

**Inquiry Investigations™**  
**Earth's Resources MODULE - 1287232**  
**Grades: 6-9**

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**Missouri Grade Level Expectations**  
**Science**  
**Grade 6**

<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.1.</b>	<b>Properties and Principals of Matter and Energy</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>1.1.</b>	Changes in properties and states of matter provide evidence of the atomic theory of matter
<b>GLE / PROFICIENCY</b>	<b>1.1.A.</b>	Objects, and the materials are made of, have properties that can be used to describe and classify them
<b>COMPONENT / INDICATOR</b>	<b>1.1.A.c.</b>	Scope and Sequence - Properties of and Changes in Matter: Describe and compare the masses (amounts of matter) of objects to the nearest gram using a balance <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.1.</b>	<b>Properties and Principals of Matter and Energy</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>1.1.</b>	Changes in properties and states of matter provide evidence of the atomic theory of matter
<b>GLE / PROFICIENCY</b>	<b>1.1.G.</b>	Properties of objects and states of matter can change chemically and/or physically
<b>COMPONENT / INDICATOR</b>	<b>1.1.G.a.</b>	Scope and Sequence - Properties of and Changes in Matter: Identify and classify changes in matter as chemical and/or physical <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>1.1.G.b.</b>	Scope and Sequence - Properties of and Changes in Matter: Identify chemical changes (i.e., rusting, oxidation, burning, decomposition by acids, decaying, baking) in common objects (i.e., rocks such as limestone, minerals, wood, steel wool, plants) as a result of interactions with sources of energy or other matter that form new substances with

		<p>different characteristic properties</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
COMPONENT / INDICATOR	1.1.G.c.	<p>Scope and Sequence - Properties of and Changes in Matter: Identify physical changes in common objects (e.g., rocks, minerals, wood, water, steel wool, plants) and describe the processes which caused the change (e.g., weathering, erosion, cutting, dissolving)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.1.	Properties and Principals of Matter and Energy
CONCEPT: GLE / BENCHMARK	1.2.	Energy has a source, can be stored, and can be transferred but is conserved within a system
GLE / PROFICIENCY	1.2.A.	Forms of energy have a source, a means of transfer (work and heat), and a receiver
COMPONENT / INDICATOR	1.2.A.c.	<p>Scope and Sequence - Forms of Energy: Light: Compare the reflection of visible light by various surfaces (i.e., mirror, smooth and rough surfaces, shiny and dull surfaces, Moon)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.4.	Changes in Ecosystems and Interactions of Organisms with Their Environments
CONCEPT: GLE / BENCHMARK	4.3.	Genetic variation sorted by the natural selection process explains evidence of biological evolution
GLE / PROFICIENCY	4.3.A.	Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms and in the fossil record
COMPONENT / INDICATOR	4.3.A.a.	<p>Scope and Sequence - Ecosystems and Populations: Identify fossils as evidence some types of organisms (e.g., dinosaurs, trilobites, mammoths, giant tree ferns) that once lived in the past, and have since become extinct, have similarities with and differences from organisms living today</p>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.5.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>5.1.</b>	<b>Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures</b>
<b>GLE / PROFICIENCY</b>	<b>5.1.A.</b>	<b>The Earth's crust is composed of various materials, including soil, minerals, and rocks, with characteristic properties</b>
<b>COMPONENT / INDICATOR</b>	<b>5.1.A.a.</b>	<p>Scope and Sequence - Earth's Resources: Describe the components of soil and other factors that influence soil texture, fertility, and resistance to erosion (e.g., plant roots and debris, bacteria, fungi, worms, rodents)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.5.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>5.2.</b>	<b>Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes</b>
<b>GLE / PROFICIENCY</b>	<b>5.2.A.</b>	<b>The Earth's materials and surface features are changed through a variety of external processes</b>
<b>COMPONENT / INDICATOR</b>	<b>5.2.A.a.</b>	<p>Scope and Sequence - Internal Processes and External Events: Make inferences about the formation of sedimentary rocks from their physical properties (e.g., layering and the presence of fossils indicate sedimentation)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>5.2.A.b.</b>	<p>Scope and Sequence - Internal Processes and External Events: Explain how the formation of sedimentary rocks depends on weathering and erosion</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.A.c.	<p>Scope and Sequence - Internal Processes and External Events: Describe how weathering agents and erosional processes (i.e., force of water as it freezes or flows, expansion/contraction due to temperature, force of wind, force of plant roots, action of gravity, chemical decomposition) slowly cause surface changes that create and/or change landforms</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.A.d.	<p>Scope and Sequence - Internal Processes and External Events: Describe how the Earth's surface and surface materials can change abruptly through the activity of floods, rock/mudslides, or volcanoes</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.5.	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
CONCEPT: GLE / BENCHMARK	5.2.	Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes
GLE / PROFICIENCY	5.2.B.	There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates
COMPONENT / INDICATOR	5.2.B.a.	<p>Scope and Sequence - Internal Processes and External Events: Identify events (earthquakes, volcanic eruptions) and the landforms created by them on the Earth's surface that occur at different plate boundaries</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> </ul>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.5.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>5.2.</b>	Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes
<b>GLE / PROFICIENCY</b>	<b>5.2.D.</b>	Changes in the Earth over time can be inferred through rock and fossil evidence
<b>COMPONENT / INDICATOR</b>	<b>5.2.D.a.</b>	<p>Scope and Sequence - Internal Processes and external Events: Explain the types of fossils and the processes by which they are formed (i.e., replacement, mold and cast, preservation, trace)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>5.2.D.b.</b>	<p>Scope and Sequence - Internal Processes and external Events: Use fossil evidence to make inferences about changes on Earth and in its environment (i.e., superposition of rock layers, similarities between fossils in different geographical locations, fossils of seashells indicate the area was once underwater)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.A.</b>	Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation
<b>COMPONENT / INDICATOR</b>	<b>7.1.A.c.</b>	<p>Scope and Sequence - All Units: Design and conduct a valid experiment</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral</li> </ul>

