

NYC Scope and Sequence
3rd Grade

Unit	NGSS	Strand	Readorium book	Readorium Magazine	
1.	Matter				
	What are some of the properties of matter?	PS 3.1 b, c, d, e	Measure, compare and record physical properties of objects using: <ul style="list-style-type: none"> • Standard (metric) and nonstandard units • Appropriate tools (e.g. rulers, thermometers, pan balances, spring scales, graduated cylinders, beakers) 	Chemical and Physical Properties of Matter 1 Chemical and Physical Properties of Matter 2 ...All RS Library	Matter Matters Crystals The Cool World of Chemistry Gold the Magnificent Metal ...All RS Library
		PS 3.1 b, c	Describe and compare the physical properties of matter (size, shape, mass/weight, volume flexibility, luster, color, texture, hardness, odor, etc.)		
2.	Energy				
	What are some ways that energy can be changed from one form to another?	PS 4.1 a	Observe, identify, and describe a variety of forms of energy: <ul style="list-style-type: none"> • Sound • Heat • Chemical • Mechanical • Electricity 	Lights Sound Action Good Vibes-Making Waves with Sound Improving Lives with Assistive Technology The Science of Music	Cool Beams The Science of Movie Stunts
		PS 4.2 a, b	Identify the evidence for energy transformations and how humans use these energy transformations: <ul style="list-style-type: none"> • Heat to light • Chemical to electrical • electrical to sound etc. 	Making Waves with Sound Improving Lives with Assistive Technology Making Movie Magic On the Move with Transportation Technology Powering our Lives with Energy Science of Music	Computer's Best Friend Cool Beams The Science of Movie Stunts Aurora Borealis: The Glowing Lights Raise Your Voice
		PS 4.1 b, c, d	Observe and describe how heat is conducted and can be transferred from one place to another	Powering Our Lives with Energy	Cool Beams
		PS 4.1 f	Observe and describe different ways in which heat can be released: <ul style="list-style-type: none"> • Burning • rubbing (friction • or combining one substance with another 	Earth in Motion (RS)	Matter Matters
		PS 4.1 d	Interactions of matter and energy (e.g., electricity, lighting a bulb, dark colors	Good Vibes-Making Waves with Sound	Computer's Best Friend Cool Beams

3.			absorbing light, etc.)	Improving Lives with Assistive Technology Making Movie Magic On the Move with Transportation Technology Powering our Lives with Energy Science of Music	The Science of Movie Stunts Aurora Borealis: The Glowing Lights Raise Your Voice	
		PS 4.1 a, b, c PS 4.1 d, g	Sound energy: <ul style="list-style-type: none"> • Pitch (frequency) • Vibrations • Volume • How sound travels through solids, liquids, gases • Noise pollution 			
		Simple Machines				
		How do simple machines help us move objects?	PS 5.1 f	Demonstrate how mechanical energy may cause change in motion through the application of force or the use of simple machines such as: <ul style="list-style-type: none"> • Levers • Pulleys • Inclined planes • Wheel and axle 	Making Movie Magic Amusement Park Physics Living in Space Our Planet Earth Unbalanced Forces Olympic Champs: It's Not Just Luck-It's Physics	Matter Matters Science of Jelly Beans Biotechnology Virtual Reality Scientists Making Hovercrafts
			PS 5.1 d	Observe and describe how the amount of change in the motion of an object is affected by friction	Amusement Park Physics Unbalanced Forces Olympic Champs: It's Not Just Luck-It's Physics	
		PS 5.1 b	Observe and describe how the position or direction of motion of an object can be changed by pushing or pulling	Amusement Park Physics Unbalanced Forces Olympic Champs: It's Not Just Luck-It's Physics		
		PS 5.1 c	Observe how the force of gravity pulls objects toward the center of the Earth	Amusement Park Physics Living in Space Making Movie Magic Our Planet Earth	Amazing Teen Scientists The Science of Movie Stunts Making Hovercrafts How to Make a Cartesian Diver Treasures in the Sky	
4.	Plant and Animal Adaptations					
	How are plants and animals well-suited to live in their environments?	LE 5.1 a, b	Describe how all living things grow, take in nutrients, breathe, reproduce and eliminate waste	Dependency of Life Weird and Wonderful Plants Beetlemania Birds of a Feather	Splash How Plants Survive: Part 1 How Plants Survive: Part 2	

