### **Third Grade Science**

**Curriculum Guide** 

**Dunmore School District** 

Dunmore, PA



#### **Third Grade Science**

Prerequisite: Successful Completion of Second Grade

#### **Course Description:**

The Third Grade Science course is designed to provide students with a conceptual understanding of third 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, motion, how organisms live, grow, respond to their environment, and reproduce, how characteristics of one generation are passed on to the next, the similarities among organisms, the different kinds of plants, animals, and microorganisms, and the Earth's complex and dynamic set of interconnected systems.

#### **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

### 1<sup>st</sup> Quarter

Topic	Resources	Standards
Interactions between any two objects can cause changes in one or	Approved textbook:	3.2.4.C
both.	Scott Foresman Science Grade 3, Chapter 12 Lessons	3.4.4.C
	1-3. Chapter 16 Lessons 1-2. Chapter 15 Lessons 2-3.	3.1.4.C
Forces and Motion	Moby Max Science Lessons	3.1.4.D
		3.4.4.D
The Solar System	Online Resources	
Causes of Seasonal Changes		
Lunar Phases and Eclipses		
Lunai Filases and Lunpses		
All organisms are made of cells and can be characterized by	Approved textbook:	3.3.4.A
common aspects of their structure and functioning.	Scott Foresman Science Grade 3, Chapter 1 Lesson 4.	3.3.4.C
	Chapter 2 Lessons 1-2.	3.1.4.B
Similarities and Differences of Living Things		
Basic Needs of Plants and Animals	Moby Max Science Lessons	
Characteristics for Animal and Diant Compinal in Different Climates	Online Resources	
Characteristics for Animal and Plant Survival in Different Climates	Online Resources	

### 2<sup>nd</sup> Quarter

Торіс	Resources	Standards
Organisms grow, reproduce, and perpetuate their species by	Approved textbook:	3.2.4.A
obtaining necessary resources through interdependent relationships	Scott Foresman Science Grade 3, Chapter 2	3.3.4.A
with other organisms and the physical environment.	Lesson 1. Chapter 4 Lesson 2.	4.6.4.A
		3.3.4.D
Changes in Living Things Over Time	Moby Max Science Lessons	
Compare Extinct Life Forms with Living Organisms	Online Resources	
Living Things are Dependent on Nonliving Things in the		
Environment for Survival		
Heredity refers to specific mechanisms by which characteristics or	Approved textbook:	3.3.4.C
traits are passed from one generation to the next via genes, and	Scott Foresman Science Grade 3, Chapter 2	
explains why offspring resemble, but are not identical to, their parents.	Lesson1. Chapter 3, Lesson 1.	
parents.	Moby Max Science Lessons	
Offspring Closely Resemble their Parents Because of Inherited	Wide Wild Science Lessons	
Characteristics.	Online Resources	
Physical Characteristics Appear in Both Parents and Offspring and		
Differ Between Families, Strains, of Species.		

### 3<sup>rd</sup> Quarter

Topic	Resources	Standards
Biological evolution explains both the unity and diversity of species	Approved textbook:	4.7.4.C
and provides a unifying principle for the history and diversity of life	Scott Foresman Science Grade 3, Chapter 1 Lesson	3.3.4.D
on Earth.	5. Chapter 2, Lesson 3. Chapter 3 Lesson 1	4.7.4.A
		4.7.4.B
Extinct Plants and Animals	Moby Max Science Lessons	4.8.4.C
		3.3.4.A
Fossils and the Different Environments They Lived In	Online Resources	3.5.4.A
Identify Similarities and Differences in Plants and Animals		
Plant and Animal Habitats		
Adaptations That Help Living Things Survive		
How Human Activities Affect the Environment		

### 4<sup>th</sup> Quarter

Topic	Resources	Standards
The Earth is a complex and dynamic set of interconnected systems	Approved textbook:	3.1.4.E
(e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact	Scott Foresman Science Grade 3, Chapter 6	3.5.4.C
over a wide range of temporal and spatial scales.	Lessons 1-2.	3.1.4.C
Cloud Types	Moby Max Science Lessons	
Identify Weather Patterns From Data Charts: Temperature, Wind Direction and Speed, Precipitation	Online Resources	
Different Seasons Impact Plants, Animals, Food Availability and Daily Human Life		

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time
Force and Motion:	Anchor Descriptor:	Eligible Content:	Scott Foresman	Teacher-based	6 Weeks
	<b>S4.C.3.1</b> Identify and describe	<b>S4.C.3.1.1</b> Describe changes in	Science Grade 3	observations.	
The Solar System,	different types of	motion caused by forces (e.g.,	Chapter 12 Lessons 1-		
Causes of Seasonal	force and motion resulting from	magnetic, pushes or pulls,	3. Chapter 16 Lessons	Series available	
Changes,	these forces, or the effect of the	gravity, friction).	1-2. Chapter 15	assessments online.	
Lunar Phases and	interaction between force and		Lessons 2- 3	(Optional)	
Eclipses	motion.	<b>S4.C.3.1.2</b> Compare the relative movement of	(Approved textbook)		
Interactions	<b>S4.A.2.1</b> Apply skills necessary to	objects or describe types of	Moby Max Science		
between any two	conduct an experiment or design	motion that are evident (e.g.,	Lessons		
objects can cause	a solution to solve a problem.	bouncing ball, moving in a			
changes in one or		straight line, back and forth,	Online resources		
both.	S4.A.2.2 Identify appropriate	merry-go-round).			
	instruments for a specific task and	, , ,	Teacher-created		
	describe the information the	<b>S4.C.3.1.3</b> Describe the	lessons and materials		
	instrument can provide.	position of an object by			
		locating it relative to another			
	<b>S4.A.1.3</b> Recognize and describe	object or a stationary			
	change in natural or human-made	background (e.g., geographic			
	systems and the possible effects	direction, left, up).			
	of those changes.				
		<b>\$4.A.2.1.4</b> State a conclusion			
	PA Academic Standards: Science	that is consistent with the			
	<b>3.2.4.C.</b> Recognize and use the	information/data.			
	elements of				
	scientific inquiry to solve	<b>S4.A.2.2.</b> 1 Identify appropriate			
	problems.	tools or instruments for			
	<ul> <li>Generate questions about</li> </ul>	specific tasks and describe the			
	objects,	information they can			

