Fourth Grade Science

Curriculum Guide

Dunmore School District

Dunmore, PA



Fourth Grade Science

Prerequisite:

• Completion of Third Grade

Course Description:

The Fourth Grade Science course is designed to provide students with an understanding of fourth grade 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 interaction between objects, electricity, magnetism, light, heat, sound, natural disasters, cells, systems, Earth's resources, erosion, rock formation, landforms, water environments, weather, conservation, waves, digital information, and living organisms.

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.

Year-at-a-glance

Subject: Fourth Grade Science	Grade Level: 4	Date Completed: 4/3/2019

1st Quarter

Торіс	Resources	Standards
Matter	Approved Textbook Science, Chapter 11: Lessons	3.1.10.B, 3.1.10.C, 3.4.10.A,
	1-4	S11.C.1.1
Heat	Approved Textbook Science, Chapter 12: Lessons	3.4.4.B, 3.4.4.C, S4.A.1.1.1,
	1-2	S4.C.1.1.1, S4.A.1.1.2, S4.C.2.1.1,
		S4.C.2.1.2, S4.C.2.1.3, S4.C.2.1.4
Electricity and Magnetism	Approved Textbook Science, Chapter 13: Lessons	3.4.4.B, 3.4.4.C, S4.A.1.1.1,
	1-5	S4.A.1.1.2, S4.C.2.1.1, S4.C.2.1.2,
		S4.C.2.1.3, S4.C.2.1.4, S4.C.3.1.1,
		S4.C.3.1.2, S4.C.3.1.3

2nd Quarter

Торіс	Resources	Standards
Sound and Light	Approved Textbook Science, Chapter 14: Lessons	3.4.4.B, 3.4.4.C, S4.A.1.1.1,
	1-4	S4.A.1.1.2, S4.C.2.1.1, S4.C.2.1.2,
	1-4	S4.C.2.1.3, S4.C.2.1.4, S4.A.2.1.1,
		S4.A.2.1.2, S4.A.2.1.3, S4.A.2.1.4,
		\$4.C.3.1.1, \$4.C.3.1.2, \$4.C.3.1.3
Plants and Animals and their Ecosystems	Approved Textbook <i>Science</i> , Chapters 1-4	3.3.4.C, S4.B.1.1.1, S4.B.1.1.2,
		S4.B.1.1.3, S4.B.1.1.4, S4.B.1.1.5
Renewable and Nonrenewable Resources	Approved Textbook Science, Chapter 10: Lesson 2	3.4.4.B, S4.A.1.1.1, S4.A.1.1.2,
	1-4	S4.A.2.1.1, S4.A.2.1.2, S4.A.2.1.3,
		S4.A.2.1.4, S4.C.2.1.1, S4.C.2.1.2,
		S4.C.2.1.3, S4.C.2.1.4,

3rd Quarter

Торіс	Resources	Standards
Water Cycle	Approved Textbook Science, Chapter 6: Lessons	3.1.7.A, S4.C.3.1.1, S4.C.3.1.2,
	1-4	S4.C.3.1.3
Sun, Moon, and Earth	Approved Textbook Science, Chapter 17: Lessons	3.1.7.A, 3.4.4.D, S4.C.3.1.1,
	1-2	S4.C.3.1.2, S4.C.3.1.3,
		S.5.D.3.1.1
Motion	Approved Textbook Science, Chapter 15: Lessons	3.1.7.A, 3.4.4.B, 3.4.4.C, 3.8.4.A,
	1-3	S4.A.1.1.1, S4.A.1.1.2,
		S4.A.2.1.1, S4.A.2.1.2,
		S4.A.2.1.3, S4.A.2.1.4,
		S4.C.3.1.1, S4.C.3.1.2, S4.C.3.1.3

4th Quarter

Торіс	Resources	Standards
Natural Disasters		3.4.4.B, S4.A.1.1.1, S4.A.1.1.2,
		S4.A.2.1.1, S4.A.2.1.2, S4.A.2.1.3,
		S4.A.2.1.4
Digital Information	Approved Textbook Science, Chapter 19	3.4.4.B, S4.A.1.1.1, S4.A.1.1.2,
		S4.A.2.1.1, S4.A.2.1.2, S4.A.2.1.3,
		S4.A.2.1.4
Landforms		3.5.4.A, 3.5.4.B, S4.D.1.1.1,
		S4.D.1.1.2, S4.D.1.1.3, S4.D.1.2.1,
		S4.D.1.2.2, S4.D.1.2.3, S4.D.1.3.1,
		S4.D.1.3.2, S4.D.1.3.3, S4.D.1.3.4
Bodies of Water		3.5.4.B, S4.D.1.2.1, S4.D.1.2.2,
		S4.D.1.2.3
Review of Selected 4 th Grade Skills		

Matter:AnchMatter can be\$11.0understood inmadeunderstood inmadeterms of the typesand toof atoms presentevenand theprotointeractions bothprotobetween andPA Awithin atoms.3.1.1modeunde	Academic and Core Standards hor Descriptor: .C.1.1 Explain that matter is le of particles called atoms that atoms are composed of n smaller particles (e.g., cons, neutrons, electrons) Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	Essential Knowledge, Skills & Vocabulary Eligible Content: S11.C.1.1 Explain the relationship between the structure and properties of matter. Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	Approved Textbook and Workbook Science, Chapter 11: Lessons 1-4 Worksheets Discovery Education Videos Manipulatives	Teacher prepared tests, quizzes, etc.	Time (In Days) 19 days
Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms. S11.0 made even proto 3.1.1 mode under techn	C.1.1 Explain that matter is le of particles called atoms that atoms are composed of n smaller particles (e.g., cons, neutrons, electrons) Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	S11.C.1.1 Explain the relationship between the structure and properties of matter. Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	and Workbook Science, Chapter 11: Lessons 1-4 Worksheets Discovery Education Videos Manipulatives	• •	19 days
understood in made terms of the types of atoms present even and the proto- interactions both between and PA A within atoms. 3.1.1 mode under techn	le of particles called atoms that atoms are composed of n smaller particles (e.g., cons, neutrons, electrons) Academic Standards: 10.B Describe concepts of lels as a way to predict and erstand science and	relationship between the structure and properties of matter. Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	Science, Chapter 11: Lessons 1-4 Worksheets Discovery Education Videos Manipulatives	quizzes, etc.	
terms of the types of atoms present and the protocint protocint between and within atoms. PA A 3.1.1 model under techn	that atoms are composed of n smaller particles (e.g., cons, neutrons, electrons) Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	structure and properties of matter. Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	Lessons 1-4 Worksheets Discovery Education Videos Manipulatives		
of atoms present and the interactions both between and within atoms.	n smaller particles (e.g., cons, neutrons, electrons) Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	matter. Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	Worksheets Discovery Education Videos Manipulatives		
and the proto- interactions both between and PA A within atoms. 3.1.1 mode under techn •	Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	Essential Knowledge/Skills: Each atom has a charged substructure consisting of a	Discovery Education Videos Manipulatives		
interactions both between and within atoms.	Academic Standards: 10.B Describe concepts of dels as a way to predict and erstand science and	Each atom has a charged substructure consisting of a	Discovery Education Videos Manipulatives		
between and within atoms. PA A 3.1.1 mode under techr	10.B Describe concepts of dels as a way to predict and erstand science and	Each atom has a charged substructure consisting of a	Videos Manipulatives		
within atoms. 3.1.1 mode under techn	10.B Describe concepts of dels as a way to predict and erstand science and	Each atom has a charged substructure consisting of a	Manipulatives		
mode unde techr	lels as a way to predict and erstand science and	Each atom has a charged substructure consisting of a			
unde tech •	erstand science and	substructure consisting of a	•		
techi •		•	Kahoot		
•	unalagu.	nucleus, which is made of			
	inology.	protons and neutrons,			
•	Distinguish between different				
•	types of models and				
•	modeling techniques and	The periodic table orders			
•	apply their appropriate use in	elements in increasing number			
•	specific applications (e.g.,	of protons and places those			
•	kinetic gas theory, DNA).	with similar chemical			
	Examine the advantages of	properties in columns.			
	using models to demonstrate				
	processes and outcomes	Vocabulary:			
	(e.g., blue print analysis,	solid			
	structural stability).	liquid			
•	Apply mathematical models	gas			
	to science and technology.	mass			
	5,	volume			
3.1.1	10.C Apply patterns as	density			
	eated processes or recurring	mixtures			
	nents in science and	solutions			
		solute			
•	inology.	solvent			

	recurring patterns that form	solubility		
	• •	physical change		
	-			
	-	chemical change		
		phase change		
		elements		
		periodic table		
	stationary physical patterns.			
	Examine and describe			
	physical patterns in motion.			
	3.4.10.A Explain concepts about			
	the structure and properties of			
	matter.			
	Know that atoms are			
	composed of even smaller			
	sub-atomic structures whose			
	properties are measurable.			
	• Explain the repeating pattern			
	of chemical properties by			
	using the repeating patterns			
	of atomic structure within the			
	periodic table.			
	• Predict the behavior of gases			
	through the use of Boyle's,			
	Charles' or the ideal gas law,			
	in everyday situations.			
	Describe phases of matter			
	according to the Kinetic			
	Molecular Theory.			
	• Explain the formation of			
	compounds and their			
	resulting properties using			
	bonding theories (ionic and			
	covalent).			
L				