			Buzzing About Bees and Wasps Deep Sea Creatures Exploring the Ocean's Depth	Bee Bee-havior Tigers and Lions Antarctic Krill Beluga Whales Emperor Penguins
LE 3.1 b,c LE 5.2 a LE 6.1 f	Describe how plants must be adapted to their environment in order to survive:	<ul style="list-style-type: none"> • structure and their functions (e.g., roots, leaves, flowers, etc.) • adaptation of these structures may include variations in size, shape, thickness, color, smell, and texture • plants change as the seasons change • seed dispersal 	The Weird and Wonderful World of Plants Our Gross World Dependency of Life	Why Dandelions are Dandy How plants Survive: Part 1 How Plants Survive: Part 2
LE 3.1 a, c LE 5.2 b, d, e, f LE 6.1 f	Describe how animals must be adapted to their environment in order to survive:	<ul style="list-style-type: none"> • structures and their functions (e.g., wings, legs, fins, scales, feathers, fur, etc.) • understand that animals respond to change in the environment (e.g., heart rate, eye blinking, shivering) • animals change as seasons change • hibernation • migration (i.e., moving from place to place to meet needs) including human 	Beetlemania Birds of a Feather Buzzing About Bees and Wasps Dependency of Life Deep Sea Creatures Exploring Ecosystems Exploring the Ocean's Depths Life and Death in the Wild Our Gross World Weird and Wonderful Plants	Fireflies of the Ocean Bee Bee-havior Tigers and Lions Antarctic Krill Beluga Whales Emperor Penguins Evolution of the Peppered Moth
LE 2.1 a, b	Recognize that traits of living things are both:	<ul style="list-style-type: none"> • Inherited (color of flowers, eye color) • learned/acquired (riding a bicycle, having scars) 	Inheritance: It's all in the Genes Deep Sea Creatures Life and Death in the Wild Our Gross World Spider Stories The Weird and Wonderful World of Plants Invasive Species	Biotechnology Hair Time Breathe Easier- Understanding Asthma

Unit	NGSS	Strand	Readorium book	Readorium Magazine	
1.	Animals and Plants in their Environment	LE 6.1 a-d	Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web).	Beetlemania Birds of a Feather Buzzing About Bees and Wasps Dependency of Life Deep Sea Creatures Exploring Ecosystems Exploring the Ocean's Depths Life and Death in the Wild Our Gross World Weird and Wonderful Plants	Fireflies of the Ocean Splash
	What roles do plants and animals play in their environments?	LE 6.1 a, b	Explore how plants manufacture food by utilizing air, water, and energy from the sun	Desert Biomes Life in the Tundra Prairie Ecosystems Rainforests Weird and Wonderful Plants Dependency of Life	Splash How Plants Survive: Part 1 How Plants Survive: Part 2
		LE 4.2 b	Understand that food supplies energy and materials necessary for growth and repair	Dependency of Life Weird and Wonderful World of Plants Beetlemania Birds of a Feather Buzzing About Bees and Wasps Dependency of Life Deep Sea Creatures Exploring Ecosystems Exploring the Ocean's Depths Life and Death in the Wild Our Gross World Weird and Wonderful Plants	Fireflies of the Ocean Splash
		LE 6.1 e	Identify populations within a community that are in competition with one another for resources	Coral Reefs Desert Biomes Life in the Tundra	Invasive Species Pirate Spiders Animal Cannibals

