

SUBJECT: Science		GRADE: 2	
UNIT TITLE: Animal Biodiversity			
UNIT OVERVIEW			
In this unit, students explore the incredible diversity of animals and habitats! They investigate animal classification and the traits that define each group. Students then explore habitats to discover how the living and non-living aspects of the environment affect the diversity of organisms. They use this information to design a bird feeder that will attract birds with specific food preferences.			
LRG SKILLS AND DISPOSITIONS		STANDARDS	
• Communication & Empathy • Collaboration & Teamwork • Critical Thinking & Problem Solving • Creativity & Innovation		<u>PA STEELS Standards</u> • 3.1.2.C. Make observations of plants and animals to compare the diversity of life in different habitats. • 3.5.K-2.V. Explain that materials are selected for use because they possess desirable properties and characteristics.	
COMPETENCIES		LEARNING TARGETS	
<u>Competency:</u> I can examine and evaluate the patterns, processes, and relationships of living organisms.		• I can make observations of plants and animals to compare the diversity of life in different habitats. (CODE)	
<u>Competency:</u> I can examine and evaluate the interactions among technology, engineering, and society.		• I can explain that materials are selected for use because they possess desirable properties and characteristics. (CODE)	

SUBJECT: Science		GRADE: 2	
UNIT TITLE: Plant Adaptations			
UNIT OVERVIEW			
In this unit, students explore the needs of plants through hands-on investigations. They explore how and why plants disperse their seeds, what those seeds need in order to grow, and what the adult plants need in order to survive and thrive.			
LRG SKILLS AND DISPOSITIONS		STANDARDS	
● Communication & Empathy ● Collaboration & Teamwork ● Critical Thinking & Problem Solving ● Creativity & Innovation		<u>PA STEELS Standards</u> ● 3.1.2.A. Plan and conduct an investigation to determine if plants need sunlight and water to grow. ● 3.1.2.B. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. ● 3.1.2.C. Make observations of plants and animals to compare the diversity of life in different habitats. ● 3.5.K-2.I. Compare simple technologies to evaluate their impacts.	
COMPETENCIES		LEARNING TARGETS	
<u>Competency:</u> I can examine and evaluate the patterns, processes, and relationships of living organisms.		● I can develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. (CODE) ● I can plan and conduct an investigation to determine if plants need sunlight and water to grow. (CODE) ● I can make observations of plants and animals to compare the diversity of life in different habitats. (CODE)	
<u>Competency:</u> I can examine and evaluate the interactions among technology, engineering, and society.		● I can compare simple technologies to evaluate their helpful or harmful impacts. (CODE)	

SUBJECT: Science		GRADE: 2	
UNIT TITLE: Erosion and Earth’s Surface			
UNIT OVERVIEW			
In this unit, students explore how water shapes the Earth’s surface. Students construct and use models of mountains to demonstrate that water flows downhill, and in the process, transforms huge rocks into the tiny grains of sand we find at the beach. Students also construct and use model hills to determine the causes of erosion, and to design solutions to problems caused by erosion.			
LRG SKILLS AND DISPOSITIONS		STANDARDS	
• Communication & Empathy • Collaboration & Teamwork • Critical Thinking & Problem Solving • Creativity & Innovation		<u>PA STEELS Standards</u> • 3.3.2.A. Use information from several sources to provide evidence that Earth events can occur quickly or slowly. • 3.3.2.B. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. • 3.3.2.C. Develop a model to represent the shapes and kinds of land and bodies of water in an area. • 3.3.2.D. Obtain information to identify where water is found on Earth and that it can be solid or liquid. • 3.4.K-2.C. Explain ways that places differ in their physical characteristics, their meaning, and their value and/or importance. • 3.4.K-2.D. Plan and carry out an investigation to address an issue in the local environment and community. • 3.5.K-2.N. Analyze how things work. • 3.5.K-2.P. Discuss that all designs have different characteristics that can be described.	
COMPETENCIES		LEARNING TARGETS	
<u>Competency:</u> I can examine and evaluate processes that operate on Earth and in space.		• I can develop a model to represent the shapes and kinds of land and bodies of water in an area. (CODE) • I can obtain information to identify where water is found on Earth and that it can be solid or liquid. (CODE) • I can use information from several sources to provide evidence that Earth events can occur quickly and slowly. (CODE)	