		<p>Color</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.d.</p>	<p>Scope and Sequence - All Units: Evaluate the design of an experiment and make suggestions for reasonable improvements or extensions of an experiment</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.e.</p>	<p>Scope and Sequence - All Units: Recognize different kinds of questions suggest different kinds of scientific investigations (e.g., some involve observing and describing objects, organisms, or events; some involve collecting specimens; some involve experiments; some involve making observations in nature; some involve discovery of new objects and phenomena; some involve making models))</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.B.</b>	Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations
<b>COMPONENT / INDICATOR</b>	<b>7.1.B.b.</b>	<p>Scope and Sequence - All Units: Determine the appropriate tools and techniques to collect data</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.B.c.</p>	<p>Scope and Sequence - All Units: Use a variety of tools and equipment to gather data (e.g., microscopes, thermometers, computers, spring scales, balances, magnets, metric rulers, graduated cylinders, stopwatches)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.B.d.</p>	<p>Scope and Sequence - All Units: Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter,</p>

		<p>temperature to the nearest degree Celsius, force (weight) to the nearest Newton, time to the nearest second</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
COMPONENT / INDICATOR	7.1.B.e.	<p>Scope and Sequence - All Units: Compare amounts/measurements</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.7.	Scientific Inquiry
CONCEPT: GLE / BENCHMARK	7.1.	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
GLE / PROFICIENCY	7.1.C.	Scientific inquiry includes evaluation of explanations (laws/principles, theories/models) in light of evidence (data) and scientific principles (understandings)
COMPONENT / INDICATOR	7.1.C.a.	<p>Scope and Sequence - All Units: Use quantitative and qualitative data as support for reasonable explanations (conclusions)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic</li> </ul>

		<p>Time</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.C.b.</p>	<p>Scope and Sequence - All Units: Use data as support for observed patterns and relationships, and to make predictions to be tested</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> </ul>

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COMPONENT / INDICATOR	7.1.C.e.	<p>Scope and Sequence - All Units: Analyze whether evidence (data) and scientific principles support proposed explanations (hypotheses, laws, theories)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.7.	Scientific Inquiry
CONCEPT: GLE / BENCHMARK	7.1.	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
GLE / PROFICIENCY	7.1.D.	The nature of science relies upon communication of results and justification of explanations
COMPONENT / INDICATOR	7.1.D.a.	<p>Scope and Sequence - All Units: Communicate the procedures and results of investigations and explanations through: oral presentations, drawings and maps, data tables (allowing for the recording and analysis of data relevant to the experiment, such as independent and dependent variables, multiple trials, beginning and ending times or temperatures, derived quantities) graphs (bar, single line, pictograph), writings</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> </ul>

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<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.8.</b>	<b>Impact of Science, Technology and Human Activity</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>8.2.</b>	Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time
<b>GLE / PROFICIENCY</b>	<b>8.2.B.</b>	Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity
<b>COMPONENT / INDICATOR</b>	<b>8.2.B.b.</b>	Scope and Sequence - All Units: Describe explanations have changed over time as a result of new evidence <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>

