

Grade Level: 2 Course Title: Science  
Time Allotment: 4 Weeks (during 1<sup>st</sup> grading period)

Topic/Concept: Earth, Soils, and Fossils (Rocks & Minerals)  
Unit Sequence: 1

**Major Concepts to be learned:**

1. Earth's surface is made up of many different materials and can change over time.

**Expected Skills to be demonstrated:**

1. Changes on the Earth's surface: weathering, erosion, earthquakes, and volcanoes.
2. Landforms: mountain, delta, bay, island
3. Rocks, sand, soil: boulder, mineral
4. Soil separates: clay, sand, humus, and silt.
5. Learning from and about fossils.
6. Dinosaurs: extinct species

**PA Standards/Anchors:**

**Eligible Content:**

3.5.A 4.2.C 4.6.A 4.7.B 3.2.B 3.2.C	<ul style="list-style-type: none"><li>• Define changes in the earth's surface: weathering, erosion, earthquake, and volcano</li><li>• Recognize various landforms</li><li>• Know the properties of soil separates: clay, sand, humus, and silt</li><li>• Recognize fossils and make scientific hypothesis</li><li>• Experiment with minerals: hardness, luster, etc.</li><li>• Discuss extinct species and possible reasons leading to extinction</li></ul>
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**Instructional Strategies:**

**Assessments:**

Classroom Discussions Student Work Packets Visuals Charts/Graphic Organizers	Science Textbook Science Lab Materials Quality Children's Literature (Nonfiction) Hands-on Experiments (Fossils & Volcano)	<ul style="list-style-type: none"><li>• Student Packet</li><li>• Science Assessment Quiz</li><li>• Teacher Observation</li></ul>
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Grade Level: 2

Course Title: Science

Topic/Concept: Natural Resources

Time Allotment: 4 weeks (during 2<sup>nd</sup> grading period)

Unit Sequence: 2

**Major Concepts to be learned:**

1. Earth has many natural resources that people use. It is important to protect them and make them last.

**Expected Skills to be demonstrated:**

1. Identify Earth's natural resources: water, air, sun
2. Identify three states of matter using water
3. Energy is the capacity to do work.
4. Hydropower is energy from moving water (waterwheel)
5. Wind turbines make energy and create electricity (windmill)
6. Solar energy is energy from the sun

**PA Standards/Anchors:**

**Eligible Content:**

3.2.B 3.2.C 3.5.D 4.2.A 3.4.A	4.2.C 3.4.C 3.4.D 3.4.B	<ul style="list-style-type: none"><li>• Define the scientific term natural resource</li><li>• Identify how people use these natural resources to create energy</li><li>• Awareness for protecting our natural resources</li><li>• Natural resources are a clean and renewable source of energy</li><li>• Exercise five senses during natural resource observations</li></ul>
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**Instructional Strategies:**

**Assessments:**

Educational Videos Classroom Discussions Student Work Packets Visuals Charts/Graphic Organizers	Hands-on Experiments Science Textbook Science Lab Materials Quality Children's Literature (Nonfiction)	<ul style="list-style-type: none"><li>• Student Packet</li><li>• Science Assessment Quiz</li><li>• Teacher Observation</li></ul>
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Grade Level: 2

Course Title: Science

Topic/Concept: Types of Motion

Time Allotment: 4 weeks (during 3<sup>rd</sup> grading period)

Unit Sequence: 3

**Major Concepts to be learned:**

1. We can observe and measure the way things move.

**Expected Skills to be demonstrated:**

1. Identify ways things move: straight, back & forth, circle, curved, and zig-zag
2. How fast or slow something moves is its speed
3. Force is a push or pull that makes things move: gravity & friction
4. Simple machines: levers and inclined planes
5. Magnets: attract, repel, poles

**PA Standards/Anchors:**

**Eligible Content:**

3.2.B 3.2.C 3.1.B 3.4.C 3.4.B	<ul style="list-style-type: none"><li>• Identify the motion and speed in which things move.</li><li>• Identify types of motion</li><li>• Describe the motion as push or pull</li><li>• Observe the interaction of magnets</li><li>• Use simple machines</li><li>• Experiment with gravity and friction</li></ul>
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**Instructional Strategies:**