 Recognize formulas for simple inorganic compounds. Describe various types of chemical reactions by applying the laws of conservation of mass and energy. Apply knowledge of mixtures to appropriate separation techniques. Understand that carbon can form several types of compounds. 		
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General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time (In Days)
Heat:	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	9 days
Interactions of	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
objects or systems	application of scientific,	a scientific fact and an opinion,	Chapter 12: Lessons 1-2		
of objects can be	environmental, or technological	providing clear explanations			
predicted and	knowledge to possible solutions	that connect observations and	Worksheets		
explained using the	to problems.	results (e.g., a scientific fact	Discovery Education		
concept of energy		can be supported by making	Videos		
transfer and	S4.C.1.1 Describe observable	observations).	Manipulatives		
conservation.	physical properties of matter.		Kahoot		
		S4.C.1.1.1 Use physical			
	S4.C.2.1 Recognize basic energy	properties [e.g., mass, shape,			
	types and sources, or describe	size, volume, color, texture,			
	how energy can be changed from	magnetism, state (i.e., solid,			
	one form to another.	liquid, and gas), conductivity			
		(i.e., electrical and heat)] to			
	PA Academic Standards: Science	describe matter.			
	3.4.4B Know basic energy types,				
	sources and conversions.	S4.C.1.1.2 Categorize/group			
	 Identify energy forms and 	objects using physical			
	examples (e.g., sunlight,	characteristics.			
	heat, stored, motion).				
	• Know the concept of the	S4.C.2.1.1 Identify energy			
	flow of energy by measuring	forms, energy transfer, and			
	flow through an object or	energy examples (e.g., light,			
	system.	heat, electrical).			
	Describe static electricity in				
	terms of attraction,	S4.C.2.1.2 Describe the flow of			
	repulsion and sparks.	energy through an object or			
	 Apply knowledge of the basic 	system (e.g., feeling radiant			
	electrical circuits to design	heat from a light bulb, eating			
l	and construction simple	food to get energy, using a			

direct current circuits.	battery to light a bulb or run a
Classify materials as	fan).
conductors and	
nonconductors.	S4.C.2.1.3 Recognize or
Know and demonstrate the	illustrate simple direct current
basic properties of heat by	series and parallel circuits
producing it in a variety of	composed of batteries, light
ways.	bulbs (or other common
Know the characteristics of	loads), wire, and on/off
light (e.g., reflection,	switches.
refraction, absorption) and	
use them to produce heat,	S4.C.2.1.4 Identify
color or a virtual image.	characteristics of sound (e.g.,
	pitch, loudness, reflection).
	Essential Knowledge/Skills:
	Materials that allow electricity
	to flow are conductors; those
	that do not are insulators.
	Investigate and describe
	conductors and insulators.
	The faster a given object is
	moving, the more energy it
	possesses.
	Use evidence to construct an
	explanation for the
	relationship between speed,
	energy and motion.
	Energy can be mayed from
	Energy can be moved from

place to place by moving objects or through sound, light, or electric currents.Image: Carry out investigations to provide evidence that energy is transferred from place to place by sound, light, heat, electric currents, interacting magnets, and moving or colliding objects.Image: Carry out investigation stop provide evidence that energy is transferred from place to place by sound, light, heat, electric currents, interacting magnets, and moving or colliding objects.Image: Carry out investigation stop provide evidence that energy is transferred from place to place by sound, light, heat, electric currents, interacting magnets, objects.
Energy is present whenever there are moving objects, sound, light, or heat.Construct an explanation for the relationship between energy and motion.When objects collide, energy
can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air. As a result, the air gets heated and sound is produced.
Construct an investigation to demonstrate the relationship between energy and motion.

	Vocabulary: thermal energy heat temperature conduction convection radiation convection current insulators conductors			
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Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time (In Days)
Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
S4.C.2.1 Recognize basic energy	S4.C.2.1.1 Identify energy	Workbook Science,	tests, quizzes, etc.	
types and sources, or describe	forms, energy transfer, and	Chapter 13: Lessons 1-2		
how energy can be changed from	energy examples (e.g., light,			
one form to another.	heat, electrical).	Worksheets		
		Discovery Education		
PA Academic Standards: Science	S4.C.2.1.2 Describe the flow of	Videos		
3.4.4.B Know basic energy types,	energy through an object or	Manipulatives		
sources and conversions.	system (e.g., feeling radiant	Kahoot		
 Identify energy forms and 	heat from a light bulb, eating			
examples (e.g., sunlight,	food to get energy, using a			
heat, stored, motion).	battery to light a bulb or run a			
• Know the concept of the	fan).			
flow of energy by measuring				
flow through an object or	S4.C.2.1.3 Recognize or			
system.	illustrate simple direct current			
• Describe static electricity in	series and parallel circuits			
terms of attraction,	composed of batteries, light			
repulsion and sparks.	bulbs (or other common			
 Apply knowledge of the basic 	loads), wire, and on/off			
	switches.			
_				
direct current circuits.	S4.C.2.1.4 Identify			
 Classify materials as 	characteristics of sound (e.g.,			
conductors and	pitch, loudness, reflection).			
nonconductors.				
	Essential Knowledge/Skills:			
	Electrical circuits require a			
	complete loop through which			
-	an electrical current can pass.			
	 PA Academic and Core Standards Anchor Descriptor: S4.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 3.4.4.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 	PA Academic and Core StandardsEssential Knowledge, Skills & VocabularyAnchor Descriptor: S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.Eligible Content: S4.C.2.1.1 Identify energy 	PA Academic and Core StandardsEssential Knowledge, Skills & VocabularyAnchor Descriptor: SA.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.Eligible Content: SA.C.2.1.1 Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical).Approved Textbook and Workbook Science, Chapter 13: Lessons 1-2PA Academic Standards: Science 3.4.4.B Know basic energy types, sources and conversions.S4.C.2.1.2 Describe the flow of energy through an object or system (e.g., feeling radiant heat, stored, motion).S4.C.2.1.3 Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs (or other common loads), wire, and on/off switches.Approved Textbook and Workbook Science, Chapter 13: Lessons 1-2S4.C.2.1.2 Describe the flow of flow of energy by measuring flow through an object or system.S4.C.2.1.3 Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs (or other common loads), wire, and on/off switches.S4.C.2.1.4 Identify characteristics of sound (e.g., pitch, loudness, reflection).Classify materials as conductors.S4.C.2.1.4 Identify characteristics of sound (e.g., pitch, loudness, reflection).Essential Knowledge/Skills: Electrical circuits require a complete loop through whichEssential Knowledge/Skills: Electrical circuits require a complete loop through which	PA Academic and Core StandardsEssential Knowledge, Skills & VocabularyApproved Textbook and Workbook Science, Chapter 13: Lessons 1-2Teacher prepared tests, quizzes, etc.Anchor Descriptor: S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.Eligible Content: S4.C.2.1.1 Identify energy forms, energy transfer, and energy examples (e.g., light, heat, electrical).Approved Textbook and Workbook Science, Chapter 13: Lessons 1-2Teacher prepared tests, quizzes, etc.PA Academic Standards: Science 3.4.4.B Know basic energy types, sources and conversions.S4.C.2.1.2 Describe the flow of energy through an object or system (e.g., stelling food to get energy, using a battery to light a bulb or run a fan).AnotTeacher prepared tests, quizzes, etc.9. Know the concept of the flow of energy by measuring flow through an object or system.S4.C.2.1.3 Recognize or illustrate simple direct current series and parallel circuits composed of batteries, light bulbs (or other common loads), wire, and on/off switches.Apply knowledge of the basic conductors and nonconductors.S4.C.2.1.4 Identify characteristics of sound (e.g., pitch, loudness, reflection).S4.C.2.1.4 Identify characteristics of sound (e.g., pitch, loudness, reflection).• Know and demonstrate the basic properties of heat by ways.Essential Knowledge/Skills: Electrical circuits require a complete loop through whichEssential Knowledge/Skills: Electrical circuits require a complete loop through which

light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image.	Construct serial and parallel circuits and describe the path of electrons in the circuit.
	An open circuit is an incomplete electric pathway; a closed circuit is a complete pathway.
	Demonstrate and explain open and closed circuits utilizing switches.
	Vocabulary: Static Electricity Electric Current Parallel Circuit Series Circuit Open Circuit
	Open Circuit Closed Circuit

