Kindergarten Science

Curriculum Guide

Dunmore School District

Dunmore, PA

Kindergarten Science

Prerequisite:

- Not applicable

Course Description:
The Kindergarten Science course is designed to provide students with a conceptual understanding of kindergarten science concepts as they pertain to the Pennsylvania State Core Standards. The course content gives students an introduction into various disciplines such as Physical, Life, and Earth Science. Students will delve deeper into these areas to further explore topics that include but are not limited to matter, motion, living things, weather, and Earth conservation.

Special Education:

After a student has been evaluated and found to be eligible for specially designed instruction under one of the 13 disability categories, an individualized education plan will be developed to help the student succeed through a more intense intervention program. Special Education is the practice of educating students in a way that addresses their individual differences and needs. The purpose of special education is to provide equal access to education for children ages birth through 21 by providing specialized services that will lead to school success in general education. Our goal for each student is for him/her to be educated in his/her least restrictive environment with additional supports by way of specially designed instruction. After all interventions in the general education setting have been exhausted and the student is still not making progress, students can receive direct instruction in a special education classroom. Direct instruction provides more intense intervention and replacement instruction in order to minimize skill deficits. In our special education classrooms, students will have access to the standards-based general education curriculum, as well as using various research-based intervention programs. Resources and activities will be adjusted based on individual student needs. Suggested time found within the curriculum will be adjusted as needed per individual student's needs.

Special Education Strategies can be located in the IEP Enhancements table located in Appendix: A at the end of this document.

Dunmore School District
Curriculum Guide

Year-at-a-glance

Subject: Kindergarten Science	**Grade Level: Kindergarten**	**Date Completed: 4/8/2019**

1st Quarter

Topic	Resources	Standards
Introduction to Kindergarten: The first quarter of the kindergarten year is a time when students are getting oriented to their new surroundings, rules, and routines, as well as, language arts and math programs.	N/A	N/A

2nd Quarter

Topic	Resources	Standards
Physical Science	Approved textbook; *Science*, Chapter 6 Lesson 2; Chapter 8 Lessons 1-4; online resources or teacher created lesson	3.2.4.A, 3.2.4.C, 3.4.4.A, 3.1.4.A, 3.2.4.D, 3.4.4.C

3rd Quarter

Topic	Resources	Standards
Earth and Space Science	Approved textbook; *Science*, Chapter 1, Lessons 3-6; Chapter 3 Lessons 1-4; Chapter 4 Lesson 6; Chapter 6 Lesson 6; Chapter 7 Lesson 1; online resources or teacher created lessons	3.1.4.C, 3.2.4.B, 3.4.4.D, 3.5.4.C, 3.4.4.B, 3.2.4.C, 3.8.4.A, 3.2.4.D, 3.8.4.C

4th Quarter

Topic	Resources	Standards
Life Science	Approved textbook; *Science*, Chapter 1 Lessons 3-6; Chapter 2 Lesson 2; Chapter 3 Lessons 2-4; online resources or teacher created lessons	3.2.4.B, 3.3.4.A, 3.1.4.A, 3.1.4.B, 3.1.4.C, 3.2.4.A, 3.3.4.B, 3.4.4.B, 3.4.4.D

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Introduction to Kindergarten					**10 Weeks**

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.C.1.1** Describe observable physical properties of matter. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.A** Identify and use the nature of scientific and technological knowledge. • Distinguish between a scientific fact and a belief. • Provide clear explanations that account for observations and results. •Relate how new information can	**Eligible Content:** **S.4.C.1.1.2** Categorize/group objects using physical characteristics. **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **Essential Knowledge/Skills:** **Different materials are suited to different purposes.** Analyze data from testing objects made from different materials to determine if a proposed object functions as intended. **Vocabulary:** Data Test	**Approved textbook *Science*, Chapter 6 Lesson 2; online resources or teacher created lesson**	**Teacher observation**	**1 Week**