**Assessments:**

Educational Videos Classroom Discussions Student Work Packets Visuals Charts/Graphic Organizers	Hands-on Experiments (magnets, friction, etc.) Science Textbook Science Lab Materials Quality Children's Literature (Nonfiction) Technology	<ul style="list-style-type: none"><li>• Student Packet</li><li>• Science Assessment Quiz</li><li>• Teacher Observation</li></ul>
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Grade Level: 2

Course Title: Science

Topic/Concept: Ecosystems

Time Allotment: 4 weeks (during 3<sup>rd</sup> grading period)

Unit Sequence: 4

**Major Concepts to be learned:**

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| 1. Different areas have places where plants and animals find things they need, such as food, water, and shelter. |
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**Expected Skills to be demonstrated:**

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| <ol style="list-style-type: none"> <li>1. Identify an environment/ecosystems</li> <li>2. Habitats are places where living things get food, water, and shelter</li> <li>3. The importance of living things to adapt to their environments</li> <li>4. Living things survive in different environments: desert, rain forest, grassland, tundra, ocean, and pond</li> <li>5. Identify food chains and food webs</li> </ol> |
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**PA Standards/Anchors:**

**Eligible Content:**

<p>4.2.B            3.1.A  3.2.C            3.1.B  4.6.A            3.1.C  4.7.A            3.1.D  3.3.D            3.3.B  3.3.A</p>	<ul style="list-style-type: none"> <li>• Identify how animals adapt to their habitat in different environments</li> <li>• Identify different characteristics of each ecosystem: desert, rain forest, grassland, tundra, ocean, and pond</li> <li>• Construct a food chain diagram</li> <li>• Read and understand the dynamics of a food web</li> </ul>
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**Instructional Strategies:**

**Assessments:**

<p>Educational Videos            Hands-on Experiments (diorama &amp; food chain)  Classroom Discussions            Science Textbook  Student Work Packets            Science Lab Materials  Visuals            Quality Children’s Literature (Nonfiction)  Charts/Graphic Organizers            Technology</p>	<ul style="list-style-type: none"> <li>• Student Packet</li> <li>• Science Assessment Quiz</li> <li>• Teacher Observation</li> </ul>
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Grade Level: 2

Course Title: Science

Topic/Concept: Animals

Time Allotment: 4 Weeks (during 4<sup>th</sup> grading period)

Unit Sequence: 5

**Major Concepts to be learned:**

1. There are many kinds of animals. Animals can be classified by their traits.

**Expected Skills to be demonstrated:**

1. Identify the characteristics of mammals: warm-blooded, milk, live birth, hair/fur, vertebrates
2. Identify the characteristics of birds: warm-blooded, feathers, eggs, wings, beaks, vertebrates
3. Identify the characteristics of reptiles: cold-blooded, dry/scaly skin, eggs, vertebrates
4. Identify the characteristics of amphibians: cold-blooded, smooth/wet skin, eggs, divide life between water and land, vertebrates
5. Identify characteristics of fish: cold-blooded, breathe with gills, scales, fins, most eggs, vertebrates
6. Distinguish between different animal life cycles

**PA Standards/Anchors:**

**Eligible Content:**

3.2.B 3.2.C 4.1.A 3.3.A 3.3.B	4.7.A 4.6.A 3.3.C 3.3.D	<ul style="list-style-type: none"><li>• Classify animal into animal group according to its characteristics.</li><li>• Place events in order on a life cycle.</li><li>• Compare &amp; contrast characteristics of animal groups.</li><li>• Define terms specific to various animal groups.</li></ul>
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**Instructional Strategies:**

**Assessments:**

Educational Videos Classroom Discussions Student Work Packets Visuals Charts/Graphic Organizers	Hands-on Experiments Science Textbook Science Lab Materials Quality Children's Literature (Nonfiction) Technology	<ul style="list-style-type: none"><li>• Student Packet</li><li>• Science Assessment Quiz</li><li>• Teacher Observation</li></ul>
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