interrelationships between science and technology and develop a conceptual understanding of the nature and process of technology.</p>
STRAND	5.4.8.A.1.	<p>Science and Technology: Compare and contrast science with technology, illustrating similarities and differences between these two human endeavors.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
STRAND	5.4.8.B.1.	<p>Nature of Technology: Analyze a product or system to determine the</p>

		<p>problem it was designed to solve, the design constraints, trade-offs and risks involved in using the product or system, how the product or system might fail, and how the product or system might be improved.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STANDARD</b>	<b>NJ.5.5.</b>	<b>Characteristics of Life: All students will gain an understanding of the structure, characteristics, and basic needs of organisms and will investigate the diversity of life.</b>
<b>STRAND</b>	<b>5.5.8.A.1.</b>	<p>Matter, Energy and Organization in Living Systems: Explain how the products respiration and photosynthesis are recycled.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
<b>STRAND</b>	<b>5.5.8.A.2.</b>	<p>Matter, Energy and Organization in Living Systems: Recognize that complex multicellular organisms, including humans, are composed of and defined by interactions of the following: cells, tissues, organs, systems.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND</b>	<b>5.5.8.B.1.</b>	<p>Diversity and Biological Evolution: Compare and contrast kinds of organisms using their internal and external characteristics.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond</li> </ul>

		<p>Microlife</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Classifying Life</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.5.8.B.2.	<p>Diversity and Biological Evolution: Discuss how changing environmental conditions can result in evolution or extinction of a species.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.8.	<p>Earth Science: All students will gain an understanding of the structure, dynamics, and geophysical systems of the earth.</p>
STRAND	5.8.8.A.1.	<p>Earth's Properties and Materials: Observe that most rocks and soils are made of several substances or minerals.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.8.8.A.2.	<p>Earth's Properties and Materials: Observe that the properties of soil vary from place to place and will affect the soil's ability to support life.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>



Grade 8

STANDARD	NJ.5.1.	Scientific Processes: All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.
STRAND	5.1.8.A.2.	<p>Habits of Mind: Communicate experimental findings to others.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.A.3.	<p>Habits of Mind: Recognize that the results of scientific investigations are seldom exactly the same and that replication is often necessary.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.1.8.B.1.	<p>Inquiry and Problem Solving: Identify questions and make predictions that can be addressed by conducting investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and</li> </ul>

		<p>Pollination</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.B.2.	<p>Inquiry and Problem Solving: Design and conduct investigations incorporating the use of a control.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.B.3.	<p>Inquiry and Problem Solving: Collect, organize, and interpret the data that result from experiments.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? -</li> </ul>

		<p>Creating Food Webs</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.C.1.	<p>Safety: Know when and how to use appropriate safety equipment with all classroom materials.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.8.C.2.	<p>Safety: Understand and practice safety procedures for conducting science investigations.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.2.	<p>Science and Society: All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.</p>
STRAND	5.2.8.A.1.	<p>Cultural Contributions: Recognize that scientific theories: develop over time, depend on the contributions of many people, and reflect the social and political climate of their time.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
STRAND	5.2.8.A.2.	<p>Cultural Contributions: Know that scientists are men and women of many cultures who often work together to solve scientific and technological problems.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
STRAND	5.2.8.B.1.	<p>Historical Perspectives: Describe the impact of major events and people in the history of science and technology, in conjunction with other world events.</p>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
<b>STANDARD</b>	<b>NJ.5.3.</b>	<b>Mathematical Applications: All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.</b>
<b>STRAND</b>	<b>5.3.8.A.1.</b>	<p>Numerical Operations: Express quantities using appropriate number formats, such as: decimals, percents, scientific notation.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
<b>STRAND</b>	<b>5.3.8.B.1.</b>	<p>Geometry and Measurement: Perform mathematical computations using labeled quantities and express answers in correctly derived units.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
<b>STRAND</b>	<b>5.3.8.C.1.</b>	<p>Patterns and Algebra: Express physical relationships in terms of mathematical equations derived from collected data.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND</b>	<b>5.3.8.D.1.</b>	<p>Data Analysis and Probability: Represent and describe mathematical relationships among variables using: graphs; tables.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? -</li> </ul>

		<p>Creating Food Webs</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.3.8.D.2.	<p>Data Analysis and Probability: Analyze experimental data sets using measures of central tendency: mean, mode, median.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.8.D.3.	<p>Data Analysis and Probability: Construct and use a graph of experimental data to draw a line of best fit and identify a linear relationship between variables when appropriate.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.3.8.D.4.	<p>Data Analysis and Probability: Use computer spreadsheets, graphing and database applications to assist in quantitative analysis of data.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STANDARD	NJ.5.4.	<p><b>Nature and Process of Technology: All students will understand the interrelationships between science and technology and develop a conceptual understanding of the nature and process of technology.</b></p>
STRAND	5.4.8.A.1.	<p>Science and Technology: Compare and contrast science with technology, illustrating similarities and differences between these two human endeavors.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
STRAND	5.4.8.B.1.	<p>Nature of Technology: Analyze a product or system to determine the problem it was designed to solve, the design constraints, trade-offs and risks involved in using the product or system, how the product or system might fail, and how the product or system might be improved.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> </ul>

