

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

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

Indiana Academic Standards
Science
Grade 6

STANDARD	IN.6.1.	The Nature of Science and Technology: Students design investigations. They use computers and other technology to collect and analyze data; they explain findings, and can relate how they conduct investigations to how the scientific enterprise functions as a whole. Students understand that technology has allowed humans to do many things, yet it cannot always provide solutions to our needs.
PROFICIENCY STATEMENT	6.1.1.	<p>The Scientific View of the World: Explain that some scientific knowledge, such as the length of the year, is very old and yet is still applicable today. Understand, however, that scientific knowledge is never exempt from review and criticism.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	6.1.2.	<p>Scientific Inquiry: Give examples of different ways scientists investigate natural phenomena and identify processes all scientists use, such as collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations in order to make sense of the evidence.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of

		<p>Minerals</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.1.6.</p>	<p>The Scientific Enterprise: Explain that computers have become invaluable in science because they speed up and extend people's ability to collect, store, compile, and analyze data, prepare research reports, and share data and ideas with investigators all over the world.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.1.7.</p>	<p>Technology and Science: Explain that technology is essential to science for such purposes as access to outer space and other remote locations, sample collection and treatment, measurement, data collection and storage, computation, and communication of information.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>STANDARD</p>	<p>IN.6.2.</p>	<p>Scientific Thinking: Students use computers and other tools to collect information, calculate, and analyze data. They prepare tables and graphs, using these to summarize data and identify relationships.</p>

<p>PROFICIENCY STATEMENT</p>	<p>6.2.2.</p>	<p>Computation and Estimation: Use technology, such as calculators or computer spreadsheets, in analysis of data.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.2.4.</p>	<p>Manipulation and Observation: Inspect, disassemble, and reassemble simple mechanical devices and describe what the various parts are for. Estimate what the effect of making a change in one part of a system is likely to have on the system as a whole.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.2.5.	<p>Communication Skills: Organize information in simple tables and graphs and identify relationships they reveal. Use tables and graphs as examples of evidence for explanations when writing essays or writing about lab work, fieldwork, etc.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.2.6.	<p>Communication Skills: Read simple tables and graphs produced by others and describe in words what they show.</p>

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.2.7.</p>	<p>Communication Skills: Locate information in reference books, back issues of newspapers and magazines, compact disks, and computer databases.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.2.8.</p>	<p>Communication Skills: Analyze and interpret a given set of findings, demonstrating that there may be more than one good way to do so.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test

		<p>to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.2.9.</p>	<p>Critical Response Skills: Compare consumer products, such as generic and brand-name products, and consider reasonable personal trade-offs among them on the basis of features, performance, durability, and costs.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig

		<ul style="list-style-type: none"> Virtual Laboratory: Mineral Identification
STANDARD	IN.6.3.	The Physical Setting: Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.
PROFICIENCY STATEMENT	6.3.1.	<p>The Universe: Compare and contrast the size, composition, and surface features of the planets that comprise the solar system, as well as the objects orbiting them. Explain that the planets, except Pluto, move around the sun in nearly circular orbits.</p> <ul style="list-style-type: none"> Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.3.5.	<p>The Earth and the Processes That Shape It: Use models or drawings to explain that the Earth has different seasons and weather patterns because it turns daily on an axis that is tilted relative to the plane of the Earth's yearly orbit around the sun. Know that because of this, sunlight falls more intensely on different parts of the Earth during the year (the accompanying greater length of days also has an effect) and the difference in heating produces seasons and weather patterns.</p> <ul style="list-style-type: none"> Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	6.3.6.	<p>The Earth and the Processes That Shape It: Use models or drawings to explain that the phases of the moon are caused by the moon's orbit around the Earth, once in about 28 days, changing what part of the moon is lighted by the sun and how much of that part can be seen from the Earth, both during the day and night.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	6.3.7.	<p>The Earth and the Processes That Shape It: Understand and describe the scales involved in characterizing the Earth and its atmosphere. Describe that the Earth is mostly rock, that three-fourths of its surface is covered by a relatively thin layer of water, and that the entire planet is surrounded by a relatively thin blanket of air.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness

		<p>of a Mineral</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.3.14.</p>	<p>The Earth and the Processes That Shape It: Give examples of some minerals that are very rare and some that exist in great quantities. Explain how recycling and the development of substitutes can reduce the rate of depletion of minerals.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.3.15.</p>	<p>The Earth and the Processes That Shape It: Explain that although weathered rock is the basic component of soil, the composition and texture of soil and its fertility and resistance to erosion are greatly influenced by plant roots and debris, bacteria, fungi, worms, insects, and other organisms.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	6.3.16.	<p>The Earth and the Processes That Shape It: Explain that human activities, such as reducing the amount of forest cover, increasing the amount and variety of chemicals released into the atmosphere, and intensive farming, have changed the capacity of the environment to support some life forms.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	6.3.18.	<p>Matter and Energy: Investigate and describe that when a new material, such as concrete, is made by combining two or more materials, it has properties that are different from the original materials.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	6.3.20.	<p>Matter and Energy: Investigate that equal volumes of different substances usually have different masses as well as different densities.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	6.3.22.	<p>Forces of Nature: Demonstrate that vibrations in materials set up wavelike disturbances that spread away from the source such as sound and earthquake waves.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.6.5.	<p>The Mathematical World: Students apply mathematics in scientific contexts. They use mathematical ideas, such as relations between operations, symbols, shapes in three dimensions, statistical relationships, and the use of logical reasoning, to represent and synthesize data.</p>
PROFICIENCY STATEMENT	6.5.1.	<p>Numbers: Demonstrate that the operations addition and subtraction are inverses and that multiplication and division are inverses of each other.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	6.5.2.	<p>Numbers: Evaluate the precision and usefulness of data based on measurements taken.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a

