

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

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**New York Core Curriculum**  
**Science**  
**Grade 7**

<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.1.</b>	<b>Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.1.1.</b>	<p>Students formulate questions independently with the aid of references appropriate for guiding the search for explanations of everyday observations.</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 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>PERFORMANCE INDICATOR</b>	<b>1.1.2.</b>	<p>Students construct explanations independently for natural phenomena, especially by proposing preliminary visual models of phenomena.</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> </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>• 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 / STANDARD</b>	<b>NY.1.</b>	<b>Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.2.</b>	<b>Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.2.1.</b>	<p>Students use conventional techniques and those of their own design to make further observations and refine their explanations, guided by a need for more information.</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> </ul>

		<ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	1.2.2.	<p>Students develop, present, and defend formal research proposals for testing their own explanations of common phenomena, including ways of obtaining needed observations and ways of conducting simple controlled 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 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>
PERFORMANCE INDICATOR	1.2.3.	<p>Students carry out their research proposals, recording observations and measurements (e.g., lab notes, audio tape, computer disk, video tape) to help assess the explanation.</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> </ul>

		<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>
<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.3.</b>	<b>Scientific Inquiry: The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.1.</b>	<p>Students design charts, tables, graphs and other representations of observations in conventional and creative ways to help them address their research question or hypothesis.</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 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>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.2.</b>	<p>Students interpret the organized data to answer the research question or hypothesis and to gain insight into the 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</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>
<p>PERFORMANCE INDICATOR</p>	<p>1.3.3.</p>	<p>Students modify their personal understanding of phenomena based on evaluation of their hypothesis.</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>
<p>STRAND /</p>		<p>NY.1. Analysis, Inquiry and Design: Students will use mathematical analysis,</p>

STANDARD		scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.4.	Mathematical Analysis: Abstraction and symbolic representation are used to communicate mathematically.
PERFORMANCE INDICATOR	1.4.1.	Students extend mathematical notation and symbolism to include variables and algebraic expressions in order to describe and compare quantities and express mathematical relationships. <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> </ul>
STRAND / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.5.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.5.1.	Students use inductive reasoning to construct, evaluate, and validate conjectures and arguments, recognizing that patterns and relationships can assist in explaining and extending mathematical phenomena. <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: Classifying Life</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND /	1.6.	Mathematical Analysis: Critical thinking skills are used in the solution on

PERFORMANCE INDICATOR		mathematical problems.
PERFORMANCE INDICATOR	1.6.1.	<p>Students apply mathematical knowledge to solve real-world problems that arise from the investigation of mathematical ideas, using representations such as pictures, charts, and 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 / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.7.	Engineering Design: Engineering design is an iterative process involving modeling and optimization finding the best solution within given constraints which is used to develop the logical solutions to problems within given constraints.
PERFORMANCE INDICATOR	1.7.3.	<p>Students consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques (group discussion, brainstorming, forced connections, role play); defer judgment until a number of ideas have been generated; evaluate (critique) ideas; and explain why the chosen solution is optimal.</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 / STANDARD	NY.4.	The Physical Setting: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.2.	Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.
PERFORMANCE INDICATOR	4.2.1.	<p>Students explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.1.	Living things are both similar to and different from each other and nonliving things.
PERFORMANCE INDICATOR	4.1.1.	<p>Students compare and contrast the parts of plants, animals, and one-celled organisms.</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: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Microbes</li> </ul>

		<ul style="list-style-type: none"> <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 / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.2.	Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
PERFORMANCE INDICATOR	4.2.1.	Students describe sexual and asexual mechanisms for passing genetic materials from generation to generation. <ul style="list-style-type: none"> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.3.	Individual organisms and species change over time.
PERFORMANCE INDICATOR	4.3.1.	Students describe sources of variation in organisms and their structures and relate the variations to survival. <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>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.4.	The continuity of life is sustained through reproduction and development.
PERFORMANCE INDICATOR	4.4.1.	Students observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction. <ul style="list-style-type: none"> <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>• 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> </ul>
PERFORMANCE INDICATOR	4.4.2.	<p>Students explain the role of sperm and egg cells in sexual reproduction.</p> <ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	4.4.3.	<p>Students observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants).</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>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.4.	<p>The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>
STRAND / PERFORMANCE INDICATOR	4.5.	<p>Organisms maintain a dynamic equilibrium that sustains life.</p>
PERFORMANCE INDICATOR	4.5.1.	<p>Students compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium.</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 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>• 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>
<b>STRAND / STANDARD</b>	<b>NY.4.</b>	<b>The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>4.6.</b>	<b>Plants and animals depend on each other and their physical environment.</b>
<b>PERFORMANCE INDICATOR</b>	<b>4.6.1.</b>	<p>Students describe the flow of energy and matter through food chains and food webs.</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 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>• Teacher Resource CD: A Closer Look at Microbes</li> </ul>
<b>PERFORMANCE INDICATOR</b>	<b>4.6.2.</b>	<p>Students provide evidence that green plants make food and explain the significance of this process to other organisms.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</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: Field Biology - Collecting, Identifying, and Observing</li> </ul>
<b>STRAND / STANDARD</b>	<b>NY.4.</b>	<b>The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>4.7.</b>	<b>Human decisions and activities have had a profound impact on the physical and living environment.</b>
<b>PERFORMANCE INDICATOR</b>	<b>4.7.1.</b>	<p>Students describe how living things, including humans, depend upon the living and nonliving environment for their survival.</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 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> </ul>