			Prairie Ecosystems Scientific Method	A Spider with Deadly Aim Spitting Spiders The Adventure of Keeping an Aquarium Carnivorous Dinosaurs
LE 3.2 a, b	Recognize that individual variations within a species may cause certain individuals to have an advantage in surviving and reproducing		Life in the Tundra Prairie Ecosystems Surviving in Nature Desert Biome Nature's Weird Surprises	Bones Tell the Story How Plants Trick Animals
LE 5.2 g	Describe how the health, growth, and development of organisms are affected by environmental conditions such as availability of food, water, air, space, shelter, heat, and sunlight.		Dependency of Life Weird and Wonderful World of Plants	Biotechnology How Plants Survive: Part 1 How Plants Survive: Part 2 Fireflies of the Ocean Splash
LE 6.1 f	Observe that when the environment changes, some plants and animals survive and reproduce, while others die or move to new locations		Beetlemania Birds of a Feather Dependency of Life Exploring Ecosystems Invasive Species Spider Stories Weird and Wonderful World of Plants	How Spiders Catch Prey Rocks Rock Weird Animal Defense Mechanisms Evolution of the Peppered Moth
LE 7.1 a, b	Describe the way that humans: <ul style="list-style-type: none"> • Depend on their natural environment and constructed environment • Have changed their environment over time 		Dependency of Life Invasive Species Natural Hazards that Shape the Earth Our Planet Earth Polluting Our Earth Changing Face of Earth	
LE 7.1 b, c	Identify examples where human activity has had a beneficial or harmful effect on other organisms (e.g. deforestation)		Changing Face of Earth Earth's Systems Exploring the Ocean's Depths Invasive Species Natural Hazards that Shape the Earth Our Planet Earth	All About Recycling A Computer's Best Friend Evolution of the Peppered Moth

2.

Electricity and Magnetism

What are the properties of electricity and magnetism?

PS 4.1 a, b
PS 4.1 c, d,
e

Observe, describe, and investigate the evidence of energy transfer in electrical circuits:

- Simple circuits
- Open and closed circuits
- Switches

PS 4.1 e

Construct and diagram an electrical circuit

PS 4.1 c

Identify conductors and insulators in an electrical circuit

Unbalanced Forces

Adventures of Messy Magnet
Magnificent Magnets
A Magnet Experiment
Fishing for Staples: A Magnetic DramaPS 3.1 c, e,
f

Compare the electrical and magnetic properties of different materials

Adventures of Messy Magnet
Magnificent Magnets
A Magnet Experiment
Fishing for Staples: A Magnetic DramaPS 5.1 e
PS 5.2 a, b

Investigate properties of magnets, including:

- Magnets attract or repel certain objects
- Magnets attract or repel each other
- Magnetic forces can operate on objects across distances and through materials
- A magnetic field is produced

Deep Space

Adventures of Messy Magnet
Magnificent Magnets
A Magnet Experiment
Fishing for Staples: A Magnetic Drama

PS 4.1 d

Explore the interaction of electricity and magnetism to create an electromagnet

PS 4.1 g

Describe how electricity can be helpful or harmful to people (safety)

3

Properties of Water

What makes water so special?

PS 3.1 a, b
PS 3.1 c, d,
e

Observe, describe, and explore the physical properties of water:

- Color, texture, odor, sound
- Changes in shape
- Changes in the amount of space occupied (compare using containers of different shapes and sizes)
- Volume, mass (weight)

Changing Face of Earth

Earth's Systems

Weather (RS)

Total Lunacy (RS)