**Missouri Grade Level Expectations  
Science  
Grade 7**

<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.2.</b>	<b>Properties and Principals of Force and Motion</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>2.2.</b>	Forces affect motion
<b>GLE / PROFICIENCY</b>	<b>2.2.A.</b>	Forces are classified as either contact (pushes, pulls, friction, buoyancy) or non-contact forces (gravity, magnetism), that can be described in terms of direction and magnitude
<b>COMPONENT / INDICATOR</b>	<b>2.2.A.b.</b>	Scope and Sequence - Force, Motion, and Work: Compare the forces acting on an object by using a spring scale to measure them to the nearest Newton <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.A.</b>	Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation
<b>COMPONENT / INDICATOR</b>	<b>7.1.A.c.</b>	Scope and Sequence - All Units: Design and conduct a valid experiment <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a</li> </ul>

		<p>Sedimentary Rock</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.d.</p>	<p>Scope and Sequence - All Units: Evaluate the design of an experiment and make suggestions for reasonable improvements or extensions of an experiment</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.e.</p>	<p>Scope and Sequence - All Units: Recognize that different kinds of questions suggest different kinds of scientific investigations (e.g., some involve observing and describing objects organisms, or events; some involve collecting specimens; some involve experiments; some involve making observations in nature; some involve discovery of new objects and phenomena; some involve making models)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and</li> </ul>

		<p>Allochromatic Minerals</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.f.</p>	<p>Scope and Sequence - All Units: Acknowledge there is no fixed procedure called "the scientific method", but some investigations involve systematic observations, carefully collected and relevant evidence, logical reasoning, and imagination in developing hypotheses and other explanations</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> </ul>

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<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.B.</b>	Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations
<b>COMPONENT / INDICATOR</b>	<b>7.1.B.b.</b>	<p>Scope and Sequence - All Units: Determine the appropriate tools and techniques to collect data</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> </ul>

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<p>COMPONENT / INDICATOR</p>	<p>7.1.B.c.</p>	<p>Scope and Sequence - All Units: Use a variety of tools and equipment to gather data (e.g., microscopes, thermometers, analog and digital meters, computers, spring scales, balances, metric rulers, graduated cylinders, stopwatches)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT /</p>	<p>7.1.B.d.</p>	<p>Scope and Sequence - All Units: Measure length to the nearest millimeter,</p>

INDICATOR		<p>mass to the nearest gram, volume to the nearest milliliter, force (weight) to the nearest Newton, temperature to the nearest degree Celsius, time to the nearest second</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
COMPONENT / INDICATOR	7.1.B.e.	<p>Scope and Sequence - All Units: Compare amounts/measurements</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
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GLE / PROFICIENCY	7.1.C.	Scientific inquiry includes evaluation of explanations (laws/principles, theories/models) in light of evidence (data) and scientific principles (understandings)
COMPONENT / INDICATOR	7.1.C.a.	<p>Scope and Sequence - All Units: Use quantitative and qualitative data as support for reasonable explanations (conclusions)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.C.b.</p>	<p>Scope and Sequence - All Units: Use data as support for observed patterns and relationships, and to make predictions to be tested</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	7.1.C.e.	<p>Scope and Sequence - All Units: Analyze whether evidence (data) and scientific principles support proposed explanations (hypotheses, laws, theories)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.7.	Scientific Inquiry
CONCEPT: GLE / BENCHMARK	7.1.	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
GLE / PROFICIENCY	7.1.D.	The nature of science relies upon communication of results and justification of explanations
COMPONENT / INDICATOR	7.1.D.a.	<p>Scope and Sequence - All Units: Communicate the procedures and results of investigations and explanations through: oral presentations, drawings and maps, data tables (allowing for the recording and analysis of data relevant to the experiment, such as independent and dependent variables, multiple trials, beginning and ending times or temperatures, derived quantities) graphs (bar, single line, pictograph), equations and writings</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.8.</b>	<b>Impact of Science, Technology and Human Activity</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>8.2.</b>	Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time
<b>GLE / PROFICIENCY</b>	<b>8.2.B.</b>	Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity
<b>COMPONENT / INDICATOR</b>	<b>8.2.B.b.</b>	Scope and Sequence - All Units: Describe explanations have changed over time as a result of new evidence <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>