	change existing perceptions. **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.4.4.A** Recognize basic concepts about the structure and properties of matter. • Describe properties of matter (e.g., hardness, reactions to simple chemical tests). • Know that combining two or more substances can make new materials with different properties. • Know different material characteristics (e.g., texture, state of matter, solubility).				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.	**Anchor Descriptor:** **S.4.A.3.2** Use models to illustrate simple concepts and compare the models to what they represent. **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.1.4.A** Know that natural and human-made objects are made up of parts. • Identify and describe what parts make up a system. • Identify system parts that are natural and human-made (e.g., ball point pen, simple electrical	**Eligible Content:** **S.4.A.3.2.2** Use models to make observations to explain how systems work (e.g., water cycle, Sun-Earth-Moon system). **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **Essential Knowledge/Skills:** **A variety of objects can be built up from small parts.** Design an object built from a small set of pieces to solve a problem and compare solutions designed by peers given the same set of pieces. **Vocabulary:** Problem Solving	**Online resources or teacher created lesson**	**Teacher observation**	**1 Week**

	circuits, plant anatomy). • Describe the purpose of analyzing systems. • Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related systems. **3.2.4.A** Identify and use the nature of scientific and technological knowledge. • Distinguish between a scientific fact and a belief. • Provide clear explanations that account for observations and results. • Relate how new information can change existing perceptions. **3.2.4.D** Recognize and use the technological design process to solve problems. • Recognize and explain basic problems. • Identify possible solutions and their course of action. • Try a solution. • Describe the solution, identify its impacts and modify if necessary. • Show the steps taken and the results.				

	3.4.4.A Recognize basic concepts about the structure and properties of matter. • Describe properties of matter (e.g., hardness, reactions to simple chemical tests). • Know that combining two or more substances can make new materials with different properties. • Know different material characteristics (e.g., texture, state of matter, solubility). A. Describe concepts about the structure and properties of matter. • Identify elements as basic building blocks of matter that cannot be broken down chemically. • Distinguish compounds from mixtures. • Describe and conduct experiments that identify chemical and physical properties.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions between any two objects can cause changes in one or both.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.C.2.1** Recognize basic energy types and sources, or describe how energy can be changed from one form to another. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is	**Eligible Content:** **S.4.C.2.1.4** Identify characteristics of sound (e.g., pitch, loudness, reflection). **S.4.C.3.1.1** Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). **S.4.C.3.1.2** Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go round). **Essential Knowledge/Skills:** **Pushes and pulls can have different strengths and directions.** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	**Approved textbook *Science,* Chapter 8 Lesson 2-4; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	consistent with the information. **3.4.4.C** Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).	**Vocabulary:** Cause and effect Explanation Motion Push Pull Speed			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions between any two objects can cause changes in one or both.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.4.4.C** Observe and describe	**Eligible Content:** **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **S.4.C.3.1.2** Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round). **Essential Knowledge/Skills:** **Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. **Vocabulary:** Cause and effect Explanation Motion	**Approved textbook *Science*, Chapter 8 Lesson 1; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).	Push Pull Speed			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions between any two objects can cause changes in one or both.	**Anchor Descriptor:** **S.4.A.3.1** Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle). **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through	**Eligible Content:** **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **Essential Knowledge/Skills:** **Objects pull or push each other when they collide or are connected and can change motion.** Analyze data to determine if a design solution works as intended to change the direction or speed of an object with a push or a pull. **Vocabulary:** Cause and effect Design Speed	**Approved textbook *Science*, Chapter 8 Lesson 1; online resources or teacher created lesson**	**Teacher observation**	**1 Week**

	scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.4.4.C** Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions between any two objects can cause changes in one or both.	**Anchor Descriptor:** **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.	**Eligible Content:** **S.4.A.2.1.2** Design and describe an investigation (a fair test) to test one variable. **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **S.4.C.3.1.1** Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). **S.4.C.3.1.2** Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round). --- **Essential Knowledge/Skills:** **A bigger push or pull makes things speed up or slow down more quickly.** Plan and conduct a simple test to compare the effects of different strengths or different	**Approved textbook *Science*, Chapter 8 Lesson 1; online resources or teacher created lesson**	**Teacher observation**	**1 Week**

