

TITLE	NY STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
All About the Moon ISBN 0022859330 6 PK ISBN 002286654X	PS Performance Indicator 1.1, PS Performance Indicator 5.1; 5.2	Z	730	<i>All About the Moon</i> compares and contrasts Earth and the Moon, describes the history of the Moon landings, explains the motion of the Moon, and discusses the phases of the Moon.	crater lunar mare orbit satellite
Alloys ISBN 0022859381 6 PK ISBN 0022866574	PS Performance Indicator 3.1; 3.2 PS Performance Indicator 4.2	Y	860	<i>Alloys</i> describes historical uses of metals and alloys, such as bronze and iron. It also describes current applications of alloys and possible future uses of alloys.	alloy bronze corrosion iron steel
Amazing Water ISBN 0022859209 6 PK ISBN 0022866558	PS Performance Indicator 2.1; 2.2 PS Performance Indicator 3.1	T	560	The unique properties of water, uses of water, the water cycle, water pollution, and the possibility of water on other planets are described in <i>Amazing Water</i> .	condense evaporate precipitation solvent surface tension
Animal Migration ISBN 0022859179 6 PK ISBN 0022866426	LE Performance Indicator 1.1; 3.1 LE Performance Indicator 4.1; 4.3 LE Performance Indicator 6.1	S	670	<i>Animal Migration</i> explores the migration patterns of whales, monarch butterflies, warblers, and sea turtles. The life cycle of the Monarch butterfly is diagrammed, and maps are used to illustrate migration routes.	habitat metamorphosis migration plankton predator
Antarctica: Land of Snow and Ice ISBN 0022847324 6 PK ISBN 0022865179	PS Performance Indicator 2.1; 2.2 LE Performance Indicator 3.1; 5.1 LE Performance Indicator 6.1, LE Performance Indicator 7.1; 7.2	V	900	In <i>Antarctica: Land of Snow and Ice</i> , the terms <i>habitat</i> , <i>biome</i> , and <i>ecosystem</i> are defined. The climate and living things of Antarctica are described.	biome ecosystem glacier habitat microhabitat
Bacteria and Viruses ISBN 0022859292 6 PK ISBN 0022866442	LE Performance Indicator 1.1; 1.2 LE Performance Indicator 2.1; 2.2 LE Performance Indicator 5.1; 5.2	Y	660	<i>Bacteria and Viruses</i> begins with a discussion of early discoveries related to microscopes and microorganisms. Various types of bacteria are discussed and pictured. The role of bacteria in ecosystems and ways that bacteria impact humans are also discussed.	antibiotic microscope pasteurization virus

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Building a Biome * ISBN 0022847332 6 PK ISBN 0022865187	LE Performance Indicator 1.1; LE Performance Indicator 3.1; 3.2	X	910	Construction of the deserts biome in the Indianapolis Zoo is described in Building a Biome . Characteristics of desert biomes are described and career opportunities at zoos are identified.	biome conservation ecosystem precipitation species
Carbon ISBN 0022859217 6 PK ISBN 0022866582	PS Performance Indicator 2.1; 3.3 PS Performance Indicator 4.1, LE Performance Indicator 5.1; 5.2 LE Performance Indicator 6.2; 7.1	S	600	Carbon describes forms of carbon, uses of carbon, the role of carbon in living things, the carbon cycle, fossil fuels, and the greenhouse effect.	atom compound element organic compound respiration
Changes at Earth's Surface ISBN 0022847421 6 PK ISBN 0022865276	PS Performance Indicator 2.1, PS Performance Indicator 2.2	V	880	Changes at Earth's Surface describes physical and chemical weathering, erosion, deposition, and the changes that result from these processes.	chemical weathering deposition erosion gravity physical weathering
Chemical Changes * ISBN 0022859276 6 PK ISBN 0022866590	PS Performance Indicator 3.2; 3.3 PS Performance Indicator 4.1; 4.2 LE Performance Indicator 3.2	X	630	Chemical Changes contains a description of the signs that indicate a chemical change has occurred, everyday applications of chemical changes, and chemical changes that occur in organisms.	chemical change combustion compound element reaction
Discovering the Secrets of Cells * ISBN 0022859233 6 PK ISBN 0022866469	LE Performance Indicator 1.1; 1.2 LE Performance Indicator 2.1; 2.2	X	720	Discovering the Secrets of Cells explores careers in cell biology, the function of organelles, and tools such as computers that are used in cell research.	cell DNA gene neuron nucleus
DNA Fingerprinting ISBN 0022859322 6 PK ISBN 0022866515	LE Performance Indicator 1.1; 1.2 LE Performance Indicator 2.1; 2.2 LE Performance Indicator 3.1; 4.1	Y	720	DNA Fingerprinting describes applications of DNA technology to solving crimes, tracing ancestry, solving historical mysteries, and tracking genetic diseases.	base DNA fingerprinting gene inherit mutation