organisms and/or events that	provide (e.g., measuring:			
can be answered through	length - ruler, mass - balance	l		
scientific	scale, volume - beaker,	ł		
investigations.	temperature - thermometer;	l		
<ul> <li>Design an investigation.</li> </ul>	making observations: hand			
<ul> <li>Conduct an experiment.</li> </ul>	lens, binoculars, telescope.)			
<ul> <li>State a conclusion that is</li> </ul>				
consistent with the	<b>S4.A.1.3.1</b> Observe and record			
information.	change by using			
	time and measurement.			
<b>3.4.4.C.</b> Observe and describe		1		
different types of force and				
motion.				
<ul> <li>Identify characteristics of</li> </ul>	Essential Knowledge/Skills:	l		
sound	Each force acts on one	ł		
(pitch, loudness and echoes)	particular object and has both	ł		
<ul> <li>Recognize forces that attract</li> </ul>	strength and a direction.	ł		
or repel other objects and		ł		
demonstrate them.	Investigate the variables that	ł		
<ul> <li>Describe various types of</li> </ul>	may affect how objects move	ł		
motions.	across a floor, down a ramp,	ł		
<ul> <li>Compare the relative</li> </ul>	etc.	ł		
movement of objects and		ł		
describe types of motion that	An object at rest typically has	ł		
are evident.	multiple forces acting on it,	ł		
<ul> <li>Describe the position of an</li> </ul>	but they add to give zero net	ł		
object by locating it relative to	force on the object.	l		
another object or the		l		
background (e.g., geographic	Construct an explanation for	ł		
direction, left, up).	why an object subjected to	l		
	multiple pushes and pulls			
<b>3.1.4.C.</b> Illustrate patterns that	might stay in one place or	l		
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move.

regularly occur and reoccur in

nature.

Identify observable patterns	Forces that do not sum to zero		
(e.g., growth patterns in plants,	can cause changes in the		
crystal shapes in minerals,	object's speed or direction of		
climate, structural patterns in	motion.		
bird feathers).			
<ul> <li>Use knowledge of natural</li> </ul>	Through the use of objects,		
patterns to predict next	design an investigation and		
occurrences (e.g., seasons, leaf	demonstrate that forces can		
patterns, lunar phases).	cause changes on an object's		
	speed or direction of motion.		
<b>3.1.4.D.</b> Know that scale is an			
important attribute	Patterns of an object's motion		
of natural and human made	in various situations can be		
objects, events and phenomena.	observed and measured.		
Identify the use of scale as it			
relates to the measurement of	Take measurements of objects		
distance, volume and mass.	in motion and represent the		
• Describe scale as a ratio (e.g.,	movement of objects in		
map scales).	multiple representations.		
Explain the importance of			
scale in producing models and	When past motion exhibits a		
apply it to a model.	regular pattern, future motion		
	can be predicted from it.		
	Investigate the motion of		
	Investigate the motion of objects to determine		
	observable and measurable		
	patterns to predict future		
	motions.		
	Provide evidence that a		
	pattern can be used to predict		
	future motion.		
	Tatale motion.		

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**Objects in contact exert forces** 

on each other.
Design and implement an
investigation to demonstrate
that objects in contact exert
forces on each other.
Vocabulary:
Acceleration
Force
Speed
Velocity
Position
Motion
Relative position
Friction
Gravity
Magnetism
Work
Systems
Design
Direction
Investigation
Net Zero
Pattern
Prediction
Magnetism
Net force