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Electricity and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
Magnetism:	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
Interactions of	application of scientific,	a scientific fact and an opinion,	Chapter 13: Lessons 1-2		
objects or systems	environmental, or technological	providing clear explanations			
of objects can be	knowledge to possible solutions	that connect observations and	Worksheets		
predicted and	to problems.	results (e.g., a scientific fact	Discovery Education		
explained using the		can be supported by making	Videos		
concept of energy	S4.C.2.1 Recognize basic energy	observations).	Manipulatives		
transfer and	types and sources, or describe		Kahoot		
conservation.	how energy can be changed from	S4.A.1.1.2 Identify and			
	one form to another.	describe examples of common			
		technological changes past to			
	S4.C.3.1 Identify and describe	present in the community (e.g.,			
	different types of force and	energy production,			
	motion resulting from these	transportation,			
	forces, or the effect of the	communications, agriculture,			
	interaction between force and	packaging materials) that have			
	motion.	either positive or negative			
		impacts on society or the			
	PA Academic Standards: Science	environment.			
	3.4.4.B Know basic energy types,				
	sources and conversions.	S4.C.2.1.1 Identify energy			
	 Identify energy forms and 	forms, energy transfer, and			
	examples (e.g., sunlight,	energy examples (e.g., light,			
	heat, stored, motion).	heat, electrical).			
	• Know the concept of the				
	flow of energy by measuring	S4.C.2.1.2 Describe the flow of			
	flow through an object or	energy through an object or			
	system.	system (e.g., feeling radiant			
	Describe static electricity in	heat from a light bulb, eating			
	, terms of attraction,	food to get energy, using a			

r		 	
repulsion and sparks.	battery to light a bulb or run a		
Apply knowledge of the basi	c fan).		
electrical circuits to design			ļ
and construction simple	S4.C.2.1.3 Recognize or		
direct current circuits.	illustrate simple direct current		ļ
Classify materials as	series and parallel circuits		ļ
conductors and	composed of batteries, light		ļ
nonconductors.	bulbs (or other common		ļ
Know and demonstrate the	loads), wire, and on/off		ļ
basic properties of heat by	switches.		ļ
producing it in a variety of			ļ
ways.	S4.C.2.1.4 Identify		ļ
Know the characteristics of	characteristics of sound (e.g.		ļ
light (e.g., reflection,	pitch, loudness, reflection).		ļ
refraction, absorption) and			ļ
use them to produce heat,	S4.C.3.1.1 Describe changes in		ļ
color or a virtual image.	motion caused by forces (e.g.,		ļ
	magnetic, pushes or pulls,		ļ
3.4.4.C Observe and describe	gravity, friction).		ļ
different types of force and			ļ
motion.	S4.C.3.1.2 Compare the		ļ
Identify characteristics of	relative movement of objects		ļ
sound (pitch, loudness and	or describe types of motion		ļ
echoes)	that are evident (e.g., bouncing		ļ
Recognize forces that attract			ļ
or repel other objects and	back and forth, merry-go-		ļ
demonstrate them.	round).		ļ
 Describe various types of 			ļ
• Describe various types of motions.	S4.C.3.1.3 Describe the		ļ
Compare the relative	position of an object by		ļ
	locating it relative to another		ļ
movement of objects and describe types of motion	object or a stationary		ļ
that are evident.	background (e.g., geographic		ļ
	direction, left, up).		ļ
Describe the position of an	, , , , , , , , , , , , , , , , , , , ,		<u> </u>

	I		
object by locating it relative			
to another object or the			
background (e.g., geographic	Essential Knowledge/Skills:		
direction, left, up).	Energy can be moved from		
	place to place by moving		
	objects or through sound,		
	light, or electric currents.		
	Obtain and communicate		
	information for how		
	technology allows humans to		
	concentrate, transport, and		
	store energy for practical use.		
	store energy for practical use.		
	Energy can be moved from		
	place to place by moving		
	objects or through sound,		
	-		
	light, or electric currents.		
	Design and construct a device		
	Design and construct a device		
	that converts energy from one		
	form to another using given		
	design criteria.		
	Energy can be moved from		
	place to place by moving		
	objects or through sound,		
	light, or electric currents.		
	Design and test a solution to a		
	problem that utilizes the		
	transfer of electric energy in the		
	solution using given design		
	constraints.		

Energy can be moved fro place to place by moving objects or through sound or electric currents.	3	
Carry out investigations t provide evidence that en transferred from place to by sound, light, heat, elec currents, interacting mag and moving or colliding o	ergy is o place ctric gnets,	
Energy can be moved fro place to place by moving objects or through sound or electric currents.	3	
Make observations to pro evidence that energy can transferred from place to by sound, light, heat, and electrical currents.	o be o place	
Vocabulary: Static Electricity Electric Current Parallel Circuit Series Circuit Open Circuit Closed Circuit		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time (In Days)
Electricity and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
Magnetism:	S4.C.3.1 Identify and describe	S4.C.3.1.1 Describe changes in	Workbook Science,	tests, quizzes, etc.	-
Interactions	different types of force and	motion caused by forces (e.g.,	Chapter 13: Lessons 3-5		
between any two	motion resulting from these	magnetic, pushes or pulls,			
objects can cause	forces, or the effect of the	gravity, friction).	Worksheets		
changes in one or	interaction between force and		Discovery Education		
both.	motion.	S4.C.3.1.2 Compare the	Videos		
		relative movement of objects	Manipulatives		
	PA Academic Standards: Science	or describe types of motion	Kahoot		
	3.4.4.C Observe and describe	that are evident (e.g., bouncing			
	different types of force and	ball, moving in a straight line,			
	motion.	back and forth, merry-go-			
	Identify characteristics of	round).			
	sound (pitch, loudness and				
	echoes)	S4.C.3.1.3 Describe the			
	Recognize forces that attract	position of an object by			
	or repel other objects and	locating it relative to another			
	demonstrate them.	object or a stationary			
	• Describe various types of	background (e.g., geographic			
	motions.	direction, left, up).			
	Compare the relative				
	movement of objects and				
	describe types of motion	Essential Knowledge/Skills:			
	that are evident.	When objects touch or collide,			
	• Describe the position of an	they push on one another and			
	object by locating it relative	can change motion or shape.			
	to another object or the	•			
	background (e.g., geographic	Magnets create a magnetic			
	direction, left, up).	field that can exert an			
		attracting or repelling force on			
		other objects that can affect			

motion. Investigate the forces between two or more magnets to identify patterns. Magnets create a magnetic field that can exert an attracting or repelling force on other objects that can affect motion. Investigate the push-and-pull forces between objects not in contact with one another. When objects touch or collide, they push on one another and magnetic create a magnetic field that can exert an attracting or repelling force on other objects that can exert an attracting or repelling force on other objects touch or collide, they push on one another and can change motion or shape. Magnets create a magnetic field that can exert an attracting or repelling force on other objects that can affect motion. Design and refine solutions to a problem by using magnets to move objects not in contact with one another.	r	-		
two or more magnets to identify patterns. Magnets create a magnetic field that can exert an attracting or repelling force on other objects that can affect motion. Investigate the push-and-pull forces between objects not in contact with one another. When objects touch or collide, they push on one another and can change motion or shape. Magnets create a magnetic field that can exert an attracting or repelling force on other objects that can affect motion. Investigate the push-and-pull forces between objects not in contact with one another. Design and refine solutions to a problem by using magnets to move objects not in contact Investigate the push-and-pull force between objects not in contact with one another.		motion.		
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a problem by using magnets to move objects not in contact				
move objects not in contact		Design and refine solutions to		
		a problem by using magnets to		
		move objects not in contact		
		-		
Vocabulary:		Vocabulary:		

Magnets Magnetism Magnetic Poles		
Compasses Electromagnets Generators Strength of Magnets Attract Repel		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Electricity and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
Magnetism:	S4.C.2.1 Recognize basic energy	S4.C.2.1.1 Identify energy	Workbook Science,	tests, quizzes, etc.	
Interactions	types and sources, or describe	forms, energy transfer, and	Chapter 13: Lessons 3-5		
between any two	how energy can be changed from	energy examples (e.g., light,			
objects can cause	one form to another.	heat, electrical).	Worksheets		
changes in one or			Discovery Education		
both.	PA Academic Standards: Science	S4.C.2.1.2 Describe the flow of	Videos		
	3.4.4.B Know basic energy types,	energy through an object or	Manipulatives		
	sources and conversions.	system (e.g., feeling radiant	Kahoot		
	 Identify energy forms and 	heat from a light bulb, eating			
	examples (e.g., sunlight,	food to get energy, using a			
	heat, stored, motion).	battery to light a bulb or run a			
	 Know the concept of the 	fan).			
	flow of energy by measuring				
	flow through an object or	S4.C.2.1.3 Recognize or			
	system.	illustrate simple direct current			
	Describe static electricity in	series and parallel circuits			
	terms of attraction,	composed of batteries, light			
	repulsion and sparks.	bulbs (or other common			
	 Apply knowledge of the basic 				
	electrical circuits to design	switches.			
	and construction simple				
	direct current circuits.	S4.C.2.1.4 Identify			
	 Classify materials as 	characteristics of sound (e.g.,			
	conductors and	pitch, loudness, reflection).			
	nonconductors.				
	Know and demonstrate the				
	basic properties of heat by	Essential Knowledge/Skills:			
	producing it in a variety of	A core of iron or steel			
	ways.	becomes an electromagnet			
	Know the characteristics of	when electricity flows			

light (e.g., reflection,	through a coil of insulated	
refraction, absorption) and	wire surrounding it.	
use them to produce heat,		
color or a virtual image.	Construct an electromagnet	
3.4.7.C Relate energy sources and	and plan an investigation to	
transfers to heat and temperature.	determine how one can make	
Identify and describe sound	the electromagnet stronger or	
changes in moving objects.	weaker.	
Know that the sun is a major		
source of energy that emits	Electromagnetic forces can be	
wavelengths of visible light, infrared and ultraviolet	attractive or repulsive, and	
radiation.	their sizes depend on the	
• Explain the conversion of	magnitudes of the charges,	
one form of energy to	currents, or magnetic	
another by applying	strengths involved and on the	
knowledge of each form of	distances between the	
energy.Explain the parts and	interacting objects.	
functions in an electrical		
circuit.	Plan and carry out an	
	investigation to determine	
	factors that affect the strength	
	of electric and magnetic forces.	
	Vocabulary:	
	Magnets	
	Magnetism Magnetic Poloc	
	Magnetic Poles	
	Compasses Electromagnets	
	Generators	
	Strength of Magnets	

