

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

Frey Scientific
 80 Northwest Boulevard
 Nashua, NH 03063-4067
 1-800-225-3739
 www.freyscientific.com
 www.freyscientific.com/inquiryinvestigations

Alabama Courses of Study
Science
Grade 7

STANDARD	AL. 1.	Life Science - Students will:
OBJECTIVE	1.1.	<p>Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment.</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 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 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site 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
OBJECTIVE	1.1.b.	<p>Additional Minimum Content: Predicting how an organism's behavior impacts 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 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
OBJECTIVE	1.1.c.	<p>Additional Minimum Content: Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and effects on other organisms</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 • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes

		<ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	1.2.b.	<p>Additional Minimum Content: Identifying cells as prokaryotic or eukaryotic</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
OBJECTIVE	1.4.	<p>Describe organisms in the six-kingdom classification system by their characteristics.</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: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	1.4.a.	<p>Additional Minimum Content: Recognizing genus and species as components of a scientific name</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 • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
<p>OBJECTIVE</p>	<p>1.4.b.</p>	<p>Additional Minimum Content: Identifying contributions of Aristotle and Linnaeus to the early history of taxonomy</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

		<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 Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	1.5.	<p>Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development.</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 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 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 • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	1.5.a.	<p>Additional Minimum Content: Describing the processes of photosynthesis and cellular respiration</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	1.7.	<p>Describe biotic and abiotic factors in the environment. Examples: biotic - plants, animals; abiotic - climate, water, soil</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
OBJECTIVE	1.7.a.	<p>Additional Minimum Content: Classifying organisms as autotrophs or heterotrophs</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 3: Redirecting Energy to

		<p>Reproduction</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	1.7.b.	<p>Additional Minimum Content: Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids</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 • Teacher Resource CD: A Closer Look at Microbes

**Alabama Courses of Study
Science
Grade 8**

STANDARD	AL.1.	Physical Science - Students will:
OBJECTIVE	1.1.b.	<p>Additional Minimum Content: Identifying controls and variables in a scientific investigation</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
OBJECTIVE	1.1.e.	<p>Additional Minimum Content: Identifying appropriate laboratory glassware, balances, time measuring equipment, and optical instruments used to conduct an investigation</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 • Virtual Laboratory: Classifying Living Organisms
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**Alabama Courses of Study
Science
Grade 9**

STANDARD	AL.1.	Physical Science Core - Students will:
OBJECTIVE	1.8.b.	<p>Additional Minimum Content: Describing the flow of thermal energy between two samples of matter</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Virtual Laboratory: Classifying Living Organisms
STANDARD	AL.2.	Biology Core - Students will:
OBJECTIVE	2.1.	<p>Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment.</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
OBJECTIVE	2.1.c.	Additional Minimum Content: Identifying safe laboratory procedures when

		<p>handling chemicals and using Bunsen burners and laboratory glassware</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
OBJECTIVE	2.1.d.	<p>Additional Minimum Content: Using appropriate SI units for measuring length, volume, and mass</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
OBJECTIVE	2.3.	<p>Identify reactants and products associated with photosynthesis and cellular respiration and the purposes of these two processes.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	2.4.b.	<p>Additional Minimum Content: Distinguishing between 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
OBJECTIVE	2.4.c.	<p>Additional Minimum Content: Identifying various technologies used to observe cells. Examples: light microscope, scanning electron microscope, transmission electron microscope</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria

		<ul style="list-style-type: none"> and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	2.6.b.	<p>Additional Minimum Content: Comparing 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
OBJECTIVE	2.9.	<p>Differentiate between the previous five-kingdom and current six-kingdom classification systems.</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: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.a.	<p>Additional Minimum Content: Sequencing taxa from most inclusive to least inclusive in the classification 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 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

		<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 • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.b.	<p>Additional Minimum Content: Identifying organisms using a dichotomous key</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
OBJECTIVE	2.9.c.	<p>Additional Minimum Content: Identifying ways in which organisms from the Monera, Protista, and Fungi kingdoms are beneficial and harmful. Examples: beneficial - decomposers, harmful - diseases</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 • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.e.	<p>Additional Minimum Content: Writing scientific names accurately by using binomial nomenclature</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
OBJECTIVE	2.10.	<p>Distinguish between monocots and dicots, angiosperms and gymnosperms, and vascular and nonvascular plants.</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 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