		<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>Teacher Resource CD: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.1.	Systems Thinking: Through systems thinking, people can recognize the commonalities that exist among all systems and how parts of a system interrelate and combine to perform specific functions.
PERFORMANCE INDICATOR	6.1.2.	Students identify common things that can be considered to be systems (e.g., a plant population, a subway system, human beings). <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>Teacher Resource CD: A Closer Look at Animals</li> <li>Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.2.	Models: Models are simplified representations of objects, structures, or systems used in analysis, explanation, interpretation, or design.
PERFORMANCE INDICATOR	6.2.3.	Students use different types of models, such as graphs, sketches, diagrams, and maps to represent various aspects of the real world. <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 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>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND /	6.3.	Magnitude and Scale: The grouping of magnitudes of size, time,

PERFORMANCE INDICATOR		frequency, and pressures or other units of measurement into a series of relative order provides a useful way to deal with the immense range and the changes in scale that affect the behavior and design of systems.
PERFORMANCE INDICATOR	6.3.1.	<p>Students provide examples of natural and manufactured things that belong to the same category yet have very different sizes, weights, ages, speeds, and other measurements.</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: 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>
PERFORMANCE INDICATOR	6.3.2.	<p>Students identify the biggest and the smallest values as well as the average value of a system when given information about its characteristics and behavior.</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 / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND /	6.4.	Equilibrium and Stability: Equilibrium is a state of stability due either to

PERFORMANCE INDICATOR		a lack of changes (static equilibrium) or a balance between opposing forces (dynamic equilibrium).
PERFORMANCE INDICATOR	6.4.1.	<p>Students cite examples of systems in which some features stay the same while other features change.</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> </ul>
PERFORMANCE INDICATOR	6.4.2.	<p>Students distinguish between reasons for stability - from lack of changes to changes that counterbalance one another to changes within cycles.</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> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.5.	Patterns of Change: Identifying patterns of change is necessary for making predictions about future behavior and conditions.
PERFORMANCE INDICATOR	6.5.1.	<p>Students use simple instruments to measure such quantities as distance, size, and weight and look for patterns in the 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> </ul>

		<ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	6.5.2.	<p>Students analyze data by making tables and graphs and looking for patterns of change.</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: Classifying Life</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND /	6.6.	Optimization: In order to arrive at the best solution that meets criteria

PERFORMANCE INDICATOR		within constraints, it is often necessary to make trade-offs.
PERFORMANCE INDICATOR	6.6.1.	<p>Students determine the criteria and constraints and make trade-offs to determine the best decision.</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>
PERFORMANCE INDICATOR	6.6.2.	<p>Students use simple quantitative methods, such as ratios, to compare costs to benefits of a decision problem.</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 / STANDARD	NY.7.	<b>Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.</b>
STRAND / PERFORMANCE INDICATOR	7.1.	Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/technology/society, consumer decision making, design, and inquiry into phenomena.
PERFORMANCE INDICATOR	7.1.3.	<p>Students design solutions to real-world problems of general social interest related to home, school, or community using scientific experimentation to inform the solution and applying mathematical concepts and reasoning to assist in developing a solution.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life</li> </ul>

		<p>Forms</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 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>
<p>PERFORMANCE INDICATOR</p>	<p>7.1.4.</p>	<p>Students describe and explain phenomena by designing and conducting investigations involving systematic observations, accurate measurements, and the identification and control of variables; by inquiring into relevant mathematical ideas; and by using mathematical and technological tools and procedures to assist in the investigation.</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> </ul>