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Do Fossil Fuels Have a Future? * ISBN 0022847499 6 PK ISBN 0022865349	PS Performance Indicator 2.1; 2.2 PS Performance Indicator 4.1; 4.2 LE Performance Indicator 3.2; 6.1	X	900	<i>Do Fossil Fuels Have a Future?</i> explains the formation of fossil fuels, methods of mining fossil fuels, consequences of the use of fossil fuels, and possible alternatives to fossil fuels.	acid rain coal decompose fossil fuel petroleum
Earth's Changing Climate * ISBN 002285925X 6 PK ISBN 0022866523	PS Performance Indicator 1.1 PS Performance Indicator 2.1; 2.2	W	740	Climate, climate change, and the science of studying climates are discussed in <i>Earth's Changing Climate</i> .	climate climatologist core drought weather
Ecosystems ISBN 0022847316 6 PK ISBN 0022865160	PS Performance Indicator 4.1; 4.2 LE Performance Indicator 3.1; 5.1 LE Performance Indicator 6.1; 6.2	Y	910	<i>Ecosystems</i> discusses energy flow within ecosystems, human impact on ecosystems, and ways that individuals can have a positive impact on ecosystems.	Conservation consumer decomposer ecosystem producer
Einstein, Newton, and Gravity ISBN 0022859489 6 PK ISBN 0022866639	PS Performance Indicator 5.1; 5.2	X	760	<i>Einstein, Newton, and Gravity</i> discusses the development of ideas about gravity and space-time, and highlights the cumulative nature of scientific knowledge.	force gravity inertia mass theory
Energy Hunter * ISBN 0022847367 6 PK ISBN 0022865225	PS Performance Indicator 3.2 PS Performance Indicator 4.1; 4.2 PS Performance Indicator 4.5 LE Performance Indicator 5.1; 5.2	X	810	<i>Energy Hunter</i> identifies sources of energy including biomass, geothermal, solar, fossil fuels, and nuclear reactions.	biomass geothermal energy nuclear fusion renewable solar energy
Exploring the Ocean Depths * ISBN 0022859268 6 PK ISBN 0022866566	PS Performance Indicator 2.1, LE Performance Indicator 7.1; 7.2	X	710	<i>Exploring the Ocean Depths</i> describes how technology is used to advance science by allowing humans to explore the deepest parts of the ocean.	adaptation bioluminescence geyser hydrothermal vent probe

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Finding Our Way ISBN 0022859195 6 PK ISBN 0022866531	PS Performance Indicator 1.1	T	640	<i>Finding Our Way</i> describes methods of navigation, longitude and latitude, historic navigation tools, and modern navigation tools such as GPS.	astrolabe compass Global Positioning System (GPS) latitude longitude
Fire in the Sierra Nevada ISBN 0022847340 6 PK ISBN 0022865195	PS Performance Indicator 2.1, LE Performance Indicator 3.1; 3.2 LE Performance Indicator 6.1; 7.1	Y	840	<i>Fire in the Sierra Nevada</i> describes the communities of living things found in the Sierra Nevada and the role that fire plays in keeping this ecosystem in balance.	chaparral ecosystem habitat ignite vegetation
Foods that Feed the World * ISBN 0022859225 6 PK ISBN 0022866434	PS Performance Indicator 2.1, LE Performance Indicator 5.1; 5.2 LE Performance Indicator 6.2	X	730	<i>Foods That Feed the World</i> describes agriculture, food production, and ways that science has improved agricultural practices over time.	agriculture fertilizer pesticide breeding staple
Greenhouse Effect ISBN 0022847456 6 PK ISBN 0022865306	PS Performance Indicator 2.1, LE Performance Indicator 6.1;6.2, LE Performance Indicator 7.1; 7.2	V	820	<i>Greenhouse Effect</i> describes the role of the greenhouse effect in making Earth habitable and describes ways that human activity impacts the greenhouse effect, the ozone layer, and global climate.	atmosphere carbon dioxide deforestation global warming greenhouse effect
Gregor Mendel * ISBN 0022859241 6 PK ISBN 0022866493	LE Performance Indicator 2.1, LE Performance Indicator 2.2	W	710	In <i>Gregor Mendel</i> , the experimental methods used by Gregor Mendel are described. This book also describes how Mendel's results used ratios, discusses Mendel's laws, and identifies ways that Mendel's work impacted the work of other scientists.	dominant genetics heredity hybrid recessive
Hidden Life In A Pond ISBN 0022859314 6 PK ISBN 0022866477	LE Performance Indicator 1.2, LE Performance Indicator 3.1; 3.2 LE Performance Indicator 4.1; 4.4	Y	720	<i>Hidden Life in a Pond</i> identifies microorganisms found in pond water and explains the history of the microscope.	algae bacteria food web habitat protozoa