Γ		Attract		
		Repel		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Electricity and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
Magnetism:	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
Interactions of	application of scientific,	a scientific fact and an opinion,	Chapter 13: Lessons 3-5		
objects or systems	environmental, or technological	providing clear explanations			
of objects can be	knowledge to possible solutions	that connect observations and	Worksheets		
predicted and	to problems.	results (e.g., a scientific fact	Discovery Education		
explained using the		can be supported by making	Videos		
concept of energy	S4.A.2.1 Apply skills necessary to	observations).	Manipulatives		
transfer and	conduct an experiment or design		Kahoot		
conservation.	a solution to solve a problem.	S4.A.1.1.2 Identify and			
		describe examples of common			
	PA Academic Standards: Science	technological changes past to			
	3.4.4.B Know basic energy types,	present in the community (e.g.,			
	sources and conversions.	energy production,			
	 Identify energy forms and 	transportation,			
	examples (e.g., sunlight,	communications, agriculture,			
	heat, stored, motion).	packaging materials) that have			
	 Know the concept of the 	either positive or negative			
	flow of energy by measuring	impacts on society or the			
	flow through an object or system.	environment.			
	 Describe static electricity in 	S4.A.2.1.1 Generate questions			
	, terms of attraction,	about objects, organisms, or			
	repulsion and sparks.	events that can be answered			
	 Apply knowledge of the basic 	through scientific			
	electrical circuits to design	investigations.			
	and construction simple				
	direct current circuits.	S4.A.2.1.2 Design and describe			
	 Classify materials as 	an investigation (a fair test) to			
	conductors and	test one variable.			
	nonconductors.				

producing it in a variety of ways. • Know the characteristics of	Observe a natural phenomenon (e.g., weather changes, length of daylight/night, movement of shadows, animal migrations, growth of plants), record	
refraction, absorption) and use them to produce heat, color or a virtual image.	observations, and then make a prediction based on those observations. S4.A.2.1.4 State a conclusion	
 different types of force and motion. Identify characteristics of sound (pitch, loudness and 	that is consistent with the information/data.	
 Recognize forces that attract or repel other objects and demonstrate them. Describe various types of motions. Compare the relative movement of objects and 	Essential Knowledge/Skills: Magnets can exert forces on other magnets or on materials, causing energy transfer between them (e.g., leading to changes in motion) even when the objects are not touching.	
 Describe the position of an object by locating it relative to another object or the background (e.g., geographic 	Demonstrate the energy transfer between two objects using a magnet and another object.	
	Vocabulary: Magnets Magnetism	

Magnetic Poles	
Compasses	
Electromagnets	
Generators	
Strength of Magnets	
Attract	
Repel	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time (In Days)
Sound and Light:	Anchor Descriptors:	Eligible Content:	Approved Textbook and	Teacher prepared	19 days
Interactions of	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
objects or systems	application of scientific,	a scientific fact and an opinion,	Chapter 14: Lessons 1-4		
of objects can be	environmental, or technological	providing clear explanations			
predicted and	knowledge to possible solutions	that connect observations and	Worksheets		
explained using the	to problems.	results (e.g., a scientific fact	Discovery Education		
concept of energy		can be supported by making	Videos		
transfer and	S4.C.2.1 Recognize basic energy	observations).	Manipulatives		
conservation.	types and sources, or describe		Kahoot		
	how energy can be changed from	S4.A.1.1.2 Identify and			
	one form to another.	describe examples of common			
		technological changes past to			
	S4.C.3.1 Identify and describe	present in the community (e.g.,			
	different types of force and	energy production,			
	motion resulting from these	transportation,			
	forces, or the effect of the	communications, agriculture,			
	interaction between force and	packaging materials) that have			
	motion.	either positive or negative			
		impacts on society or the			
	PA Academic Standards: Science	environment.			
	3.4.4.B Know basic energy types,				
	sources and conversions.	S4.C.2.1.1 Identify energy			
	 Identify energy forms and 	forms, energy transfer, and			
	examples (e.g., sunlight,	energy examples (e.g., light,			
	heat, stored, motion).	heat, electrical).			
	 Know the concept of the 				
	flow of energy by measuring	S4.C.2.1.2 Describe the flow of			
	flow through an object or	energy through an object or			
	system.	system (e.g., feeling radiant			

Describe static electricity in	heat from a light bulb, eating	
terms of attraction,	food to get energy, using a	
repulsion and sparks.	battery to light a bulb or run a	
 Apply knowledge of the basic 	fan).	
electrical circuits to design		
and construction simple	S4.C.2.1.3 Recognize or	
direct current circuits.	illustrate simple direct current	
Classify materials as	series and parallel circuits	
conductors and	composed of batteries, light	
nonconductors.	bulbs (or other common	
Know and demonstrate the	loads), wire, and on/off	
basic properties of heat by	switches.	
producing it in a variety of		
ways.	S4.C.2.1.4 Identify	
Know the characteristics of	characteristics of sound (e.g.,	
light (e.g., reflection,	pitch, loudness, reflection).	
refraction, absorption) and		
use them to produce heat,	S4.C.3.1.1 Describe changes in	
color or a virtual image.	motion caused by forces (e.g.,	
	magnetic, pushes or pulls,	
3.4.4. C Observe and describe	gravity, friction).	
different types of force and		
motion.	S4.C.3.1.2 Compare the	
Identify characteristics of	relative movement of objects	
sound (pitch, loudness and	or describe types of motion	
echoes)	that are evident (e.g., bouncing	
Recognize forces that attract	ball, moving in a straight line,	
or repel other objects and	back and forth, merry-go-	
demonstrate them.	round).	
 Describe various types of motions. 	S4.C.3.1.3 Describe the	
	position of an object by	
Compare the relative	locating it relative to another	
movement of objects and	object or a stationary	
describe types of motion		

that are evident.	healing and the subscription	
	background (e.g., geographic	
Describe the position of an	direction, left, up).	
object by locating it relative		
to another object or the		
background (e.g., geographic	Essential Knowledge/Skills:	
direction, left, up).	Energy can be moved from	
	place to place by moving	
	objects or through sound,	
	light, or electric currents.	
	Carry out investigations to	
	provide evidence that energy is	
	transferred from place to place	
	by sound, light, heat, electric	
	currents, interacting magnets,	
	and moving or colliding	
	objects.	
	Energy can be moved from	
	place to place by moving	
	objects or through sound,	
	light, or electric currents.	
	Obtain and communicate	
	information for how	
	technology allows humans to	
	concentrate, transport, and	
	store energy for practical use.	
	Energy can be moved from	
	place to place by moving	

objects or through sound,		
light, or electric currents.		
Design and construct a device		
that converts energy from one		
form to another using given		
design criteria.		
Energy can be moved from		
place to place by moving		
objects or through sound,		
light, or electric currents.		
Design and test a solution to a		
problem that utilizes the		
transfer of electric energy in		
the solution using given design		
constraints.		
Energy and fuels that humans		
use are derived from natural		
sources, and their use affects		
the environment in multiple		
ways. Some resources are		
renewable over time, and		
others are not.		
Develop a model using		
examples to explain		
differences between		
umerences between		

renewable and non-renewable		
sources of energy.		
Energy can be moved from		
place to place by moving		
objects or through sound,		
light, or electric currents.		
Carry out investigations to		
provide evidence that energy is		
transferred from place to place		
by sound, light, heat, electric		
currents, interacting magnets,		
and moving or colliding		
objects.		
Energy can be moved from		
place to place by moving		
objects or through sound,		
light, or electric currents.		
Make observations to provide		
evidence that energy can be		
transferred from place to place		
by sound, light, heat, and		
electrical currents.		
Energy is present whenever		
there are moving objects,		
sound, light, or heat.		