		<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>
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New York Core Curriculum  
Science  
Grade 8

STRAND / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.1.	Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.
PERFORMANCE INDICATOR	1.1.1.	<p>Students formulate questions independently with the aid of references appropriate for guiding the search for explanations of everyday observations.</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 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>
PERFORMANCE INDICATOR	1.1.2.	<p>Students construct explanations independently for natural phenomena, especially by proposing preliminary visual models of phenomena.</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 / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use conventional techniques and those of their own design to make further observations and refine their explanations, guided by a need for more information.</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</li> </ul>

		<p>Preference of Pill Bugs</p> <ul style="list-style-type: none"> <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>
<p>PERFORMANCE INDICATOR</p>	<p>1.2.2.</p>	<p>Students develop, present, and defend formal research proposals for testing their own explanations of common phenomena, including ways of obtaining needed observations and ways of conducting simple controlled 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 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>
<p>PERFORMANCE INDICATOR</p>	<p>1.2.3.</p>	<p>Students carry out their research proposals, recording observations and measurements (e.g., lab notes, audio tape, computer disk, video tape) to help assess the explanation.</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>
<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.3.</b>	<b>Scientific Inquiry: The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.1.</b>	<p>Students design charts, tables, graphs and other representations of observations in conventional and creative ways to help them address their research question or hypothesis.</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 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>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.2.</b>	<p>Students interpret the organized data to answer the research question or hypothesis and to gain insight into the 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> </ul>

		<ul style="list-style-type: none"> <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>
<p><b>PERFORMANCE INDICATOR</b></p>	<p><b>1.3.3.</b></p>	<p>Students modify their personal understanding of phenomena based on evaluation of their hypothesis.</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 / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.4.	Mathematical Analysis: Abstraction and symbolic representation are used to communicate mathematically.
PERFORMANCE INDICATOR	1.4.1.	<p>Students extend mathematical notation and symbolism to include variables and algebraic expressions in order to describe and compare quantities and express mathematical relationships.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle</li> </ul>
STRAND / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.5.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.5.1.	<p>Students use inductive reasoning to construct, evaluate, and validate conjectures and arguments, recognizing that patterns and relationships can assist in explaining and extending mathematical phenomena.</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: Classifying Life</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>

STRAND / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.6.	Mathematical Analysis: Critical thinking skills are used in the solution on mathematical problems.
PERFORMANCE INDICATOR	1.6.1.	<p>Students apply mathematical knowledge to solve real-world problems that arise from the investigation of mathematical ideas, using representations such as pictures, charts, and 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 / STANDARD	NY.1.	Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.7.	Engineering Design: Engineering design is an iterative process involving modeling and optimization finding the best solution within given constraints which is used to develop the logical solutions to problems within given constraints.
PERFORMANCE INDICATOR	1.7.3.	<p>Students consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques (group discussion, brainstorming, forced connections, role play); defer judgment until a number of ideas have been generated; evaluate (critique) ideas; and explain why the chosen solution is optimal.</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</li> </ul>

		<p>Survey</p> <ul style="list-style-type: none"> <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 / STANDARD	NY.4.	The Physical Setting: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.2.	Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.
PERFORMANCE INDICATOR	4.2.1.	<p>Students explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.1.	Living things are both similar to and different from each other and nonliving things.
PERFORMANCE INDICATOR	4.1.1.	<p>Students compare and contrast the parts of plants, animals, and one-celled organisms.</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>• 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 / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.2.	Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
PERFORMANCE INDICATOR	4.2.1.	Students describe sexual and asexual mechanisms for passing genetic materials from generation to generation. <ul style="list-style-type: none"> <li>• Teacher Resource CD: A Closer Look at Microbes</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.3.	Individual organisms and species change over time.
PERFORMANCE INDICATOR	4.3.1.	Students describe sources of variation in organisms and their structures and relate the variations to survival. <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>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.4.	The continuity of life is sustained through reproduction and development.
PERFORMANCE INDICATOR	4.4.1.	Students observe and describe the variations in reproductive patterns of

		<p>organisms, including asexual and sexual reproduction.</p> <ul style="list-style-type: none"> <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>• 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> </ul>
PERFORMANCE INDICATOR	4.4.2.	<p>Students explain the role of sperm and egg cells in sexual reproduction.</p> <ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	4.4.3.	<p>Students observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants).</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>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.4.	<p>The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</p>
STRAND / PERFORMANCE INDICATOR	4.5.	<p>Organisms maintain a dynamic equilibrium that sustains life.</p>
PERFORMANCE INDICATOR	4.5.1.	<p>Students compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium.</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 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey</li> </ul>

