SUBJECT: Science	**GRADE:** First Grade
UNIT TITLE: Animal Traits and Survival	
UNIT OVERVIEW	
In this unit, students explore the traits of adult and baby animals! Students make observations of parent animals and their offspring, determining how they are similar and different. They explore behaviors that help offspring survive. Students also investigate how the traits of animals are essential for their growth and survival.	
LRG SKILLS AND DISPOSITIONS	**STANDARDS**
	PA Standards ● 3.1.1.C Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. ● 3.1.1.A Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. ● 3.1.1.B Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive. ● 3.4.K-2.B Examine how people from different cultures and communities, including one's own, interact and express their beliefs about nature.
COMPETENCIES	**LEARNING TARGETS**
Competency: I can examine and evaluate the patterns, processes and relationships of living organisms.	● <Code> I can make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. ● <Code> I can use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. ● <Code> I can read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.
Competency: I can examine and evaluate practices, ecological processes, and systems that comprise the environment.	● <Code> I can examine how people from different cultures and communities, including my own, interact and express their beliefs about nature.

SUBJECT: Science	**GRADE:** First Grade
UNIT TITLE: Plant Traits and Survival	
UNIT OVERVIEW	
In this unit, students explore the different parts of plants, like roots, stems, branches, leaves, flowers, and fruits. They observe similarities and differences between parent plants and their offspring. Students also investigate how plant traits help those plants survive.	
LRG SKILLS AND DISPOSITIONS	**STANDARDS**
	PA Standards ● 3.1.1.C Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. ● 3.1.1.A Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.
COMPETENCIES	**LEARNING TARGETS**
Competency: I can examine and evaluate the patterns, processes and relationships of living organisms.	● <Code> I can make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. ● <Code> I can use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

SUBJECT: Science	**GRADE:** First Grade
UNIT TITLE: Day Patterns	
UNIT OVERVIEW	
In this unit, students make observations of the Sun and shadows throughout the day and across the seasons. They use their observations to understand patterns that occur throughout the day.	
LRG SKILLS AND DISPOSITIONS	**STANDARDS**
	PA Standards ● 3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted. ● 3.3.1.B Make observations at different times of year to relate the amount of daylight to the time of year.
COMPETENCIES	**LEARNING TARGETS**
Competency: I can examine and evaluate processes that operate on Earth and in space.	● <Code> I can use observations of the sun, moon, and stars to describe patterns that can be predicted. ● <Code> I can make observations at different times of year to relate the amount of daylight to the time of year.

SUBJECT: Science	**GRADE:** First Grade
UNIT TITLE: Night Patterns	
UNIT OVERVIEW	
In this unit, students explore the Moon and stars. They observe and record the appearance of the Moon to determine its cyclical pattern. They also determine why stars are only visible at night.	
LRG SKILLS AND DISPOSITIONS	**STANDARDS**
	PA Standards ● 3.3.1.A Use observations of the sun, moon, and stars to describe patterns that can be predicted.
COMPETENCIES	**LEARNING TARGETS**
Competency: I can examine and evaluate processes that operate on Earth and in space.	● <Code> Earth and Space Science: I can use observations of the sun, moon, and stars to describe patterns that can be predicted.

SUBJECT: Science	**GRADE:** First Grade
UNIT TITLE: Light, Sound, and Communication	
UNIT OVERVIEW	
In this unit, students investigate light and sound! They explore how materials vibrate and how vibrating materials can make sounds. They also investigate light and illumination and use those investigations to create simple devices that allow them to communicate across a distance.	
LRG SKILLS AND DISPOSITIONS	**STANDARDS**
	PA Standards ● 3.2.1.A Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. ● 3.2.1.C Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. ● 3.2.1.B Make observations to construct an evidence based account that objects can be seen only when illuminated. ● 3.2.1.D Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. ● 3.5.K-2.H Explain the needs and wants of individuals and societies. ● 3.5.K-2.L Explore how technologies are developed to meet individual and societal needs and wants. ● 3.5.K-2.T Demonstrate that designs have requirements. ● 3.5.K-2.M Demonstrate essential skills of the engineering design process. ● 3.5.K-2.Q Apply skills necessary for making in design. ● 3.5.K-2.J Design new technologies that could improve their daily lives.
COMPETENCIES	**LEARNING TARGETS**
Competency: I can examine and evaluate what things are made of and how they interact with each other.	● <Code> I can plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. ● <Code> I can plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

	• <Code> I can make observations to construct an evidence-based account that objects can be seen only when illuminated. • <Code> I can use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.
Competency: I can examine and evaluate the interactions among technology, engineering, and society.	• <Code> I can explain how the needs and wants of individuals and societies have resulted in new technologies. • <Code> I can explore how technologies are developed to meet individual and societal needs.
Competency: I can create, utilize, and assess new and existing designs.	• <Code> I can demonstrate that designs have requirements. • <Code> I can demonstrate the essential skills of the engineering design process. • <Code> I can apply skills necessary for making in design. • <Code> I can design new technologies that could improve my daily life.