<b>General Topic</b>	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time
Similarities and	Anchor Descriptor:	Eligible Content:	Scott Foresman Science	Teacher prepared	4 Weeks
Differences of	<b>S4.B.1.1</b> Identify and describe	<b>S4.B.1.1.5</b> Describe the life	Grade 3, Chapter 1	tests, quizzes, etc.	
Living Things,	similarities and differences	cycles of different organisms	Lesson 4. Chapter 2		
Basic Needs of	between living things and their life	(e.g., moth, grasshopper,	Lessons 1-2.	Series available	
Plants and	processes.	frog, seed-producing plant).	(Approved textbook)	assessments online.	
Animals,				(Optional)	
Characteristics for	<b>S4.A.3.2</b> Use models to illustrate		Moby Max Science		
Animal and Plant	simple concepts and compare the	Essential Knowledge/Skills:	Lessons		
Survival in	models to what they represent.	Reproduction is essential to			
Different Climates		the continued existence of	Online resources		
	PA Academic Standards: Science	every kind of organisms.			
All organisms are	<b>3.3.4.C.</b> Know that characteristics		Teacher-created lessons		
made of cells and	are inherited and, thus, offspring	Use models to explain how	and materials		
can be	closely resemble their parents.	reproduction is essential for			
characterized by	<ul> <li>Identify characteristics for</li> </ul>	every kind of organism.			
common aspects of	animal and plant survival in	,			
their structure and	different climates.	Plants and animals have			
functioning.	<ul> <li>identify physical</li> </ul>	unique and diverse life cycles			
	characteristics that appear in	that include birth, growth,			
	both parents and offspring and	reproduction, and death.			
	differ between families, strains	•			
	or species.	Develop a model to describe			
		the commonalities of life cycles			
	<b>3.1.4.B.</b> Know models as useful	of different organisms.			
	simplifications of objects or				
	processes.	Vocabulary:			
	Identify different types of	Life cycle			
	models.	Offspring			
	<ul> <li>Identify and apply models as</li> </ul>	Parents			

tools	Reproduce		
for prediction and insight.	Survival		
Apply appropriate simple			
modeling tools and techniques.			
<ul> <li>Identify theories that serve</li> </ul>			
as models (e.g., molecules).			
<b>3.3.4.A.</b> Know the similarities and			
differences of			
living things.			
Identify life processes of			
living			
things (e.g., growth, digestion,			
react to environment).			
Know that some organisms			
have			
similar external characteristics			
(e.g., anatomical			
characteristics;			
appendages, type of covering,			
body segments) and that			
similarities and differences are			
related to environmental			
habitat.			
Describe basic needs of			
plants and animals.			

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time (In Days)
Changes in Living	Anchor Descriptor:	Eligible Content:	Scott Foresman Science	Teacher prepared	5 Weeks
Things Over Time,	<b>S4.A.3.1</b> Identify systems and	<b>S4.A.3.1.2</b> Explain a	Grade 3, Chapter 2	tests, quizzes, etc.	
<b>Compare Extinct</b>	describe relationships among	relationship between the living	Lesson 1. Chapter 4		
Life Forms with	parts of a familiar system (e.g.,	and nonliving components in a	Lesson 2.	Series available	
Living Organisms,	digestive system, simple	system (e.g., food web,	(Approved textbook)	assessments online.	
Living Things are	machines, water cycle).	terrarium).		(Optional)	
Dependent on			Moby Max Science		
<b>Nonliving Things in</b>	<b>S4.B.2.1</b> Identify and explain how	<b>S4.A.3.1.3</b> Categorize the parts	Lessons		
the Environment	adaptations help organisms to	of an ecosystem as either living			
for Survival	survive.	or nonliving and describe their	Online resources		
		roles in the system.			
Organisms grow,	<b>S4.B.3.1</b> Identify and describe		Teacher-created lessons		
reproduce, and	living and nonliving things in the	<b>S4.B.2.1.1</b> Identify	and materials		
perpetuate their	environment and their	characteristics for plant and			
species by	interaction.	animal survival in different			
obtaining		environments (e.g., wetland,			
necessary	<b>S4.B.3.2</b> Describe, explain, and	tundra, desert, prairie, deep			
resources through	predict change in	ocean, forest).			
interdependent	natural or human-made systems				
relationships with	and the possible effects of those	<b>S4.B.3.1.1</b> Describe the living			
other organisms	changes on the environment.	and nonliving components of a			
and the physical		local ecosystem (e.g.,			
environment.	<b>S4.B.3.3</b> Identify and describe	lentic and lotic systems, forest,			
	human reliance on the	cornfield, grasslands, city park,			
	environment.	playground).			
	<b>S4.A.1.1</b> Identify and explain the	S4.B.3.2.1 Describe what			
	application of scientific,	happens to a living thing			
	environmental, or technological	when its habitat is changed.			

knowledge to possible solutions	<b>S4.B.3.2.2</b> Describe and predict
to problems.	how changes in the
	environment (e.g., fire,
<b>S4.A.1.3</b> Recognize and describe	pollution, flood, building dams)
change in natural or human-made	can affect systems.
systems and the possible effects	
of those changes.	S4.B.3.2.3 Explain and predict
	how changes in seasons affect
S4.A.3.3 Identify and make	plants, animals, or daily human
observations about	life (e.g., food availability,
patterns that regularly occur and	shelter, mobility).
reoccur in nature.	
	<b>S4.B.3.3.5</b> Describe the effects
PA Academic Standards:	of pollution (e.g., litter) in the
3.2.4.A. Identify and use the	community.
nature of scientific and	
technological knowledge.	<b>S4.A.1.1.1</b> Distinguish between
<ul> <li>Distinguish between a</li> </ul>	a scientific fact and an opinion,
scientific fact and a belief.	providing clear explanations
<ul> <li>Provide clear explanations</li> </ul>	that connect observations and
that	results (e.g., a scientific fact
account for observations and	can be supported by making
results.	observations).
<ul> <li>Relate how new information</li> </ul>	
can	S4.A.1.3.4 Explain what
change existing perceptions	happens to a living
	organism when its food supply,
<b>3.3.4.A.</b> Know the similarities and	access to water, shelter, or
differences of	space is changed (e.g., it might
living things.	die, migrate, change
<ul> <li>Identify life processes of</li> </ul>	behavior, eat something else).
living	
things (e.g., growth, digestion,	S4.A.3.3.1 Identify and
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describe observable

react to environment).