**Missouri Grade Level Expectations  
Science  
Grade 8**

<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.1.</b>	<b>Properties and Principals of Matter and Energy</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>1.1.</b>	Changes in properties and states of matter provide evidence of the atomic theory of matter
<b>GLE / PROFICIENCY</b>	<b>1.1.A.</b>	Objects, and the materials are made of, have properties that can be used to describe and classify them
<b>COMPONENT / INDICATOR</b>	<b>1.1.A.a.</b>	Scope and Sequence - Physical and Chemical Properties and Changes of Matter: Identify elements (unique atoms) and compounds (molecules or crystals) are pure substances that have characteristic properties <ul style="list-style-type: none"> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>1.1.A.b.</b>	Scope and Sequence - Physical and Chemical Properties and Changes of Matter: Describe the physical and chemical properties (e.g., magnetic attraction, conductivity, melting point and boiling point, reactivity) of pure substances (elements or compounds) (e.g., copper wire, aluminum wire, iron, charcoal, sulfur, water, salt, sugar, sodium bicarbonate, galena, quartz, magnetite, pyrite) using appropriate senses and tools <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
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<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.1.</b>	<b>Properties and Principals of Matter and Energy</b>
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<b>CONCEPT: GLE / BENCHMARK</b>	<b>1.1.</b>	Changes in properties and states of matter provide evidence of the atomic theory of matter
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<b>GLE / PROFICIENCY</b>	<b>1.1.D.</b>	Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter
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<b>COMPONENT / INDICATOR</b>	<b>1.1.D.c.</b>	<p>Scope and Sequence - Physical and Chemical Properties and Changes of Matter: Predict the effect of energy transfer on the physical properties of a substance as it changes to or from a solid, liquid, or gas (i.e., phase changes that occur during freezing, melting, evaporation, boiling, condensation)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> </ul>
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<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.1.</b>	<b>Properties and Principals of Matter and Energy</b>
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<b>CONCEPT: GLE / BENCHMARK</b>	<b>1.1.</b>	Changes in properties and states of matter provide evidence of the atomic theory of matter
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<b>GLE / PROFICIENCY</b>	<b>1.1.I.</b>	Mass is conserved during any physical or chemical change
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<b>COMPONENT / INDICATOR</b>	<b>1.1.I.b.</b>	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Explain that the amount of matter remains constant while being recycled through the rock cycle</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> </ul>
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		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.5.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>5.1.</b>	<b>Earth's systems (Geosphere, atmosphere, and hydrosphere) have common components and unique structures</b>
<b>GLE / PROFICIENCY</b>	<b>5.1.A.</b>	<b>The Earth's crust is composed of various materials, including soil, minerals, and rocks, with characteristic properties</b>
<b>COMPONENT / INDICATOR</b>	<b>5.1.A.a.</b>	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Differentiate between minerals and rocks (which are composed of different kinds of minerals)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>5.1.A.b.</b>	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Describe the distinguishing properties that can be used to classify minerals (i.e., texture, smell, luster, hardness, crystal shape, streak, reaction to magnets and acids)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and</li> </ul>

		<p>Fracture</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	5.1.A.c.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Describe the methods used to identify the distinguishing properties of minerals</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	5.1.A.d.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Classify rocks as sedimentary, igneous, or metamorphic</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.5.	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
CONCEPT: GLE / BENCHMARK	5.2.	Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes
GLE / PROFICIENCY	5.2.B.	There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates
COMPONENT / INDICATOR	5.2.B.a.	Scope and Sequence - Rock Cycle and Plate Tectonics: Explain convection currents are the result of uneven heating inside the mantle resulting in

		<p>the melting of rock materials, convection of magma, eruption/flow of magma, and movement of crustal plates</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.B.b.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Explain how rock layers are affected by the folding, breaking, and uplifting of rock layers due to plate motion</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.B.c.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Describe how the movement of crustal plates can cause earthquakes and volcanic eruptions that can result in mountain building and trench formation</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.5.	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
CONCEPT: GLE / BENCHMARK	5.2.	Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes
GLE / PROFICIENCY	5.2.C.	Continual changes in Earth's materials and surface that result from internal and external processes are described by the rock cycle
COMPONENT / INDICATOR	5.2.C.a.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Explain how heating and cooling in the mantle layer leads to the formation of metamorphic rocks and some igneous rocks</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.C.b.	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Make inferences about the formation of igneous and metamorphic rocks from their physical properties (e.g., crystal size indicates rate of cooling, air pockets or glassy texture indicate volcanic activity)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
COMPONENT / INDICATOR	5.2.C.c.	Scope and Sequence - Rock Cycle and Plate Tectonics: Explain and diagram the external and internal processes of the rock cycle (e.g., weathering and erosion, sedimentation, compaction, heating, recrystallization, resurfacing due to forces that drive plate motion)