		<ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STANDARD</b>	<b>NJ.5.5.</b>	<b>Characteristics of Life: All students will gain an understanding of the structure, characteristics, and basic needs of organisms and will investigate the diversity of life.</b>
<b>STRAND</b>	<b>5.5.8.A.1.</b>	<p>Matter, Energy and Organization in Living Systems: Explain how the products respiration and photosynthesis are recycled.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Teacher Resource CD: A Closer Look at Plants</li> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
<b>STRAND</b>	<b>5.5.8.A.2.</b>	<p>Matter, Energy and Organization in Living Systems: Recognize that complex multicellular organisms, including humans, are composed of and defined by interactions of the following: cells, tissues, organs, systems.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Teacher Resource CD: A Closer Look at Microbes</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND</b>	<b>5.5.8.B.1.</b>	<b>Diversity and Biological Evolution: Compare and contrast kinds of organisms</b>

		<p>using their internal and external characteristics.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Classifying Life</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.5.8.B.2.	<p>Diversity and Biological Evolution: Discuss how changing environmental conditions can result in evolution or extinction of a species.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.8.	<p>Earth Science: All students will gain an understanding of the structure, dynamics, and geophysical systems of the earth.</p>
STRAND	5.8.8.A.1.	<p>Earth's Properties and Materials: Observe that most rocks and soils are made of several substances or minerals.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND	5.8.8.A.2.	<p>Earth's Properties and Materials: Observe that the properties of soil vary from place to place and will affect the soil's ability to support life.</p>



		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
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New Jersey Academic Standards  
Science  
Grade 9

<b>STANDARD</b>	<b>NJ.5.1.</b>	Scientific Processes: All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.
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<b>STRAND</b>	<b>5.1.12.A.1.</b>	<p>Habits of Mind: When making decisions, evaluate conclusions, weigh evidence, and recognize that arguments may not have equal merit.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
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<b>STRAND</b>	<b>5.1.12.A.2.</b>	<p>Habits of Mind: Assess the risks and benefits associated with alternative solutions.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> </ul>
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		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.A.3.	<p>Habits of Mind: Engage in collaboration, peer review, and accurate reporting of findings.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> </ul>

		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.B.1.	<p>Inquiry and Problem Solving: Select and use appropriate instrumentation to design and conduct investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.B.2.	<p>Inquiry and Problem Solving: Show that experimental results can lead to new questions and further investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>

		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.C.1.	<p>Safety: Understand, evaluate and practice safe procedures for conducting science investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.2.	Science and Society: All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.
STRAND	5.2.12.B.1.	Historical Perspectives: Examine the lives and contributions of important scientists who effected major breakthroughs in our understanding of the

		<p>natural and designed world.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Classifying Life</li> </ul>
STRAND	5.2.12.B.2.	<p>Historical Perspectives: Discuss significant technological achievements in which science has played an important part as well as technological advances that have contributed directly to the advancement of scientific knowledge.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
STANDARD	NJ.5.3.	<p>Mathematical Applications: All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.</p>
STRAND	5.3.12.A.1.	<p>Numerical Operations: Express quantities using appropriate number formats, such as: decimals, percents, scientific notation.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.12.B.1.	<p>Geometry and Measurement: When performing mathematical operations with measured quantities, express answers to reflect the degree of precision and accuracy of the input data.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.12.C.1.	<p>Patterns and Algebra: Apply mathematical models that describe physical phenomena to predict real world events.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> </ul>

		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.3.12.D.1.	<p>Data Analysis and Probability: Construct and interpret graphs of data to represent inverse and non-linear relationships, and statistical distributions.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.4.	Nature and Process of Technology: All students will understand the interrelationships between science and technology and develop a conceptual understanding of the nature and process of technology.
STRAND	5.4.12.A.1.	Science and Technology: Know that scientific inquiry is driven by the desire to understand the natural world and seeks to answer questions that may or may not directly influence humans, while technology is driven by the need to meet human needs and solve human problems.

		<ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
STRAND	5.4.12.C.1.	<p>Technological Design: Plan, develop, and implement a proposal to solve an authentic, technological problem.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.5.	<p>Characteristics of Life: All students will gain an understanding of the structure, characteristics, and basic needs of organisms and will investigate the diversity of life.</p>
STRAND	5.5.12.A.1.	<p>Matter, Energy and Organization in Living Systems: Relate the structure of molecules to their function in cellular structure and metabolism.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Teacher Resource CD: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Microbes</li> <li>Teacher Resource CD: Classifying Life</li> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.5.12.A.2.	<p>Matter, Energy and Organization in Living Systems: Explain how plants convert light energy to chemical energy.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND	5.5.12.A.3.	<p>Matter, Energy and Organization in Living Systems: Describe how plants produce substances high in energy content that become the primary source of energy for life.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Teacher Resource CD: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND	5.5.12.B.2.	<p>Diversity and Biological Evolution: Explain how the theory of natural selection accounts for extinction as well as an increase in the proportion of individuals with advantageous characteristics within a species.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Teacher Resource CD: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Plants</li> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.10.	<p>Environmental Studies: All students will develop an understanding of the environment as a system of interdependent components affected by human activity and natural phenomena.</p>
STRAND	5.10.12.B.1.	<p>Human Interactions and Impact: Assess the impact of human activities on the cycling of matter and the flow of energy through ecosystems.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> </ul>