 ГГ		 	
	Construct an explanation for		ļ
	the relationship between		
	energy and motion.		ļ
			ļ
	When objects collide, energy		
	can be transferred from one		ļ
	object to another, thereby		
	changing their motion. In such		ļ
	collisions, some energy is		ļ
	typically also transferred to		ļ
	the surrounding air. As a		ļ
	result, the air gets heated and		ļ
	sound is produced.		ļ
			ļ
	Construct an investigation to		
	demonstrate the relationship		ļ
	between energy and motion.		ļ
			ļ
	Vocabulary:		ļ
	sound		ļ
	transverse waves		ļ
	longitudinal waves		ļ
	compression		ļ
	frequency		ļ
	wave length		ļ
	echoes		ļ
	loudness pitch		ļ
	pricin percussion/wind/piano		ļ
	light		ļ
	sources of light		ļ
	shadows		ļ

visible/invisible waves reflection refraction absorption translucent transparent opaque convex lenses concave lenses	
concave lenses	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Sound and Light:	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	19 days
Waves are a	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
repeating pattern	application of scientific,	a scientific fact and an opinion,	Chapter 14: Lessons 1-4		
of motion that	environmental, or technological	providing clear explanations			
transfers energy	knowledge to possible solutions	that connect observations and	Worksheets		
from place to place	to problems.	results (e.g., a scientific fact	Discovery Education		
without overall		can be supported by making	Videos		
	S4.A.2.1 Apply skills necessary to	observations).	Manipulatives		
displacement of	conduct an experiment or design	CAA112 Identify and	Kahoot		
matter.	a solution to solve a problem.	S4.A.1.1.2 Identify and describe examples of common			
	PA Academic Standards: Science	technological changes past to			
	3.4.4.B Know basic energy types,	present in the community (e.g.,			
	sources and conversions.	energy production,			
	Identify energy forms and	transportation,			
	examples (e.g., sunlight,	communications, agriculture,			
	heat, stored, motion).	packaging materials) that have			
	Know the concept of the	either positive or negative			
	flow of energy by measuring	impacts on society or the			
	flow through an object or	environment.			
	system.				
	• Describe static electricity in	S4.A.2.1.1 Generate questions			
	terms of attraction,	about objects, organisms, or			
	repulsion and sparks.	events that can be answered			
	Apply knowledge of the basic				
	electrical circuits to design	investigations.			
	and construction simple				
	direct current circuits.	S4.A.2.1.2 Design and describe			
	Classify materials as	an investigation (a fair test) to			
	conductors and	test one variable.			
	nonconductors.	S4.A.2.1.3 Observe a natural			

 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. 3.8.4.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 are used to meet human needs. Describe how scientific discoveries and technological advancements are related. Identify the patterns of motion, and can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; it does not move horizontally. 			
 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. 3.8.4.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 technology (e.g., construction, manufacturing, transportation), informational technology and biotechnology and biotechnology and biotechnology and biotechnology and biotechnology and advincements are related. Describe how scientific discoveries and technological advancements are related. dentify the patterns of waves by observing their motion in water. 			
 ways. Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. 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 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. Shadows, animal migrations, growth of plants), record observations. S4.A.2.1.4 State a conclusion that is consistent with the information/data. Essential Knowledge/Skills: Waves are regular patterns of motion, and can be made in water. Udentify the patterns of waves by observing their motion in water. Waves are regular patterns of motion in water. 	basic properties of heat by		
 Know the characteristics of light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. 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. State by disturbing the surface of deep water, the water goes up and down in place; it does not move horizontally. Identify the patterns of waves by observing their motion in water. 	producing it in a variety of		
 light (e.g., reflection, refraction, absorption) and use them to produce heat, color or a virtual image. 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. 	ways.	shadows, animal migrations,	
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technologicalmotion, and can be made inadvancements are related.water by disturbing the			
advancements are related. water by disturbing the		• •	
indice by distancing the	0	motion, and can be made in	
Identify interrelationships		water by disturbing the	
surface. When waves move	 Identify interrelationships 	surface. When waves move	

 and their world. Apply the technological design process to solve a simple problem. 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). 	across the surface of deep water, the water goes up and down in place; it does not move horizontally. Provide evidence that waves transfer energy to objects as a wave passes. Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; it does not move in the direction of the wave—observe, for example, a bobbing cork or seabird— except when the water meets the beach. Plan data collection methods and make observations to provide evidence that waves transfer energy to objects. Waves of the same type can differ in amplitude (height of the wave) and wavelength		
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(spacing between wave	
peaks).	
Use a model to describe the	
amplitude and wavelength of	
waves.	
An object can be seen when	
light reflected from its	
surface enters the eyes.	
Investigate and provide	
evidence that the color people	
see depends on the color of the	
available light sources as well	
as the properties of the surface	
of the object reflecting the light.	
The color people see	
depends on the color of the	
available light sources as	
well as the properties of the	
surface.	
Investigate and provide	
evidence that the color people	
see depends on the color of the	
available light sources as well	
as the properties of the surface	
of the object reflecting the light.	
Vocabulary:	

sound
transverse waves
longitudinal waves
compression
frequency
wave length
echoes
loudness
pitch
percussion/wind/piano
light
sources of light
shadows
visible/invisible waves
reflection
refraction
absorption
translucent
transparent
opaque
convex lenses
concave lenses

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Plants and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	15 days
Animals:	S4.B.1.1 Identify and describe	S4.B.1.1.1 Identify life	Workbook Science,	tests, quizzes, etc.	
All organisms are made of cells and	similarities and differences between living things and their life	processes of living things (e.g., growth, digestion, respiration).	Chapters 1-4		
can be	processes.		Worksheets		
characterized by		S4.B.1.1.2 Compare similar	Discovery Education		
common aspects of	PA Academic Standards: Science	functions of external	Videos		
their structure and	3.3.4.C Know that characteristics	characteristics of organisms	Manipulatives		
functioning.	 are inherited and, thus, offspring closely resemble their parents. Identify characteristics for animal and plant survival in different climates. 	(e.g., anatomical characteristics: appendages, type of covering, body segments).	Kahoot		
	 Identify physical characteristics that appear in both parents and offspring and differ between families, strains or species. 	 S4.B.1.1.3 Describe basic needs of plants and animals (e.g., air, water, food). S4.B.1.1.4 Describe how different parts of a living thing work to parts of a living thing 			
		work together to provide what the organism needs (e.g., parts of plants: roots, stems, leaves).			
		S4.B.1.1.5 Describe the life cycles of different organisms (e.g., moth, grasshopper, frog, seed-producing plant).			
		Essential Knowledge/Skills: Plants and animals have			

internal and external
structures that serve various
functions to survive.
Construct an argument that
plants and animals have
internal and external
structures that function to
support survival, growth,
behavior, and reproduction.
Vocabulary:
cells
plants vs. animal cells
kingdoms
genus
species
vascular vs. nonvascular plants
flowers
cones
seeds
spores
vertebrate
life cycles
adaptations
photosynthesis
chloroplasts
leaves
stems
roots
plant reproduction
life cycle of plants
ecosystems
herbivores

carnivores omnivores decomposers food chains food webs	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Renewable and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	4 days
Nonrenewable	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
Resources:	application of scientific,	a scientific fact and an opinion,	Chapter 10		
Interactions of	environmental, or technological	providing clear explanations			
objects or systems	knowledge to possible solutions	that connect observations and	Worksheets		
of objects can be	to problems.	results (e.g., a scientific fact	Discovery Education		
predicted and		can be supported by making	Videos		
explained using the	S4.A.2.1 Apply skills necessary to	observations).	Manipulatives		
concept of energy	conduct an experiment or design		Kahoot		
transfer and	a solution to solve a problem	S4.A.1.1.2 Identify and			
conservation.		describe examples of common			
	S4.C.2.1 Recognize basic energy	technological changes past to			
	types and sources, or describe	present in the community (e.g.,			
	how energy can be changed from	energy production,			
	one form to another.	transportation,			
		communications, agriculture,			
	PA Academic Standards: Science	packaging materials) that have			
	3.4.4.B Know basic energy types,	either positive or negative			
	sources and conversions.	impacts on society or the			
	 Identify energy forms and 	environment.			
	examples (e.g., sunlight,				
	heat, stored, motion).	S4.A.2.1.1 Generate questions			
	Know the concept of the	about objects, organisms, or			
	flow of energy by measuring	events that can be answered			
	flow through an object or	through scientific			
	system.	investigations.			
	Describe static electricity in				
	terms of attraction,	S4.A.2.1.2 Design and describe			
	repulsion and sparks.	an investigation (a fair test) to			
	 Apply knowledge of the basic 				
	electrical circuits to design	S4.A.2.1.3 Observe a natural			

	nhonomon (c		[]
and construction simple	phenomenon (e.g., weather		
direct current circuits.	changes, length of		
Classify materials as	daylight/night, movement of		
conductors and	shadows, animal migrations,		
nonconductors.	growth of plants), record		
Know and demonstrate the	observations, and then make a		
basic properties of heat by	prediction based on those		
producing it in a variety of	observations.		
ways.			
Know the characteristics of	S4.A.2.1.4 State a conclusion		
light (e.g., reflection,	that is consistent with the		
refraction, absorption) and	information/data.		
use them to produce heat,			
color or a virtual image.	S4.C.2.1.1 Identify energy		
	forms, energy transfer, and		
	energy examples (e.g., light,		
	heat, electrical).		
	S4.C.2.1.2 Describe the flow of		
	energy through an object or		
	system (e.g., feeling radiant		
	heat from a light bulb, eating		
	food to get energy, using a		
	battery to light a bulb or run a		
	fan).		
	SAC 2 1 2 Decognize or		
	S4.C.2.1.3 Recognize or		
	illustrate simple direct current		
	series and parallel circuits		
	composed of batteries, light		
	bulbs (or other common		
	loads), wire, and on/off switches.		
	switches.		

