

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

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New Mexico Standards
Science
Grade 7

STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-A.	Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.1a.	<p>Use a variety of print and web resources to collect information, inform investigations, and answer a scientific question or hypothesis.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms

STRAND / CONTENT STANDARD	NM.1.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-B.	Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-B.2a.	<p>Critique procedures used to investigate a hypothesis.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-B.3a.	<p>Analyze and evaluate scientific explanations.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.1.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-C.	Use mathematical ideas, tools, and techniques to understand scientific knowledge.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.2a.	<p>Use mathematical expressions to represent data and observations collected in scientific investigations.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland

		<p>Survey</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.3a.	<p>Select and use an appropriate model to examine a phenomenon.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Physical Science: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
BENCHMARK / STANDARD	II-A.	Know the forms and properties of matter and how matter interacts.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.1a.	<p>Explain how matter is transferred from one organism to another and between organisms and their environment (e.g., consumption, the water cycle, the carbon cycle, the nitrogen cycle).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland

		<p>Survey</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Physical Science: Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.
BENCHMARK / STANDARD	II-B.	Explain the physical processes involved in the transfer, change, and conservation of energy.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.1a.	<p>Know how various forms of energy are transformed through organisms and ecosystems, including: sunlight and photosynthesis; energy transformation in living systems (e.g., cellular processes changing chemical energy to heat and motion); and effect of mankind's use of energy and other activities on living systems (e.g., global warming, water quality).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-A.	Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.1a.	<p>Populations and Ecosystems: Identify the living and nonliving parts of an ecosystem and describe the relationships among these components.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.2a.	<p>Populations and Ecosystems: Explain biomes (i.e., aquatic, desert, rainforest, grasslands, tundra) and describe the New Mexico biome.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River

		<p>Survey</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.3a.	<p>Populations and Ecosystems: Explain how individuals of species that exist together interact with their environment to create an ecosystem (e.g., populations, communities, niches, habitats, food webs).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.4a.	<p>Populations and Ecosystems: Explain the conditions and resources needed to sustain life in specific ecosystems.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.6a.	<p>Biodiversity: Understand how diverse species fill all niches in an ecosystem.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.7a.	<p>Biodiversity: Know how to classify organisms: domain, kingdom, phylum, class, order, family, genus, and species.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying

		<p>Life Forms</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-B.	Understand how traits are passed from one generation to the next and how species evolve.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.1a.	<p>Reproduction: Know that reproduction is a characteristic of all living things and is essential to the continuation of a species.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.2a.	<p>Reproduction: Identify the differences between sexual and asexual reproduction.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.3a.	<p>Reproduction: Know that, in sexual reproduction, an egg and sperm unite to begin the development of a new individual.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.4a.	<p>Reproduction: Know that organisms that sexually reproduce fertile offspring are members of the same species.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.10a.	<p>Biological Evolution: Identify adaptations that favor the survival of organisms in their environments (e.g., camouflage, shape of beak).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life

		<p>Cycle</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.12a.	<p>Biological Evolution: Explain how species adapt to changes in the environment or become extinct and that extinction of species is common in the history of living things.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-C.	Understand the structure of organisms and the function of cells in living systems.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-C.1a.	<p>Structure of Organisms: Understand that organisms are composed of cells and identify unicellular and multicellular organisms.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-C.5a.	<p>Function of Cells: Describe how some cells respond to stimuli (e.g., light, heat, pressure, gravity).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs

- Teacher Resource CD: A Closer Look at Plants

**New Mexico Standards
Science
Grade 8**

STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-A.	Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.1a.	<p>Evaluate the accuracy and reproducibility of data and observations.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.2a.	<p>Use a variety of technologies to gather, analyze and interpret scientific data.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-B.	Understand the processes of scientific investigation and how scientific inquiry results in scientific knowledge.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-B.1a.	<p>Examine alternative explanations for observations.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.2a.</p>	<p>Describe ways in which science differs from other ways of knowing and from other bodies of knowledge (e.g., experimentation, logical arguments, skepticism).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.3a.</p>	<p>Know that scientific knowledge is built on questions posed as testable hypotheses, which are tested until the results are accepted by peers.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-C.	Use mathematical ideas, tools, and techniques to understand scientific knowledge.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.1a.	<p>Use mathematical expressions and techniques to explain data and observations and to communicate findings (e.g., formulas and equations, significant figures, graphing, sampling, estimation, mean).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental

		<p>Preference of Pill Bugs</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-A.	Explain the diverse structures and functions of living things and the complex relationships between living things and their environments.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.1a.	<p>Describe how matter moves through ecosystems (e.g., water cycle, carbon cycle).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.2a.	<p>Describe how energy flows through ecosystems (e.g., sunlight, green plants, food for animals).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-B.	Understand how traits are passed from one generation to the next and how species evolve.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.1a.	<p>Understand that living organisms are made mostly of molecules consisting of a limited number of elements (e.g., carbon, hydrogen, nitrogen, oxygen).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-C.	Understand the structure of organisms and the function of cells in living systems.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-C.2a.	<p>Explain that photosynthesis in green plants captures the energy from the sun and stores it chemically.</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
STRAND / CONTENT STANDARD	NM.II.	Content of Science: Earth and Space Science: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
BENCHMARK / STANDARD	II-B.	Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth's systems.

PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.2a.	Understand the unique role water plays on Earth, including: ability to remain liquid at most Earth temperatures; properties of water related to processes in the water cycle (evaporation, condensation, precipitation, surface run-off, percolation); dissolving of minerals and gases and transport to the oceans; fresh and salt water in oceans, rivers, lakes, and glaciers; reactant in photosynthesis. <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
STRAND / CONTENT STANDARD	NM.III.	Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.
BENCHMARK / STANDARD	III-A.	Explain how scientific discoveries and inventions have changed individuals and societies.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.1a.	Analyze the interrelationship between science and technology (e.g., germ theory, vaccines). <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

**New Mexico Standards
Science
Grade 9**

STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-A.	Use accepted scientific methods to collect, analyze, and interpret data and observations and to design and conduct scientific investigations and communicate results.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.1a.	Describe the essential components of an investigation, including appropriate methodologies, proper equipment, and safety precautions. <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.2a.</p>	<p>Design and conduct scientific investigations that include: testable hypotheses; controls and variables; methods to collect, analyze, and interpret data; results that address hypotheses being investigated; predictions based on results; re-evaluation of hypotheses and additional experimentation as necessary; error analysis.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.3a.</p>	<p>Use appropriate technologies to collect, analyze, and communicate scientific data (e.g., computers, calculators, balances, microscopes).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.4a.</p>	<p>Convey results of investigations using scientific concepts, methodologies, and expressions, including: scientific language and symbols; diagrams, charts, and other data displays; mathematical expressions and processes (e.g., mean, median, slope, proportionality); clear, logical, and concise communication; reasoned arguments.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental

		<p>Design</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.5a.	<p>Understand how scientific theories are used to explain and predict natural phenomena (e.g., plate tectonics, ocean currents, structure of atom).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-B.	Understand that scientific processes produce scientific knowledge that is continually evaluated, validated, revised, or rejected.

<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.2a.</p>	<p>Use scientific reasoning and valid logic to recognize: faulty logic; cause and effect; the difference between observation and unsubstantiated inferences and conclusions; potential bias.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.3a.</p>	<p>Understand how new data and observations can result in new scientific knowledge.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.6a.</p>	<p>Examine the scientific processes and logic used in investigations of past events (e.g., using data from crime scenes, fossils), investigations that can be planned in advance but are only done once (e.g., expensive or time-consuming experiments such as medical clinical trials), and investigations of phenomena that can be repeated easily and frequently.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.1.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-C.	Use mathematical concepts, principles, and expressions to analyze data, develop models, understand patterns and relationships, evaluate findings, and draw conclusions.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.1a.	<p>Create multiple displays of data to analyze and explain the relationships in scientific investigations.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental

		<p>Design</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.2a.	<p>Use mathematical models to describe, explain, and predict natural phenomena.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.5a.	<p>Use mathematics to express and establish scientific relationships (e.g., scientific notation, vectors, dimensional analysis).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-A.	Understand how the survival of species depends on biodiversity and on complex interactions, including the cycling of matter and the flow of energy.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.1a.	<p>Ecosystems: Know that an ecosystem is complex and may exhibit fluctuations around a steady state or may evolve over time.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey

		<ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.2a.	<p>Ecosystems: Describe how organisms cooperate and compete in ecosystems (e.g., producers, decomposers, herbivores, carnivores, omnivores, predator-prey, symbiosis, mutualism).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.3a.	<p>Ecosystems: Understand and describe how available resources limit the amount of life an ecosystem can support (e.g., energy, water, oxygen, nutrients).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.5a.	<p>Energy Flow in the Environment: Explain how matter and energy flow through biological systems (e.g., organisms, communities, ecosystems), and how the total amount of matter and energy is conserved but some energy is always released as heat to the environment.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey

		<ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.7a.	<p>Energy Flow in the Environment: Understand and explain the principles of photosynthesis (i.e., chloroplasts in plants convert light energy, carbon dioxide, and water into chemical energy).</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.8a.	<p>Biodiversity: Understand and explain the hierarchical classification scheme (i.e., domain, kingdom, phylum, class, order, family, genus, species), including: classification of an organism into a category; similarity inferred from molecular structure (DNA) closely matching classification based on anatomical similarities; similarities of organisms reflecting evolutionary relationships.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.9a.	<p>Biodiversity: Understand variation within and among species, including: mutations and genetic drift; factors affecting the survival of an organism; natural selection.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence

		of living things and their environments.
BENCHMARK / STANDARD	II-B.	Understand the genetic basis for inheritance and the basic concepts of biological evolution.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.2a.	<p>Genetics: Use appropriate vocabulary to describe inheritable traits (i.e., genotype, phenotype).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.6a.	<p>Genetics: Understand the principles of sexual and asexual reproduction, including meiosis and mitosis.</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.8a.	<p>Biological Evolution: Describe the evidence for the first appearance of life on Earth as one-celled organisms, over 3.5 billion years ago, and for the later appearance of a diversity of multicellular organisms over millions of years.</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.9a.	<p>Biological Evolution: Critically analyze the data and observations supporting the conclusion that the species living on Earth today are related by descent from the ancestral one-celled organisms.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.10a.	<p>Biological Evolution: Understand the data, observations, and logic supporting the conclusion that species today evolved from earlier, distinctly different species, originating from the ancestral one-celled organisms.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.13a.	<p>Biological Evolution: Analyze how evolution by natural selection and other mechanisms explains many phenomena including the fossil record of ancient life forms and similarities (both physical and molecular) among different species.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK /	II-C.	Understand the characteristics, structures, and functions of cells.

STANDARD		
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-C.2a.	<p>Structure and Function: Know that specialized structures inside cells in most organisms carry out different functions, including: parts of a cell and their functions (e.g., nucleus, chromosomes, plasma, and mitochondria); storage of genetic material in DNA; similarities and differences between plant and animal cells; prokaryotic and eukaryotic cells.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Earth and Space Science: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
BENCHMARK / STANDARD	II-B.	Examine the scientific theories of the origin, structure, energy, and evolution of Earth and its atmosphere, and their interconnections.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.11a.	<p>Geochemical Cycles: Explain how layers of the atmosphere (e.g., ozone, ionosphere) change naturally and artificially.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey
STRAND / CONTENT STANDARD	NM.III.	Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.
BENCHMARK / STANDARD	III-A.	Examine and analyze how scientific discoveries and their applications affect the world, and explain how societies influence scientific investigations and applications.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.1a.	<p>Science and Technology: Know how science enables technology but also constrains it, and recognize the difference between real technology and science fiction (e.g., rockets vs. antigravity machines; nuclear reactors vs. perpetual-motion machines; medical X-rays vs. Star-Trek tricorders).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.2a.	<p>Science and Technology: Understand how advances in technology enable further advances in science (e.g., microscopes and cellular structure; telescopes and understanding of the universe).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.3a.	<p>Science and Technology: Evaluate the influences of technology on society (e.g., communications, petroleum, transportation, nuclear energy, computers, medicine, genetic engineering) including both desired and undesired effects, and including some historical examples (e.g., the wheel, the plow, the printing press, the lightning rod).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.4a.	<p>Science and Technology: Understand the scientific foundations of common technologies (e.g., kitchen appliances, radio, television, aircraft, rockets, computers, medical X-rays, selective breeding, fertilizers and pesticides, agricultural equipment).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.10a.	<p>Science and Society: Describe major historical changes in scientific perspectives (e.g., atomic theory, germs, cosmology, relativity, plate tectonics, evolution) and the experimental observations that triggered them.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.18a.	<p>Science and Individuals: Understand that scientists have characteristics in common with other individuals (e.g., employment and career needs, curiosity, desire to perform public service, greed, preconceptions and biases, temptation to be unethical, core values including honesty and openness).</p> <ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life