		<p>Sedimentary Rock</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.5.3.</p>	<p>Shapes and Symbolic Relationships: Explain why shapes on a sphere like the Earth cannot be depicted on a flat surface without some distortion.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	6.5.4.	<p>Shapes and Symbolic Relationships: Demonstrate how graphs may help to show patterns, such as trends, varying rates of change, gaps, or clusters, which can be used to make predictions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.5.5.	<p>Reasoning and Uncertainty: Explain the strengths and weaknesses of using an analogy to help describe an event, object, etc.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>6.5.6.</p>	<p>Reasoning and Uncertainty: Predict the frequency of the occurrence of future events based on data.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.5.7.	<p>Reasoning and Uncertainty: Demonstrate how probabilities and ratios can be expressed as fractions, percentages, or odds.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
STANDARD	IN.6.6.	<p>Historical Perspectives: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that the ideas are often rejected by the scientific establishment, that the ideas sometimes spring from unexpected findings, and that the ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	6.6.1.	<p>Understand and explain that from the earliest times until now, people have believed that even though countless different kinds of materials seem to exist in the world, most things can be made up of combinations of just a few basic kinds of things. Note that there has not always been agreement, however, on what those basic kinds of things are, such as the theory of long ago that the basic substances were earth, water, air, and fire. Understand that this theory seemed to explain many observations about the world, but as we know now, it fails to explain many others.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a

		<p>Mineral</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	6.6.2.	<p>Understand and describe that scientists are still working out the details of what the basic kinds of matter are on the smallest scale, and of how they combine, or can be made to combine, to make other substances.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	6.6.3.	<p>Understand and explain that the experimental and theoretical work done by French scientist Antoine Lavoisier in the decade between the American and French Revolutions contributed crucially to the modern science of chemistry.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.6.7.	<p>Common Themes: Students use mental and physical models to conceptualize processes. They recognize that many systems have feedback mechanisms that limit changes.</p>
PROFICIENCY STATEMENT	6.7.2.	<p>Models and Scale: Use models to illustrate processes that happen too slowly, too quickly, or on too small a scale to observe directly, or are too vast to be changed deliberately, or are potentially dangerous.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks

		<ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	6.7.3.	<p>Constancy and Change: Identify examples of feedback mechanisms within systems that serve to keep changes within specified limits.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification

**Indiana Academic Standards
Science
Grade 7**

STANDARD	IN.7.1.	The Nature of Science and Technology: Students further their scientific understanding of the natural world through investigations, experiences, and readings. They design solutions to practical problems by using a variety of scientific methodologies.
PROFICIENCY STATEMENT	7.1.1.	<p>The Scientific View of the World: Recognize and explain that when similar investigations give different results, the scientific challenge is to judge whether the differences are trivial or significant, which often takes further studies to decide.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.1.2.</p>	<p>Scientific Inquiry: Explain that what people expect to observe often affects what they actually do observe and provide an example of a solution to this problem.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and

		<p>Identification</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.1.3.</p>	<p>Scientific Inquiry: Explain why it is important in science to keep honest, clear, and accurate records.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig

		<ul style="list-style-type: none"> Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	7.1.4.	<p>Scientific Inquiry: Describe that different explanations can be given for the same evidence, and it is not always possible to tell which one is correct without further inquiry.</p> <ul style="list-style-type: none"> Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig Teacher Resource CD: Fossils and Geologic Time Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	7.1.6.	<p>The Scientific Enterprise: Provide examples of people who overcame bias and/or limited opportunities in education and employment to excel in the fields of science.</p> <ul style="list-style-type: none"> Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea

		<ul style="list-style-type: none"> Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	7.1.10.	<p>Technology and Science: Identify ways that technology has strongly influenced the course of history and continues to do so.</p> <ul style="list-style-type: none"> Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	7.1.11.	<p>Technology and Science: Illustrate how numbers can be represented by using sequences of only two symbols, such as 1 and 0 or on and off, and how that affects the storage of information in our society.</p> <ul style="list-style-type: none"> Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
STANDARD	IN.7.2.	<p>Scientific Thinking: Students use instruments and tools to measure, calculate, and organize data. They frame arguments in quantitative terms when possible. They question claims and understand that findings may be interpreted in more than one acceptable way.</p>
PROFICIENCY STATEMENT	7.2.1.	<p>Computation and Estimation: Find what percentage one number is of another and figure any percentage of any number.</p> <ul style="list-style-type: none"> Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	7.2.2.	<p>Computation and Estimation: Use formulas to calculate the circumferences and areas of rectangles, triangles, and circles, and the volumes of rectangular solids.</p> <ul style="list-style-type: none"> Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	7.2.3.	<p>Computation and Estimation: Decide what degree of precision is adequate, based on the degree of precision of the original data, and round off the result of calculator operations to significant figures that reasonably reflect those of the inputs.</p> <ul style="list-style-type: none"> Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.2.4.</p>	<p>Computation and Estimation: Express numbers like 100, 1,000, and 1,000,000 as powers of 10.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
<p>PROFICIENCY STATEMENT</p>	<p>7.2.5.</p>	<p>Computation and Estimation: Estimate probabilities of outcomes in familiar situations, on the basis of history or the number of possible outcomes.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test

		<p>to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.2.6.</p>	<p>Manipulation and Observation: Read analog and digital meters on instruments used to make direct measurements of length, volume, weight, elapsed time, rates, or temperatures, and choose appropriate units.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
<p>PROFICIENCY STATEMENT</p>	<p>7.2.7.</p>	<p>Communication Skills: Incorporate circle charts, bar and line graphs, diagrams, scatter plots, and symbols into writing, such as lab or research reports, to serve as evidence for claims and/or conclusions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic

		<p>Time</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
STANDARD	IN.7.3.	The Physical Setting: Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.
PROFICIENCY STATEMENT	7.3.3.	<p>The Earth and the Processes That Shape It: Describe how climates sometimes have changed abruptly in the past as a result of changes in the Earth's crust, such as volcanic eruptions or impacts of huge rocks from space.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	7.3.4.	<p>The Earth and the Processes That Shape It: Explain how heat flow and movement of material within the Earth causes earthquakes and volcanic eruptions and creates mountains and ocean basins.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	7.3.7.	<p>The Earth and the Processes That Shape It: Give examples of some changes in the Earth's surface that are abrupt, such as earthquakes and volcanic eruptions, and some changes that happen very slowly, such as uplift and wearing down of mountains, and the action of glaciers.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes

<p>PROFICIENCY STATEMENT</p>	<p>7.3.8.</p>	<p>The Earth and the Processes That Shape It: Describe how sediments of sand and smaller particles, sometimes containing the remains of organisms, are gradually buried and are cemented together by dissolved minerals to form solid rock again.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.3.9.</p>	<p>The Earth and the Processes That Shape It: Explain that sedimentary rock, when buried deep enough, may be reformed by pressure and heat, perhaps melting and recrystallizing into different kinds of rock. Describe that these reformed rock layers may be forced up again to become land surface and even mountains, and subsequently erode.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Teacher Resource CD: Rocks, Minerals, and Earth Processes
<p>PROFICIENCY STATEMENT</p>	<p>7.3.10.</p>	<p>The Earth and the Processes That Shape It: Explain how the thousands of layers of sedimentary rock can confirm the long history of the changing</p>

		<p>surface of the Earth and the changing life forms whose remains are found in successive layers, although the youngest layers are not always found on top, because of folding, breaking, and uplift of layers.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	7.3.12.	<p>Matter and Energy: Investigate how the temperature and acidity of a solution influences reaction rates, such as those resulting in food spoilage.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	7.3.13.	<p>Matter and Energy: Explain that many substances dissolve in water. Understand that the presence of these substances often affects the rates of reactions that are occurring in the water as compared to the same reactions occurring in the water in the absence of the substances.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Virtual Laboratory: Mineral Identification
STANDARD	IN.7.5.	<p>The Mathematical World: Students apply mathematics in scientific contexts. They use mathematical ideas, such as relations between operations, symbols, statistical relationships, and the use of logical reasoning, in the representation and synthesis of data.</p>
PROFICIENCY STATEMENT	7.5.1.	<p>Numbers: Demonstrate how a number line can be extended on the other side of zero to represent negative numbers and give examples of instances where this is useful.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	7.5.2.	<p>Shapes and Symbolic Relationships: Illustrate how lines can be parallel, perpendicular, or oblique.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	7.5.3.	<p>Shapes and Symbolic Relationships: Demonstrate how the scale chosen for a graph or drawing determines its interpretation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>7.5.4.</p>	<p>Reasoning and Uncertainty: Describe that the larger the sample, the more accurately it represents the whole. Understand, however, that any sample can be poorly chosen and this will make it unrepresentative of the whole.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
STANDARD	IN.7.6.	<p>Historical Perspectives: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that the ideas are often rejected by the scientific establishment, that the ideas sometimes spring from unexpected findings, and that the ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	7.6.1.	<p>Understand and explain that throughout history, people have created explanations for disease. Note that some held that disease had spiritual causes, but that the most persistent biological theory over the centuries was that illness resulted from an imbalance in the body fluids. Realize that the introduction of germ theory by Louis Pasteur and others in the 19th century led to the modern understanding of how many diseases are caused by microorganisms, such as bacteria, viruses, yeasts, and parasites.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	7.6.2.	<p>Understand and explain that Louis Pasteur wanted to find out what caused milk and wine to spoil. Note that he demonstrated that spoilage and fermentation occur when microorganisms enter from the air, multiply rapidly, and produce waste products, with some desirable results, such as carbon dioxide in bread dough, and some undesirable, such as acetic acid in wine. Understand that after showing that spoilage could be avoided by keeping germs out or by destroying them with heat, Pasteur investigated animal diseases and showed that microorganisms were involved in many of them. Also note that other investigators later showed that specific kinds of germs caused specific diseases.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes

STANDARD	IN.7.7.	Common Themes: Students analyze the relationships within systems. They investigate how different models can represent the same data, rates of change, cyclic changes, and changes that counterbalance one another.
PROFICIENCY STATEMENT	7.7.1.	<p>Systems: Explain that the output from one part of a system, which can include material, energy, or information, can become the input to other parts and this feedback can serve to control what goes on in the system as a whole.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	7.7.2.	<p>Models and Scale: Use different models to represent the same thing, noting that the kind of model and its complexity should depend on its purpose.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	7.7.3.	<p>Constancy and Change: Describe how physical and biological systems tend to change until they reach equilibrium and remain that way unless their surroundings change.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical

		<p>Weathering</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	7.7.4.	<p>Constancy and Change: Use symbolic equations to show how the quantity of something changes over time or in response to changes in other quantities.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig

Indiana Academic Standards
Science
Grade 8

STANDARD	IN.8.1.	<p>The Nature of Science and Technology: Students design and carry out increasingly sophisticated investigations. They understand the reason for isolating and controlling variables in an investigation. They realize that scientific knowledge is subject to change as new evidence arises. They examine issues in the design and use of technology, including constraints, safeguards, and trades offs.</p>
PROFICIENCY STATEMENT	8.1.1.	<p>The Scientific View of the World: Recognize that and describe how scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>8.1.2.</p>	<p>The Scientific View of the World: Recognize and explain that some matters cannot be examined usefully in a scientific way.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test

		<p>to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>8.1.3.</p>	<p>Scientific Inquiry: Recognize and describe that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be attributable to any one of the variables.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.1.4.	<p>The Scientific Enterprise: 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"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
STANDARD	IN.8.2.	Scientific Thinking: Students use computers to organize and compare information. They perform calculations and determine the appropriate units for the answers. They weigh the evidence for or against an argument, as well as the logic of the conclusions.
PROFICIENCY STATEMENT	8.2.1.	Computation and Estimation: Estimate distances and travel times from

		<p>maps and the actual size of objects from scale drawings.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.2.2.	<p>Computation and Estimation: Determine in what unit, such as seconds, meters, grams, etc., an answer should be expressed based on the units of the inputs to the calculation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering
PROFICIENCY STATEMENT	8.2.3.	<p>Manipulation and Observation: Use proportional reasoning to solve problems.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.2.6.	<p>Communication: Write clear, step-by-step instructions (procedural summaries) for conducting investigations, operating something, or following a procedure.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.2.7.	<p>Communication: Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.2.9.	<p>Critical Response Skills: Explain why arguments are invalid if based on very small samples of data, biased samples, or samples for which there was no control sample.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>8.2.10.</p>	<p>Critical Response Skills: Identify and criticize the reasoning in arguments in which fact and opinion are intermingled or the conclusions do not follow logically from the evidence given, an analogy is not apt, no mention is made of whether the control group is very much like the experimental group, or all members of a group are implied to have nearly identical characteristics that differ from those of other groups.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral

		<p>Color</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Virtual Laboratory: Mineral Identification
STANDARD	IN.8.3.	The Physical Setting: Students collect and organize data to identify relationships between physical objects, events, and processes. They use logical reasoning to question their own ideas as new information challenges their conceptions of the natural world.
PROFICIENCY STATEMENT	8.3.2.	<p>The Earth and the Processes That Shape It: Explain that the slow movement of material within the Earth results from heat flowing out of the deep interior and the action of gravitational forces on regions of different density.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	8.3.3.	<p>The Earth and the Processes That Shape It: Explain that the solid crust of the Earth, including both the continents and the ocean basins, consists of separate plates that ride on a denser, hot, gradually deformable layer of earth. Understand that the crust sections move very slowly, pressing against one another in some places, pulling apart in other places. Further understand that ocean-floor plates may slide under continental plates, sinking deep into the Earth, and that the surface layers of these plates may fold, forming mountain ranges.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	8.3.4.	<p>The Earth and the Processes That Shape It: Explain that earthquakes often occur along the boundaries between colliding plates, and molten rock from below creates pressure that is released by volcanic eruptions, helping to build up mountains. Understand that under the ocean basins, molten rock may well up between separating plates to create new ocean floor. Further understand that volcanic activity along the ocean floor may form undersea mountains, which can thrust above the ocean's surface to become islands.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	8.3.6.	<p>The Earth and the Processes That Shape It: Understand and explain that the benefits of the Earth's resources, such as fresh water, air, soil, and trees, are finite and can be reduced by using them wastefully or by deliberately or accidentally destroying them.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
STANDARD	IN.8.4.	<p>The Living Environment: Students trace the flow of matter and energy through ecosystems. They understand that the total amount of matter remains constant and that almost all food energy has its origin in sunlight.</p>
PROFICIENCY STATEMENT	8.4.9.	<p>Human Identity: Recognize and describe that fossil evidence is consistent with the idea that human beings evolved from earlier species.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time
STANDARD	IN.8.5.	<p>The Mathematical World: Students apply mathematics in scientific contexts. Students use mathematical ideas, such as symbols, geometrical relationships, statistical relationships, and the use of key words and rules in logical reasoning, in the representation and synthesis of data.</p>
PROFICIENCY STATEMENT	8.5.1.	<p>Numbers: Understand and explain that a number must be written with an appropriate number of significant figures (determined by the measurements from which the number is derived).</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.2.	<p>Shapes and Symbolic Relationships: Show that an equation containing a variable may be true for just one value of the variable.</p>

		<ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.3.	<p>Shapes and Symbolic Relationships: Demonstrate that mathematical statements can be used to describe how one quantity changes when another changes.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.4.	<p>Shapes and Symbolic Relationships: Illustrate how graphs can show a variety of possible relationships between two variables.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.5.	<p>Shapes and Symbolic Relationships: Illustrate that it takes two numbers to locate a point on a map or any other two-dimensional surface.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.6.	<p>Reasoning and Uncertainty: Explain that a single example can never prove that something is always true, but it could prove that something is not always true.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical

		<p>Weathering</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.5.7.	<p>Reasoning and Uncertainty: Recognize and describe the danger of making over-generalizations when inventing a general rule based on a few observations.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	8.5.8.	<p>Reasoning and Uncertainty: Explain how estimates can be based on data from similar conditions in the past or on the assumption that all the possibilities are known.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.5.9.	<p>Reasoning and Uncertainty: Compare the mean, median, and mode of a data set.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	8.5.10.	<p>Reasoning and Uncertainty: Explain how the comparison of data from two groups involves comparing both their middles and the spreads.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
STANDARD	IN.8.6.	<p>Historical Perspectives: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that the ideas are</p>

		often rejected by the scientific establishment, that the ideas sometimes spring from unexpected findings, and that they grow or transform slowly through the contributions of many different investigators.
PROFICIENCY STATEMENT	8.6.1.	<p>Understand and explain that Antoine Lavoisier's work was based on the idea that when materials react with each other, many changes can take place, but that in every case the total amount of matter afterward is the same as before. Note that Lavoisier successfully tested the concept of conservation of matter by conducting a series of experiments in which he carefully measured the masses of all the substances involved in various chemical reactions, including the gases used and those given off.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	8.6.2.	<p>Understand and describe that the accidental discovery that minerals containing uranium darken photographic film, as light does, led to the discovery of radioactivity.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.8.7.	Common Themes: Students analyze the parts and interactions of systems to understand internal and external relationships. They investigate rates of change, cyclic changes, and changes that counterbalance one another. They use mental and physical models to reflect upon and interpret the limitations of such models.
PROFICIENCY STATEMENT	8.7.1.	<p>Systems: Explain that a system usually has some properties that are different from those of its parts but appear because of the interaction of those parts.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.7.2.	<p>Systems: Explain that even in some very simple systems, it may not always be possible to predict accurately the result of changing some part or connection.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and

		<p>Pressure on Rock Layers</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>8.7.3.</p>	<p>Models and Scale: Use technology to assist in graphing and with simulations that compute and display results of changing factors in models.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	8.7.4.	<p>Models and Scale: Explain that as the complexity of any system increases, gaining an understanding of it depends on summaries, such as averages and ranges, and on descriptions of typical examples of that system.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	8.7.5.	<p>Constancy and Change: Observe and describe that a system may stay the same because nothing is happening or because things are happening that counteract one another.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification

<p>PROFICIENCY STATEMENT</p>	<p>8.7.6.</p>	<p>Constancy and Change: Recognize that and describe how symmetry may determine properties of many objects, such as molecules, crystals, organisms, and designed structures.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>8.7.7.</p>	<p>Constancy and Change: Illustrate how things such as seasons or body temperature occur in cycles.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
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**Indiana Academic Standards
Science
Grade 9**