<ul> <li>Know that some organisms</li> </ul>
have similar external
characteristics (e.g.,
anatomical characteristics;
appendages, type of covering,
body segments) and that
similarities and differences are
related to environmental
habitat.

• Describe basic needs of plants and animals.

**4.6.4.A.** Understand that living things are dependent on nonliving things in the environment for survival.

- Identify and categorize living and nonliving things.
- Describe the basic needs of an organism.
- Identify basic needs of a plant and an animal and explain how their needs are met.
- Identify plants and animals with their habitat and food sources.
- Identify environmental variables that affect plant growth.
- Describe how animals interact with plants to meet their needs for shelter.
- Describe how certain insects

patterns (e.g., growth patterns in plants, weather, water cycle).

**S4.A.3.3.2** Predict future conditions/events based on observable patterns (e.g., day/night, seasons, sunrise/sunset, lunar phases).

Essential Knowledge/Skills:
Animals depend on each other and their surroundings to get what they need, including food, water, shelter, and a stable temperature. Groups serve different functions and vary in size.

When the environment changes in physical characteristics, temperature, availability of resources, some organisms survive, others move, yet others may die.

Based on observations, construct an argument that some animals form groups that help members survive.

Construct an argument with evidence that within a specific

interact with soil for their	habitat, some organisms
needs.	survive well, some not so well,
Understand the components	and others cannot survive at
of a food chain.	all.
Identify a local ecosystem	
and its living and nonliving	Vocabulary:
components.	Basic needs
Identify a simple ecosystem	Consumer
and its living and nonliving	Heterotroph
components.	Representation
Identify common soil	Stable
textures.	
Identify animals that live	
underground.	

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			(In Days)
Offspring Closely	Anchor Descriptor:	Eligible Content:	Scott Foresman Science	Teacher prepared	5 Weeks
Resemble their	<b>S4.A.2.1</b> Apply skills necessary to	<b>S4.A.2.1.3</b> Observe a natural	Grade 3, Chapter 2	tests, quizzes, etc.	
<b>Parents Because of</b>	conduct an experiment or design	phenomenon (e.g., weather	Lesson1. Chapter 3,		
Inherited	a solution to solve a problem.	changes, length of	Lesson 1.	Series available	
Characteristics,		daylight/night, movement of	(Approved textbook)	assessments online.	
Physical	S4.B.2.2 Identify that	shadows, animal migrations,		(Optional)	
Characteristics	characteristics are inherited and,	growth of plants), record	Moby Max Science		
Appear in Both	thus, offspring closely resemble	observations, and then make a	Lessons		
Parents and	their parents.	prediction based on those			
Offspring and		observations.	Online resources		
Differ Between	<b>S4.B.2.1</b> Identify and explain how				
Families, Strains,	adaptations help organisms to	<b>S4.B.2.2.1</b> Identify physical	Teacher-created lessons		
of Species.	survive.	characteristics (e.g., height,	and materials		
		hair color, eye color, attached			
Heredity refers to	PA Academic Standards: Science	earlobes, ability to roll tongue)			
specific	<b>3.3.4.C.</b> Know that characteristics	that appear in both parents			
mechanisms by	are inherited and, thus, offspring	and could be passed on to			
which	closely resemble their parents.	offspring.			
characteristics or	<ul> <li>Identify characteristics for</li> </ul>				
traits are passed	animal and plant survival in	<b>S4.B.2.1.1</b> Identify			
from one	different climates.	characteristics for plant and			
generation to the	<ul><li>identify physical</li></ul>	animal survival in different			
next via genes, and	characteristics that appear in	environments (e.g., wetland,			
explains why	both parents and offspring and	tundra, desert, prairie, deep			
offspring	differ between families, strains	ocean, forest).			
resemble, but are	or species.				
not identical to,					
their parents.					

	Essential Knowledge/Skills: Different organisms vary in how they look and function because they have different inherited information.  The environment also affects		
	the traits that an organism develops.		
	Many characteristics involve both inherited traits and environmental factors.		
	Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.		
	Use evidence to support an explanation that the environment can influence traits.		
	Use evidence to compare characteristics inherited from parents, characteristics caused by the environment, and those resulting from both.		

Vocabulary:
Inheritance
Traits
Environment
Evidence
Influence
Characteristics
Environmental factors
Generation
Inherited
Siblings
Traits
Variation