		<p>Measurement</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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.10.a.	<p>Additional Minimum Content: Describing the histology of roots, stems, leaves, and flowers</p> <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 • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	2.10.b.	<p>Additional Minimum Content: Recognizing chemical and physical adaptations of plants. Examples: chemical - foul odor, bitter taste, toxicity; physical - spines, needles, broad leaves</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
OBJECTIVE	2.11.	<p>Classify animals according to type of skeletal structure, method of fertilization and reproduction, body symmetry, body coverings, and locomotion. Examples: skeletal structure - vertebrates, invertebrates; fertilization - external, internal; reproduction - sexual, asexual; body symmetry - bilateral, radial, asymmetrical; body coverings - feathers, scales, fur; locomotion - cilia, flagella, pseudopodia</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 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 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.12.	<p>Describe protective adaptations of animals, including mimicry, camouflage, beak type, migration, and hibernation.</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 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: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	2.13.	<p>Trace the flow of energy as it decreases through the trophic levels from producers to the quaternary level in food chains, food webs, and energy pyramids.</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 Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	2.13.a.	<p>Additional Minimum Content: Describing the interdependence of biotic and abiotic factors in an ecosystem. Examples: effects of humidity on stomata size, effects of dissolved oxygen on fish respiration</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
OBJECTIVE	2.13.b.	<p>Additional Minimum Content: Contrasting autotrophs and heterotrophs</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 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	2.13.c.	<p>Additional Minimum Content: Describing the niche of decomposers</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs

		<ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	2.15.	<p>Identify biomes based on environmental factors and native organisms. Example: tundra - permafrost, low humidity, lichens, polar bears</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 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
OBJECTIVE	2.16.a.	<p>Additional Minimum Content: Discriminating among symbiotic relationships, including mutualism, commensalism, and parasitism</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes
STANDARD	AL.5.	Aquascience Elective Core - Students will:
OBJECTIVE	5.1.	<p>Differentiate among freshwater, brackish water, and saltwater ecosystems.</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 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	5.1.a.	<p>Additional Minimum Content: Identifying chemical, geological, and physical features of aquatic ecosystems</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
OBJECTIVE	5.2.	<p>Relate geological and hydrological phenomena and fluid dynamics to aquatic systems.</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 4: Stream/River Survey

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	5.6.	<p>Describe adaptations that allow organisms to exist in specific aquatic environments.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	5.7.	<p>Describe processes and environmental characteristics that affect growth rates of aquatic animals. Examples: reproductive habits, feeding habits, interdependence of organisms, overcrowding, seasonal changes</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi
STANDARD	AL.6.	Botany Elective Core - Students will:
OBJECTIVE	6.1.	<p>Identify the twelve plant kingdom divisions.</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 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 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 Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.1.a.	<p>Additional Minimum Content: Classifying native Alabama plants using dichotomous keys</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 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 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

		<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 • 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
OBJECTIVE	6.2.	<p>Describe phylogenetic relationships between plants and other 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
OBJECTIVE	6.2.a.	<p>Additional Minimum Content: Classifying plants as vascular or nonvascular</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 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.2.b.	<p>Additional Minimum Content: Classifying seed-bearing and spore-bearing plants</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 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.2.c.	<p>Additional Minimum Content: Classifying plants as gymnosperms or angiosperms</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 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.3.	<p>List plant adaptations required for life on land.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.3.a.	<p>Additional Minimum Content: Describing the alternation of generations in plants</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 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
OBJECTIVE	6.3.b.	<p>Additional Minimum Content: Comparing characteristics of algae and plants</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 3 Activity 1: Plant Life Cycle • Teacher Resource CD: A Closer Look at Plants • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.4.	<p>Identify major types of plant tissues found in roots, stems, and leaves. Examples: parenchyma, sclerenchyma, collenchyma</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.5.	<p>Identify types of roots, stems, and leaves. Examples: roots - tap, fibrous; stems - herbaceous, woody; leaves - simple, compound</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 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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey

		<ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
OBJECTIVE	6.6.	<p>Explain the importance of soil type, texture, and nutrients to plant growth.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	6.6.a.	<p>Additional Minimum Content: Describing water and mineral absorption in plants</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.6.b.	<p>Additional Minimum Content: Analyzing the roles of capillarity and turgor pressure</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.7.	<p>Explain plant cell processes, including light dependent and light independent reactions of photosynthesis, glycolysis, aerobic and anaerobic respiration, and transport.</p> <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 • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.	<p>Describe plant responses to various stimuli.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.a.	<p>Additional Minimum Content: Identifying effects of hormones on plant growth. Examples: gibberellin, cytokinin, auxin</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.b.	<p>Additional Minimum Content: Differentiating among phototropism, gravitropism, and thigmotropism</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.9.	<p>Identify life cycles of mosses, ferns, gymnosperms, and angiosperms.</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 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

		<p>Measurement</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.10.	<p>Describe the structure and function of flower parts.</p> <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 • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.10.a.	<p>Additional Minimum Content: Describing seed germination, development, and dispersal</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 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.11.	<p>Describe various natural and artificial methods of vegetative propagation. Examples: natural - stem runners, rhizomes, bulbs, tubers; artificial - cutting, grafting, layering</p> <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 • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.12.a.	<p>Additional Minimum Content: Analyzing effects of human activity on the plant world</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs
OBJECTIVE	6.13.	<p>Identify viral, fungal, and bacterial plant diseases and their effects. Examples: viral - tobacco mosaic, Rembrandt tulips; fungal - mildew, rust; bacterial - black rot</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes
STANDARD	AL.8.	Environmental Science Elective Core - Students will:
OBJECTIVE	8.4.a.	<p>Additional Minimum Content: Identifying layers of the atmosphere and the composition of air</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey
OBJECTIVE	8.7.b.	<p>Additional Minimum Content: Comparing components of marine water to</p>

		<p>components of inland bodies of water</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	8.9.	<p>Describe land-use practices that promote sustainability and economic growth. Examples: no-till planting, crop rotation</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs
OBJECTIVE	8.10.	<p>Describe the composition of soil profiles and soil samples of varying climates.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	8.11.	<p>Describe agents of erosion, including moving water, gravity, glaciers, and wind.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
STANDARD	AL.10.	Genetic Elective Core - Students will:
OBJECTIVE	10.4.a.	<p>Additional Minimum Content: Comparing spermatogenesis and oogenesis using charts</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants
STANDARD	AL.11.	Geology Elective Core - Students will:
OBJECTIVE	11.4.b.	<p>Additional Minimum Content: Explaining changes of continental topography caused by erosion and uplift. Example: formation of southern Appalachian Mountains in Alabama</p> <ul style="list-style-type: none"> • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
STANDARD	AL.12.	Human Anatomy and Physiology Elective Core - Students will:
OBJECTIVE	12.2.	<p>Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals

STANDARD	AL. 13.	Marine Science Elective Core - Students will:
OBJECTIVE	13.2.	<p>Differentiate among freshwater, brackish water, and saltwater.</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 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.4.a.	<p>Additional Minimum Content: Describing how waves, ocean currents, and tides are generated</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	13.6.	<p>Describe components of major marine ecosystems, including estuaries, coral reefs, benthic communities, and open-ocean communities.</p> <ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.7.	<p>Identify patterns and interrelationships among producers, consumers, scavengers, and decomposers in a marine ecosystem.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.8.	<p>Describe characteristics of marine plant and algae divisions.</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 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.a.	<p>Additional Minimum Content: Classifying marine organisms using binomial nomenclature</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 • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.c.	<p>Additional Minimum Content: Identifying characteristics of marine invertebrates. Examples: Protozoa, Porifera, Coelenterata, Arthropoda</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 • 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 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: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.d.	<p>Additional Minimum Content: Identifying characteristics of marine vertebrates. Examples: fishes, reptiles, birds, mammals</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 Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.f.	<p>Additional Minimum Content: Describing adaptations in the marine environment</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	13.10.	<p>Describe the anatomy and physiology of representative aquatic organisms.</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 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: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.10.a.	<p>Additional Minimum Content: Identifying different aquatic species using dichotomous keys</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