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.5.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>5.2.</b>	Earth's systems (Geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes
<b>GLE / PROFICIENCY</b>	<b>5.2.D.</b>	Changes in the Earth over time can be inferred through rock and fossil evidence
<b>COMPONENT / INDICATOR</b>	<b>5.2.D.a.</b>	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Describe the methods used to estimate geologic time and the age of the Earth (e.g., techniques used to date rocks and rock layers, presence of fossils)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>COMPONENT / INDICATOR</b>	<b>5.2.D.b.</b>	<p>Scope and Sequence - Rock Cycle and Plate Tectonics: Use rock and fossil evidence to make inferences about the age, history, and changing life forms and environment of the Earth (i.e., changes in successive layers of sedimentary rock and the fossils contained within them, similarities between fossils in different geographic locations, similarities between fossils and organisms present today, fossils of organisms indicating changes in climate, fossils of extinct organisms)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.A.</b>	Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation
<b>COMPONENT / INDICATOR</b>	<b>7.1.A.c.</b>	<p>Scope and Sequence - All Units: Design and conduct a valid experiment</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.d.</p>	<p>Scope and Sequence - All Units: Evaluate the design of an experiment and make suggestions for reasonable improvements or extensions of an experiment</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
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<p>COMPONENT / INDICATOR</p>	<p>7.1.A.e.</p>	<p>Scope and Sequence - All Units: Recognize that different kinds of questions suggest different kinds of scientific investigations (e.g., some involve observing and describing objects organisms, or events; some involve collecting specimens; some involve experiments; some involve making observations in nature; some involve discovery of new objects and phenomena; some involve making models)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame</li> </ul>
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		<p>Test to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.A.f.</p>	<p>Scope and Sequence - All Units: Acknowledge there is no fixed procedure called "the scientific method", but some investigations involve systematic observations, carefully collected and relevant evidence, logical reasoning, and imagination in developing hypotheses and other explanations</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.7.</b>	<b>Scientific Inquiry</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>7.1.</b>	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
<b>GLE / PROFICIENCY</b>	<b>7.1.B.</b>	Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations
<b>COMPONENT / INDICATOR</b>	<b>7.1.B.b.</b>	<p>Scope and Sequence - All Units: Determine the appropriate tools and techniques to collect data</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	7.1.B.c.	<p>Scope and Sequence - All Units: Use a variety of tools and equipment to gather data (e.g., microscopes, thermometers, analog and digital meters, computers, spring scales, balances, metric rulers, graduated cylinders, stopwatches)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	7.1.B.d.	<p>Scope and Sequence - All Units: Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter, force (weight) to the nearest Newton, temperature to the nearest degree Celsius, time to the nearest second</p>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
COMPONENT / INDICATOR	7.1.B.e.	<p>Scope and Sequence - All Units: Compare amounts/measurements</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.7.	Scientific Inquiry
CONCEPT: GLE / BENCHMARK	7.1.	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
GLE / PROFICIENCY	7.1.C.	Scientific inquiry includes evaluation of explanations (laws/principles, theories/models) in light of evidence (data) and scientific principles (understandings)
COMPONENT / INDICATOR	7.1.C.a.	<p>Scope and Sequence - All Units: Use quantitative and qualitative data as support for reasonable explanations (conclusions)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and</li> </ul>

		<p>Identification</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>COMPONENT / INDICATOR</p>	<p>7.1.C.b.</p>	<p>Scope and Sequence - All Units: Use data as support for observed patterns and relationships, and to make predictions to be tested</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Mineral Identification</li> </ul>
COMPONENT / INDICATOR	7.1.C.e.	<p>Scope and Sequence - All Units: Analyze whether evidence (data) and scientific principles support proposed explanations (hypotheses, laws, theories)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.7.	Scientific Inquiry
CONCEPT: GLE / BENCHMARK	7.1.	Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
GLE / PROFICIENCY	7.1.D.	The nature of science relies upon communication of results and justification of explanations
COMPONENT / INDICATOR	7.1.D.a.	<p>Scope and Sequence - All Units: Communicate the procedures and results of investigations and explanations through: oral presentations, drawings and maps, data tables (allowing for the recording and analysis of data relevant to the experiment, such as independent and dependent variables, multiple trials, beginning and ending times or temperatures, derived quantities) graphs (bar, single line, pictograph), equations and writings</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical</li> </ul>

		<p>Weathering</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.8.</b>	<b>Impact of Science, Technology and Human Activity</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>8.2.</b>	Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time
<b>GLE / PROFICIENCY</b>	<b>8.2.B.</b>	Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity
<b>COMPONENT / INDICATOR</b>	<b>8.2.B.b.</b>	Scope and Sequence - All Units: Describe explanations have changed over time as a result of new evidence <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> </ul>

### Missouri Grade Level Expectations

#### Science

#### Grade 9

<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.ME.1.1.</b>	<b>Properties and Principles of Matter and Energy: Changes in properties and states of matter provide evidence of the atomic theory of matter</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>ME.1.1.A.9-12.a.</b>	Objects, and the materials they are made of, have properties that can be used to describe and classify them: Compare the densities of regular and irregular objects using their respective measures of volume and mass <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> </ul>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>ME.1.1.A.9-12.b.</b>	Objects, and the materials they are made of, have properties that can be used to describe and classify them: Identify pure substances by their physical and chemical properties (i.e., color, luster/reflectivity, hardness, conductivity, density, pH, melting point, boiling point, specific heat, solubility, phase at room temperature, chemical reactivity) <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> </ul>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>ME.1.1.A.9-12.c.</b>	Objects, and the materials they are made of, have properties that can be used to describe and classify them: Classify a substance as being made up of one kind of atom (element) or a compound when given the molecular formula or structural formula (or electron dot diagram) for the substance