	3.4.4.C Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).	directions of pushes and pulls on the motion of an object. **Vocabulary:** Investigation Speed			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions between any two objects can cause changes in one or both.	**Anchor Descriptor:** **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.	**Eligible Content:** **S.4.A.1.3.1** Observe and record change by using time and measurement. **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **Essential Knowledge/Skills:** **When objects touch or collide, they push on one another and can change motion.** Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull. **Vocabulary:** Data Design Solution	**Approved textbook *Science*, Chapter 8 Lesson 2-3; online resources or teacher created lesson**	**Teacher observation**	**1 Week**

	• Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.4.4.C** Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.	**Anchor Descriptors:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations.	**Eligible Content:** **S.4.C.3.1.**1 Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). **S.4.C.3.1.2** Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round). **S.4.A.2.1.2** Design and describe an investigation (a fair test) to test one variable. **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. **Essential Knowledge/Skills:** **The more an object is pushed or pulled makes things speed up or slow down.** Carry out investigations to	**Approved textbook *Science*, Chapter 8 Lesson 4; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	• Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.4.4.C** Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).	provide evidence that energy is being transferred or conserved by objects. **Vocabulary:** Conserved Energy Investigation Transfer			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Physical Science: Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.C.3.1** Identify and describe different types of force and motion resulting from these forces, or the effect of the interaction between force and motion. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.4.4.C** Observe and describe different types of force and motion. • Identify characteristics of sound (pitch, loudness and echoes) • Recognize forces that attract or repel other objects and	**Eligible Content:** **S.4.C.3.1.1** Describe changes in motion caused by forces (e.g., magnetic, pushes or pulls, gravity, friction). **S.4.C.3.1.2** Compare the relative movement of objects or describe types of motion that are evident (e.g., bouncing ball, moving in a straight line, back and forth, merry-go-round). **S.4.A.2.1.4** State a conclusion that is consistent with the information/data. --- **Essential Knowledge/Skills:** **The amount and position of mass affect how an object moves.** Carry out investigations to provide evidence that energy is being transferred or conserved by objects. **Vocabulary:** Balance	**Approved textbook *Science*, Chapter 8 Lesson 2-3; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	demonstrate them. • Describe various types of motions. • Compare the relative movement of objects and describe types of motion that are evident. • Describe the position of an object by locating it relative to another object or the background (e.g., geographic direction, left, up).	Conserved Energy Investigation Mass Rotate Transfer			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Life Science: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	**Anchor Descriptor:** **S.4.B.1.1** Identify and describe similarities and differences between living things and their life processes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **PA Academic Standards: Science** **3.2.4.B** Describe objects in the world using the five senses. Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). Use observations to develop a descriptive vocabulary. **3.3.4.A** Know the similarities and differences of living things. Identify life processes of living things (e.g., growth, digestion, react to environment). Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat.	**Eligible Content:** **S.4.B.1.1.1** Identify life processes of living things (e.g., growth, digestion, respiration). **S.4.A.2.1.3** Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record observations, and then make a prediction based on those observations. **S.4.B.1.1.2** Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments). **S.4.B.1.1.3** Describe basic needs of plants and animals (e.g., air, water, food). **S.4.B.1.1.4** Describe how different parts of a living thing work together to provide	**Approved textbook *Science*, Chapter 1 Lessons 3-6**	**Teacher observation**	**2 Weeks**

	Describe basic needs of plants and animals. **4.6.4.A** Understand that living things are dependent on nonliving things in the environment for survival. • Identify and categorize living and nonliving things. • Describe the basic needs of an organism. • Identify basic needs of a plant and an animal and explain how their needs are met. • Identify plants and animals with their habitat and food sources. • Identify environmental variables that affect plant growth. • Describe how animals interact with plants to meet their needs for shelter. • Describe how certain insects interact with soil for their needs. • Understand the components of a food chain. • Identify a local ecosystem and its living and nonliving components. • Identify a simple ecosystem and its living and nonliving components. • Identify common soil textures. • Identify animals that live underground.	what the organism needs (e.g., parts of plants: roots, stems, leaves). **Essential Knowledge/Skills:** **Animals need food (plants and other animals) and water in order to live and grow.** Use observations to describe what animals need to survive. **Vocabulary:** Environment Leaves Organism Patterns Roots Stems Structure Survive			