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge, Skills & Vocabulary			Time
Extinct Plants and	Anchor Descriptor:	Eligible Content:	Scott Foresman Science	Teacher prepared	10 Weeks
Animals,	<b>S4.A.2.1</b> Apply skills necessary to	<b>S4.A.2.1.4</b> State a conclusion	Grade 3, Chapter 1	tests, quizzes, etc.	
Fossils and the	conduct an experiment or design	that is consistent with the	Lesson 5. Chapter 2,		
Different	a solution to solve a problem.	information/data.	Lesson 3. Chapter 3	Series available	
<b>Environments They</b>			Lesson 1	assessments online.	
Lived In,	<b>S4.B.3.2</b> Describe, explain, and	<b>S4.B.3.2.1</b> Describe what	(Approved textbook),	(Optional)	
Identify	predict change in natural or	happens to a living thing			
Similarities and	human-made systems and the	when its habitat is changed.	Moby Max Science		
Differences in	possible effects of those changes		Lessons		
Plants and	on the environment.	<b>S4.B.3.2.2</b> Describe and predict			
Animals,		how changes in the	Online resources		
Plant and Animal	<b>S4.A.1.1</b> Identify and explain the	environment (e.g., fire,			
Habitats,	application of scientific,	pollution, flood, building dams)	Teacher-created lessons		
<b>Adaptations That</b>	environmental, or technological	can affect systems.	and materials		
Help Living Things	knowledge to possible solutions				
Survive,	to problems.	<b>S4.B.3.2.3</b> Explain and predict			
<b>How Human</b>		how changes in seasons affect			
<b>Activities Affect</b>	<b>S4.A.1.3</b> Recognize and describe	plants, animals, or daily human			
the Environment.	change in natural or human-made	life (e.g., food availability,			
	systems and the possible effects	shelter, mobility).			
Biological	of those changes.				
evolution explains	_	<b>S4.A.1.1.1</b> Distinguish between			
both the unity and	<b>S4.A.3.2</b> Use models to illustrate	a scientific fact and an opinion,			
diversity of species	simple concepts and compare the	providing clear explanations			
and provides a	models to what they represent.	that connect observations and			
unifying principle		results (e.g., a scientific fact			
for the history and	S4.A.3.3 Identify and make	can be supported by making			
diversity of life on	observations about patterns that	observations).			
Earth.	regularly occur and reoccur in				

T	T		
nature.	<b>S4.A.1.3.2</b> Describe relative		
	size, distance, or motion.		
<b>S4.B.2.1</b> Identify and explain how			
adaptations help organisms to	S4.A.1.3.4 Explain what		
survive.	happens to a living organism		
	when its food supply, access		
<b>S4.B.3.3</b> Identify and describe	to water, shelter, or space is		
human reliance on the	changed (e.g., it might die,		
environment at the individual or	migrate, change behavior, eat		
the community level.	something else).		
•	,		
<b>S4.A.3.1</b> Identify systems and	S4.A.3.2.1 Identify what		
describe relationships among	different models represent		
parts of a familiar system (e.g.,	(e.g., maps show physical		
digestive system, simple	features, directions, distances;		
machines, water cycle).	globes represent Earth;		
, ,	drawings of watersheds depict		
PA Academic Standards: Science	terrain; dioramas show		
<b>4.7.4.C</b> . Define and understand	ecosystems; concept maps		
extinction.	show relationships of ideas).		
Identify plants and animals			
that are extinct.	S4.A.3.3.2 Predict future		
Explain why some plants and	conditions/events based on		
animals are extinct.	observable patterns (e.g.,		
Know that there are local and	day/night, seasons,		
state laws regarding plants and	sunrise/sunset, lunar phases).		
animals.	carrios, carross, rarrar priasco,		
	<b>S4.B.2.1.2</b> Explain how specific		
<b>3.3.4.D.</b> Identify changes in living	adaptations can help a living		
things over time.	organism survive (e.g.,		
Compare extinct life forms	protective coloration, mimicry,		
with living organisms	leaf sizes and shapes, ability to		
With high organisms	catch or retain water).		
<b>4.7.4.A</b> . Identify differences in	eacon of return water).		
Tiri-Tira. Identity differences in			

living things.	<b>\$4.B.3.3.1</b> ld
<ul> <li>Explain why plants and</li> </ul>	human activ
animals are different colors	waching oa

- animals are different colors, shapes and sizes and how these differences relate to their survival.
- Identify characteristics that living things inherit from their parents.
- Explain why each of the four elements in a habitat is essential for survival.
- Identify local plants or animals and describe their habitat.
- **4.7.4.B.** Know that adaptations are important for survival.
  - Explain how specific adaptations can help a living organism to survive.
  - Explain what happens to a living thing when its food, water, shelter or space is changed.
- **4.8.4.C.** Explain how human activities may change the environment.
  - Identify everyday human activities and how they affect the environment.
  - Identify examples of how human activities within a

**S4.B.3.3.1** Identify everyday human activities (e.g., driving, washing, eating, manufacturing, farming) within a community that depend on the natural environment.

**S4.B.3.3.2** Describe the human dependence on the food and fiber systems from production to consumption (e.g., food, clothing, shelter, products).

**S4.B.3.3.** Identify biological pests (e.g., fungi – molds, plants – foxtail, purple loosestrife, Eurasian water milfoil; animals – aphides, ticks, zebra mussels, starlings, mice) that compete with humans for resources.

**S4.B.3.3.4** Identify major land uses in the urban, suburban and rural communities (e.g., housing, commercial, recreation).