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New Jersey Academic Standards  
Science  
Grade 10

<b>STANDARD</b>	<b>NJ.5.1.</b>	<b>Scientific Processes: All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</b>
<b>STRAND</b>	<b>5.1.12.A.1.</b>	<p><b>Habits of Mind: When making decisions, evaluate conclusions, weigh evidence, and recognize that arguments may not have equal merit.</b></p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND</b>	<b>5.1.12.A.2.</b>	<b>Habits of Mind: Assess the risks and benefits associated with alternative</b>

		<p>solutions.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.A.3.	<p>Habits of Mind: Engage in collaboration, peer review, and accurate reporting of findings.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental</li> </ul>

		<p>Design</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.B.1.	<p>Inquiry and Problem Solving: Select and use appropriate instrumentation to design and conduct investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.B.2.	<p>Inquiry and Problem Solving: Show that experimental results can lead to new questions and further investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond</li> </ul>

		<p>Microlife</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.1.12.C.1.	<p>Safety: Understand, evaluate and practice safe procedures for conducting science investigations.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.2.	Science and Society: All students will develop an understanding of how people of various cultures have contributed to the advancement of science and technology, and how major discoveries and events have advanced science and technology.
STRAND	5.2.12.B.1.	<p>Historical Perspectives: Examine the lives and contributions of important scientists who effected major breakthroughs in our understanding of the natural and designed world.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Classifying Life</li> </ul>
STRAND	5.2.12.B.2.	<p>Historical Perspectives: Discuss significant technological achievements in which science has played an important part as well as technological advances that have contributed directly to the advancement of scientific knowledge.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
STANDARD	NJ.5.3.	Mathematical Applications: All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.
STRAND	5.3.12.A.1.	<p>Numerical Operations: Express quantities using appropriate number formats, such as: decimals, percents, scientific notation.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.12.B.1.	<p>Geometry and Measurement: When performing mathematical operations with measured quantities, express answers to reflect the degree of precision and accuracy of the input data.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
STRAND	5.3.12.C.1.	<p>Patterns and Algebra: Apply mathematical models that describe physical phenomena to predict real world events.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting</li> </ul>

		<p>and Measurement</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.3.12.D.1.	<p>Data Analysis and Probability: Construct and interpret graphs of data to represent inverse and non-linear relationships, and statistical distributions.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STANDARD</b>	<b>NJ.5.4.</b>	<b>Nature and Process of Technology: All students will understand the interrelationships between science and technology and develop a conceptual understanding of the nature and process of technology.</b>
<b>STRAND</b>	<b>5.4.12.A.1.</b>	<p>Science and Technology: Know that scientific inquiry is driven by the desire to understand the natural world and seeks to answer questions that may or may not directly influence humans, while technology is driven by the need to meet human needs and solve human problems.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> </ul>
<b>STRAND</b>	<b>5.4.12.C.1.</b>	<p>Technological Design: Plan, develop, and implement a proposal to solve an authentic, technological problem.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</li> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STANDARD</b>	<b>NJ.5.5.</b>	<b>Characteristics of Life: All students will gain an understanding of the structure, characteristics, and basic needs of organisms and will investigate the diversity of life.</b>
<b>STRAND</b>	<b>5.5.12.A.1.</b>	<p>Matter, Energy and Organization in Living Systems: Relate the structure of molecules to their function in cellular structure and metabolism.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> </ul>

		<ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Teacher Resource CD: Classifying Life</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND	5.5.12.A.2.	<p>Matter, Energy and Organization in Living Systems: Explain how plants convert light energy to chemical energy.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND	5.5.12.A.3.	<p>Matter, Energy and Organization in Living Systems: Describe how plants produce substances high in energy content that become the primary source of energy for life.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND	5.5.12.B.2.	<p>Diversity and Biological Evolution: Explain how the theory of natural selection accounts for extinction as well as an increase in the proportion of individuals with advantageous characteristics within a species.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs</li> <li>• Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design</li> <li>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STANDARD	NJ.5.10.	<p>Environmental Studies: All students will develop an understanding of the environment as a system of interdependent components affected by human activity and natural phenomena.</p>



STRAND	5.10.12.B.1.	<p>Human Interactions and Impact: Assess the impact of human activities on the cycling of matter and the flow of energy through ecosystems.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi</li> <li>• Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
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