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Life Science: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	**Anchor Descriptor:** **S.4.B.1.1** Identify and describe similarities and differences between living things and their life processes. **PA Academic Standards: Science** **3.2.4.B** Describe objects in the world using the five senses. Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). Use observations to develop a descriptive vocabulary. **3.3.4.A** Know the similarities and differences of living things. Identify life processes of living things (e.g., growth, digestion, react to environment). Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat. Describe basic needs of plants and animals. **4.6.4.A** Understand that living	**Eligible Content:** **S.4.B.1.1.1** Identify life processes of living things (e.g., growth, digestion, respiration). **S.4.B.1.1.2** Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments). **S.4.B.1.1.3** Describe basic needs of plants and animals (e.g., air, water, food). **S.4.B.1.1.4** Describe how different parts of a living thing work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves). --- **Essential Knowledge/Skills:** Plants need water and light in order to live and grow. Use observations to describe	**Approved textbook *Science*, Chapter 1 Lessons 3-6**	**Teacher observation**	**2 Weeks**

	things are dependent on nonliving things in the environment for survival. • Identify and categorize living and nonliving things. • Describe the basic needs of an organism. • Identify basic needs of a plant and an animal and explain how their needs are met. • Identify plants and animals with their habitat and food sources. • Identify environmental variables that affect plant growth. • Describe how animals interact with plants to meet their needs for shelter. • Describe how certain insects interact with soil for their needs. • Understand the components of a food chain. • Identify a local ecosystem and its living and nonliving components. • Identify a simple ecosystem and its living and nonliving components. • Identify common soil textures. • Identify animals that live underground. B. Understand the concept of cycles. • Explain the water cycle. • Explain the carbon	what plants need to survive. **Vocabulary:** Cause and effect Leaves Environment Organism Roots Stems Structure Survive			

	dioxide/oxygen cycle (photosynthesis). C. Identify how ecosystems change over				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Life Science: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	**Anchor Descriptor:** **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.B.2.1** Identify and explain how adaptations help organisms to survive. **PA Academic Standards: Science** **3.1.4.A** Know that natural and human-made objects are made up of parts. •Identify and describe what parts make up a system. •Identify system parts that are natural and human-made (e.g., ball point pen, simple electrical circuits, plant anatomy). •Describe the purpose of analyzing systems. •Know that technologies include physical technology systems (e.g., construction, manufacturing, transportation), informational systems and biochemical-related	**Eligible Content:** N/A **Essential Knowledge/Skills:** **Living things need water, air, and resources from the land, and they live in places that have the things they need.** Use a model to explain the relationship between the needs of different plants or animals and the places they live. **Vocabulary:** Habitat Model Needs Relationship	**Approved textbook *Science*, Chapter 3 Lessons 2-4; online resources or teacher created lessons**	**Teacher observation**	**2 Weeks**

	systems. **3.1.4.B** Know models as useful simplifications of objects or processes. •Identify different types of models. •Identify and apply models as tools for prediction and insight. •Apply appropriate simple modeling tools and techniques. •Identify theories that serve as models (e.g., molecules). **3.1.4.C** Illustrate patterns that regularly occur and reoccur in nature. •Identify observable patterns (e.g., growth patterns in plants, crystal shapes in minerals, climate, structural patterns in bird feathers). •Use knowledge of natural patterns to predict next occurrences (e.g., seasons, leaf patterns, lunar phases). **3.2.4.A** Identify and use the nature of scientific and technological knowledge. •Distinguish between a scientific fact and a belief. •Provide clear explanations that account for observations and				

	results. •Relate how new information can change existing perceptions. **3.2.4.B** Describe objects in the world using the five senses. •Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). •Use observations to develop a descriptive vocabulary. **3.3.4.A** Know the similarities and differences of living things. •Identify life processes of living things (e.g., growth, digestion, react to environment). •Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat. •Describe basic needs of plants and animals. **3.3.4.B** Know that living things are made up of parts that have specific functions. •Identify examples of unicellular and multicellular organisms. •Determine how different parts of				