**New Mexico Standards
Science
Grade 10**

STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
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BENCHMARK / STANDARD	I-A.	Use accepted scientific methods to collect, analyze, and interpret data and observations and to design and conduct scientific investigations and communicate results.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.1a.	<p>Describe the essential components of an investigation, including appropriate methodologies, proper equipment, and safety precautions.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-A.2a.	<p>Design and conduct scientific investigations that include: testable hypotheses; controls and variables; methods to collect, analyze, and interpret data; results that address hypotheses being investigated; predictions based on results; re-evaluation of hypotheses and additional experimentation as necessary; error analysis.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and

		<p>Pollination</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.3a.</p>	<p>Use appropriate technologies to collect, analyze, and communicate scientific data (e.g., computers, calculators, balances, microscopes).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife

		<p>Survey</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.4a.</p>	<p>Convey results of investigations using scientific concepts, methodologies, and expressions, including: scientific language and symbols; diagrams, charts, and other data displays; mathematical expressions and processes (e.g., mean, median, slope, proportionality); clear, logical, and concise communication; reasoned arguments.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-A.5a.</p>	<p>Understand how scientific theories are used to explain and predict natural phenomena (e.g., plate tectonics, ocean currents, structure of atom).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.1.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-B.	Understand that scientific processes produce scientific knowledge that is continually evaluated, validated, revised, or rejected.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-B.2a.	<p>Use scientific reasoning and valid logic to recognize: faulty logic; cause and effect; the difference between observation and unsubstantiated inferences and conclusions; potential bias.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.3a.</p>	<p>Understand how new data and observations can result in new scientific knowledge.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life
<p>PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY</p>	<p>I-B.6a.</p>	<p>Examine the scientific processes and logic used in investigations of past events (e.g., using data from crime scenes, fossils), investigations that can be planned in advance but are only done once (e.g., expensive or time-consuming experiments such as medical clinical trials), and investigations of phenomena that can be repeated easily and frequently.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms

STRAND / CONTENT STANDARD	NM.I.	Scientific Thinking and Practice: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
BENCHMARK / STANDARD	I-C.	Use mathematical concepts, principles, and expressions to analyze data, develop models, understand patterns and relationships, evaluate findings, and draw conclusions.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.1a.	<p>Create multiple displays of data to analyze and explain the relationships in scientific investigations.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	I-C.2a.	<p>Use mathematical models to describe, explain, and predict natural phenomena.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement
PERFORMANCE STANDARD / BENCHMARK /	I-C.5a.	Use mathematics to express and establish scientific relationships (e.g., scientific notation, vectors, dimensional analysis).

PROFICIENCY		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-A.	Understand how the survival of species depends on biodiversity and on complex interactions, including the cycling of matter and the flow of energy.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.1a.	<p>Ecosystems: Know that an ecosystem is complex and may exhibit fluctuations around a steady state or may evolve over time.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.2a.	<p>Ecosystems: Describe how organisms cooperate and compete in ecosystems (e.g., producers, decomposers, herbivores, carnivores, omnivores, predator-prey, symbiosis, mutualism).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.3a.	<p>Ecosystems: Understand and describe how available resources limit the amount of life an ecosystem can support (e.g., energy, water, oxygen, nutrients).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for

		<p>Bacteria and Fungi</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.5a.	<p>Energy Flow in the Environment: Explain how matter and energy flow through biological systems (e.g., organisms, communities, ecosystems), and how the total amount of matter and energy is conserved but some energy is always released as heat to the environment.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.7a.	<p>Energy Flow in the Environment: Understand and explain the principles of photosynthesis (i.e., chloroplasts in plants convert light energy, carbon dioxide, and water into chemical energy).</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.8a.	<p>Biodiversity: Understand and explain the hierarchical classification scheme (i.e., domain, kingdom, phylum, class, order, family, genus, species), including: classification of an organism into a category; similarity inferred from molecular structure (DNA) closely matching classification based on anatomical similarities; similarities of organisms reflecting evolutionary relationships.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals

		<ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-A.9a.	<p>Biodiversity: Understand variation within and among species, including: mutations and genetic drift; factors affecting the survival of an organism; natural selection.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-B.	Understand the genetic basis for inheritance and the basic concepts of biological evolution.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.2a.	<p>Genetics: Use appropriate vocabulary to describe inheritable traits (i.e., genotype, phenotype).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest

		<p>(Wooded Area) Survey</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.6a.	<p>Genetics: Understand the principles of sexual and asexual reproduction, including meiosis and mitosis.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.8a.	<p>Biological Evolution: Describe the evidence for the first appearance of life on Earth as one-celled organisms, over 3.5 billion years ago, and for the later appearance of a diversity of multicellular organisms over millions of years.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.9a.	<p>Biological Evolution: Critically analyze the data and observations supporting the conclusion that the species living on Earth today are related by descent from the ancestral one-celled organisms.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife

		<p>Survey</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.10a.	<p>Biological Evolution: Understand the data, observations, and logic supporting the conclusion that species today evolved from earlier, distinctly different species, originating from the ancestral one-celled organisms.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.13a.	<p>Biological Evolution: Analyze how evolution by natural selection and other mechanisms explains many phenomena including the fossil record of ancient life forms and similarities (both physical and molecular) among different species.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Life Science: Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.
BENCHMARK / STANDARD	II-C.	Understand the characteristics, structures, and functions of cells.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-C.2a.	<p>Structure and Function: Know that specialized structures inside cells in most organisms carry out different functions, including: parts of a cell and their functions (e.g., nucleus, chromosomes, plasma, and mitochondria); storage of genetic material in DNA; similarities and differences between plant and animal cells; prokaryotic and eukaryotic cells.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
STRAND / CONTENT STANDARD	NM.II.	The Content of Science: Earth and Space Science: Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems.
BENCHMARK / STANDARD	II-B.	Examine the scientific theories of the origin, structure, energy, and evolution of Earth and its atmosphere, and their interconnections.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	II-B.11a.	<p>Geochemical Cycles: Explain how layers of the atmosphere (e.g., ozone, ionosphere) change naturally and artificially.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey
STRAND / CONTENT STANDARD	NM.III.	Science and Society: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.
BENCHMARK /	III-A.	Examine and analyze how scientific discoveries and their

STANDARD		applications affect the world, and explain how societies influence scientific investigations and applications.
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.1a.	<p>Science and Technology: Know how science enables technology but also constrains it, and recognize the difference between real technology and science fiction (e.g., rockets vs. antigravity machines; nuclear reactors vs. perpetual-motion machines; medical X-rays vs. Star-Trek tricorders).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.2a.	<p>Science and Technology: Understand how advances in technology enable further advances in science (e.g., microscopes and cellular structure; telescopes and understanding of the universe).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.3a.	<p>Science and Technology: Evaluate the influences of technology on society (e.g., communications, petroleum, transportation, nuclear energy, computers, medicine, genetic engineering) including both desired and undesired effects, and including some historical examples (e.g., the wheel, the plow, the printing press, the lightning rod).</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.4a.	<p>Science and Technology: Understand the scientific foundations of common technologies (e.g., kitchen appliances, radio, television, aircraft, rockets, computers, medical X-rays, selective breeding, fertilizers and pesticides, agricultural equipment).</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.10a.	<p>Science and Society: Describe major historical changes in scientific perspectives (e.g., atomic theory, germs, cosmology, relativity, plate tectonics, evolution) and the experimental observations that triggered them.</p> <ul style="list-style-type: none"> Teacher Resource CD: Classifying Life
PERFORMANCE STANDARD / BENCHMARK / PROFICIENCY	III-A.18a.	<p>Science and Individuals: Understand that scientists have characteristics in common with other individuals (e.g., employment and career needs, curiosity, desire to perform public service, greed, preconceptions and biases, temptation to be unethical, core values including honesty and openness).</p> <ul style="list-style-type: none"> Teacher Resource CD: Classifying Life

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