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
STANDARD	AL. 14.	Zoology Elective Core - Students will:
OBJECTIVE	14.4.	<p>Use taxonomic groupings to differentiate the structure and physiology of invertebrates with dichotomous keys.</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 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 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: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.a.	<p>Additional Minimum Content: Identifying examples and characteristics of Porifera</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 Animals Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.b.	<p>Additional Minimum Content: Identifying examples and characteristics of Cnidaria</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 Animals Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.c.	<p>Additional Minimum Content: Identifying examples and characteristics of Mollusca</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 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms

OBJECTIVE	14.4.d.	<p>Additional Minimum Content: Identifying examples and characteristics of worms, including Platyhelminthes, Nematoda, and Annelida</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.e.	<p>Additional Minimum Content: Identifying examples, characteristics, and life cycles of Arthropoda</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 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 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: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.f.	<p>Additional Minimum Content: Identifying examples and characteristics of Echinodermata</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 Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.	<p>Use taxonomic groupings to differentiate structure and physiology of vertebrates with dichotomous keys.</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 • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.a.	<p>Additional Minimum Content: Identifying examples and characteristics of the three classes of fish</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 4: Stream/River Survey Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.b.	<p>Additional Minimum Content: Identifying examples and characteristics of Amphibia</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 Animals Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.c.	<p>Additional Minimum Content: Identifying examples and characteristics of Reptilia</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 Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.d.	<p>Additional Minimum Content: Identifying examples and characteristics of Aves</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 Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.e.	<p>Additional Minimum Content: Identifying examples and characteristics of Mammalia</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 Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.6.	<p>Identify factors used to distinguish species, including behavioral differences and reproductive isolation.</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? -

		<p>Creating Food Webs</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 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 Microbes Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.7.	<p>Explain how species adapt to changing environments to enhance survival and reproductive success, including changes in structure, behavior, or physiology. Examples: aestivation, thicker fur, diurnal activity</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
OBJECTIVE	14.8.a.	<p>Additional Minimum Content: Identifying causative factors of decreasing population size. Examples: overcrowding resulting in greater incidence of disease, fire destroying habitat and food sources</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria

		and Fungi
OBJECTIVE	14.9.	Analyze a field study of animal behavior patterns to determine the relationship of these patterns to an animal's niche. <ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing

**Alabama Courses of Study
Science
Grade 10**

STANDARD	AL.1.	Physical Science Core - Students will:
OBJECTIVE	1.8.b.	Additional Minimum Content: Describing the flow of thermal energy between two samples of matter <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Virtual Laboratory: Classifying Living Organisms

STANDARD	AL.2.	Biology Core - Students will:
OBJECTIVE	2.1.	Select appropriate laboratory glassware, balances, time measuring equipment, and optical instruments to conduct an experiment. <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

OBJECTIVE	2.1.c.	Additional Minimum Content: Identifying safe laboratory procedures when handling chemicals and using Bunsen burners and laboratory glassware <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? -
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		<p>Creating Food Webs</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 • 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
OBJECTIVE	2.1.d.	<p>Additional Minimum Content: Using appropriate SI units for measuring length, volume, and mass</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
OBJECTIVE	2.3.	<p>Identify reactants and products associated with photosynthesis and cellular respiration and the purposes of these two processes.</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	2.4.b.	<p>Additional Minimum Content: Distinguishing between 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
OBJECTIVE	2.4.c.	<p>Additional Minimum Content: Identifying various technologies used to observe cells. Examples: light microscope, scanning electron microscope, transmission electron microscope</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