	a living thing work together to make the organism function. **3.4.4.A** Recognize basic concepts about the structure and properties of matter. •Describe properties of matter (e.g., hardness, reactions to simple chemical tests). •Know that combining two or more substances can make new materials with different properties. •Know different material characteristics (e.g., texture, state of matter, solubility). **3.4.4.B** Know basic energy types, sources and conversions. •Identify energy forms and examples (e.g., sunlight, heat, stored, motion). •Know the concept of the flow of energy by measuring flow through an object or system. •Describe static electricity in terms of attraction, repulsion and sparks. •Apply knowledge of the basic electrical circuits to design and construction simple direct current circuits. •Classify materials as conductors and nonconductors. •Know and demonstrate the basic properties of heat by producing it in a variety of ways. •Know the characteristics of light				

	(e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. **3.4.4.D** Describe the composition and structure of the universe and the earth's place in it. •Recognize earth's place in the solar system. •Explain and illustrate the causes of seasonal changes. •Identify planets in our solar system and their general characteristics. •Describe the solar system motions and use them to explain time (e.g., days, seasons), major lunar phases and eclipses. **4.1.4.A** Identify various types of water environments. • Identify the lotic system (e.g., creeks, rivers, streams). • Identify the lentic system (e.g., ponds, lakes, swamps). **4.1.4.B** Explain the differences between moving and still water. • Explain why water moves or does not move. • Identify types of precipitation. **4.2.4.A** Identify needs of people. • Identify plants, animals, water,				

	air, minerals and fossil fuels as natural resources. • Explain air, water and nutrient cycles. • Identify how the environment provides for the needs of people. **4.2.4.C** Know that some natural resources have limited life spans. • Identify renewable and nonrenewable resources used in the local community. • Identify various means of conserving natural resources. • Know that natural resources have varying life spans. **4.4.4.B** Identify the role of the sciences in Pennsylvania agriculture. • Identify common animals found on Pennsylvania farms. • Identify common plants found on Pennsylvania farms. • Identify the parts of important agricultural related plants (i.e., corn, soybeans, barley). • Identify a fiber product from Pennsylvania farms.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)

Life Science: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	**Anchor Descriptor:** **S.4.B.1.1** Identify and describe similarities and differences between living things and their processes. **PA Academic Standards: Science** **3.3.4.A** Know the similarities and differences of living things. •Identify life processes of living things (e.g., growth, digestion, react to environment). •Know that some organisms have similar external characteristics (e.g., anatomical characteristics; appendages, type of covering, body segments) and that similarities and differences are related to environmental habitat. •Describe basic needs of plants and animals.	**Eligible Content:** **S.4.B.1.1.2** Compare similar functions of external characteristics of organisms (e.g., anatomical characteristics: appendages, type of covering, body segments). **Essential Knowledge/Skills:** **Animals have identifiable structures and behaviors.** Observe and describe structures of organisms and functions of the structures. **Vocabulary:** Function Patterns Structure	**Approved textbook *Science*, Chapter 2 Lesson 2; online resources or teacher created lessons**	**Teacher observation**	**2 Weeks**

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.A.2.2** Identify appropriate instruments for a specific task and describe the information the instrument can provide. **S.4.A.3.1** Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle). **S.4.A.3.2** Use models to illustrate simple concepts and compare the models to what they represent.	**Eligible Content:** **S.4.A.3.3.1** Identify and describe observable patterns (e.g., growth patterns in plants, weather, water cycle). **S.4.A.2.1.3** Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record observations, and then make a prediction based on those observations. **S.4.A.3.3.1** Identify and describe observable patterns (e.g., growth patterns in plants, weather, water cycle). **S.4.A.3.3.2** Predict future conditions/events based on observable patterns (e.g., day/night, seasons, sunrise/sunset, lunar phases).	**Approved textbook *Science*, Chapter 5 Lessons 2-5; online resources or teacher created lessons**	**Observation**	**5 Weeks**