		<ul style="list-style-type: none"> <li>Virtual Laboratory: Mineral Identification</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.B.9-12.b.	<p>Properties of mixtures depend upon the concentrations, properties, and interactions of particles: Compare and contrast the properties of acidic, basic, and neutral solutions</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.D.9-12.b.	<p>Physical changes in states of matter due to thermal changes in materials can be explained by the Kinetic Theory of Matter: Predict the effect of a temperature change on the properties (e.g., pressure, density) of a material (solids, liquids, gases)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.D.9-12.c.	<p>Physical changes in states of matter due to thermal changes in materials can be explained by the Kinetic Theory of Matter: Predict the effect of pressure changes on the properties (e.g., temperature, density) of a material (solids, liquids, gases)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.G.9-12.a.	<p>Properties of objects and states of matter can change chemically and/or physically: Distinguish between physical and chemical changes in matter</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.H.9-12.b.	<p>Chemical bonding is the combining of different pure substances (elements, compounds) to form new substances with different properties: Predict the reaction rates of different substances based on their properties (i.e., concentrations of reactants, pressure, temperature, state of matter, surface area, type of reactant material)</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> </ul>
CONCEPT: GLE / BENCHMARK	ME.1.1.H.9-12.d.	<p>Chemical bonding is the combining of different pure substances (elements, compounds) to form new substances with different properties: Identify the consequences of different types of reactions (i.e., oxidation/reduction reactions such as combustion, acid/base reactions) to humans and human activity</p> <ul style="list-style-type: none"> <li>Earth Resources: Unit 2 Lab 4 Activity 2: Chemical</li> </ul>

		<p>Analysis of Minerals</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.LO.3.1.</b>	<b>Characteristic and Interactions of Living Organisms: There is a fundamental unity underlying the diversity of all living organisms</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>LO.3.1.C.9-12.b.</b>	<p>Cells are the fundamental units of structure and function of all living things: Describe the structure of cell parts (e.g., cell wall, cell membrane, cytoplasm, nucleus, chloroplast, mitochondrion, ribosomes, vacuole) found in different types of cells (e.g., bacterial, plant, skin, nerve, blood, muscle) and the functions they perform (e.g., structural support, transport of materials, storage of genetic information, photosynthesis and respiration, synthesis of new molecules, waste disposal) that are necessary to the survival of the cell and organism</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.LO.3.3.</b>	<b>Characteristic and Interactions of Living Organisms: There is a genetic basis for the transfer of biological characteristics from one generation to the next through reproductive processes</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>LO.3.3.D.9-12.b.</b>	<p>There is heritable variation within every species of organism: Describe how genes can be altered and combined to create genetic variation within a species (e.g., mutation, recombination of genes)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.EC.4.1.</b>	<b>Changes in Ecosystems and Interactions of Organisms with their Environments: Organisms are interdependent with one another and their environment</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>EC.4.1.D.9-12.a.</b>	<p>The diversity of species within an ecosystem is affected by changes in the environment, which can be caused by other organisms or outside processes: Predict the impact (beneficial or harmful) a natural environmental event (e.g., forest fire, flood, volcanic eruption, avalanche) may have on the diversity of different species in an ecosystem</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating</li> </ul>

		Pangaea
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.EC.4.3.</b>	<b>Changes in Ecosystems and Interactions of Organisms with their Environments: Genetic variation sorted by the natural selection process explains evidence of biological evolution</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>EC.4.3.A.9-12.a.</b>	Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms and in the fossil record: Interpret fossil evidence to explain the relatedness of organisms using the principles of superposition and fossil correlation <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>EC.4.3.A.9-12.b.</b>	Evidence for the nature and rates of evolution can be found in anatomical and molecular characteristics of organisms and in the fossil record: Evaluate the evidence that supports the theory of biological evolution (e.g., fossil records, similarities between DNA and protein structures, similarities between developmental stages of organisms, homologous and vestigial structures) <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.ES.5.1.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere): Earth's Systems (geosphere, atmosphere, and hydrosphere) have common components and unique structures</b>
<b>CONCEPT: GLE / BENCHMARK</b>	<b>ES.5.1.B.9-12.a.</b>	The hydrosphere is composed of water (a material with unique properties) and other materials: Recognize the importance of water as a solvent in the environment as it relates to karst topography (cave formation), acid rain, and water pollution <ul style="list-style-type: none"> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<b>STRAND: BIG IDEA / STANDARD</b>	<b>MO.ES.5.2.</b>	<b>Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere): Earth's Systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes</b>
<b>CONCEPT: GLE /</b>	<b>ES.5.2.A.9-12.a.</b>	The Earth's materials and surface features are changed through a variety of external processes: Explain the external processes (i.e.,