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	2.6.b.	<p>Additional Minimum Content: Comparing 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
OBJECTIVE	2.9.	<p>Differentiate between the previous five-kingdom and current six-kingdom classification systems.</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: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants Teacher Resource CD: Classifying Life Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.a.	<p>Additional Minimum Content: Sequencing taxa from most inclusive to least inclusive in the classification 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 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: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.b.	<p>Additional Minimum Content: Identifying organisms using a dichotomous key</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
OBJECTIVE	2.9.c.	<p>Additional Minimum Content: Identifying ways in which organisms from the Monera, Protista, and Fungi kingdoms are beneficial and harmful. Examples: beneficial - decomposers, harmful - diseases</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 • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.9.e.	<p>Additional Minimum Content: Writing scientific names accurately by using binomial nomenclature</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
OBJECTIVE	2.10.	<p>Distinguish between monocots and dicots, angiosperms and gymnosperms, and vascular and nonvascular plants.</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 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 1: Site Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area)

		<p>Survey</p> <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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.10.a.	<p>Additional Minimum Content: Describing the histology of roots, stems, leaves, and flowers</p> <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 • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	2.10.b.	<p>Additional Minimum Content: Recognizing chemical and physical adaptations of plants. Examples: chemical - foul odor, bitter taste, toxicity; physical - spines, needles, broad leaves</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life
OBJECTIVE	2.11.	<p>Classify animals according to type of skeletal structure, method of fertilization and reproduction, body symmetry, body coverings, and locomotion. Examples: skeletal structure - vertebrates, invertebrates; fertilization - external, internal; reproduction - sexual, asexual; body symmetry - bilateral, radial, asymmetrical; body coverings - feathers, scales, fur; locomotion - cilia, flagella, pseudopodia</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 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 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	2.12.	<p>Describe protective adaptations of animals, including mimicry, camouflage,</p>

		<p>beak type, migration, and hibernation.</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 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: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	2.13.	<p>Trace the flow of energy as it decreases through the trophic levels from producers to the quaternary level in food chains, food webs, and energy pyramids.</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 • Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	2.13.a.	<p>Additional Minimum Content: Describing the interdependence of biotic and abiotic factors in an ecosystem. Examples: effects of humidity on stomata size, effects of dissolved oxygen on fish respiration</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
OBJECTIVE	2.13.b.	<p>Additional Minimum Content: Contrasting autotrophs and heterotrophs</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 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	2.13.c.	<p>Additional Minimum Content: Describing the niche of decomposers</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	2.15.	<p>Identify biomes based on environmental factors and native organisms.</p>

		<p>Example: tundra - permafrost, low humidity, lichens, polar bears</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 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
OBJECTIVE	2.16.a.	<p>Additional Minimum Content: Discriminating among symbiotic relationships, including mutualism, commensalism, and parasitism</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Microbes
STANDARD	AL.5.	Aquascience Elective Core - Students will:
OBJECTIVE	5.1.	<p>Differentiate among freshwater, brackish water, and saltwater ecosystems.</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	5.1.a.	<p>Additional Minimum Content: Identifying chemical, geological, and physical features of aquatic ecosystems</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
OBJECTIVE	5.2.	<p>Relate geological and hydrological phenomena and fluid dynamics to aquatic systems.</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: Field Biology - Collecting, Identifying, and

		Observing
OBJECTIVE	5.6.	Describe adaptations that allow organisms to exist in specific aquatic environments. <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	5.7.	Describe processes and environmental characteristics that affect growth rates of aquatic animals. Examples: reproductive habits, feeding habits, interdependence of organisms, overcrowding, seasonal changes <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi
STANDARD	AL.6.	Botany Elective Core - Students will:
OBJECTIVE	6.1.	Identify the twelve plant kingdom divisions. <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.1.a.	Additional Minimum Content: Classifying native Alabama plants using dichotomous keys <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • 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 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

		<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 • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.2.	<p>Describe phylogenetic relationships between plants and other 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
OBJECTIVE	6.2.a.	<p>Additional Minimum Content: Classifying plants as vascular or nonvascular</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 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.2.b.	<p>Additional Minimum Content: Classifying seed-bearing and spore-bearing plants</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 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 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.2.c.	<p>Additional Minimum Content: Classifying plants as gymnosperms or angiosperms</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 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