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How Do Toys Work? * ISBN 0022859284 6 PK ISBN 0022866620	PS Performance Indicator 4.4; 4.5 PS Performance Indicator 5.1; 5.2	W	710	<i>How Do Toys Work?</i> applies concepts of physics, such as motion, forces, friction, and momentum to toys such as yo-yos and model airplanes.	energy force friction gravity momentum
Microorganisms ISBN 0022859187 6 PK ISBN 0022866450	LE Performance Indicator 1.1; 1.2 LE Performance Indicator 5.2	S	570	<i>Microorganisms</i> identifies types of microorganisms, discusses the development of the microscope, and explains the role of microorganisms in disease and in food production.	antibiotic bacteria microbe protist vaccine
Microwaves and Cooking ISBN 0022847480 6 PK ISBN 0022865330	PS Performance Indicator 4.1; 4.2 PS Performance Indicator 4.3; 4.5	W	820	<i>Microwaves and Cooking</i> describes the accidental discovery that microwaves cook food, development of the microwave oven over time, and the process of scientific invention.	electron magnetron microwave nonionizing radiation patent
Nuclear Medicine ISBN 0022859349 6 PK ISBN 0022866604	PS Performance Indicator 4.1	Y	750	<i>Nuclear Medicine</i> describes the application of radioactive materials in medicine. The book describes X rays, bone scans, MRI, and radiation therapy.	barium CT scan MRI nuclear medicine X ray
Power for Our Future ISBN 0022847375 6 PK ISBN 0022865233	PS Performance Indicator 4.1; 4.2 PS Performance Indicator 4.3; 4.5 LE Performance Indicator 6.1; 6.2	Y	940	<i>Power For Our Future</i> describes the need for renewable energy resources such as solar energy, geothermal energy, fuel cells, and biomass fuels.	geothermal energy hydrogen solar power renewable tidal energy
Powered by the Sun ISBN 0022847472 6 PK ISBN 0022865322	PS Performance Indicator 2.1, LE Performance Indicator 6.1; 6.2 LE Performance Indicator 7.1	Y	890	<i>Powered By the Sun</i> describes nuclear fusion in the Sun and the role of the Sun's energy in the water cycle and fossil fuel formation. It also describes ways that solar energy can be captured and used to make electricity, heat water, heat homes, and power spacecraft.	array insulation nuclear fusion renewable resource solar energy

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Skates Bikes, and Rockets ISBN 0022859470 6 PK ISBN 0022866612	PS Performance Indicator 5.1, PS Performance Indicator 5.2	S	830	Skates, Bikes, and Rockets describes how Newton's laws of motion are demonstrated by inline skates, ice skates, bicycles, and rockets.	force friction gravity inertia newton
Sun Storms * ISBN 0022847464 6 PK ISBN 0022865314	PS Performance Indicator 2.1, PS Performance Indicator 4.1; 4.4 LE Performance Indicator 6.1; 6.2	X	900	Sun Storms describes solar events such as solar flares and sunspots and the way these events affect Earth. It also describes methods scientists use to study the Sun.	corona magnetic field plasma solar flare sunspot
The Ring of Fire ISBN 0022847413 6 PK ISBN 0022865268	PS Performance Indicator 2.1, PS Performance Indicator 2.2	Z	940	The Ring of Fire describes the most severe earthquakes and volcanic events associated with the Ring of Fire. Tsunamis and tsunami warning systems are also discussed.	aftershock earthquake seismic tsunami volcano
The Story of DNA ISBN 0022859446 6 PK ISBN 0022866485	LE Performance Indicator 2.1, LE Performance Indicator 2.2,	S	840	The Story of DNA highlights the discoveries of Watson and Crick, Mendel, Wilkins and Franklin, and Francis Collins. It discusses the role of DNA in the inheritance of traits and new developments in DNA technology.	cell DNA gene genetics mutate
Tracing the Food Web ISBN 0022847286 6 PK ISBN 0022865144	PS Performance Indicator 4.1; 4.3 LE Performance Indicator 5.1; 5.2 LE Performance Indicator 6.1; 6.2	V	860	The flow of energy in a variety of ecosystems is described in Tracing the Food Web . Human impact on the world's ecosystems is also described.	Consumer decomposer ecosystem food chain food web
Tsunami! * ISBN 0022847391 6 PK ISBN 002286525X	PS Performance Indicator 2.1 PS Performance Indicator 2.2	X	880	Tsunami! describes the formation and aftermath of the tsunami of December 26, 2004, as well as ways that tsunamis can be predicted and prepared for.	geologist lithosphere meteorite Richter scale tectonic plate