		<ul style="list-style-type: none"> <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 / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.6.	Plants and animals depend on each other and their physical environment.
PERFORMANCE INDICATOR	4.6.1.	Students describe the flow of energy and matter through food chains and food webs. <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 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>• Teacher Resource CD: A Closer Look at Microbes</li> </ul>
PERFORMANCE INDICATOR	4.6.2.	Students provide evidence that green plants make food and explain the significance of this process to other organisms. <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction</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: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND / STANDARD	NY.4.	The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.7.	Human decisions and activities have had a profound impact on the physical and living environment.
PERFORMANCE INDICATOR	4.7.1.	Students describe how living things, including humans, depend upon the living and nonliving environment for their survival. <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 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 / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.1.	Systems Thinking: Through systems thinking, people can recognize the commonalities that exist among all systems and how parts of a system interrelate and combine to perform specific functions.
PERFORMANCE INDICATOR	6.1.2.	<p>Students identify common things that can be considered to be systems (e.g., a plant population, a subway system, human beings).</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>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.2.	Models: Models are simplified representations of objects, structures, or systems used in analysis, explanation, interpretation, or design.
PERFORMANCE INDICATOR	6.2.3.	<p>Students use different types of models, such as graphs, sketches, diagrams, and maps to represent various aspects of the real world.</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 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>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science,

		and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.3.	Magnitude and Scale: The grouping of magnitudes of size, time, frequency, and pressures or other units of measurement into a series of relative order provides a useful way to deal with the immense range and the changes in scale that affect the behavior and design of systems.
PERFORMANCE INDICATOR	6.3.1.	<p>Students provide examples of natural and manufactured things that belong to the same category yet have very different sizes, weights, ages, speeds, and other measurements.</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: 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>
PERFORMANCE INDICATOR	6.3.2.	<p>Students identify the biggest and the smallest values as well as the average value of a system when given information about its characteristics and behavior.</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 / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science,

		and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.4.	Equilibrium and Stability: Equilibrium is a state of stability due either to a lack of changes (static equilibrium) or a balance between opposing forces (dynamic equilibrium).
PERFORMANCE INDICATOR	6.4.1.	Students cite examples of systems in which some features stay the same while other features change. <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> </ul>
PERFORMANCE INDICATOR	6.4.2.	Students distinguish between reasons for stability - from lack of changes to changes that counterbalance one another to changes within cycles. <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> </ul>
STRAND / STANDARD	NY.6.	Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.5.	Patterns of Change: Identifying patterns of change is necessary for making predictions about future behavior and conditions.
PERFORMANCE INDICATOR	6.5.1.	Students use simple instruments to measure such quantities as distance, size, and weight and look for patterns in the data. <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>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<p><b>PERFORMANCE INDICATOR</b></p>	<p>6.5.2.</p>	<p>Students analyze data by making tables and graphs and looking for patterns of change.</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: Classifying Life</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<p><b>STRAND / STANDARD</b></p>	<p>NY.6.</p>	<p><b>Interconnectedness: Common Themes: Students will understand the relationships and common themes that connect mathematics, science,</b></p>

		and technology and apply the themes to these and other areas of learning.
STRAND / PERFORMANCE INDICATOR	6.6.	Optimization: In order to arrive at the best solution that meets criteria within constraints, it is often necessary to make trade-offs.
PERFORMANCE INDICATOR	6.6.1.	<p>Students determine the criteria and constraints and make trade-offs to determine the best decision.</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>
PERFORMANCE INDICATOR	6.6.2.	<p>Students use simple quantitative methods, such as ratios, to compare costs to benefits of a decision problem.</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 / STANDARD	NY.7.	Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.
STRAND / PERFORMANCE INDICATOR	7.1.	Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/technology/society, consumer decision making, design, and inquiry into phenomena.
PERFORMANCE INDICATOR	7.1.3.	Students design solutions to real-world problems of general social interest related to home, school, or community using scientific experimentation to inform the solution and applying mathematical concepts and reasoning to assist in developing

		<p>a solution.</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>
<p><b>PERFORMANCE INDICATOR</b></p>	<p><b>7.1.4.</b></p>	<p>Students describe and explain phenomena by designing and conducting investigations involving systematic observations, accurate measurements, and the identification and control of variables; by inquiring into relevant mathematical ideas; and by using mathematical and technological tools and procedures to assist in the investigation.</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</li> </ul>