STANDARD	IN.B.1.	Biology I: Principles of Biology: Students work with the concepts, principles, and theories that enable them to understand the living environment. They recognize that living organisms are made of cells or cell products that consist of the same components as all other matter, involve the same kinds of transformations of energy, and move using the same kinds of basic forces. Students investigate, through laboratories and fieldwork, how living things function and how they interact with one another and their environment.
PROFICIENCY STATEMENT	B.1.9.	<p>Molecules and Cells: Recognize and describe that both living and non-living things are composed of compounds, which are themselves made up of elements joined by energy-containing bonds, such as those in ATP.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	B.1.16.	<p>Developmental and Organismal Biology: Explain how higher levels of organization result from specific complexing and interactions of smaller units and that their maintenance requires a constant input of energy as well as new material.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure
PROFICIENCY STATEMENT	B.1.19.	<p>Developmental and Organismal Biology: Recognize and describe that metabolism consists of the production, modification, transport, and exchange of materials that are required for the maintenance of life.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure
PROFICIENCY STATEMENT	B.1.32.	<p>Evolution: Explain how natural selection leads to organisms that are well suited for survival in particular environments, and discuss how natural selection provides scientific explanation for the history of life on earth as depicted in the fossil record and in the similarities evident within the diversity of existing organisms.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	B.1.42.	<p>Ecology: Realize and explain that at times, the environmental conditions are such that plants and marine organisms grow faster than decomposers can recycle them back to the environment. Understand that layers of energy-rich organic material thus laid down have been gradually turned</p>

		<p>into great coal beds and oil pools by the pressure of the overlying earth. Further understand that by burning these fossil fuels, people are passing most of the stored energy back into the environment as heat and releasing large amounts of carbon dioxide.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	B.1.44.	<p>Ecology: Describe the flow of matter, nutrients, and energy within ecosystems.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure
STANDARD	IN.B.2.	<p>Biology I: Historical Perspectives of Biology: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that these ideas are often rejected by the scientific establishment, that these ideas sometimes spring from unexpected findings, and that these ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	B.2.1.	<p>Explain that prior to the studies of Charles Darwin, the most widespread belief was that all known species were created at the same time and remained unchanged throughout history. Note that some scientists at the time believed that features an individual acquired during a lifetime could be passed on to its offspring, and the species could thereby gradually change to fit an environment better.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	B.2.2.	<p>Explain that Darwin argued that only biologically inherited characteristics could be passed on to offspring. Note that some of these characteristics were advantageous in surviving and reproducing. Understand that the offspring would also inherit and pass on those advantages, and over generations the aggregation of these inherited advantages would lead to a new species.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	B.2.3.	<p>Describe that the quick success of Darwin's book Origin of Species, published in 1859, came from the clear and understandable argument it made, including the comparison of natural selection to the selective breeding of animals in wide use at the time, and from the massive array of biological and fossil evidence it assembled to support the argument.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	B.2.4.	<p>Explain that after the publication of Origin of Species, biological evolution was supported by the rediscovery of the genetics experiments of an Austrian monk, Gregor Mendel, by the identification of genes and how they are sorted in reproduction, and by the discovery that the genetic code found in DNA is the same for almost all organisms.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.C.1.	<p>Chemistry I: Principles of Chemistry: Students begin to conceptualize the general structure of the atom and the roles played by the main parts of the atom in determining the properties of materials. They investigate, through such methods as laboratory work, the nature of chemical changes and the role of energy in those changes.</p>
PROFICIENCY STATEMENT	C.1.1.	<p>Properties of Matter: Differentiate between pure substances and mixtures based on physical properties such as density, melting point, boiling point, and solubility.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig

		<ul style="list-style-type: none"> • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.2.	<p>Properties of Matter: Determine the properties and quantities of matter such as mass, volume, temperature, density, melting point, boiling point, conductivity, solubility, color, numbers of moles, and pH (calculate pH from the hydrogen-ion concentration), and designate these properties as either extensive or intensive.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.3.	<p>Properties of Matter: Recognize indicators of chemical changes such as temperature change, the production of a gas, the production of a precipitate, or a color change.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.5.	<p>Properties of Matter: Describe solutions in appropriate concentration units (be able to calculate these units) such as molarity, percent by mass or volume, parts per million (ppm), or parts per billion (ppb).</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	C.1.6.	<p>Properties of Matter: Predict formulas of stable ionic compounds based on charge balance of stable ions.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.7.	<p>Properties of Matter: Use appropriate nomenclature when naming compounds.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.8.	<p>Properties of Matter: Use formulas and laboratory investigations to classify substances as metal or nonmetal, ionic or molecular, acid or base, and organic or inorganic.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.9.	<p>The Nature of Chemical Change: Describe chemical reactions with balanced chemical equations.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.10.	<p>The Nature of Chemical Change: Recognize and classify reactions of various types such as oxidation-reduction.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.11.	<p>The Nature of Chemical Change: Predict products of simple reaction types including acid/base, electron transfer, and precipitation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.12.	<p>The Nature of Chemical Change: Demonstrate the principle of conservation of mass through laboratory investigations.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>C.1.13.</p>	<p>The Nature of Chemical Change: Use the principle of conservation of mass to make calculations related to chemical reactions. Calculate the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.15.	<p>The Nature of Chemical Change: Given a chemical equation, calculate the mass, gas volume, and/or number of moles needed to produce a given gas volume, mass, and/or number of moles of product.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.16.	<p>The Nature of Chemical Change: Calculate the percent composition by mass of a compound or mixture when given the formula.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.19.	<p>The Nature of Chemical Change: Use titration data to calculate the concentration of an unknown solution.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering
PROFICIENCY STATEMENT	C.1.20.	<p>The Nature of Chemical Change: Predict how a reaction rate will be quantitatively affected by changes of concentration.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	C.1.21.	<p>The Nature of Chemical Change: Predict how changes in temperature, surface area, and the use of catalysts will qualitatively affect the rate of a reaction.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	C.1.22.	<p>The Nature of Chemical Change: Use oxidation states to recognize</p>