The Water Cycle
Splash

PS 2.1 c

Explore how different factors affect evaporation

PS 3.2 a, b,
c

LE 6.2 c

PS 2.1 c LE 6.2 c	Describe the Water Cycle	Earth's Systems Exploring the Ocean's Depths Our Planet Earth Polluting Our Earth Powering Our Lives with Energy	The Water Cycle
PS 3.1 e, f	Test objects to determine whether they sink or float: Different materials (plastic, rubber, etc.) Different shapes Boat design		Matter Matters All About Recycling Rocks Rock Make Your Own Rock Candy
PS 3.1 e, f PS 3.2 c	Predict, observe, examine different substances to determine their ability to mix with water (e.g., oil, water; sugar, water; wooden block, water).	Food Chemistry Solving Crimes with Forensics	Crime Scene Science Matter Matters Wonder Fabrics Cool Beams How Do We Think How to Make a Volcano out of Coke and Mentos How to Make Your Own Slime
PS 3.2 a, b	Examine and describe the transformation of matter from one state to another, e.g., solid water (ice) to liquid (water) to gas (water vapor)		Crime Scene Science Matter Matters Wonder Fabrics Cool Beams How Do We Think How to Make a Volcano out of Coke and Mentos How to Make Your Own Slime
PS 3.2 a, b	Water is recycled by natural processes on earth. Precipitation Condensation Evaporation	Earth Systems Polluting Our Earth Changing Face of Earth	The Water Cycle All About Recycling Rocks Rock Amazing Water Bear
PS 2.1 c PS 3.2 b, c PS 4.1 d	Predict and investigate the effect of heat energy on objects and materials (e.g., change in temperature, melting, evaporation)	Powering Our Lives with Energy	The Water Cycle
PS 3.2 c	Describe the physical changes of materials	Chemical and Physical Properties of Matter 1 Chemical and Physical Properties of Matter 2 ...All RS library	Matter Matters All About Recycling Rocks Rock Make Your Own Rock Candy

How do natural events affect our world?	PS 2.1 d	Observe, investigate, and record examples of physical and chemical weathering	Changing Face of Earth Earth Systems	Core on the Floor Our Debris Filling the Ocean
	PS 2.1 d	Describe how erosional processes (e.g., action of gravity, wind, and water) cause surface changes to the land.	Changing Face of Earth Earth Systems Weather Around the World Our Planet Earth	
	PS 2.1 d	Investigate, measure, and observe the deposition of earth materials	How to Make a Volcano out of Coke and Mentos	
	PS 2.1 c	Describe and illustrate the natural processes by which water is recycled on earth (e.g., ground water, runoff)	Weather Around the World Our Planet Earth	Earthquakes Tsunami Research Core on the Floor Rocks Rock
	PS 2.1 e	Investigate the negative and positive impact of extreme natural events on living things: <ul style="list-style-type: none"> • Earthquakes • Volcanoes • Hurricanes • Tornadoes • Floods • Fires 	Changing Face of Earth	Earthquakes Tsunami Research Core on the Floor Rocks Rock

Unit	NGSS	Strand	Readorium book	Readorium Magazine	
1.	The Nature of Science				
	How do scientists gather and share information?	S1.1 a, b, c	Formulate questions for scientific inquiry with the aid of references appropriate for guiding the search for explanations of everyday observations	Scientific Method (RS) Science What's it All About Solving Crime with Forensics Technology Changes Medicine	Biotechnology Twin Fascination Amazing Teen Scientist
		S1.2 a S2.1 b, c S2.2 b, c, d, e S2.3 b, c	Identify questions and formulate hypothesis: Design and conduct scientific investigations to answer those questions		
		S2.1 d S3.1 a, b	Employ tools to gather, analyze, and interpret data		
		M3.1 a	Use mathematics in scientific inquiry		
		S3.2 a, b, c	Use data to construct reasonable explanations. Evaluate our hypothesis in light of the data		
		S1.3 S3.2 d, e	Develop and communicate explanations using evidence		
		M1.1 a S2.2 d	Identify dependent and independent variables		
	2.	Earth Science			
What are the processes that help shape the land?		PS2.1 e	Differentiate between rocks and minerals	The Changing Face of Earth Earth Systems	Rocks Rock Core on the Floor
		PS2.2 g	Classify rocks as sedimentary, igneous, or metamorphic		
		PS 2.1 g, h PS 2.2 g, h	Observe, compare, and describe the topography of the earth's surface	Changing Face of Earth Natural Hazards that Shape the Earth Our Planet Earth Polluting Our Earth Exploring the Ocean's Depths	Rocks Rock Core on the Floor
		PS 2.1 g, i	Investigate, record, and explain the variables that affect erosion and deposition	Earth's Systems Polluting Our Earth	The Water Cycle When Lightning Strikes What is Sea Ice and Why is it Shrinking? Earthquakes Our Debris Filling the Ocean
	PS 2.1 h	Investigate and explain how weathering leads to the formation of sediment	Changing Face of Earth	Tsunami Research	