		<p>Reproduction</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • 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 • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.3.	<p>List plant adaptations required for life on land.</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.3.a.	<p>Additional Minimum Content: Describing the alternation of generations in plants</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 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
OBJECTIVE	6.3.b.	<p>Additional Minimum Content: Comparing characteristics of algae and plants</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 3 Activity 1: Plant Life Cycle • Teacher Resource CD: A Closer Look at Plants • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	6.4.	<p>Identify major types of plant tissues found in roots, stems, and leaves. Examples: parenchyma, sclerenchyma, collenchyma</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.5.	<p>Identify types of roots, stems, and leaves. Examples: roots - tap, fibrous; stems - herbaceous, woody; leaves - simple, compound</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 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 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 • Teacher Resource CD: A Closer Look at Plants

		<ul style="list-style-type: none"> Teacher Resource CD: Classifying Life
OBJECTIVE	6.6.	<p>Explain the importance of soil type, texture, and nutrients to plant growth.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	6.6.a.	<p>Additional Minimum Content: Describing water and mineral absorption in plants</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.6.b.	<p>Additional Minimum Content: Analyzing the roles of capillarity and turgor pressure</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.7.	<p>Explain plant cell processes, including light dependent and light independent reactions of photosynthesis, glycolysis, aerobic and anaerobic respiration, and transport.</p> <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 Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.	<p>Describe plant responses to various stimuli.</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.a.	<p>Additional Minimum Content: Identifying effects of hormones on plant growth. Examples: gibberellin, cytokinin, auxin</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.8.b.	<p>Additional Minimum Content: Differentiating among phototropism, gravitropism, and thigmotropism</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.9.	<p>Identify life cycles of mosses, ferns, gymnosperms, and angiosperms.</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 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

		<ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.10.	<p>Describe the structure and function of flower parts.</p> <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 Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.10.a.	<p>Additional Minimum Content: Describing seed germination, development, and dispersal</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 2: Flowers and Pollination Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.11.	<p>Describe various natural and artificial methods of vegetative propagation. Examples: natural - stem runners, rhizomes, bulbs, tubers; artificial - cutting, grafting, layering</p> <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 Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants
OBJECTIVE	6.12.a.	<p>Additional Minimum Content: Analyzing effects of human activity on the plant world</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs
OBJECTIVE	6.13.	<p>Identify viral, fungal, and bacterial plant diseases and their effects. Examples: viral - tobacco mosaic, Rembrandt tulips; fungal - mildew, rust; bacterial - black rot</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes
STANDARD	AL.8.	Environmental Science Elective Core - Students will:
OBJECTIVE	8.4.a.	<p>Additional Minimum Content: Identifying layers of the atmosphere and the composition of air</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey
OBJECTIVE	8.7.b.	<p>Additional Minimum Content: Comparing components of marine water to components of inland bodies of water</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 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	8.9.	<p>Describe land-use practices that promote sustainability and economic growth. Examples: no-till planting, crop rotation</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs
OBJECTIVE	8.10.	<p>Describe the composition of soil profiles and soil samples of varying climates.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	8.11.	<p>Describe agents of erosion, including moving water, gravity, glaciers, and wind.</p> <ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
STANDARD	AL.10.	Genetic Elective Core - Students will:
OBJECTIVE	10.4.a.	<p>Additional Minimum Content: Comparing spermatogenesis and oogenesis using charts</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: A Closer Look at Plants
STANDARD	AL.11.	Geology Elective Core - Students will:
OBJECTIVE	11.4.b.	<p>Additional Minimum Content: Explaining changes of continental topography caused by erosion and uplift. Example: formation of southern Appalachian Mountains in Alabama</p> <ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
STANDARD	AL.12.	Human Anatomy and Physiology Elective Core - Students will:
OBJECTIVE	12.2.	<p>Identify anatomical body planes, body cavities, and abdominopelvic regions of the human body.</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Animals
OBJECTIVE	12.15.b.	Additional Minimum Content: Evaluating the importance of vaccines