S4.C.2.1.4 Identify	
characteristics of sound (e.g.,	
pitch, loudness, reflection).	
Essential Knowledge/Skills:	
Energy and fuels that humans	
use are derived from natural	
sources, and their use affects	
the environment in multiple	
ways. Some resources are	
renewable over time, and	
others are not.	
Develop a model using	
examples to explain	
differences between	
renewable and non-renewable	
sources of energy.	
sources of energy.	
Vocabulary:	
renewable	
nonrenewable	
fossil fuels	
ore/petroleum	
recycling	
conservation	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Water Cycle/ Sun,	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	15 days
Moon, and Earth:	S4.C.3.1 Identify and describe	S4.C.3.1.1 Describe changes in	Workbook Science,	tests, quizzes, etc.	
Interactions	different types of force and	motion caused by forces (e.g.,	Chapters 6 and 17		
between any two	motion resulting from these	magnetic, pushes or pulls,			
objects can cause	forces, or the effect of the	gravity, friction).	Worksheets		
changes in one or	interaction between force and		Discovery Education		
both.	motion.	S4.C.3.1.2 Compare the	Videos		
		relative movement of objects	Manipulatives		
	PA Academic Standards: Science	or describe types of motion	Kahoot		
	3.1.7.A Explain the parts of a	that are evident (e.g., bouncing			
	simple system and their	ball, moving in a straight line,			
	relationship to each other.	back and forth, merry-go-			
	 Describe a system as a 	round).			
	group of related parts that				
	work together to achieve a	S4.C.3.1.3 Describe the			
	desired result	position of an object by			
	(e.g., digestive system).	locating it relative to another			
	• Explain the importance of	object or a stationary			
	order in a system.	background (e.g., geographic			
	• Distinguish between system	direction, left, up).			
	inputs, system processes and				
	system outputs.				
	 Distinguish between open 	Essential Knowledge/Skills:			
	loop and closed loop	A system can appear to be			
	systems.	unchanging when processes			
	 Apply systems analysis to 	within the system are going			
	solve problems.	on at opposite but equal rates			
		(e.g., water behind a dam is at			
		a constant height because			
		water is flowing in at the same			
		rate that water is flowing out).			

	Construct an explanation using data why an object subjected to multiple pushes and pulls might stay in one place or move.		
	Vocabulary: water cycle systems push pull recycled water		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Sun, Moon, and	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	10 days
Earth:	S.5.D.3.1 Explain the relationships	S.5.D.3.1.1 Describe the	Workbook Science,	tests, quizzes, etc.	
The universe is	between objects in our solar	patterns of Earth's rotation	Chapter 17		
composed of a	system.	and revolution in relation to			
variety of different		the Sun and Moon (i.e., solar	Worksheets		
objects, which are	PA Academic Standards: Science	eclipse, phases of the Moon,	Discovery Education		
organized into	3.4.4.D Describe the composition	and time).	Videos		
systems each of,	and structure of the universe and		Manipulatives		
which develops	the earth's place in it.		Kahoot		
according to	 Recognize earth's place in 	Essential Knowledge/Skills:			
accepted physical	the solar system.	The orbits of Earth around the			
processes and	 Explain and illustrate the 	sun and of the moon around			
laws.	causes of seasonal changes.	Earth, together with rotation			
	 Identify planets in our solar 	of Earth about an axis			
	system and their general	between its north and South			
	characteristics.	poles, cause observable			
	 Describe the solar system 	patterns (e.g., day and night,			
	motions and use them to	length and direction of			
	explain time (e.g., days,	shadows, different positions			
	seasons), major lunar	of sun, moon, and stars).			
	phases and eclipses.				
		Represent data in graphical			
		displays to reveal patterns of			
		daily changes in the length and			
		direction of shadows, day and			
		night, and seasonal			
		appearance of stars in the sky.			
		Vocabulary:			
		rotation			

revolve orbit shadows day and night Earth's axis and seasons Sun, moon, and earth Phases of the moon Solar eclipses Stars and patterns	
Stars and patterns	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Motion:	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	15 days
Interactions of	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
objects or systems	application of scientific,	a scientific fact and an opinion,	Chapter 15		
of objects can be	environmental, or technological	providing clear explanations			
predicted and	knowledge to possible solutions	that connect observations and	Worksheets		
explained using the	to problems.	results (e.g., a scientific fact	Discovery Education		
concept of energy		can be supported by making	Videos		
transfer and	S4.A.2.1 Apply skills necessary to	observations).	Manipulatives		
conservation.	conduct an experiment or design		Kahoot		
	a solution to solve a problem.	S4.A.1.1.2 Identify and			
		describe examples of common			
	S4.C.3.1 Identify and describe	technological changes past to			
	different types of force and	present in the community (e.g.,			
	motion resulting from these	energy production,			
	forces, or the effect of the	transportation,			
	interaction between force and	communications, agriculture,			
	motion.	packaging materials) that have			
		either positive or negative			
	PA Academic Standards: Science	impacts on society or the			
		environment.			
	3.1.7.A Explain the parts of a				
	simple system and their	S4.A.2.1.1 Generate questions			
	relationship to each other.	about objects, organisms, or			
	Describe a system as a group	events that can be answered			
	of related parts that work	through scientific			
	together to achieve a desired	investigations.			
	result				
	(e.g., digestive system).	S4.A.2.1.2 Design and describe			
	Explain the importance of	an investigation (a fair test) to			
	order in a system.	test one variable.			
	Distinguish between system	S4.A.2.1.3 Observe a natural			

	rr		
inputs, system processes and	phenomenon (e.g., weather		
system outputs.	changes, length of		
Distinguish between open loop	daylight/night, movement of		
and closed loop systems.	shadows, animal migrations,		
 Apply systems analysis to solve 	growth of plants), record		
problems.	observations, and then make a		
	prediction based on those		
3.4.4.B Know basic energy types,	observations.		
sources and conversions.			
 Identify energy forms and 	S4.A.2.1.4 State a conclusion		
examples (e.g., sunlight, heat,	that is consistent with the		
stored, motion).	information/data.		
Know the concept of the flow			
of energy by measuring flow	S4.C.3.1.1 Describe changes in		
through an object or system.	motion caused by forces (e.g.,		
Describe static electricity in	magnetic, pushes or pulls,		
terms of attraction, repulsion	gravity, friction).		
and sparks.			
 Apply knowledge of the basic 	S4.C.3.1.2 Compare the		
electrical circuits to design and	relative movement of objects		
construction simple direct	or describe types of motion		
current circuits.	that are evident (e.g., bouncing		
Classify materials as	ball, moving in a straight line,		
conductors and	back and forth, merry-go-		
nonconductors.	round).		
Know and demonstrate the	S4.C.3.1.3 Describe the		
basic properties of heat by	position of an object by		
producing it in a variety of	locating it relative to another		
ways.	object or a stationary		
Know the characteristics of	background (e.g., geographic		
light (e.g., reflection,	direction, left, up).		
refraction, absorption) and use	un ection, ieit, upj.		
them to produce heat, color or			
a virtual image.			

 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 	frame of reference speed velocity force friction gravity measuring force work potential energy kinetic energy		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Natural Disasters:	Anchor Descriptor:	Eligible Content:	Online Resources	Teacher prepared	2 days
Waves are a	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Teacher created	tests, quizzes, etc.	
repeating pattern	application of scientific,	a scientific fact and an opinion,	lessons/manipulatives		
of motion that	environmental, or technological	providing clear explanations			
transfers energy	knowledge to possible solutions	that connect observations and			
from place to place	to problems.	results (e.g., a scientific fact			
without overall		can be supported by making			
displacement of	S4.A.2.1 Apply skills necessary to	observations).			
matter.	conduct an experiment or design				
	a solution to solve a problem.	S4.A.1.1.2 Identify and			
		describe examples of common			
	PA Academic Standards: Science	technological changes past to			
	3.4.4.B Know basic energy types,	present in the community (e.g.,			
	sources and conversions.	energy production,			
	 Identify energy forms and 	transportation,			
	examples (e.g., sunlight,	communications, agriculture,			
	heat, stored, motion).	packaging materials) that have			
	Know the concept of the	either positive or negative			
	flow of energy by measuring	impacts on society or the			
	flow through an object or system.	environment.			
	• Describe static electricity in	S4.A.2.1.1 Generate questions			
	terms of attraction,	about objects, organisms, or			
	repulsion and sparks.	events that can be answered			
	 Apply knowledge of the basic 	through scientific			
	electrical circuits to design	investigations.			
	and construction simple				
	direct current circuits.	S4.A.2.1.2 Design and describe			
	Classify materials as	an investigation (a fair test) to			
	conductors and	test one variable.			
	nonconductors.	S4.A.2.1.3 Observe a natural			

