

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

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Idaho Content Standards
Science
Grade 7

STANDARD	ID.1.	Nature of Science: Students carry out investigations over time using appropriate tools and equipment. Students make inferences based upon data they collect. Students accurately communicate the results of their investigations and observations. Students support or revise their conclusions by critically analyzing alternate explanations. Students carry out investigations following written lab procedures. Students follow safety protocols in carrying out investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.1.	Understand Systems, Order, and Organization
GLE / BIG IDEA	7.S.1.1.1.	The student will be able to define small systems as a part of a whole system. (633.01.a) <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 Animals • Teacher Resource CD: A Closer Look at Plants
GLE / BIG IDEA	7.S.1.1.2.	The student will be able to determine how small systems contribute to the function of the whole. (633.01.a) <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 Animals • Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.1.	Nature of Science: Students carry out investigations over time using appropriate tools and equipment. Students make inferences based upon data they collect. Students accurately communicate the results of their investigations and observations. Students support or revise their conclusions by critically analyzing alternate explanations. Students carry out investigations following written lab procedures. Students follow safety protocols in carrying out

		investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.2.	Understand Concepts and Processes of Evidence, Models, and Explanation
GLE / BIG IDEA	7.S.1.2.1.	<p>The student will be able to describe how observations and data are evidence on which to base scientific explanations and predictions. (633.02.a)</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
STANDARD	ID.1.	Nature of Science: Students carry out investigations over time using appropriate tools and equipment. Students make inferences based upon data they collect. Students accurately communicate the results of their investigations and observations. Students support or revise their conclusions by critically analyzing alternate explanations. Students carry out investigations following written lab procedures. Students follow safety protocols in carrying out investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.3.	Understand Constancy, Change, and Measurement
GLE / BIG IDEA	7.S.1.3.1.	<p>The student will be able to identify concepts of science that have been stable over time. (633.03.a)</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

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement
GLE / BIG IDEA	7.S.1.3.2.	<p>The student will be able to recognize changes that occur within systems. (633.03.b)</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 Animals Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.1.	<p>Nature of Science: Students carry out investigations over time using appropriate tools and equipment. Students make inferences based upon data they collect. Students accurately communicate the results of their investigations and observations. Students support or revise their conclusions by critically analyzing alternate explanations. Students carry out investigations following written lab procedures. Students follow safety protocols in carrying out investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.6.	<p>Understand Scientific Inquiry and Develop Critical Thinking Skills</p>
GLE / BIG IDEA	7.S.1.6.1.	<p>The student will be able to identify controls and variables used in scientific investigations. (634.01.b)</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
GLE / BIG IDEA	7.S.1.6.2.	<p>The student will be able to use appropriate tools and techniques to gather and display data. (634.01c)</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

		<p>and Measurement</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 • 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
GLE / BIG IDEA	7.S.1.6.3.	<p>The student will be able to evaluate data in order to form conclusions. (634.01.d)</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
GLE / BIG IDEA	7.S.1.6.6.	<p>The student will be able to communicate and defend scientific procedures and explanations. (634.01.g)</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
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CONTENT KNOWLEDGE AND SKILLS / GOAL	1.8.	Understand Technical Communication
GLE / BIG IDEA	7.S.1.8.1.	The student will be able to read and evaluate technical instructions. (643.02.a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 4: Stream/River Survey Kingdoms of Life: Unit 3 Lab 5 Activity 5: Microlife Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.3.	Biology: Students state the levels of cellular organization and list cell parts and their respective functions. Students explain how traits are passed from one generation to another. Students differentiate between plant and animals cells by identifying the characteristic parts of each. Students explain how organisms are adapted to their environment and interact with the biotic and abiotic components of the environment.
CONTENT KNOWLEDGE AND SKILLS / GOAL	3.2.	Understand the Relationship between Matter and Energy in Living Systems
GLE / BIG IDEA	7.S.3.2.1.	<p>The student will be able to describe how energy stored in food is primarily derived from the sun through photosynthesis. (638.01.a)</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
GLE / BIG IDEA	7.S.3.2.3.	<p>The student will be able to illustrate how atoms and molecules cycle among the living and nonliving components of the biosphere. (638.01.c)</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 1: Site Survey
GLE / BIG IDEA	7.S.3.2.4.	<p>The student will be able to identify how energy flows through ecosystems in one direction, from photosynthetic organisms to herbivores, carnivore, and decomposers. (638.01.d)</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