**S4.B.3.3.5** Describe the effects of pollution (e.g., litter) in the community.

**S4.A.1.1.2** Identify and describe examples of common

community affect the natural	technological changes past to		
environment.	present in the community (e.g.,		
	energy production,		
<b>3.5.4.A</b> . Know basic landforms	transportation,		
and earth history.	communications, agriculture,		
<ul> <li>Describe earth processes</li> </ul>	packaging materials) that have		
(e.g., rusting, weathering,	either positive or negative		
erosion) that have affected	impacts on society or the		
selected physical features in	environment.		
students' neighborhoods.			
<ul> <li>Identify various earth</li> </ul>	<b>S4.A.1.3.5</b> Provide examples,		
structures (e.g., mountains,	predict, or describe how		
faults, drainage basins)	everyday human activities		
through the use of models.	(e.g., solid waste production,		
<ul> <li>Identify the composition of</li> </ul>	food production and		
soil as weathered rock and	consumption, transportation,		
decomposed organic remains.	water consumption, energy		
<ul> <li>Describe fossils and the type</li> </ul>	production and use) may		
of environment they lived in	change the environment.		
(e.g., tropical, aquatic,			
desert).	<b>S4.A.3.1.4</b> Identify the parts of		
	the food and fiber systems as		
<b>3.3.4.A.</b> Know the similarities and	they relate to agricultural		
differences of living things.	products from the source to		
<ul> <li>Identify life processes of</li> </ul>	the consumer.		
living things (e.g., growth,			
digestion, react to			
environment).	Essential Knowledge/Skills:		
<ul> <li>Know that some organisms</li> </ul>	Some plants and animals that		
have similar external	once lived on earth are no		
characteristics (e.g.,	longer found anywhere.		
anatomical characteristics;			
appendages, type of covering,	Fossils provide evidence about		
body segments) and that	types of organisms (both		

	1.91.1		1
similarities and differences	visible and microscopic) that		
are related to environmental	lived long ago as well as about		
habitat.	the nature of the		
<ul> <li>Describe basic needs of</li> </ul>	environment.		
plants and animals.			
·	Changes in an organism's		
	habitat can be beneficial or		
	harmful to the organism.		
	narmar to the organism.		
	Populations live in a variety of		
	habitats and changes in those		
	habitats impacts the		
	organisms living there.		
	Sometimes differences in		
	characteristics between		
	individuals of the same		
	species provide advantages in		
	surviving, finding mates, and		
	reproducing.		
	Fossils can be compared with		
	one another and to living		
	organisms according to their		
	similarities and differences.		
	Comptimes the differences in		
	Sometimes the differences in		
	characteristics between		
	individuals of the same		
	species provide advantages in		
	surviving, finding mates, and		
	reproducing.		
	Humans, like all other		
	organisms, obtain living and		

nonliving resources from their		
environments.		
Analyze and interpret data		
from fossils to provide		
evidence of the organisms and		
environments in which they		
lived long ago.		
Use evidence to argue that		
when the environment		
changes in ways that affect a		
place's physical characteristics,		
organisms may survive, move		
to new locations, or die.		
Using evidence, make a claim		
about merits of solutions to		
problems caused when the		
environment changes and		
types of animals and plants		
that live there may change.		
Use evidence to construct an		
explanation for how the		
variations in characteristics		
among individuals of the same		
species may provide		
advantages in surviving, finding		
mates, and reproducing.		
Use evidence to construct an		
explanation that some rocks		
and minerals record the		

remains of organisms.	
Obtain and communicate	
information that some	
organisms that once lived on	
earth are no longer found	
anywhere, although other	
organisms now may resemble	
them.	
Use evidence from fossil	
records to construct an	
explanation of the relationship	
between types of organisms	
living today and types of	
organisms that lived in the	
past.	
l'	
Use evidence to construct	
explanations for how	
environments today may be	
different from past	
environments in which	
fossilized organisms once lived.	
Use evidence to explain how	
some characteristics that vary	
among individuals of the same	
kind of organism can provide	
advantages to survive, find	
mates, and reproduce.	
Use evidence to demonstrate	
how humans, like all other	
now numaris, like an other	

organisms, obtain living and
non-living resources from their
environment.
Vocabulary:
Extinct
Fossils
Adapt Endangered
Habitat
Populations
Microscopic organism
Organism
Visible organism
Explanation
Fossil record
Reproduce
Survive
Living
Non-Living

General Topic	Anchor Descriptor	Eligible Content,	Resources & Activities	Assessments	Suggested
	PA Academic and Core Standards	Essential Knowledge,			Time
		Skills & Vocabulary			
Cloud Types,	Anchor Descriptor:	Eligible Content:	Scott Foresman Science	Teacher prepared	10 Weeks
<b>Identify Weather</b>	<b>S4.A.1.1</b> Identify and explain the	<b>S4.A.1.1.1</b> Distinguish between	Grade 3, Chapter 6	tests, quizzes, etc.	
<b>Patterns From</b>	application of scientific,	a scientific fact and an opinion,	Lessons 1-2.		
Data Charts	environmental, or technological	providing clear explanations	(Approved textbook)	Series available	
(Temperature,	knowledge to possible solutions	that connect observations and		assessments online.	
Wind Direction	to problems.	results (e.g., a scientific fact	Moby Max Science	(Optional)	
and Speed,		can be supported by making	Lessons		
Precipitation),	<b>S4.A.1.3</b> Recognize and describe	observations).			
<b>Different Seasons</b>	change in natural or human-made		Online resources		
Impact Plants,	systems and the possible effects	<b>S4.A.1.3.1</b> Observe and record			
Animals, Food	of those changes.	change by using time and	Teacher-created lessons		
Availability and		measurement.	and materials		
Daily Human Life.	<b>S4.A.2.1</b> Apply skills necessary to				
	conduct an experiment or design	<b>S4.A.2.1.3</b> Observe a natural			
The Earth is a	a solution to solve a problem.	phenomenon (e.g., weather			
complex and		changes, length of			
dynamic set of	S4.A.2.2 Identify appropriate	daylight/night, movement of			
interconnected	instruments for a specific task and	shadows, animal migrations,			
systems (e.g.	describe the information the	growth of plants), record			
geosphere,	instrument can provide.	observations, and then make a			
hydrosphere,		prediction based on those			
atmosphere,	<b>S4.A.3.1</b> Identify systems and	observations.			
biosphere) that	describe relationships among	<b>S4.A.2.2.1</b> Identify appropriate			
interact over a	parts of a familiar system (e.g.,	tools or instruments for			
wide range of	digestive system, simple	specific tasks and describe the			
temporal and	machines, water cycle).	information they can provide			
spatial scales.		(e.g., measuring: length -			
	<b>S4.A.3.2</b> Use models to illustrate	ruler, mass - balance scale,			
	simple concepts and compare the	volume - beaker, temperature			