STATEMENT		<p>electron transfer reactions and identify the substance(s) losing and gaining electrons in an electron transfer reaction.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.23.	<p>The Nature of Chemical Change: Write a rate law using a chemical equation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.26.	<p>The Structure of Matter: Describe physical changes and properties of matter through sketches and descriptions of the involved materials.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame

		<p>Test to Identify Unknown Mineral Samples</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>C.1.27.</p>	<p>The Structure of Matter: Describe chemical changes and reactions using sketches and descriptions of the reactants and products.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.33.	<p>The Structure of Matter: Use an element's location in the Periodic Table to determine its number of valence electrons, and predict what stable ion or ions an element is likely to form in reacting with other specified elements.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.35.	<p>The Structure of Matter: Infer and explain physical properties of substances, such as melting points, boiling points, and solubility, based on the strength of molecular attractions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical

		<p>Weathering</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.36.	<p>The Structure of Matter: Describe the nature of ionic, covalent, and hydrogen bonds, and give examples of how they contribute to the formation of various types of compounds.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	C.1.40.	<p>The Nature of Energy and Change: Classify chemical reactions and/or phase changes as exothermic or endothermic.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.1.41.	<p>The Nature of Energy and Change: Describe the role of light, heat, and electrical energies in physical, chemical, and nuclear changes.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	C.1.44.	<p>The Basic Structures and Reactions of Organic Chemicals: Convert between formulas and names of common organic compounds.</p> <ul style="list-style-type: none"> • Virtual Laboratory: Mineral Identification
STANDARD	IN.C.2.	<p>Chemistry I: Historical Perspectives of Chemistry: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, students understand that new ideas are limited by the context in which they are conceived, that these ideas are often rejected by the scientific establishment, that these ideas sometimes spring from unexpected findings, and that these ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	C.2.2.	<p>Describe how Lavoisier's system for naming substances and describing</p>

		<p>their</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>C.2.3.</p>	<p>Explain that John Dalton's modernization of the ancient Greek ideas of element,</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes

PROFICIENCY STATEMENT	C.2.4.	<p>Explain how Frederich Wohler's synthesis of the simple organic compound urea from inorganic substances made it clear that living organisms carry out chemical processes not fundamentally different from inorganic chemical processes. Describe how this discovery led to the development of the huge field of organic chemistry, the industries based on it, and eventually to the field of biochemistry.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	C.2.5.	<p>Explain how Arrhenius's discovery of the nature of ionic solutions contributed to the understanding of a broad class of chemical reactions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	C.2.6.	<p>Explain that the appreciation of the laws of quantum mechanics to chemistry by Linus Pauling and others made possible an understanding of chemical reactions on the atomic level.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	C.2.7.	<p>Describe how the discovery of the structure of DNA by James D. Watson and Francis Crick made it possible to interpret the genetic code on the basis of a sequence of 'letters'.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes

STANDARD	IN.ES.1.	Earth Science: Principles of Earth and Space Science: Students investigate, through laboratory and fieldwork, the universe, the Earth, and the processes that shape the Earth. They understand that the Earth operates as a collection of interconnected systems that may be changing or may be in equilibrium. Students connect the concepts of energy, matter, conservation, and gravitation to the Earth, solar system, and universe. Students utilize knowledge of the materials and processes of the Earth, planets, and stars in the context of the scales of time and size.
PROFICIENCY STATEMENT	ES.1.4.	<p>The Universe: Describe Hubble's law. Identify and understand that the 'Big Bang' theory is the most widely accepted theory explaining the formation of the universe.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	ES.1.7.	<p>The Universe: Describe the characteristics and motions of the various kinds of objects in our solar system, including planets, satellites, comets, and asteroids. Explain that Kepler's laws determine the orbits of the planets.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	ES.1.8.	<p>The Universe: Discuss the role of sophisticated technology such as telescopes, computers, space probes, and particle accelerators in making computer simulations and mathematical models in order to form a scientific account of the universe.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	ES.1.9.	<p>The Universe: Recognize and explain that the concept of conservation of energy is at the heart of advances in fields as diverse as the study of nuclear particles and the study of the origin of the universe.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	ES.1.12.	The Earth: Describe the role of photosynthetic plants in changing the

		<p>Earth's atmosphere.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	ES.1.17.	<p>The Earth: Describe the development and dynamics of climatic changes over time, such as the cycles of glaciation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	ES.1.22.	<p>The Earth: Compare the properties of rocks and minerals and their uses.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	ES.1.23.	<p>Processes That Shape The Earth: Explain motions, transformations, and locations of materials in the Earth's lithosphere and interior. For example, describe the movement of the plates that make up the crust of the earth and the resulting formation of earthquakes, volcanoes, trenches, and mountains.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.1.24.	<p>Processes That Shape The Earth: Understand and discuss continental drift, sea-floor spreading, and plate tectonics. Include evidence that supports the movement of the plates such as magnetic stripes on the ocean floor, fossil evidence on separate continents, and the continuity of geological features.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Fossils and Geologic Time • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.1.25.	<p>Processes That Shape The Earth: Investigate and discuss the origin of various landforms, such as mountains and rivers, and how they affect and are affected by human activities.</p> <ul style="list-style-type: none"> • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.1.26.	<p>Processes That Shape The Earth: Differentiate among the processes of weathering, erosion, transportation of materials, deposition, and soil formation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.1.27.	<p>Processes That Shape The Earth: Illustrate the various processes that are involved in the rock cycle, and discuss how the total amount of material stays the same through formation, weathering, sedimentation, and reformation.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock

		<ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.1.28.	<p>Processes That Shape The Earth: Discuss geologic evidence, including fossils and radioactive dating, in relation to the Earth's past.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	ES.1.29.	<p>Processes That Shape The Earth: Recognize and explain that in geologic change, the present arises from the materials of the past in ways that can be explained according to the same physical and chemical laws.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
STANDARD	IN.ES.2.	<p>Earth Science: Historical Perspectives of Earth and Space Science: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that the ideas are often rejected by the scientific establishment, that the ideas sometimes spring from unexpected findings, and that the ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	ES.2.2.	<p>Understand that and describe how in the 16th century the Polish astronomer Nicholas Copernicus suggested that all those same motions outlined by Ptolemy could be explained by imagining that the earth was turning on its axis once a day and orbiting around the sun once a year. Note that this explanation was rejected by nearly everyone because it violated common sense and required the universe to be unbelievably large. Also understand that Copernicus's ideas flew in the face of belief, universally held at the time, that the Earth was at the center of the universe.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and

		<p>Geologic Time</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
<p>PROFICIENCY STATEMENT</p>	<p>ES.2.3.</p>	<p>Understand that and describe how Johannes Kepler, a German astronomer who lived at about the same time as Galileo, used the unprecedented precise observational data of the Danish astronomer Tycho Brahe. Know that Kepler showed mathematically that Copernicus's idea of a sun-centered system worked better than any other system if uniform circular motion was replaced with variable-speed, but predictable, motion along off-center ellipses.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
<p>PROFICIENCY STATEMENT</p>	<p>ES.2.5.</p>	<p>Explain that the idea, that the Earth might be vastly older than most people believed, made little headway in science until the work of Lyell and Hutton.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Fossils and Geologic Time • Teacher Resource CD: Rocks, Minerals, and Earth Processes

PROFICIENCY STATEMENT	ES.2.6.	<p>Describe that early in the 20th century the German scientist, Alfred Wegener, reintroduced the idea of moving continents, adding such evidence as the underwater shapes of the continents, the similarity of life forms and land forms in corresponding parts of Africa and South America, and the increasing separation of Greenland and Europe. Also know that very few contemporary scientists adopted his theory because Wegener was unable to propose a plausible mechanism for motion.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
PROFICIENCY STATEMENT	ES.2.7.	<p>Explain that the theory of plate tectonics was finally accepted by the scientific community in the 1960s when further evidence had accumulated in support of it. Understand that the theory was seen to provide an explanation for a diverse array of seemingly unrelated phenomena, and there was a scientifically sound physical explanation of how such movement could occur.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.ENV.1.	<p>Environmental Science: Principles of Environmental Science: Students investigate, through laboratory and fieldwork, the concepts of environmental systems, populations, natural resources, and environmental hazards.</p>
PROFICIENCY STATEMENT	Env.1.7.	<p>Environmental Systems: Recognize and explain that in evolutionary change, the present arises from the materials of the past and in ways that can be explained, such as the formation of soil from rocks and dead organic matter.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and

		<p>Allochromatic Minerals</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	Env.1.8.	<p>Environmental Systems: Recognize and describe the difference between systems in equilibrium and systems in disequilibrium.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	Env.1.10.	<p>Environmental Systems: Identify and measure biological, chemical, and physical factors within an ecosystem.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering
PROFICIENCY STATEMENT	Env.1.13.	<p>Flow of Matter and Energy: Understand and describe how layers of energy rich organic material have been gradually turned into great coal beds and oil pools by the pressure of the overlying earth. Recognize that by burning these fossil fuels, people are passing stored energy back into the environment as heat and releasing large amounts of carbon dioxide.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea
PROFICIENCY STATEMENT	Env.1.14.	<p>Flow of Matter and Energy: Recognize and explain that the amount of life any environment can support is limited by the available energy, water, oxygen, and minerals, and by the ability of ecosystems to recycle organic materials from the remains of dead organisms.</p>

		<ul style="list-style-type: none"> • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure
PROFICIENCY STATEMENT	Env.1.33.	<p>Environmental Hazards: Identify natural earth hazards, such as earthquakes and hurricanes, and identify the regions in which they occur as well as the short term and long term effects on the environment and on people.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.ENV.2.	<p>Environmental Science: Historical Perspectives of Environmental Science: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that the ideas are often rejected by the scientific establishment, that the ideas sometimes spring from unexpected findings, and that the ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	Env.2.2.	<p>Explain that Henry Cowles found the Indiana Dunes and Lake Michigan shoreline area a natural laboratory for developing important principles of plant succession.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.CP.1.	<p>Integrated Chemistry: Principles of Integrated Chemistry - Physics: Students begin to conceptualize the general architecture of the atom and the roles played by the main constituents of the atom in determining the properties of materials. They investigate, using such methods as laboratory work, the different properties of matter. They investigate the concepts of relative motion, the action/reaction principle, wave behavior, and the interaction of matter and energy.</p>
PROFICIENCY STATEMENT	CP.1.4.	<p>Structure and Properties of Matter: Know and explain that physical properties can be used to differentiate among pure substances, solutions, and heterogeneous mixtures.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat

		<p>and Pressure on Rock Layers</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>CP.1.5.</p>	<p>Changes in Matter: Distinguish among chemical and physical changes in matter by identifying characteristics of these changes.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
<p>PROFICIENCY STATEMENT</p>	<p>CP.1.6.</p>	<p>Changes in Matter: Understand and explain how an atom can acquire an unbalanced electrical charge by gaining or losing electrons.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical

		Weathering
PROFICIENCY STATEMENT	CP.1.7.	<p>Changes in Matter: Identify the substances gaining and losing electrons in simple oxidation-reduction reactions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	CP.1.9.	<p>Changes in Matter: Show how the predictability of the nuclei decay rate allows radioactivity to be used for estimating the age of materials that contain radioactive substances.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 3 Lab 5 Activity 2: Fossil Sorting and Identification • Earth Resources: Unit 3 Lab 5 Activity 3: Fossil Formation - Preparing Molds and Casts • Teacher Resource CD: Fossils and Geologic Time
PROFICIENCY STATEMENT	CP.1.12.	<p>Changes in Matter: Realize and explain that because mass is conserved in chemical reactions, balanced chemical equations must be used to show that atoms are conserved.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	CP.1.13.	<p>Changes in Matter: Explain that the rate of reactions among atoms and molecules depends on how often they encounter one another, which is in turn affected by the concentrations, pressures, and temperatures of the reacting materials.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	CP.1.14.	<p>Changes in Matter: Understand and explain that catalysts are highly effective in encouraging the interaction of other atoms and molecules.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	CP.1.18.	<p>Energy Transformations: Recognize and describe the heat transfer associated with a chemical reaction or a phase change as either exothermic or endothermic, and understand the significance of the distinction.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering
PROFICIENCY STATEMENT	CP.1.20.	<p>Energy Transformations: Realize and explain that the energy in a system is the sum of both potential energy and kinetic energy.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 7 Activity 1: Soil Structure • Earth Resources: Unit 4 Lab 7 Activity 2: Soil Horizons • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	CP.1.29.	<p>Forces of Nature: Understand and explain that at the atomic level, electric forces between oppositely charged electrons and protons hold atoms and molecules together and thus, are involved in all chemical</p>