BENCHMARK		<p>weathering, erosion, deposition of sediment) that result in the formation and modification of landforms</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
CONCEPT: GLE / BENCHMARK	ES.5.2.A.9-12.b.	<p>The Earth's materials and surface features are changed through a variety of external processes: Describe the factors that affect rates of weathering and erosion of landforms (e.g., soil/rock type, amount and force of run-off, slope)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
CONCEPT: GLE / BENCHMARK	ES.5.2.B.9-12.b.	<p>There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates: Illustrate and explain the convection currents that result from the uneven heating inside the mantle and cause movement of crustal plates</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
CONCEPT: GLE / BENCHMARK	ES.5.2.B.9-12.c.	<p>There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates: Describe how the energy of an earthquake travels as seismic waves and provides evidence for the layers of the geosphere</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
CONCEPT: GLE / BENCHMARK	ES.5.2.B.9-12.d.	<p>There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates: Relate the densities of the materials found in continental and oceanic plates to the processes that result in each type of plate boundary (i.e., diverging, converging, transform)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p>ES.5.2.B.9-12.e.</p>	<p>There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates: Describe the effects of the movement of crustal plates (i.e., earthquakes, sea floor spreading, mountain building, volcanic eruptions) at a given location on the planet</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p>ES.5.2.B.9-12.f.</p>	<p>There are internal processes and sources of energy within the geosphere that cause changes in Earth's crustal plates: Articulate the processes involved in the Theory of Plate Tectonics (i.e., uneven heating of the mantle due to the decay of radioactive isotopes, movement of materials via convection currents, movement of continental and oceanic plates along diverging, converging, or transform plate boundaries) and describe evidence that supports that theory (e.g., correlation of rock sequences, landforms, and fossils; presence of intrusions and faults; evidence of sea-floor spreading)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
<p><b>CONCEPT:</b></p>	<p>ES.5.2.D.9-</p>	<p>Changes in the Earth over time can be inferred through rock and fossil</p>

GLE / BENCHMARK	12.a.	<p>evidence: Use evidence from relative and real dating techniques (e.g., correlation of trace fossils, landforms, and rock sequences; evidence of climate changes; presence of intrusions and faults; magnetic orientation; relative age of drill samples)) to infer geologic history</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.ES.5.3.	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere): Human activity is dependent upon and affects Earth's resources and systems
CONCEPT: GLE / BENCHMARK	ES.5.3.A.9-12.c.	<p>Earth's materials are limited natural resources affected by human activity: Identify human activities that adversely affect the composition of the atmosphere, hydrosphere, or geosphere</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
CONCEPT: GLE / BENCHMARK	ES.5.3.A.9-12.d.	<p>Earth's materials are limited natural resources affected by human activity: Predict the effect of change on the other sphere when given a scenario describing how the composition of the atmosphere, hydrosphere, or geosphere is altered</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
CONCEPT: GLE /	ES.5.3.A.9-12.f.	Earth's materials are limited natural resources affected by human activity: Recognize the limited availability of major mineral deposits

BENCHMARK		<p>in the United States (e.g., lead, petroleum, coal, copper, zinc, iron, gravel, aluminum) and the factors that affect their availability</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.UN.6.1.	Composition and Structure of the Universe and the Motion of the Objects Within It: The universe has observable properties and structure
CONCEPT: GLE / BENCHMARK	UN.6.1.C.9-12.b.	<p>Most of the information we know about the universe comes from the electromagnetic spectrum: Evaluate the advantages/disadvantages of using different tools (e.g., spectroscope, different types of telescopes, probes) to gather information about the universe (e.g., background radiation, magnetic fields, discovery of previously unknown celestial bodies)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.SI.7.1.	Scientific Inquiry: Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking
CONCEPT: GLE / BENCHMARK	SI.7.1.A.9-12.c.	<p>Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation: Design and conduct a valid experiment</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p>SI.7.1.A.9-12.f.</p>	<p>Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation: Acknowledge there is no fixed procedure called 'the scientific method', but that some investigations involve systematic observations, carefully collected and relevant evidence, logical reasoning, and some imagination in developing hypotheses and other explanations</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic</li> </ul>