	S.4.A.3.3 Identify and make observations about patterns that regularly occur and reoccur in nature. **PA Academic Standards: Science** **3.1.4.C** Illustrate patterns that regularly occur and reoccur in nature. • Identify observable patterns (e.g., growth patterns in plants, crystal shapes in minerals, climate, structural patterns in bird feathers). • Use knowledge of natural patterns to predict next occurrences (e.g., seasons, leaf patterns, lunar phases). **3.2.4.B** Describe objects in the world using the five senses. • Recognize observational descriptors from each of the five senses (e.g., see-blue, feel-rough). • Use observations to develop a descriptive vocabulary. **3.4.4.D** Describe the composition and structure of the universe and the earth's place in it. • Recognize earth's place in the solar system. • Explain and illustrate the	**Essential Knowledge/Skills:** **Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time.** Use and share observations of local weather conditions to describe patterns over time. **Vocabulary:** Sunny Changes Cloudy Cold Cool Describe Foggy Hot Observe Partly Cloudy Patterns Predict Rainy Snowy Warm Weather Windy			

	causes of seasonal changes. • Identify planets in our solar system and their general characteristics. • Describe the solar system motions and use them to explain time (e.g., days, seasons), major lunar phases and eclipses. **3.5.4.C** Know basic weather elements. • Identify cloud types. • Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. • Explain how the different seasons effect plants, animals, food availability and daily human life.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.	**Anchor Descriptor:** **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.A.3.3** Identify and make observations about patterns that regularly occur and reoccur in nature. **S.4.D.2.1** Identify basic weather conditions and how they are measured. **PA Academic Standards: Science** **3.4.4.B** Know basic energy types, sources and conversions. • Identify energy forms and examples (e.g., sunlight, heat, stored, motion). • Know the concept of the flow of energy by measuring flow through an object or system. • Describe static electricity in terms of attraction, repulsion and sparks.	**Eligible Content:** **N/A** **Essential Knowledge/Skills:** **Sunlight warms the Earth's surface.** Make observations to determine the effect of sunlight on the Earth's surface. **Vocabulary:** Changes Describe Earth Surface Sunlight Observe Predict	**Approved textbook *Science*, Chapter 7 Lesson 1**	**Teacher observation**	**1 Week**

	• Apply knowledge of the basic electrical circuits to design and construction simple direct current circuits. • Classify materials as conductors and nonconductors. • Know and demonstrate the basic properties of heat by producing it in a variety of ways. • Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. **3.5.4.C** Know basic weather elements. • Identify cloud types. • Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. • Explain how the different seasons effect plants, animals, food availability and daily human life.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.	**Anchor Descriptor:** **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.A.2.2** Identify appropriate instruments for a specific task and describe the information the instrument can provide. **S.4.A.3.3** Identify and make observations about patterns that regularly occur and reoccur in nature. **S.4.B.2.1** Identify and explain how adaptations help organisms to survive. **S.4.B.3.2** Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment. **S.4.D.2.1** Identify basic weather	**Eligible Content:** N/A **Essential Knowledge/Skills:** **Sunlight warms the Earth's surface.** Use tools and materials to design and build a structure that will reduce (or increase) the warming effect of sunlight on an area. **Vocabulary:** Build Canopy Cool Materials Structure Sunlight Tent Tools Umbrella Warming effect	**Approved textbook *Science*, Chapter 7 Lesson 1; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	conditions and how they are measured. **PA Academic Standards: Science** **3.4.4.B** Know basic energy types, sources and conversions. • Identify energy forms and examples (e.g., sunlight, heat, stored, motion). • Know the concept of the flow of energy by measuring flow through an object or system. • Describe static electricity in terms of attraction, repulsion and sparks. • Apply knowledge of the basic electrical circuits to design and construction simple direct current circuits. • Classify materials as conductors and nonconductors. • Know and demonstrate the basic properties of heat by producing it in a variety of ways. • Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. **3.5.4.C** Know basic weather elements. • Identify cloud types. • Identify weather patterns from				