Know and demonstrate the	phenomenon (e.g., weather
basic properties of heat by	changes, length of
producing it in a variety of	daylight/night, movement of
ways.	shadows, animal migrations,
Know the characteristics of	growth of plants), record
light (e.g., reflection,	observations, and then make a
refraction, absorption) and	prediction based on those
use them to produce heat,	observations.
color or a virtual image.	
	S4.A.2.1.4 State a conclusion
	that is consistent with the
	information/data.
	Essential Knowledge/Skills:
	Earthquakes cause seismic
	waves, which are waves of
	motion in the Earth's crust.
	Describe how similar seismic
	waves are to other types of
	waves.
	Vecebuleru
	Vocabulary:
	Waves
	earthquakes
	seismic waves

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Digital	Anchor Descriptor:	Eligible Content:	Approved Textbook and	Teacher prepared	2 days
Information:	S4.A.1.1 Identify and explain the	S4.A.1.1.1 Distinguish between	Workbook Science,	tests, quizzes, etc.	
Waves are a	application of scientific,	a scientific fact and an opinion,	Chapter 19		
repeating pattern	environmental, or technological	providing clear explanations			
of motion that	knowledge to possible solutions	that connect observations and	Worksheets		
transfers energy	to problems.	results (e.g., a scientific fact	Discovery Education		
•		can be supported by making	Videos		
from place to place	S4.A.2.1 Apply skills necessary to	observations).	Manipulatives		
without overall	conduct an experiment or design		Kahoot		
displacement of	a solution to solve a problem.	S4.A.1.1.2 Identify and	Online Resources		
matter.	PA Academic Standards: Science	describe examples of common technological changes past to	Teacher created		
	3.4.4.B Know basic energy types,	present in the community (e.g.,	lessons/manipulatives		
	sources and conversions.	energy production,	lessons/manipulatives		
	 Identify energy forms and 	transportation,			
	examples (e.g., sunlight,	communications, agriculture,			
	heat, stored, motion).	packaging materials) that have			
	Know the concept of the	either positive or negative			
	flow of energy by measuring	impacts on society or the			
	flow through an object or	environment.			
	system.				
	Describe static electricity in	S4.A.2.1.1 Generate questions			
	terms of attraction,	about objects, organisms, or			
	repulsion and sparks.	events that can be answered			
	 Apply knowledge of the basic 				
	electrical circuits to design	investigations.			
	and construction simple				
	direct current circuits.	S4.A.2.1.2 Design and describe			
	 Classify materials as 	an investigation (a fair test) to			
	conductors and	test one variable.			
	nonconductors.				

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observations.			
SA A 2 1 A State a conclusion			
information/data.			
Essential Knowledge/Skills:			
Digitized information (e.g., the			
pixels of a picture) can be			
stored for future recovery or			
transmitted over long			
distances without significant			
degradation. High-tech			
devices, such as computers or			
cell phones, can receive and			
decode information—convert			
it from digitized form to			
voice—and vice versa.			
Obtain and communicate			
information about modern			
devices that are used to			
transmit and receive digital			
	pixels of a picture) can be stored for future recovery or transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. Obtain and communicate information about modern devices that are used to	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. S4.A.2.1.4 State a conclusion that is consistent with the information/data.	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. S4.A.2.1.4 State a conclusion that is consistent with the information/data.

information.	
Vocabulary:	
decode	
digitized	
information encode	
pixels	
transmit	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Landforms:	Anchor Descriptor:	Eligible Content:	Online Resources	Teacher prepared	9 days
The Earth is a	S4.D.1.1 Describe basic landforms	S4.D.1.1.1 Describe how	Teacher created	tests, quizzes, etc.	
complex and	in Pennsylvania.	prominent Earth features in	lessons/manipulatives		
dynamic set of		Pennsylvania (e.g., mountains,			
interconnected	S4.D.1.2 Identify the types and	valleys, caves, sinkholes, lakes,			
systems (e.g.	uses of Earth's resources.	rivers) were formed.			
geosphere,					
hydrosphere,	S4.D.1.3 Describe Earth's different	S4.D.1.1.2 Identify various			
atmosphere,	sources of water or describe	Earth structures (e.g.,			
biosphere) that	changes in the form of water.	mountains, watersheds,			
interact over a		peninsulas, lakes, rivers,			
wide range of	PA Academic Standards: Science	valleys) through the use of			
temporal and	3.5.4.A Know basic landforms and	models.			
spatial scales.	earth history.				
	Describe earth processes	S4.D.1.1.3 Describe the			
	(e.g., rusting, weathering,	composition of soil as			
	erosion) that have affected	weathered rock and			
	selected physical features in	decomposed organic remains.			
	students' neighborhoods.				
	 Identify various earth 	S4.D.1.2.1 Identify products			
	structures (e.g., mountains,	and by-products of plants and			
	faults, drainage basins)	animals for human use (e.g.,			
	through the use of models.	food, clothing, building			
	Identify the composition of soil	materials, paper products).			
	as weathered rock and				
	decomposed organic remains.	S4.D.1.2.2 Identify the types			
	• Describe fossils and the type of	and uses of Earth materials for			
	environment they lived in	renewable, nonrenewable, and			
	(e.g., tropical, aquatic,	reusable products (e.g.,			
	desert).	human-made products:			
		concrete, paper, plastics,			

2	.5.4.B Know types and uses of	fabrics).		
	arth materials.			
	Identify uses of various earth	S4.D.1.2.3 Recognize ways that		
	materials (e.g., buildings,	humans benefit from the use		
	highways, fuels, growing	of water resources (e.g.,		
	plants).	agriculture, energy,		
•	Identify and sort earth	recreation).		
	, materials according to a			
	classification key (e.g.,	S4.D.1.3.1 Describe types of		
	soil/rock type).	freshwater and saltwater		
		bodies (e.g., lakes, rivers,		
3.	.5.4.D Recognize the earth's	wetlands, oceans).		
di	ifferent water resources.			
	 Know that approximately 	S4.D.1.3.2 Explain how water		
	three-fourths of the earth is	goes through phase changes		
	covered by water.	(i.e., evaporation,		
	 identify and describe types 	condensation, freezing, and		
	of fresh and salt-water	melting).		
	bodies.			
	 Identify examples of water 	S4.D.1.3.3 Describe or		
	in the form of solid, liquid	compare lentic systems (i.e.,		
	and gas on or near the	ponds, lakes, and bays) and		
	surface of the earth.	lotic systems (i.e., streams,		
	Explain and illustrate	creeks, and rivers).		
	evaporation and	S4.D.1.3.4 Explain the role and		
	condensation.	relationship of a watershed or		
	Recognize other resources	a wetland on water sources		
	available from water (e.g.,	(e.g., water storage,		
	energy, transportation,	groundwater recharge, water		
	minerals, food).	filtration, water source, water		
		cycle).		
	.1.4.A Know that natural and	-,,-		
	uman-made objects are made up			
0	f parts.			

 Identify and describe what 	
parts make up a system.	Essential Knowledge/Skills:
 Identify system parts that are 	Local, regional, and global
natural and human-made (e.g.,	patterns of rock formations
ball point pen, simple electrical	reveal changes over time due
circuits, plant anatomy).	to earth forces, such as
 Describe the purpose of 	earthquakes. The presence
analyzing systems.	and location of certain fossil
 Know that technologies 	types indicate the order in
include physical technology	which rock layers were
systems	formed.
(e.g., construction,	
manufacturing,	Identify evidence from
transportation),	patterns in rock formations
informational systems and	and fossils in rock layers to
biochemical-related	support an explanation for
systems.	changes in a landscape over
	time.
3.1.4.B Know models as useful simplifications of chicasts or	
simplifications of objects or	Rainfall helps to shape the
processes.	land and affects the types of
 Identify different types of models. 	living things found in a region.
	Water, ice, wind, living
 Identify and apply models as tools for prediction and insight 	organisms and gravity break
tools for prediction and insight.	rocks, soils, and sediments
 Apply appropriate simple modeling tools and toohniques 	into smaller particles and
modeling tools and techniques.	move them around.
 Identify theories that serve as models (a.g. molecules) 	
models (e.g., molecules).	Make observations and
	measurements to provide
	evidence of the effects of
	weathering or the rate of
	erosion by water, ice, wind, or