	Carriculani Guide		
models to what they represent.	- thermometer; making		
models to what they represent.	observations: hand lens,		
S4.A.3.3 Identify and make	binoculars, telescope).		
observations about			
patterns that regularly occur and	<b>S4.A.3.1.1</b> Categorize systems		
reoccur in nature.	as either natural		
	or human-made (e.g., ballpoint		
PA Academic Standards: Science	pens, simple electrical circuits,		
<b>3.1.4.E.</b> Recognize change in	plant anatomy, water cycle).		
natural and physical			
systems.	<b>S4.A.3.1.3</b> Categorize the parts		
<ul> <li>Recognize change as</li> </ul>	of an ecosystem		
fundamental to science and	as either living or nonliving and		
technology concepts.	describe their roles in the		
Examine and explain change	system.		
by using time and			
measurement.	<b>S4.A.3.2.1</b> Identify what		
Describe relative motion.	different models		
Describe the change to	represent (e.g., maps show		
objects caused by heat, cold,	physical features, directions,		
light or chemicals.	distances; globes represent		
	Earth; drawings of watersheds		
<b>3.5.4.C.</b> Know basic weather	depict terrain; dioramas show		
elements.	ecosystems; concept maps		
• identify cloud types.	show relationships of ideas).		
Identify weather patterns  from data about (including)	64.4.3.3.3.11		
from data charts (including	<b>S4.A.3.2.2</b> Use models to make		
temperature, wind direction	observations to explain how		
and speed, precipitation) and	systems work (e.g., water		
graphs of the data.	cycle, Sun-Earth-Moon		
<ul> <li>Explain how the different seasons effect plants, animals,</li> </ul>	system).		
food availability and daily	S4.A.3.3.1 Identify and		
Toou availability and dally	J-1.A.J.J. Identity and		

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describe observable

human life.

<b>3.1.4.C.</b> Illustrate patterns that regularly occur and reoccur in nature.	patterns (e.g., growth patterns in plants, weather, water cycle).		
<ul> <li>Identify observable pattern         (e.g., growth patterns in         plants,         crystal shapes in minerals,         climate, structural patterns in         bird feathers).</li> <li>Use knowledge of natural         patterns to predict next         occurrences (e.g., seasons,         leaf patterns, lunar phases).</li> </ul>	Essential Knowledge/Skills: Scientists record patterns of the weather across different		
	Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over a period of many years.		
	Organize simple weather data sets to record local weather data and identify day-to-day variations, as well as, long-term patterns of weather.		
	Record and communicate information to describe climates in different regions of the world.		
	Display simple data sets in tables and graphs to display		

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previous weather conditions to

	make predictions for future		
	seasons.		
	<b>Vocabulary:</b> Atmosphere		
	Atmosphere		
	Data		
	Weather		
	Climate		
	Conditions		

	Append	lix: A				
IEP Enhancements						
General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:			
Force and Motion:  The Solar System, Causes of Seasonal Changes, Lunar Phases and Eclipses  Interactions between any two objects can cause changes in one or both	Preferential Seating Modified Notes Visual Aids Small Group Instruction One-on-one Instruction Interactive Online Videos Breaking tasks down into more manageable increments. Breaking down directions with one directive given at a time. Frequent breaks to maintain focus. Extra time to complete assignments Copy of vocabulary provided Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material. Directions read aloud. Colored overlay for reading. Access to computer to type written responses. Graphic Organizer Audio recordings of texts		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  Modified Assessments  Provide Study Guides  Change testing location  Chunking tests into more manageable sections  Fewer test questions  Modified assignments (examples but not limited to; less problems on page, reduction of questions/answers, larger font on typed worksheets, vocabulary words defined, problem starters, rewording of questions)  Suggested Time:  Weeks as specified in the curriculum with additional time as needed per individual student			