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New York Science Performance Indicators

Standard 4

Science

Physical Setting

PS Key Idea 1

The Earth and celestial phenomena can be described by principles of relative motion and perspective.

PS Performance Indicator 1.1

Explain daily, monthly, and seasonal changes on Earth

PS Key Idea 2

Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land.

PS Performance Indicator 2.1

Explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change.

PS Performance Indicator 2.2

Describe volcano and earthquake patterns, the rock cycle, and weather and climate changes.

PS Key Idea 3

Matter is made up of particles whose properties determine the observable characteristics of matter and its reactivity.

PS Performance Indicator 3.1

Observe and describe properties of materials such as density, conductivity, and solubility.

PS Performance Indicator 3.2

Distinguish between chemical and physical changes.

PS Performance Indicator 3.3

Develop mental models to explain common chemical reactions and changes in states of matter.

PS Key Idea 4

Energy exists in many forms, and when these forms change energy is conserved.

PS Performance Indicator 4.1

Describe the sources and identify the transformations of energy observed in everyday life.

PS Performance Indicator 4.2

Observe and describe heating and cooling events.

PS Performance Indicator 4.3

Observe and describe energy changes as related to chemical reactions.

PS Performance
Indicator 4.4

Observe and describe the properties of sound, light, magnetism, and electricity.

PS Performance
Indicator 4.5

Describe situations that support the principles of conservation of energy.

PS Key Idea 5

Energy and matter interact through forces that result in changes in motion.

PS Performance
Indicator 5.1

Describe different patterns of motion of objects.

PS Performance
Indicator 5.2

Observe, describe, and compare effects of forces (gravity, electric current, and magnetism) on the motion of objects.

The Living Environment

LE Key Idea 1

Living things are both similar to and different from each other and nonliving things.

LE Performance
Indicator 1.1

Compare and contrast the parts of plants, animals and one-celled organisms.

LE Performance
Indicator 1.2

Explain the functioning of the major human organ systems and their interactions.

LE Key Idea 2

Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.

LE Performance
Indicator 2.1

Describe sexual and asexual mechanisms for passing genetic materials from generation to generation.

LE Performance
Indicator 2.2

Describe simple mechanisms related to the inheritance of some physical traits in offspring.

LE Key Idea 3

Individual organisms and species change over time.

LE Performance
Indicator 3.1

Describe sources of variations in organisms and their structures and relate the variations to survival.

LE Performance
Indicator 3.2

Describe factors responsible for competition within species and the significance of that competition.

LE Key Idea 4

The continuity of life is sustained through reproduction and development.

LE Performance
Indicator 4.1

Observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction.

LE Performance
Indicator 4.2

Explain the role of sperm and egg cells in reproduction.

LE Performance
Indicator 4.3

Observe and describe developmental patterns in selected plants and animals (eg. Insects, frogs, humans, seed-bearing plants).

LE Performance
Indicator 4.4

Observe and describe cell division in the microscopic level and its macroscopic effects.

LE Key Idea 5

Organisms maintain a dynamic equilibrium that sustains life.

LE Performance
Indicator 5.1

Compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium.

LE Performance
Indicator 5.2

Describe the importance of major nutrients, vitamins, and minerals in maintaining health, and promoting growth, and explain the need for a constant input of energy for living organisms.

LE Key Idea 6

Plants and animals depend on each other and their physical environment.

LE Performance
Indicator 6.1

Describe the flow of energy and matter through food chains and food webs.

LE Performance
Indicator 6.2

Provide evidence that green plants make food and explain the significance of this process to other organisms.

LE Key Idea 7

Human decisions and activities have had a profound impact on the physical and living environment.

LE Performance
Indicator 7.1

Describe how living things, including humans, depend upon the living and nonliving environment for their survival.

LE Performance
Indicator 7.2

Describe the effects of environmental changes on humans and other populations.