		<p>reactions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
STANDARD	IN.CP.2.	<p>Integrated Chemistry: Historical Perspectives of Integrated Chemistry - Physics: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, they understand that new ideas are limited by the context in which they are conceived, that these ideas are often rejected by the scientific establishment, that these ideas sometimes spring from unexpected findings, and that these ideas grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	CP.2.2.	<p>Describe how Lavoisier's system for naming substances and describing their reactions contributed to the rapid growth of chemistry by enabling scientists everywhere to share their findings about chemical reactions with one another without ambiguity.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
PROFICIENCY STATEMENT	CP.2.3.	<p>Explain that John Dalton's modernization of the ancient Greek ideas of element, atom, compound, and molecule strengthened the new chemistry by providing physical explanations for reactions that could be expressed in quantitative terms.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes
STANDARD	IN.P.1.	<p>Physics: Principles of Physics: Students recognize the nature and scope of physics, including its relationship to other sciences and its ability to describe the natural world. Students learn how physics describes the natural world, using quantities such as velocity,</p>

		<p>acceleration, force, energy, momentum, and charge. Through experimentation and analysis, students develop skills that enable them to understand the physical environment. They learn to make predictions about natural phenomena by using physical laws to calculate or estimate these quantities. Students learn that this description of nature can be applied to diverse phenomena at scales ranging from the subatomic to the structure of the universe and include every day events. Students learn how the ideas they study in physics can be used in concert with the ideas of the other sciences. They also learn how physics can help to promote new technologies. Students will be able to communicate what they have learned orally, mathematically, using diagrams, and in writing.</p>
<p>PROFICIENCY STATEMENT</p>	<p>P.1.1.</p>	<p>The Properties of Matter: Describe matter in terms of its fundamental constituents, and be able to differentiate among those constituents.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 1 Lab 1 Activity 1: The Rock Cycle • Earth Resources: Unit 1 Lab 1 Activity 2: Creating a Sedimentary Rock • Earth Resources: Unit 1 Lab 1 Activity 3: Effects of Heat and Pressure on Rock Layers • Earth Resources: Unit 1 Lab 1 Activity 4: Crystallization • Earth Resources: Unit 1 Lab 2 Activity 1: Igneous Rocks • Earth Resources: Unit 1 Lab 2 Activity 2: Sedimentary Rocks • Earth Resources: Unit 1 Lab 2 Activity 3: Metamorphic Rocks • Earth Resources: Unit 2 Lab 3 Activity 1: Identifying Mineral Color • Earth Resources: Unit 2 Lab 3 Activity 2: Mineral Luster • Earth Resources: Unit 2 Lab 3 Activity 3: The Streak of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 4: Testing the Hardness of a Mineral • Earth Resources: Unit 2 Lab 3 Activity 5: Cleavage and Fracture • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 2 Lab 4 Activity 1: Idiochromatic and Allochromatic Minerals • Earth Resources: Unit 2 Lab 4 Activity 2: Chemical Analysis of Minerals • Earth Resources: Unit 2 Lab 4 Activity 3: Using the Flame Test to Identify Unknown Mineral Samples • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering • Earth Resources: Unit 4 Lab 6 Activity 2: Chemical Weathering • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig • Teacher Resource CD: Rocks, Minerals, and Earth Processes • Virtual Laboratory: Mineral Identification
<p>PROFICIENCY STATEMENT</p>	<p>P.1.2.</p>	<p>The Properties of Matter: Measure or determine the physical quantities including mass, charge, pressure, volume, temperature, and density of an object or unknown sample.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering

		<ul style="list-style-type: none"> • Earth Resources: Unit 5 Lab 9 Activity 1: Geology Dig
PROFICIENCY STATEMENT	P.1.4.	<p>The Properties of Matter: Employ correct units in describing common physical quantities.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity • Earth Resources: Unit 4 Lab 6 Activity 1: Mechanical Weathering
PROFICIENCY STATEMENT	P.1.5.	<p>The Relationships Between Motion and Force: Use appropriate vector and scalar quantities to solve kinematics and dynamics problems in one and two dimensions.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
PROFICIENCY STATEMENT	P.1.7.	<p>The Relationships Between Motion and Force: Use Newton's Laws (e.g., $F = ma$) together with the kinematic equations to predict the motion of an object.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 2 Lab 3 Activity 6: Specific Gravity
STANDARD	IN.P.2.	<p>Physics: Historical Perspectives of Physics: Students gain understanding of how the scientific enterprise operates through examples of historical events. Through the study of these events, students understand that new ideas are limited by the context in which they are conceived, that these ideas are often rejected by the scientific establishment, that these ideas sometimes spring from unexpected findings, and that they grow or transform slowly through the contributions of many different investigators.</p>
PROFICIENCY STATEMENT	P.2.4.	<p>Describe how the Scottish physicist James Clerk Maxwell used Ampere's law and Faraday's law to predict the existence of electromagnetic waves and predict that light was just such a wave. Also understand that these predictions were confirmed by Heinrich Hertz, whose confirmations thus made possible the fields of radio, television, and many other technologies.</p> <ul style="list-style-type: none"> • Earth Resources: Unit 3 Lab 5 Activity 1: Fossils and Geologic Time • Earth Resources: Unit 4 Lab 8 Activity 1: Recreating Pangaea • Teacher Resource CD: Rocks, Minerals, and Earth Processes