	• I can compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. (CODE)
<u>Competency:</u> I can examine and evaluate practices, ecological processes, and systems that comprise the environment.	• I can explain ways that places differ in their physical characteristics, their meaning, and their value and/or importance. (CODE) • I can plan and carry out an investigation to address an issue in the local environment and community. (CODE)
<u>Competency:</u> I can examine and evaluate the interactions among technology, engineering, and society.	• I can analyze how things work. (CODE)
<u>Competency:</u> I can create, utilize, and assess new and existing designs.	• I can discuss that all designs have different characteristics that can be described. (CODE)

SUBJECT: Science		GRADE: 2	
UNIT TITLE: Material Properties			
UNIT OVERVIEW			
In this unit, students explore the properties of materials and matter! They describe and classify different types of materials by properties like hardness, flexibility, and absorbency, and they investigate how those properties are useful in meeting basic human needs (such as clothing and cooking). They also investigate how heating and cooling affect the properties of materials. The anchor phenomenon for this unit can be found inside a special type of factory called a foundry. Foundries are places where people melt solid metal into a liquid that can be poured into new shapes. Foundries can be dangerous places to work, so how do the people that work in foundries stay safe?			
LRG SKILLS AND DISPOSITIONS		STANDARDS	
• Communication & Empathy • Collaboration & Teamwork • Critical Thinking & Problem Solving • Creativity & Innovation		<u>PA STEELS Standards</u> • 3.2.2.A. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. • 3.2.2.B. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. • 3.2.2.C. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. • 3.4.K-2.A. Categorize ways people harvest, redistribute, and use natural resources. • 3.5.K-2.B. Describe qualities of everyday products. • 3.5.K-2.F. Investigate the use of technologies in the home and community.	
COMPETENCIES		LEARNING TARGETS	
<u>Competency:</u> I can examine and evaluate what things are made of and how they interact with each other.		• I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. (CODE) • I can analyze data obtained from testing different materials by their observable properties that are best suited for an intended purpose. (CODE)	

	• I can make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. (CODE)
<u>Competency:</u> I can examine and evaluate the interactions among technology, engineering, and society.	• I can describe qualities of everyday products. (CODE) • I can investigate the use of technologies in the home and community. (CODE)
<u>Competency:</u> I can examine and evaluate practices, ecological processes, and systems that comprise the environment.	• I can categorize ways people harvest, redistribute, and use natural resources. (CODE)

SUBJECT: Science		GRADE: 2	
UNIT TITLE: States of Matter			
UNIT OVERVIEW			
In this unit, students explore solid and liquid states of matter. They explore how water is found around the world and can be frozen solid into ice. Students also investigate other materials besides water and observe their properties to construct an explanation that some changes are reversible, while others are not.			
LRG SKILLS AND DISPOSITIONS		STANDARDS	
• Communication & Empathy • Collaboration & Teamwork • Critical Thinking & Problem Solving • Creativity & Innovation		<u>PA STEELS Standards</u> • 3.2.2.B. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. • 3.2.2.D. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some can not. • 3.3.2.D. Obtain information to identify where water is found on Earth and that it can be solid or liquid.	
COMPETENCIES		LEARNING TARGETS	
<u>Competency:</u> I can examine and evaluate what things are made of and how they interact with each other.		• I can construct an argument with evidence that some changes caused by heating or cooling can be reversed and some can not. (CODE) • I can analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. (CODE)	
<u>Competency:</u> I can examine and evaluate processes that operate on Earth and in space.		• I can obtain information to identify where water is found on Earth and that it can be solid or liquid. (CODE)	