	data charts (including temperature, wind direction and speed, precipitation) and graphs of the data. • Explain how the different seasons effect plants, animals, food availability and daily human life.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.A.2.2** Identify appropriate instruments for a specific task and describe the information the instrument can provide. **S.4.A.3.1** Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle). **S.4.A.3.2** Use models to illustrate simple concepts and compare the models to what they represent.	**Eligible Content:** N/A **Essential Knowledge/Skills:** **Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.** Ask questions to obtain information about the purpose of weather forecasting to prepare for and respond to weather. **Vocabulary:** Conditions Design Evaluate Hazard Natural Natural hazard Process Region Solution Weather	**Approved textbook *Science*, Chapter 6 Lesson 6; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	S.4.A.3.3 Identify and make observations about patterns that regularly occur and reoccur in nature. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information. **3.8.4.A** Know that people select, create and use science and technology and that they are limited by social and physical restraints. • Identify and describe positive and negative impacts that influence or result from new tools and techniques. • Identify how physical technology (e.g., construction, manufacturing, transportation), informational technology and biotechnology are used to meet human needs. • Describe how scientific				

	discoveries and technological advancements are related. • Identify interrelationships among technology, people and their world. • Apply the technological design process to solve a simple problem.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.A.1.3** Recognize and describe change in natural or human-made systems and the possible effects of those changes. **S.4.A.2.1** Apply skills necessary to conduct an experiment or design a solution to solve a problem. **S.4.A.2.2** Identify appropriate instruments for a specific task and describe the information the instrument can provide. **S.4.A.3.1** Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle). **S.4.A.3.2** Use models to illustrate simple concepts and compare the models to what they represent.	**Eligible Content:** **S.4.A.1.3.4** Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., it might die, migrate, change behavior, eat something else). **Essential Knowledge/Skills:** **Plants and animals can change their environment.** Use evidence to show how plants and animals are able to change their environment to meet their needs. **Vocabulary:** Needs	**Online resources or teacher created lessons**	**Teacher observation**	**2 Weeks**

	S.4.A.3.3 Identify and make observations about patterns that regularly occur and reoccur in nature. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth's surface processes affect and are affected by human activities.	**Anchor Descriptor:** **S.4.B.3.2** Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment. **S.4.B.3.3** Identify and describe human reliance on the environment at the individual or the community level. **PA Academic Standards: Science** **4.8.4.C** Explain how human activities may change the environment. • Identify everyday human activities and how they affect the environment. • Identify examples of how human activities within a community affect the natural environment.	**Eligible Content:** N/A **Essential Knowledge/Skills:** **People can make choices to reduce impact on the environment.** Describe ways to reduce impact of humans on the land, water, and air. **Vocabulary:** Air Choices Impact Land Water	**Approved textbook *Science,* Chapter 4 Lesson 6; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth's surface processes affect and are affected by human activities.	**Anchor Descriptor:** **S.4.B.3.2** Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment. **S.4.B.3.3** Identify and describe human reliance on the environment at the individual or the community level. **PA Academic Standards: Science** **3.2.4.D** Recognize and use the technological design process to solve problems. • Recognize and explain basic problems. • Identify possible solutions and their course of action. • Try a solution. • Describe the solution, identify its impacts and modify if necessary. • Show the steps taken and the results. **3.8.4.A** Know that people select, create and use science and technology and that they are limited by social and physical	**Eligible Content:** N/A **Essential Knowledge/Skills:** **Things that people do to live can affect the world around them.** Describe and communicate solutions to reduce impact of humans on land, water, water, and air. **Vocabulary:** Recycle Reduce Reuse Solutions	**Approved textbook *Science,* Chapter 4 Lesson 6; online resources or teacher created lessons**	**Teacher observation**	**1 Week**

	restraints. • Identify and describe positive and negative impacts that influence or result from new tools and techniques. • Identify how physical technology (e.g., construction, manufacturing, transportation), informational technology and biotechnology are used to meet human needs. • Describe how scientific discoveries and technological advancements are related. • Identify interrelationships among technology, people and their world. • Apply the technological design process to solve a simple problem. **3.8.4.C** Know the pros and cons of possible solutions to scientific and technological problems in society. • Compare the positive and negative expected and unexpected impacts of technological change. • Identify and discuss examples of technological change in the community that have both positive and negative impacts. **4.8.4.C** Explain how human activities may change the				

	environment. • Identify everyday human activities and how they affect the environment. • Identify examples of how human activities within a community affect the natural environment.				