		<p>Preference of Pill Bugs</p> <ul style="list-style-type: none"> <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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New York Core Curriculum  
Science  
Grade 9

STRAND / STANDARD	NY.1.	Earth Science: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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 / STANDARD	NY.7.	Earth Science: Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.
STRAND / PERFORMANCE INDICATOR	7.1.	Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/ technology/ society, consumer decision making, design, and inquiry into phenomena.
PERFORMANCE INDICATOR	7.1.4.	<p>Students explain and evaluate phenomena mathematically and scientifically by formulating a testable hypothesis, demonstrating the logical connections between the scientific concepts guiding the hypothesis and the design of an experiment, applying and inquiring into the mathematical ideas relating to investigation of phenomena, and using (and if needed, designing) technological tools and procedures to assist in the investigation and in the communication of results.</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 / STANDARD	NY.1.	Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.1.	Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.
PERFORMANCE INDICATOR	1.1.1.	Students elaborate on basic scientific and personal explanations of natural phenomena, and develop extended visual models and mathematical formulations to represent their thinking.

		<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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<p><b>PERFORMANCE INDICATOR</b></p>	<p>1.1.4.</p>	<p>Students coordinate explanations at different levels of scale, points of focus, and degrees of complexity and specificity and recognize the need for such alternative representations of the natural world.</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 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 6: Soil Survey</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.2.</b>	<b>Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.2.1.</b>	<p>Students devise ways of making observations to test proposed explanations.</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>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>PERFORMANCE INDICATOR</b>	<b>1.2.3.</b>	<p>Students develop and present proposals including formal hypotheses to test their explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.</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> </ul>

		<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 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>
PERFORMANCE INDICATOR	1.2.4.	<p>Students carry out a research plan for testing explanations, including selecting and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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 / STANDARD	NY.1.	Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE	1.3.	Scientific Inquiry: The observations made while testing proposed explanations, when analyzed using conventional and invented methods,

INDICATOR		provide new insights into phenomena.
PERFORMANCE INDICATOR	1.3.1.	<p>Students use various means of representing and organizing observations (e.g., diagrams, tables, charts, graphs, equations, matrices) and insightfully interpret the organized 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>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.3.2.	<p>Students apply statistical analysis techniques when appropriate to test if chance alone explains the result.</p> <ul style="list-style-type: none"> <li>• Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement</li> </ul>
PERFORMANCE INDICATOR	1.3.3.	<p>Students assess correspondence between the predicted result contained in the hypothesis and the actual result and reach a conclusion as to whether or not the explanation on which the prediction was based is supported.</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> </ul>

		<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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.3.4.	<p>Students based on the results of the test and through public discussion, they revise the explanation and contemplate additional research.</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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND / STANDARD	NY.1.	Biology: The Living Environment: Laboratory Checklist: Biology students need to develop proficiency in certain laboratory or technical skills in order to successfully conduct investigations in biological science.
STRAND /	1.1.	During the school year, teachers should ensure that students develop

PERFORMANCE INDICATOR		the capacity to successfully perform each of the laboratory skills.
PERFORMANCE INDICATOR	1.1.1.	<p>Student follows safety rules in the laboratory; selects and uses correct instruments; uses graduated cylinders to measure volume; uses metric ruler to measure length; uses thermometer to measure temperature; and uses triple-beam or electronic balance to measure mass.</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>
PERFORMANCE INDICATOR	1.1.2.	<p>Student uses a compound microscope/stereoscope effectively to see specimens clearly, using different magnifications; identifies and compares parts of a variety of cells; compares relative sizes of cells and organelles; and prepares wet-mount slides and uses appropriate staining techniques.</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 3 Lab 5 Activity 5: Microlife Survey</li> </ul>
PERFORMANCE INDICATOR	1.1.3.	<p>Student designs and uses dichotomous keys to identify specimens.</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 3 Lab 5 Activity 1: Site Survey</li> <li>• Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey</li> </ul>

		<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>• Teacher Resource CD: A Closer Look at Animals</li> <li>• Teacher Resource CD: A Closer Look at Plants</li> <li>• Teacher Resource CD: Classifying Life</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.1.4.	<p>Student makes observations of biological processes.</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>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.1.8.	<p>Student designs and carries out a controlled, scientific experiment based on biological processes.</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>
PERFORMANCE INDICATOR	1.1.10.	<p>Student differentiates between independent and dependent variables.</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> </ul>
PERFORMANCE INDICATOR	1.1.11.	<p>Student identifies the control group and/or controlled variables.</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> </ul>
PERFORMANCE INDICATOR	1.1.12.	<p>Student collects, organizes, and analyzes data, using a computer and/or other laboratory equipment.</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> </ul>