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Similarities and Differences of Living Things, Basic Needs of Plants and Animals, Characteristics for Animal and Plant Survival in Different Climates  All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	<ul> <li>Preferential Seating</li> <li>Modified Notes</li> <li>Visual Aids</li> <li>Small Group Instruction</li> <li>One-on-One Instruction</li> <li>Additional Workspace</li> <li>Interactive Online Videos</li> <li>Breaking tasks down into more manageable increments</li> <li>Breaking down directions with one directive given at a time</li> <li>Frequent breaks to maintain focus</li> <li>Extra time to complete assignments</li> <li>Copy of vocabulary provided</li> <li>Multi-Modality instruction including modeling</li> <li>explicit instruction, repetition, rephrasing, visual cues, and chunking of material</li> <li>Directions read aloud</li> <li>Colored overlay for reading</li> <li>Access to computer to type written responses</li> <li>Writing samples provided,</li> <li>Graphic Organizer</li> <li>Audio recordings of texts</li> </ul>		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  Modified Assessments  Provide Study Guides  Change testing location  Oral Testing  Chunking tests into more manageable sections  Word Bank  Larger Print  Suggested Time:  weeks as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Changes in Living Things Over Time, Compare Extinct Life Forms with Living Organisms, Living Things are Dependent on Non-living Things in the Environment for Survival  Organisms grow, reproduce, and perpetuate their species by obtaining necessary resources through interdependent relationship with other organisms and the physical environment.	<ul> <li>Preferential Seating</li> <li>Modified Notes</li> <li>Visual Aids</li> <li>Small Group Instruction</li> <li>One-on-One Instruction</li> <li>Interactive Online Videos</li> <li>Breaking tasks down into more manageable increments.</li> <li>Breaking down directions with one directive given at a time.</li> <li>Frequent breaks to maintain focus.</li> <li>Extra time to complete assignments</li> <li>Copy of vocabulary provided</li> <li>Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material.</li> <li>Directions read aloud.</li> <li>Colored overlay for reading.</li> <li>Access to computer to type written responses.</li> <li>Graphic Organizer</li> <li>Audio recordings of texts</li> </ul>		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  Modified Assessments  Provide Study Guides  Change testing location  Oral Testing  Chunking tests into more manageable sections  Word Bank  Larger Print  Suggested Time:  5 Weeks as specified in the curriculum with additional time as needed per individual student

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Offspring closely resemble their parents because of inherited characteristics, physical characteristics appear in both parents and offspring and differ between families, strains of species  Hereditary refers to specific mechanisms by which characteristics or traits are passed from one generation to the next via genes, and explain why offspring resemble, but are not identical to their parents	<ul> <li>Preferential Seating</li> <li>Modified Notes</li> <li>Visual Aids</li> <li>Small Group Instruction</li> <li>One-on-One Instruction</li> <li>Interactive Online Videos</li> <li>Breaking tasks down into more manageable increments.</li> <li>Breaking down directions with one directive given at a time.</li> <li>Frequent breaks to maintain focus.</li> <li>Extra time to complete assignments</li> <li>Copy of vocabulary provided</li> <li>Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material.</li> <li>Directions read aloud.</li> <li>Colored overlay for reading.</li> <li>Access to computer to type written responses.</li> <li>Graphic Organizer</li> <li>Audio recordings of texts</li> </ul>		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  Modified Assessments  Provide Study Guides  Change testing location  Chunking tests into more manageable sections  Word Bank  Larger Print  Suggested Time:  5 weeks as specified in the curriculum with additional time as needed per individual basis

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Extinct Plants and Animals, Fossils and the Different Environments They Lived In, identify Similarities, and Differences in Plants and Animals, Plants and Animals, Habitats, Adaptations That Help Living Things Survive, How Human Activities Affect the Environment  Biological evolution explains both the unity and diversity of species and provided a unifying principle for the history and diversity of life on Earth.	Preferential Seating Modified Notes Visual Aids Small Group Instruction One-on-One Instruction Interactive Online Videos Breaking tasks down into more manageable increments. Breaking down directions with one directive given at a time. Frequent breaks to maintain focus. Extra time to complete assignments Copy of vocabulary provided Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material. Directions read aloud. Colored overlay for reading. Access to computer to type written responses. Graphic Organizer Audio recordings of texts		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  Modified Assessments  Provide Study Guides  Change testing location  Chunking tests into more manageable sections  Word Bank  Larger Print  Suggested Time:  10 weeks as specified in the curriculum with additional time as needed per individual basis

General Topic:	Specially Designed Instruction:	Additional Vocabulary:	Assessments/Suggested Time:
Cloud Types, Identify Weather Patterns from Data Charts, (Temperature, Wind Direction and Speed, Precipitation), Different Seasons, Impact Plants, Animals, Food Availability, and Daily Human Life.  The Earth is a complex and dynamic set of intercontinental systems (e.g. geosphere, hydrosphere, atmosphere, biosphere) that interact over a wide range of temporal and spatial scales	<ul> <li>Preferential Seating</li> <li>Modified Notes</li> <li>Visual Aids</li> <li>Small Group Instruction</li> <li>One-on-One Instruction</li> <li>Interactive Online Videos</li> <li>Breaking tasks down into more manageable increments.</li> <li>Breaking down directions with one directive given at a time.</li> <li>Frequent breaks to maintain focus.</li> <li>Extra time to complete assignments</li> <li>Copy of vocabulary provided</li> <li>Multi-Modality instruction including modeling, explicit instruction, repetition, rephrasing, visual cues, and chunking of material.</li> <li>Directions read aloud.</li> <li>Colored overlay for reading.</li> <li>Access to computer to type written responses.</li> <li>Graphic Organizer</li> <li>Audio recordings of texts</li> </ul>		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  Modified Assessments  Provide Study Guides  Change testing location  Chunking tests into more manageable sections  Word Bank  Larger Print  Suggested Time:  10 weeks as specified in the curriculum with additional time as needed per individual basis