		<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 Animals Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms
STANDARD	AL. 13.	Marine Science Elective Core - Students will:
OBJECTIVE	13.2.	<p>Differentiate among freshwater, brackish water, and saltwater.</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 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.4.a.	<p>Additional Minimum Content: Describing how waves, ocean currents, and tides are generated</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Animals Teacher Resource CD: A Closer Look at Microbes
OBJECTIVE	13.6.	<p>Describe components of major marine ecosystems, including estuaries, coral reefs, benthic communities, and open-ocean communities.</p> <ul style="list-style-type: none"> Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.7.	<p>Identify patterns and interrelationships among producers, consumers, scavengers, and decomposers in a marine ecosystem.</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing
OBJECTIVE	13.8.	<p>Describe characteristics of marine plant and algae divisions.</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 3 Lab 5 Activity 5: Microlife Survey Teacher Resource CD: A Closer Look at Microbes Teacher Resource CD: Classifying Life Virtual Laboratory: Classifying Living Organisms

OBJECTIVE	13.9.a.	<p>Additional Minimum Content: Classifying marine organisms using binomial nomenclature</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: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.c.	<p>Additional Minimum Content: Identifying characteristics of marine invertebrates. Examples: Protozoa, Porifera, Coelenterata, Arthropoda</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 • 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 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: 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
OBJECTIVE	13.9.d.	<p>Additional Minimum Content: Identifying characteristics of marine vertebrates. Examples: fishes, reptiles, birds, mammals</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 • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.9.f.	<p>Additional Minimum Content: Describing adaptations in the marine environment</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey
OBJECTIVE	13.10.	<p>Describe the anatomy and physiology of representative aquatic organisms.</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 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: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	13.10.a.	<p>Additional Minimum Content: Identifying different aquatic species using dichotomous keys</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

		<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 • Virtual Laboratory: Classifying Living Organisms
STANDARD	AL. 14.	Zoology Elective Core - Students will:
OBJECTIVE	14.4.	<p>Use taxonomic groupings to differentiate the structure and physiology of invertebrates with dichotomous keys.</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 • 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 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: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.a.	<p>Additional Minimum Content: Identifying examples and characteristics of Porifera</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 Animals • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.b.	<p>Additional Minimum Content: Identifying examples and characteristics of Cnidaria</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 Animals • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.c.	<p>Additional Minimum Content: Identifying examples and characteristics of Mollusca</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey • Teacher Resource CD: A Closer Look at Animals

		<ul style="list-style-type: none"> • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.d.	<p>Additional Minimum Content: Identifying examples and characteristics of worms, including Platyhelminthes, Nematoda, and Annelida</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 4: Stream/River Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.e.	<p>Additional Minimum Content: Identifying examples, characteristics, and life cycles of Arthropoda</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 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 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: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.4.f.	<p>Additional Minimum Content: Identifying examples and characteristics of Echinodermata</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 Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.	<p>Use taxonomic groupings to differentiate structure and physiology of vertebrates with dichotomous keys.</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

		<ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.a.	<p>Additional Minimum Content: Identifying examples and characteristics of the three classes of fish</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 4: Stream/River Survey • Teacher Resource CD: A Closer Look at Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.b.	<p>Additional Minimum Content: Identifying examples and characteristics of Amphibia</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 Animals • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.c.	<p>Additional Minimum Content: Identifying examples and characteristics of Reptilia</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 Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.d.	<p>Additional Minimum Content: Identifying examples and characteristics of Aves</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 • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.5.e.	<p>Additional Minimum Content: Identifying examples and characteristics of Mammalia</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 Animals • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.6.	<p>Identify factors used to distinguish species, including behavioral differences and reproductive isolation.</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: A Closer Look at Animals • Teacher Resource CD: A Closer Look at Microbes • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing • Virtual Laboratory: Classifying Living Organisms
OBJECTIVE	14.7.	<p>Explain how species adapt to changing environments to enhance survival and reproductive success, including changes in structure, behavior, or physiology. Examples: aestivation, thicker fur, diurnal activity</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
OBJECTIVE	14.8.a.	<p>Additional Minimum Content: Identifying causative factors of decreasing population size. Examples: overcrowding resulting in greater incidence of</p>

		<p>disease, fire destroying habitat and food sources</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi
OBJECTIVE	14.9.	<p>Analyze a field study of animal behavior patterns to determine the relationship of these patterns to an animal's niche.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Field Biology - Collecting, Identifying, and Observing

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