		<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
STANDARD	D.3.	Biology: Students state the levels of cellular organization and list cell parts and their respective functions. Students explain how traits are passed from one generation to another. Students differentiate between plant and animals cells by identifying the characteristic parts of each. Students explain how organisms are adapted to their environment and interact with the biotic and abiotic components of the environment.
CONTENT KNOWLEDGE AND SKILLS / GOAL	3.3.	Understand the Cell is the Basis of Form and Function for All Living Things
GLE / BIG IDEA	7.S.3.3.1.	The student will be able to explain the relationships among specialized cells, tissues, organs, organ systems, and organisms. (636.01.a) <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.5.	Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both individuals and society.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	7.S.5.2.1.	The student will be able to explain how science and technology are interrelated. (640.01.a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	7.S.5.2.2.	The student will be able to explain how science advances technology. (640.01.b) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

Idaho Content Standards

Science

Grade 8

STANDARD	ID.5.	Physical Science: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	8.PS.5.2.1.	The student will be able to explain how science advances technology. (655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	8.PS.5.2.2.	The student will be able to explain how technology advances science.

		(655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	8.PS.5.2.3.	The student will be able to explain how science and technology are pursued for different purposes. (656.01b) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
STANDARD	ID.5.	Earth Science: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment. Students describe issues such as water and air quality, hazardous waste, renewable and nonrenewable resources.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	8.ES.5.2.1.	The student will be able to explain how science advances technology. (655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	8.ES.5.2.2.	The student will be able to explain how technology advances science. (655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	8.ES.5.2.3.	The student will be able to explain how science and technology are pursued for different purposes. (655.01b) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

**Idaho Content Standards
Science
Grade 9**

STANDARD	ID.5.	Physical Science: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	9.PS.5.2.1.	The student will be able to explain how science advances technology. (655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.PS.5.2.2.	The student will be able to explain how technology advances science. (655.01a)

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.PS.5.2.3.	<p>The student will be able to explain how science and technology are pursued for different purposes. (656.01b)</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
STANDARD	ID.5.	<p>Earth Science: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment. Students describe issues such as water and air quality, hazardous waste, renewable and nonrenewable resources.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	<p>Understand the Relationship between Science and Technology</p>
GLE / BIG IDEA	9.ES.5.2.1.	<p>The student will be able to explain how science advances technology. (655.01a)</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.ES.5.2.2.	<p>The student will be able to explain how technology advances science. (655.01a)</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.ES.5.2.3.	<p>The student will be able to explain how science and technology are pursued for different purposes. (655.01b)</p> <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
STANDARD	ID.1.	<p>Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.1.	<p>Understand Systems, Order, and Organization</p>
GLE / BIG IDEA	9.B.1.1.1.	<p>The student will be able to explain the scientific meaning of system, order, and organization. (648.01a)</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

		<p>Pollination</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 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
GLE / BIG IDEA	9.B.1.1.2.	<p>The student will be able to apply the concepts of order and organization to a given system. (648.01a)</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: Classifying Life • Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.1.	<p>Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.2.	<p>Understand Concepts and Processes of Evidence, Models, and Explanation</p>
GLE / BIG IDEA	9.B.1.2.1.	<p>The student will be able to use observations and data as evidence on which to base scientific explanations. (648.02a)</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

		<p>Whom? - 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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	9.B.1.2.3.	<p>The student will be able to develop scientific explanations based on knowledge, logic and analysis. (648.02c)</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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey

		<ul style="list-style-type: none"> Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.1.	Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.3.	Understand Constancy, Change, and Measurement
GLE / BIG IDEA	9.B.1.3.1.	<p>The student will be able to measure changes that can occur in and among systems. (648.03b)</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 Animals Teacher Resource CD: A Closer Look at Plants
GLE / BIG IDEA	9.B.1.3.2.	<p>The student will be able to analyze changes that can occur in and among systems. (648.03b)</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 Animals Teacher Resource CD: A Closer Look at Plants
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CONTENT KNOWLEDGE AND SKILLS / GOAL	1.6.	Understand Scientific Inquiry and Develop Critical Thinking Skills
GLE / BIG IDEA	9.B.1.6.1.	The student will be able to identify questions and concepts that guide

