Grade Level: 2 **Course Title: Science** **Topic/Concept: Earth, Soils, and Fossils (Rocks & Minerals)**
Time Allotment: 4 Weeks (during 4th grading period) **Unit Sequence: 4**

Major Concepts to be learned:

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

Expected Skills to be demonstrated:

- Changes on the Earth's surface: weathering, erosion, earthquakes, and volcanoes.
- Landforms: mountain, delta, bay, island
- Rocks, sand, soil: boulder, mineral
- Soil separates: clay, sand, humus, and silt.
- Learning from and about fossils.
- 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	• Define changes in the earth's surface: weathering, erosion, earthquake, and volcano • Recognize various landforms • Know the properties of soil separates: clay, sand, humus, and silt • Recognize fossils and make scientific hypothesis • Experiment with minerals: hardness, luster, etc. • Discuss extinct species and possible reasons leading to extinction

Instructional Strategies:		Assessments:
Classroom Discussions	Studies Weekly	• Student Packet • Student participation • Teacher Observation
Student Work Packets	Science Lab Materials	
Visuals	Quality Children's Literature (Nonfiction)	
Charts/Graphic Organizers	Hands-on Experiments (Fossils & Volcano)	

Grade Level: 2 **Course Title: Science** **Topic/Concept: Natural Resources**
Time Allotment: 4 weeks (during 2nd grading period) **Unit Sequence: 1**

Major Concepts to be learned:

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

Expected Skills to be demonstrated:

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

PA Standards/Anchors:

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

Eligible Content:

- Define the scientific term natural resource
- Identify how people use these natural resources to create energy
- Awareness for protecting our natural resources
- Natural resources are a clean and renewable source of energy
- Exercise five senses during natural resource observations

Instructional Strategies:

Educational Videos
Classroom Discussions
Student Work Packets
Visuals
Charts/Graphic Organizers
Hands-on Experiments
Studies Weekly
Science Lab Materials
Quality Children's Literature (Nonfiction)

Assessments:

- Student Packet
- Student Participation
- Teacher Observation

Grade Level: 2 **Course Title: Science** **Topic/Concept: Types of Motion**
Time Allotment: 4 weeks (during 4th grading period) **Unit Sequence: 3**

Major Concepts to be learned:

- We can observe and measure the way things move.

Expected Skills to be demonstrated:

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

PA Standards/Anchors:	Eligible Content:
3.2.B 3.2.C 3.1.B 3.4.C 3.4.B	• Identify the motion and speed in which things move. • Identify types of motion • Describe the motion as push or pull • Observe the interaction of magnets • Use simple machines • Experiment with gravity and friction

Instructional Strategies:		Assessments:
Educational Videos	Hands-on Experiments (magnets, friction, etc.)	• Student Packet • Student participation • Teacher Observation
Classroom Discussions	Studies Weekly	
Student Work Packets	Science Lab Materials	
Visuals	Quality Children's Literature (Nonfiction)	
Charts/Graphic Organizers	Technology	

Grade Level: 2 **Course Title: Science** **Topic/Concept: Ecosystems**
Time Allotment: 4 weeks (during 4th grading period) **Unit Sequence: 5**

Major Concepts to be learned:

- Different areas have places where plants and animals find things they need, such as food, water, and shelter.

Expected Skills to be demonstrated:

- Identify an environment/ecosystems
- Habitats are places where living things get food, water, and shelter
- The importance of living things to adapt to their envoironments
- Living things survive in different environments: desert, rain forest, grassland, tundra, ocean, and pond
- Identify food chains and food webs

PA Standards/Anchors:

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	

Eligible Content:

- Identify how animals adapt to their habitat in different environments
- Identify different characteristics of each ecosystem: desert, rain forest, grassland, tundra, ocean, and pond
- Construct a food chain diagram
- Read and understand the dynamics of a food web

Instructional Strategies:

Educational Videos	Hands-on Experiments (diorama & food chain)
Classroom Discussions	Studies Weekly
Student Work Packets	Science Lab Materials
Visuals	Quality Children's Literature (Nonfiction)
Charts/Graphic Organizers	Technology

Assessments:

- Student Packet
- Student participation
- Teacher Observation

Grade Level: 2 **Course Title: Science** **Topic/Concept: Animals**
Time Allotment: 4 Weeks (during 3rd grading period) **Unit Sequence: 2**

Major Concepts to be learned:

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

Expected Skills to be demonstrated:

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

PA Standards/Anchors:

3.2.B	4.7.A
3.2.C	4.6.A
4.1.A	3.3.C
3.3.A	3.3.D
3.3.B	

Eligible Content:

- Classify animal into animal group according to its characteristics.
- Place events in order on a life cycle.
- Compare & contrast characteristics of animal groups.
- Define terms specific to various animal groups.

Instructional Strategies:

Educational Videos	Hands-on Experiments
Classroom Discussions	Studies Weekly
Student Work Packets	Science Lab Materials
Visuals	Quality Children's Literature (Nonfiction)
Charts/Graphic Organizers	Technology

Assessments:

- Student Packet
- Student Participation
- Teacher Observation