General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time (In Days)
Earth and Space Science: The Earth's surface processes affect and are affected by human activities.	**Anchor Descriptor:** **S.4.A.1.1** Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. **S.4.B.3.2** Describe, explain, and predict change in natural or human-made systems and the possible effects of those changes on the environment. **S.4.B.3.3** Identify and describe human reliance on the environment at the individual or the community level. **PA Academic Standards: Science** **3.2.4.C** Recognize and use the elements of scientific inquiry to solve problems. • Generate questions about objects, organisms and/or events that can be answered through scientific investigations. • Design an investigation. • Conduct an experiment. • State a conclusion that is consistent with the information.	**Eligible Content:** N/A **Essential Knowledge/Skills:** **Living things need water, air, and resources from the land. Organisms live in places that have the things they need.** Using evidence, state an argument how plants and animals can change the environment to meet their needs. **Vocabulary:** Argument Evidence	**Approved textbook *Science,* Chapter 1 Lessons 3-6; *Science,* Chapter 3 Lesson 1-4; online resources or teacher created lessons**	**Teacher observations**	**1 Week**

	4.6.4.A Understand that living things are dependent on nonliving things in the environment for survival. • Identify and categorize living and nonliving things. • Describe the basic needs of an organism. • Identify basic needs of a plant and an animal and explain how their needs are met. • Identify plants and animals with their habitat and food sources. • Identify environmental variables that affect plant growth. • Describe how animals interact with plants to meet their needs for shelter. • Describe how certain insects interact with soil for their needs. • Understand the components of a food chain. • Identify a local ecosystem and its living and nonliving components. • Identify a simple ecosystem and its living and nonliving components. • Identify common soil textures. • Identify animals that live underground.				

Appendix: A			
IEP Enhancements			
General Topic:	**Specially Designed Instruction:**	**Additional Vocabulary:**	**Assessments/Suggested Time:**
Physical Science: **Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.** **Different materials are suited to different purposes.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Physical Science: **Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.** **A variety of objects can be built up from small parts.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Physical Science: **Interactions between any two objects can cause changes in one or both.** **Pushes and pulls can have different strengths and directions.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Physical Science: **Interactions between any two objects can cause changes in one or both.** **Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Physical Science: **Interactions between any two objects can cause changes in one or both.** **Objects pull or push each other when they collide or are connected and can change motion.**	• **Preferential seating** • **Manipulatives** • **Visual aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Physical Science: **Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.** **A bigger push or pull makes things speed up or slow down more quickly**	**Resources & Activities:** • **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Physical Science: **Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.** **The amount and position of mass affect how an object moves.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **2 weeks with additional time as needed per individual student**
Life Science: **All organisms are made of cells and can be characterized by common aspects of their structure and functioning.** **Use observations to describe what animals need to survive.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **2 weeks with additional time as needed per individual student**
Life Science: **All organisms are made of cells and can be characterized by common aspects of their structure and functioning.** **Plants need water and light in order to live and grow.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **2 weeks with additional time as needed per individual student**
Life Science: **All organisms are made of cells and can be characterized by common aspects of their structure and functioning.** **Living things need water, air, and resources from the land, and they live in places that have the things they need.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **2 weeks with additional time as needed per individual student**

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Life Science: **All organisms are made of cells and can be characterized by common aspects of their structure and functioning.** **Animals have identifiable structures and behaviors.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **5 weeks with additional time as needed per individual student**
Earth and Space Science: **The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.** **Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Earth and Space Science: **The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.** **Sunlight warms the Earth's surface.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Earth and Space Science: **The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.** **Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Earth and Space Science: **The Earth is a complex and dynamic set of interconnected systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales.** **Plants and animals can change their environment.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **2 weeks with additional time as needed per individual student**
Earth and Space Science: **The Earth's surface processes affect and are affected by human activities.** **People can make choices to reduce impact on the environment.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**
Earth and Space Science: **The Earth's surface processes affect and are affected by human activities.** **Things that people do to live can affect the world around them.**	• **Preferential Seating** • **Manipulatives** • **Visual Aids** • **Multi-modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material**		**Suggested Time:** **1 week with additional time as needed per individual student**