		<p>scientific investigations. (649.01a)</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 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
GLE / BIG IDEA	9.B.1.6.2.	<p>The student will be able to utilize the components of scientific problem solving to design, conduct, and communicate results of investigations. (649.01b)</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

		<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
GLE / BIG IDEA	9.B.1.6.4.	<p>The student will be able to formulate scientific explanations and models using logic and evidence. (649.01d)</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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	9.B.1.6.6.	<p>The student will be able to communicate and defend a scientific argument. (649.01f)</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

		<p>Pond Microlife</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 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 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	9.B.1.6.7.	<p>The student will be able to explain the differences among observations, hypotheses, and theories. (649.01g)</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"> Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.1.	Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.8.	Understand Technical Communication
GLE / BIG IDEA	9.B.1.8.1.	<p>The student will be able to analyze technical writing, graphs, charts, and diagrams. (658.02a)</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
STANDARD	ID.3.	Biology: Biology: Students explain the importance of cells as they relate to the organization and structure of complex organisms, differentiation and specialization during development, and the chemical reactions necessary to sustain life. Students describe the functions of cell structures. Students use the theory of evolution to explain diversity of life.
CONTENT KNOWLEDGE AND SKILLS / GOAL	3.2.	Understand the Relationship between Matter and Energy in Living Systems
GLE / BIG IDEA	9.B.3.2.3.	<p>The student will be able to show how the energy for life is primarily derived from the sun through photosynthesis. (653.01c)</p> <ul style="list-style-type: none"> Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.5.	Biology: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment. Students describe issues such as water and air quality, hazardous waste, renewable and nonrenewable resources.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	9.B.5.2.1.	The student will be able to explain how science advances technology.

		(655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.B.5.2.2.	The student will be able to explain how technology advances science. (655.01a) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	9.B.5.2.3.	The student will be able to explain how science and technology are pursued for different purposes. (656.01b) <ul style="list-style-type: none"> Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

**Idaho Content Standards
Science
Grade 10**

STANDARD	ID.1.	Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.1.	Understand Systems, Order, and Organization
GLE / BIG IDEA	10.B.1.1.1.	The student will be able to explain the scientific meaning of system, order, and organization. (648.01a) <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 Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Teacher Resource CD: A Closer Look at Animals

		<ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants • Teacher Resource CD: Classifying Life • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	10.B.1.1.2.	<p>The student will be able to apply the concepts of order and organization to a given system. (648.01a)</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: Classifying Life • Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.1.	<p>Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.2.	<p>Understand Concepts and Processes of Evidence, Models, and Explanation</p>
GLE / BIG IDEA	10.B.1.2.1.	<p>The student will be able to use observations and data as evidence on which to base scientific explanations. (648.02a)</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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	10.B.1.2.3.	<p>The student will be able to develop scientific explanations based on knowledge, logic and analysis. (648.02c)</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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
STANDARD	ID.1.	<p>Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.3.	<p>Understand Constancy, Change, and Measurement</p>
GLE / BIG IDEA	10.B.1.3.1.	<p>The student will be able to measure changes that can occur in and among</p>

		<p>systems. (648.03b)</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 Animals • Teacher Resource CD: A Closer Look at Plants
GLE / BIG IDEA	10.B.1.3.2.	<p>The student will be able to analyze changes that can occur in and among systems. (648.03b)</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 Animals • Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.1.	<p>Biology: Nature of Science: Students exercise the basic tenets of scientific investigation, make accurate observations, exercise critical thinking skills, apply proper scientific instruments of investigation and measurement tools, and communicate results in problem solving. Students evaluate the validity of information by utilizing the tools of scientific thinking and investigation. Students summarize their findings by creating lab reports using technical writing including graphs, charts, and diagrams to communicate the results of investigations.</p>
CONTENT KNOWLEDGE AND SKILLS / GOAL	1.6.	<p>Understand Scientific Inquiry and Develop Critical Thinking Skills</p>
GLE / BIG IDEA	10.B.1.6.1.	<p>The student will be able to identify questions and concepts that guide scientific investigations. (649.01a)</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 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs

		<ul style="list-style-type: none"> • 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
GLE / BIG IDEA	10.B.1.6.2.	<p>The student will be able to utilize the components of scientific problem solving to design, conduct, and communicate results of investigations. (649.01b)</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
GLE / BIG IDEA	10.B.1.6.4.	The student will be able to formulate scientific explanations and models using

		<p>logic and evidence. (649.01d)</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 2: Forest (Wooded Area) Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey • Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey • Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	10.B.1.6.6.	<p>The student will be able to communicate and defend a scientific argument. (649.01f)</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 1 Lab 1 Activity 1: Classifying Life Forms • Kingdoms of Life: Unit 1 Lab 1 Activity 2: Who Eats Whom? - Creating Food Webs • Kingdoms of Life: Unit 2 Lab 2 Activity 1: Scavenging for Bacteria and Fungi • Kingdoms of Life: Unit 2 Lab 2 Activity 2: Scavenging for Pond Microlife • Kingdoms of Life: Unit 2 Lab 3 Activity 1: Plant Life Cycle • Kingdoms of Life: Unit 2 Lab 3 Activity 2: Flowers and Pollination • Kingdoms of Life: Unit 2 Lab 3 Activity 3: Redirecting Energy to Reproduction • Kingdoms of Life: Unit 2 Lab 3 Activity 4: Seed Harvesting and Measurement • Kingdoms of Life: Unit 2 Lab 4 Activity 1: Observing the Behavior of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 2: Environmental Preference of Pill Bugs • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design

		<ul style="list-style-type: none"> Kingdoms of Life: Unit 3 Lab 5 Activity 2: Forest (Wooded Area) Survey Kingdoms of Life: Unit 3 Lab 5 Activity 3: Grassland Survey Kingdoms of Life: Unit 3 Lab 5 Activity 6: Soil Survey Virtual Laboratory: Classifying Living Organisms
GLE / BIG IDEA	10.B.1.6.7.	<p>The student will be able to explain the differences among observations, hypotheses, and theories. (649.01g)</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 Virtual Laboratory: Classifying Living Organisms
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CONTENT KNOWLEDGE AND SKILLS / GOAL	1.8.	Understand Technical Communication
GLE / BIG IDEA	10.B.1.8.1.	The student will be able to analyze technical writing, graphs, charts, and

		<p>diagrams. (658.02a)</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
STANDARD	ID.3.	Biology: Biology: Students explain the importance of cells as they relate to the organization and structure of complex organisms, differentiation and specialization during development, and the chemical reactions necessary to sustain life. Students describe the functions of cell structures. Students use the theory of evolution to explain diversity of life.
CONTENT KNOWLEDGE AND SKILLS / GOAL	3.2.	Understand the Relationship between Matter and Energy in Living Systems
GLE / BIG IDEA	10.B.3.2.3.	<p>The student will be able to show how the energy for life is primarily derived from the sun through photosynthesis. (653.01c)</p> <ul style="list-style-type: none"> • Teacher Resource CD: A Closer Look at Plants
STANDARD	ID.5.	Biology: Personal and Social Perspectives; Technology: Students understand that science and technology interact and impact both society and the environment. Students describe issues such as water and air quality, hazardous waste, renewable and nonrenewable resources.
CONTENT KNOWLEDGE AND SKILLS / GOAL	5.2.	Understand the Relationship between Science and Technology
GLE / BIG IDEA	10.B.5.2.1.	<p>The student will be able to explain how science advances technology. (655.01a)</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	10.B.5.2.2.	<p>The student will be able to explain how technology advances science. (655.01a)</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental Design
GLE / BIG IDEA	10.B.5.2.3.	<p>The student will be able to explain how science and technology are pursued for different purposes. (656.01b)</p> <ul style="list-style-type: none"> • Kingdoms of Life: Unit 2 Lab 4 Activity 3: Experimental

		Design
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