				Earth's Systems Weather Around the World	
		PS 2.2 a, c, f	Identify events (earthquakes, volcanic eruptions, etc. that cause earth movements	Natural Hazards that Shape the Earth Changing Face of Earth Exploring the Ocean's Depths	Earthquakes Tsunami Research
		S 1.2 b	Develop and construct models of landforms		
3	Food and Nutrition				
	How does nutrition and exercise affect our health?	LE 5.3 a	Recognize that: Humans need a variety of healthy foods, exercise, and rest in order to grow and maintain good health	Becoming and Staying Healthy Our Bodies ...All RS library	Hair Time Raise Your Voice Cells and Smells ...All RS library
		LE 5.3 b	Recognize that: Good health habits include hand washing and personal cleanliness; avoiding harmful substances (including alcohol, tobacco, illicit drugs); eating a balanced diet; engaging in regular exercise		
		LE 5.2 g	Recognize that: The health, growth, and development of organisms are affected by environmental conditions such as the availability of food, air, water, space, shelter, heat, and sunlight	Invasive Species Beetlemania Birds of a Feather Buzzing About Bees and Wasps Deep Sea Creatures Invasive Species Life and Death in the Wild Our Planet Earth Spider Stories Weird and Wonderful World of Plants The Dependency of Life	
		LE 4.2 b	Recognize that: Food supplies the energy and materials necessary for growth and repair	The Dependence of Life Weird and Wonderful World of Plants	A Sweet Treat Biotechnology
4	Exploring Ecosystems				
	How are plants and animals in an ecosystem connected?	LE 7.1 a	Observe, identify, and record the components	Rainforest	How Plants Trick

		of a forest ecosystem		Animals
LE 5.1 d LE 6.2 a	Observe and describe how plants use air, water and energy from the sun to produce their own food	Rainforests Desert Biomes Prairie Ecosystems Life in the Tundra Surviving in Nature		
LE 5.1 c LE 5.2 a	Describe how food supplies the energy and materials necessary for growth and repair of living organisms	Chemical and Physical Properties of Matter 1 Our Bodies		Artificial Blood Deadly Mushrooms The Science of Jelly Beans All About Recycling A Sweet Treat
LE 5.1 d, e LE 6.1 a,	Classify populations of organisms as producers, consumers, or decomposers by the role they serve in the ecosystem (food chains and food web)	Prairie Ecosystems Coral Reefs Desert Biomes Life in the Tundra Rainforests Surviving in Nature Life and Death in the Wild		Artificial Reefs: How and Why We Build Them Crime-Solving Insects Garbage island How Plants Trick Animals Parasites: Nature's Thieves The Illegal Wildlife Trade What Happens When Something Goes Extinct?
LE 3.2 a	Identify populations within a community that are in competition with one another for resources.	Prairie Ecosystems Coral Reefs Desert Biomes Life in the Tundra Rainforests Surviving in Nature Life and Death in the Wild		
LE 7.2 b, c LE 7.2 d	Describe the way humans: <ul style="list-style-type: none"> • Depend on their natural and constructed environment • Have changed their environment over time 	Dependency of Life Natural Hazards Earth's Systems Exploring Ocean's Depths Our Planet Earth Polluting Our Earth Powering our Lives With Energy Invasive Species		Too Much Water All About Recycling Biotechnology Science of Movie Stunts A Sweet Treat Pig Poop Fuel Just by a Whisker Robo Bees Robotic Arms
LE 7.2 b, c	Identify examples where human activity has	Natural Hazards		Too Much Water

LE 7.2 d

had a beneficial or harmful effect on other organisms (e.g., deforestation)

Earth's Systems

Exploring Ocean's

Depths

Our Planet Earth

Polluting Our Earth

Powering our Lives

With Energy

Invasive Species

All About Recycling

Biotechnology

Science of Movie Stunts

A Sweet Treat

Pig Poop Fuel

Just by a Whisker

Robo Bees

Robotic Arms

Evolution of the

Peppered Moth