		<ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	1.1.13.	<p>Student organizes data through the use of data tables and graphs.</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 3 Lab 5 Activity 1: Site Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
PERFORMANCE INDICATOR	1.1.14.	<p>Student analyzes results from observations/expressed 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> </ul>

		<ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	1.1.15.	<p>Student formulates an appropriate conclusion or generalization from the result of an experiment.</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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.1.	Living things are both similar to and different from each other and nonliving things.
PERFORMANCE INDICATOR	4.1.1.	<p>Students explain how diversity of populations within ecosystems relates to the stability of ecosystems.</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>• 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>
PERFORMANCE	4.1.3.	Students explain how a one-celled organism is able to function despite lacking the

INDICATOR		<p>levels of organization present in more complex organisms.</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>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.4.	The continuity of life is sustained through reproduction and development.
PERFORMANCE INDICATOR	4.4.1.	<p>Students explain how organisms, including humans, reproduce their own kind.</p> <ul style="list-style-type: none"> <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>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> </ul>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.5.	Organisms maintain a dynamic equilibrium that sustains life.
PERFORMANCE INDICATOR	4.5.2.	<p>Students explain disease as a failure of homeostasis.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: A Closer Look at Microbes</li> </ul>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.6.	Plants and animals depend on each other and their physical environment.
PERFORMANCE INDICATOR	4.6.3.	<p>Students explain how the living and nonliving environments change over time and respond to disturbances.</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> </ul>

		<ul style="list-style-type: none"> <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>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.7.	Human decisions and activities have had a profound impact on the physical and living environment.
PERFORMANCE INDICATOR	4.7.2.	<p>Students explain the impact of technological development and growth in the human population on the living and non-living environment.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND / STANDARD	NY.1.	Chemistry: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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</li> </ul>

		<p>Survey</p> <ul style="list-style-type: none"> <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>
PERFORMANCE INDICATOR	1.2.3.	<p>Students develop and present proposals including formal hypotheses to test their explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.</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>
PERFORMANCE INDICATOR	1.2.4.	<p>Students carry out a research plan for testing explanations, including selecting and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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</li> </ul>

		<p>Energy to Reproduction</p> <ul style="list-style-type: none"> <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 / STANDARD</b>	<b>NY.7.</b>	<b>Chemistry: Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>7.1.</b>	<b>Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/ technology/ society, consumer decision making, design, and inquiry into phenomena.</b>
<b>PERFORMANCE INDICATOR</b>	<b>7.1.4.</b>	<p>Students explain and evaluate phenomena mathematically and scientifically by formulating a testable hypothesis, demonstrating the logical connections between the scientific concepts guiding the hypothesis and the design of an experiment, applying and inquiring into the mathematical ideas relating to investigation of phenomena, and using (and if needed, designing) technological tools and procedures to assist in the investigation and in the communication of results.</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> </ul>

		<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 / STANDARD	NY.1.	Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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 / STANDARD	NY.1.	Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.4.	Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.
PERFORMANCE INDICATOR	1.4.2.	Students clarify ideas through reasoning, research, and discussion.

		<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 / STANDARD</b>	<b>NY.1.</b>	<b>Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.5.</b>	<b>Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.5.3.</b>	<p>Students develop and present proposals including formal hypotheses to test their explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.</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>• Teacher Resource CD: Classifying Life</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>PERFORMANCE INDICATOR</b>	<b>1.5.4.</b>	<p>Students carry out a research plan for testing explanations, including selecting and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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> </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>• 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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New York Core Curriculum  
Science  
Grade 10

<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Earth Science: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.2.</b>	<b>Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.2.1.</b>	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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</li> </ul>

		<p>Behavior of Pill Bugs</p> <ul style="list-style-type: none"> <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 / STANDARD</b>	<b>NY.7.</b>	<b>Earth Science: Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>7.1.</b>	<b>Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/ technology/ society, consumer decision making, design, and inquiry into phenomena.</b>
<b>PERFORMANCE INDICATOR</b>	<b>7.1.4.</b>	<p>Students explain and evaluate phenomena mathematically and scientifically by formulating a testable hypothesis, demonstrating the logical connections between the scientific concepts guiding the hypothesis and the design of an experiment, applying and inquiring into the mathematical ideas relating to investigation of phenomena, and using (and if needed, designing) technological tools and procedures to assist in the investigation and in the communication of results.</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> </ul>