vegetation (heating cooling, volume of water, speed of wind, deposition, slope, angles, etc.). Living things affect the physical characteristics of their regions. Make observations and document how living things affect the physical characteristics in different regions. The locations of mountain ranges, deep ocean trenches, occur in patterns. Analyze and interpret data from maps to describe patterns of Earth's features.
 wind, deposition, slope, angles, etc.). Living things affect the physical characteristics of their regions. Make observations and document how living things affect the physical characteristics in different regions. The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
etc.).Living things affect the physical characteristics of their regions.Make observations and document how living things affect the physical characteristics in different regions.The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns.Analyze and interpret data from maps to describe
Living things affect the physical characteristics of their regions. Make observations and document how living things affect the physical characteristics in different regions. The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
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their regions. Make observations and document how living things affect the physical characteristics in different
Make observations and document how living things affect the physical characteristics in different regions. Image: Characteristics in different regions. The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Image: Characteristics Analyze and interpret data from maps to describe Image: Characteristic
document how living things affect the physical characteristics in different regions.The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns.Analyze and interpret data from maps to describe
affect the physical characteristics in different regions. The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
characteristics in different regions. The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
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The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
ranges, deep ocean trenches, ocean floor structures, ocean floor structures, earthquakes, and volcanoes occur in patterns. occur in patterns. Analyze and interpret data from maps to describe
ocean floor structures, earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
earthquakes, and volcanoes occur in patterns. Analyze and interpret data from maps to describe
occur in patterns. Analyze and interpret data from maps to describe
Analyze and interpret data from maps to describe
from maps to describe
patterns of Earth's features.
The locations of mountain
ranges, deep ocean trenches,
ocean floor structures,
earthquakes, and volcanoes
occur in patterns.
Analyze and interpret data
from maps to describe Earth's
features (e.g., mountains,

valleys, caves, sinkholes, lakes,
rivers, peninsulas, lentic/lotic
water systems, etc.).
Water occurs underground,
above ground, and in the
atmosphere.
Identify various types of water
environments in Pennsylvania.
Many types of rocks and
minerals are formed from the
remains of organisms or are
altered by their activities.
Use fossils as evidence to infer
that some rocks were formed
from the remains of once living
organisms.
The presence and location of
certain fossil types indicate
the order in which rock layers
were formed.
were formed.
Use evidence from patterns in
rock formations and fossils in
rock layers to support the
explanation for a change in
landforms and environments
over time.
Vocabulary:
Pennsylvania-

levelferment /heading af water		
landforms/bodies of water		
fossils		
rock formations		
deposition		
erosion		
vegetation		
weathering		
biology		
earthquake		
geographic		
geologic		
hazards		
mountain range		
plate tectonics		
trench volcano		
lakes		
lentic		
lotic		
ponds		
rivers		
streams		
watersheds		
landform		
mineral		
rock layers		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Bodies of Water:	Anchor Descriptor:	Eligible Content:	Online Resources	Teacher prepared	4 days
The Earth's	S4.D.1.2 Identify the types and	S4.D.1.2.1 Identify products	Teacher created	tests, quizzes, etc.	
processes affect	uses of Earth's resources.	and by-products of plants and	lessons/manipulatives		
and are affected by		animals for human use (e.g.,			
human activities.	PA Academic Standards: Science	food, clothing, building			
	4.2.4.B Describe the	materials, paper products).			
	characteristics of different types				
	of wetlands.	S4.D.1.2.2 Identify the types			
		and uses of Earth materials for			
		renewable, nonrenewable, and			
		reusable products (e.g.,			
		human-made products:			
		concrete, paper, plastics,			
		fabrics).			
		S4.D.1.2.3 Recognize ways that			
		humans benefit from the use			
		of water resources (e.g.,			
		agriculture, energy,			
		recreation).			
		Essential Knowledge/Skills:			
		Energy that humans use is			
		derived from multiple natural			
		sources and their use affects			
		the environment in many			
		ways.			
		ways.			
		Research multiple sources to			
		•			
		Research multiple sources to describe ways that energy and			

A va from eart Hum haza redu Gen mult the i prod Voci dam fissil foss natu sola eart natu sola	l resources uake l hazard ni ic eruptions
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General Topic	Anchor Descriptor PA Academic and Core Standards	Eligible Content, Essential Knowledge,	Resources & Activities	Assessments	Suggested Time
		Skills & Vocabulary			(In Days)
Review of Selected 4 th Grade Skills		-			18 days

	Append	lix: A			
IEP Enhancements					
General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:		
Matter: Matter can be understood in terms of the types of atoms present and the interactions both between and within atoms.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Milligram Gram Kilogram Millimeter Centimeter Decimeter Meter Decameter Hectometer Kilometer Atoms Nucleus Protons Neutrons Electrons 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 19 days as specified in the curriculum with additional tim as needed per individual student		

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Heat: Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Thermograph Thermometer Convection Celsius Fahrenheit Energy 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 9 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Electricity and Magnetism: Interactions between any two objects can cause changes in one or both.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Resistance Electromagnet Magnetism Magnetic Field Positive Charge Regative Charge Electric Field Resistance Electrons 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Electricity and Magnetism: Interactions of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Resistance Electromagnet Magnetism Magnetic Field Positive Charge Negative Charge Electric Field Resistance Electrons 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Electricity and Magnetism: Interactions between two objects can cause changes in one or both.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Magnetic Field North Pole South Pole Electrical Energy Wind Power Hydroelectric Power 	Assessments: Extended time to complete Elimination of 1-2 Answer Choices Questions & Answer Choices read aloud Use of highlighter to highlight important details Frequent breaks to maintain focus Provide Study Guides Change testing location Chunking tests into more manageable sections Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Electricity and Magnetism: Interactions between any two objects can cause changes in one or both.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Magnetic Field North Pole South Pole Electrical Energy Wind Power Hydroelectric Power 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 19 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Electricity and Magnetism: Interactions of objects and systems of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Magnetic Field North Pole South Pole Electrical Energy Wind Power Hydroelectric Power Exert 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Sound and Light: Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Particles Sound Wave Solid Liquid Gas Bioluminescence Electromagnetic Spectrum Violet Light Laser Optical Fibers Current Renewable Resources Non-renewable Resources 	Assessments: Extended time to complete Elimination of 1-2 Answer Choices Questions & Answer Choices read aloud Use of highlighter to highlight important details Frequent breaks to maintain focus Provide Study Guides Change testing location Chunking tests into more manageable sections Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 19 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Sound and Light: Waves are a repeating pattern of motion that transfer energy from place to place without overall displacement of matter.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Waves Particles Sound Wave Solid Liquid Gas Bioluminescence Electromagnetic Spectrum Violet Light Laser Optical Fibers Current Renewable Resources Non-renewable Resources Amplitude 	Assessments: • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 19 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Plants and Animals: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Microscope Virus Cell Wall Kingdom Scientific Name Phylum Class Order Family Moss Hornworts Liverworts Seeds Cones Spores Reptiles Arthropods Mollusks Trait Adaptations Migration Hibernation Multi-celled Organisms Fibrous Roots Taproots Runners System Desert Grassland Tundra Forest Tropical Rainforest Ecosystem Community Population Habitats 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 15 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Renewable and Nonrenewable Resources: Interactions of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	Natural Resources	Assessments: • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Water Cycle/Sun, Moon and Earth: Interactions between any two objects can cause changes in one or both.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	 Clouds Cirrus Altostratus Cumulus Cumulonimbus Stratus Gravity 	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 15 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Sun, Moon and Earth: The universe is composed of a variety of different objects, which are organized into systems of each of, which develops according to accepted physical processes and laws.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 		Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 10 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Motion: Interactions of objects or systems of objects can be predicted and explained using the concept of energy transfer and conservation.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	• Energy	Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 15 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Natural Disasters: Waves of a repeating pattern of motion that transfer energy from place to place without overall displacement of matter.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 		Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 2 days as specified in the curriculum with additional time as needed per individual student.

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Digital Information: Waves are a repeating pattern of motion that transfers energy from place to place without overall displacement of matter.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 	Transportation Systems	Assessments: • Extended time to complete • Ellimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 2 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Landforms: 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.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 		Assessments: • Extended time to complete • Elimination of 1-2 Answer Choices • Questions & Answer Choices read aloud • Use of highlighter to highlight important details • Frequent breaks to maintain focus • Provide Study Guides • Change testing location • Chunking tests into more manageable sections • Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 9 days as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Bodies of Water The Earth's processes affect and are affected by human activities.	 Preferential Seating Use of Computer (When Available) Interactive Online Videos Visual Aids Anchor Charts Breaking tasks down into more manageable increments Breaking down directions with one directive given at a time Frequent breaks to maintain focus Modified Assignments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Extra time to complete assignments Additional textbook sent home Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material Directions read aloud. Colored overlay for reading Guided Reading Strip Larger Font Small group reteach One-on-One Instruction Graphic Organizer Copy of notes provided Audio recordings of text Mark texts with highlighter Extended Wait time after asking a question Moby Max Adapted Notes Metric Units of Length Chart Periodic Table Alternative Grading 		Assessments: Extended time to complete Elimination of 1-2 Answer Choices Questions & Answer Choices read aloud Use of highlighter to highlight important details Frequent breaks to maintain focus Provide Study Guides Change testing location Chunking tests into more manageable sections Modified Assessments - examples (not limited to) less questions on page, reduction of questions, reduced number of answers, larger font on typed worksheets, vocabulary words defined Suggested Time: 4 days as specified in the curriculum with additional time as needed per individual student.
Review of Selected 4 th Grade Skills	As listed above		