		<p>Rocks</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>CONCEPT: GLE / BENCHMARK</p>	<p>SI.7.1.A.9-12.g.</p>	<p>Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation: Evaluate the design of an experiment and make suggestions for reasonable improvements</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p><b>SI.7.1.B.9-12.a.</b></p>	<p>Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations: Make qualitative and quantitative observations using the appropriate senses, tools and equipment to gather data (e.g., microscopes, thermometers, analog and digital meters, computers, spring scales, balances, metric rulers, graduated cylinders)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p>SI.7.1.B.9-12.b.</p>	<p>Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations: Measure length to the nearest millimeter, mass to the nearest gram, volume to the nearest milliliter, force (weight) to the nearest Newton, temperature to the nearest degree Celsius, time to the nearest second</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p>SI.7.1.B.9-12.c.</p>	<p>Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations: Determine the appropriate tools and techniques to collect, analyze, and interpret data</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p>CONCEPT: GLE / BENCHMARK</p>	<p>SI.7.1.B.9-12.e.</p>	<p>Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations: Calculate the range, average/mean, percent, and ratios for sets of data</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> </ul>
<p>CONCEPT: GLE / BENCHMARK</p>	<p>SI.7.1.C.9-12.a.</p>	<p>Evidence is used to formulate explanations: Use quantitative and qualitative data as support for reasonable explanations (conclusions)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> </ul>

		<ul style="list-style-type: none"> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
<p><b>CONCEPT: GLE / BENCHMARK</b></p>	<p><b>SI.7.1.C.9-12.b.</b></p>	<p>Evidence is used to formulate explanations: Analyze experimental data to determine patterns, relationship, perspectives, and credibility of explanations (e.g., predict/extrapolate data, explain the relationship between the independent and dependent variable)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture</li> <li>• Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals</li> <li>• Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame</li> </ul>

		<p>Test to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure</li> <li>• Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Virtual Laboratory: Mineral Identification</li> </ul>
CONCEPT: GLE / BENCHMARK	SI.7.1.D.9-12.a.	<p>Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings): Analyze whether evidence (data) and scientific principles support proposed explanations (hypotheses, laws, theories)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
CONCEPT: GLE / BENCHMARK	SI.7.1.E.9-12.a.	<p>The nature of science relies upon communication of results and justification of explanations: Communicate the procedures and results of investigations and explanations through: oral presentations; drawings and maps; data tables (allowing for the recording and analysis of data relevant to the experiment such as independent and dependent variables, multiple trials, beginning and ending times or temperatures, derived quantities); graphs (bar, single, and multiple line); equations and writings</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.ST.8.2.	<p>Impact of Science, Technology and Human Activity: Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time</p>
CONCEPT: GLE / BENCHMARK	ST.8.2.B.9-12.a.	<p>Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity: Identify and describe how explanations (hypotheses, laws, theories) of scientific phenomena have changed over time as a result of new evidence (e.g., model of the solar system, basic structure of matter, structure of an atom, Theory of Plate Tectonics, Big Bang and nebular theory of the Universe, explanation of electric current)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth</li> </ul>

		Processes
CONCEPT: GLE / BENCHMARK	ST.8.2.B.9-12.b.	<p>Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity: Identify and analyze current theories that are being questioned, and compare them to new theories that have emerged to challenge older ones (e.g., Theory of Evolution, theories of extinction, global warming) (Assess Locally)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time</li> <li>• Teacher Resource CD: Rocks, Minerals, and Earth Processes</li> </ul>
STRAND: BIG IDEA / STANDARD	MO.ST.8.3.	Impact of Science, Technology and Human Activity: Science and technology affect, and are affected by, society
CONCEPT: GLE / BENCHMARK	ST.8.3.C.9-12.c.	<p>Scientific ethics require that scientists must not knowingly subject people or the community to health or property risks without their knowledge and consent: Identify and evaluate the role of models as an ethical alternative to direct experimentation (e.g., using a model for a stream rather than pouring oil in an existing stream when studying the effects of oil pollution)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock</li> <li>• Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks</li> <li>• Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks</li> <li>• Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering</li> <li>• Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering</li> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
CONCEPT: GLE / BENCHMARK	ST.8.3.D.9-12.a.	<p>Scientific information is presented through a number of credible sources, but is at times influenced in such a way to become non-credible: Evaluate a given source for its scientific credibility (e.g., articles in a new periodical quoting an 'eye witness', a scientist speaking within or outside his/her area of expertise)</p> <ul style="list-style-type: none"> <li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li> <li>• Teacher Resource CD: Fossils and Geologic Time</li> </ul>
CONCEPT: GLE /	ST.8.3.D.9-12.b.	Scientific information is presented through a number of credible sources, but is at times influenced in such a way to become non-

BENCHMARK		<p>credible: Explain why accurate record-keeping, openness, and replication are essential for maintaining an investigator's credibility with other scientists and society</p> <ul style="list-style-type: none"><li>• Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea</li><li>• Teacher Resource CD: Fossils and Geologic Time</li></ul>
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