		<ul style="list-style-type: none"> <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 / STANDARD</b>	<b>NY.1.</b>	<b>Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.1.</b>	<b>Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.1.1.</b>	<p>Students elaborate on basic scientific and personal explanations of natural phenomena, and develop extended visual models and mathematical formulations to represent their thinking.</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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>PERFORMANCE INDICATOR</b>	<b>1.1.4.</b>	<p>Students coordinate explanations at different levels of scale, points of focus, and degrees of complexity and specificity and recognize the need for such alternative representations of the natural world.</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> </ul>

		<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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND / STANDARD</b>	NY.1.	Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
<b>STRAND / PERFORMANCE INDICATOR</b>	1.2.	Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.
<b>PERFORMANCE INDICATOR</b>	1.2.1.	<p>Students devise ways of making observations to test proposed explanations.</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>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>PERFORMANCE</b>	1.2.3.	Students develop and present proposals including formal hypotheses to test their

INDICATOR		<p>explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.</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 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>
PERFORMANCE INDICATOR	1.2.4.	<p>Students carry out a research plan for testing explanations, including selecting and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Biology: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.3.</b>	<b>Scientific Inquiry: The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.1.</b>	<p>Students use various means of representing and organizing observations (e.g., diagrams, tables, charts, graphs, equations, matrices) and insightfully interpret the organized 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>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> <li>Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>PERFORMANCE INDICATOR</b>	<b>1.3.2.</b>	<p>Students apply statistical analysis techniques when appropriate to test if chance alone explains the result.</p> <ul style="list-style-type: none"> <li>Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting</li> </ul>

		and Measurement
PERFORMANCE INDICATOR	1.3.3.	<p>Students assess correspondence between the predicted result contained in the hypothesis and the actual result and reach a conclusion as to whether or not the explanation on which the prediction was based is supported.</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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.3.4.	<p>Students based on the results of the test and through public discussion, they revise the explanation and contemplate additional research.</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> </ul>

		<ul style="list-style-type: none"> <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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND / STANDARD</b>	<b>NY.1.</b>	<b>Biology: The Living Environment: Laboratory Checklist: Biology students need to develop proficiency in certain laboratory or technical skills in order to successfully conduct investigations in biological science.</b>
<b>STRAND / PERFORMANCE INDICATOR</b>	<b>1.1.</b>	<b>During the school year, teachers should ensure that students develop the capacity to successfully perform each of the laboratory skills.</b>
<b>PERFORMANCE INDICATOR</b>	<b>1.1.1.</b>	<p>Student follows safety rules in the laboratory: selects and uses correct instruments; uses graduated cylinders to measure volume; uses metric ruler to measure length; uses thermometer to measure temperature; and uses triple-beam or electronic balance to measure mass.</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>PERFORMANCE INDICATOR</b>	<b>1.1.2.</b>	Student uses a compound microscope/stereoscope effectively to see specimens clearly, using different magnifications; identifies and compares parts of a variety of cells; compares relative sizes of cells and organelles; and prepares wet-mount slides and uses appropriate staining techniques.

		<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 3 Lab 5 Activity 5: Microlife Survey</li> </ul>
PERFORMANCE INDICATOR	1.1.3.	<p>Student designs and uses dichotomous keys to identify specimens.</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 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 Plants</li> <li>• Teacher Resource CD: Classifying Life</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.1.4.	<p>Student makes observations of biological processes.</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>Virtual Laboratory: Classifying Living Organisms</li> </ul>
PERFORMANCE INDICATOR	1.1.8.	<p>Student designs and carries out a controlled, scientific experiment based on biological processes.</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>
PERFORMANCE INDICATOR	1.1.10.	<p>Student differentiates between independent and dependent variables.</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> </ul>
PERFORMANCE INDICATOR	1.1.11.	<p>Student identifies the control group and/or controlled variables.</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> </ul>
PERFORMANCE	1.1.12.	<p>Student collects, organizes, and analyzes data, using a computer and/or other</p>

INDICATOR		<p>laboratory equipment.</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>
PERFORMANCE INDICATOR	1.1.13.	<p>Student organizes data through the use of data tables and graphs.</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 3 Lab 5 Activity 1: Site Survey</li> <li>• Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
PERFORMANCE INDICATOR	1.1.14.	<p>Student analyzes results from observations/expressed 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</li> </ul>

		<p>Energy to Reproduction</p> <ul style="list-style-type: none"> <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>PERFORMANCE INDICATOR</b>	<b>1.1.15.</b>	<p>Student formulates an appropriate conclusion or generalization from the result of an experiment.</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 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 6: Soil Survey</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<b>STRAND / STANDARD</b>	<b>NY.4.</b>	<b>Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.</b>
<b>STRAND / PERFORMANCE</b>	<b>4.1.</b>	<b>Living things are both similar to and different from each other and nonliving things.</b>

INDICATOR		
PERFORMANCE INDICATOR	4.1.1.	<p>Students explain how diversity of populations within ecosystems relates to the stability of ecosystems.</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>• 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>
PERFORMANCE INDICATOR	4.1.3.	<p>Students explain how a one-celled organism is able to function despite lacking the levels of organization present in more complex organisms.</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>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.4.	The continuity of life is sustained through reproduction and development.
PERFORMANCE INDICATOR	4.4.1.	<p>Students explain how organisms, including humans, reproduce their own kind.</p> <ul style="list-style-type: none"> <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>• 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> </ul>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.5.	Organisms maintain a dynamic equilibrium that sustains life.
PERFORMANCE INDICATOR	4.5.2.	<p>Students explain disease as a failure of homeostasis.</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: A Closer Look at Microbes</li> </ul>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

STRAND / PERFORMANCE INDICATOR	4.6.	Plants and animals depend on each other and their physical environment.
PERFORMANCE INDICATOR	4.6.3.	<p>Students explain how the living and nonliving environments change over time and respond to disturbances.</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>
STRAND / STANDARD	NY.4.	Biology: The Living Environment: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
STRAND / PERFORMANCE INDICATOR	4.7.	Human decisions and activities have had a profound impact on the physical and living environment.
PERFORMANCE INDICATOR	4.7.2.	<p>Students explain the impact of technological development and growth in the human population on the living and non-living environment.</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing</li> </ul>
STRAND / STANDARD	NY.1.	Chemistry: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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> </ul>

		<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>
PERFORMANCE INDICATOR	1.2.3.	<p>Students develop and present proposals including formal hypotheses to test their explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.</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>
PERFORMANCE	1.2.4.	Students carry out a research plan for testing explanations, including selecting

INDICATOR		<p>and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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 / STANDARD	NY.7.	Chemistry: Interdisciplinary Problem Solving: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.
STRAND / PERFORMANCE INDICATOR	7.1.	Connections: The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/ technology/ society, consumer decision making, design, and inquiry into phenomena.
PERFORMANCE INDICATOR	7.1.4.	<p>Students explain and evaluate phenomena mathematically and scientifically by formulating a testable hypothesis, demonstrating the logical connections between the scientific concepts guiding the hypothesis and the design of an experiment, applying and inquiring into the mathematical ideas relating to investigation of phenomena, and using (and if needed, designing) technological tools and procedures to assist in the investigation and in the communication of results.</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> </ul>

		<ul style="list-style-type: none"> <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 / STANDARD	NY.1.	Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.2.	Mathematical Analysis: Deductive and inductive reasoning are used to reach mathematical conclusions.
PERFORMANCE INDICATOR	1.2.1.	<p>Students use deductive reasoning to construct and evaluate conjectures and arguments, recognizing that patterns and relationships in mathematics assist them in arriving at these conjectures and arguments.</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>

		<ul style="list-style-type: none"> <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 / STANDARD	NY.1.	Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.4.	Scientific Inquiry: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.
PERFORMANCE INDICATOR	1.4.2.	<p>Students clarify ideas through reasoning, research, and discussion.</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 / STANDARD	NY.1.	Physics: Analysis, Inquiry and Design: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.
STRAND / PERFORMANCE INDICATOR	1.5.	Scientific Inquiry: Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.
PERFORMANCE INDICATOR	1.5.3.	Students develop and present proposals including formal hypotheses to test their explanations, i.e., they predict what should be observed under specified conditions if the explanation is true.

		<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>• Teacher Resource CD: Classifying Life</li> <li>• Virtual Laboratory: Classifying Living Organisms</li> </ul>
<p><b>PERFORMANCE INDICATOR</b></p>	<p><b>1.5.4.</b></p>	<p>Students carry out a research plan for testing explanations, including selecting and developing techniques, acquiring and building apparatus, and recording observations as necessary.</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>