

TITLE	OH STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
All About the Moon ISBN 0022859330 6 PK ISBN 002286654X	ESS-1, SWK-5	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-2, PS-4, ST-1, ST-2, ST-4, SWK-3, SWK-5	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	LS-1, ST-1, ST-2	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	LS-4, LS-8	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	LS-8, ST-2, SWK-5	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	LS-1, LS-5, LS-8, ST-1, SWK-5	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	LS-8, SWK-4	X	910	Construction of the deserts biome in the Indianapolis Zoo is described in <i>Building a Biome</i> . 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-4, PS-8, ST-1, ST-2, SWK-4, ST-4, SWK-5	S	600	<i>Carbon</i> 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-4	V	880	<i>Changes at Earth's Surface</i> 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-2, PS-4, SWK-3, SWK-4, SWK-5	X	630	<i>Chemical Changes</i> 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	LS-1, LS-2, ST-1, SWK-4, SWK-5	X	720	<i>Discovering the Secrets of Cells</i> 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	LS-4, ST-1, SWK-4, SWK-5	Y	720	<i>DNA Fingerprinting</i> 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-8, PS-6, PS-7, PS-8, ST-1, ST-2, SWK-5	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-6, PS-8, ST-1, ST-2, SWK-4, SWK-5	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	LS-8, PS-8, ST-1, ST-2, SWK-3	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	SWK-5	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-8, PS-6, PS-7, PS-8, ST-1, ST-2, SWK-5	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	LS-1, LS-8, SWK-4, SWK-5	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	ST-1, ST-2, SWK-3, SWK-4, SWK-5	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	LS-8, PS-4, SWK-3, SWK-4	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	LS-7, ST-1, ST-2, SWK-3 SWK-4, SWK-5	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-4, PS-8, PS-8, ST-1, ST-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	LS-6, LS-7, ST-1, SWK-2, SWK-5	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	LS-8, PS-4, SWK-5	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	SWK-3, SWK-4	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	LS-8, ST-1, SWK-5	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	ST-1, ST-2, SWK-3, SWK-4, SWK-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	ST-1, ST-2, SWK-3, SWK-4, SWK-5	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-4, PS-8, PS-6, PS-7, PS-8, ST-1, ST-2, ST-1, SWK-4, SWK-5	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-6, PS-7, PS-8, ST-1, ST-2, ST-1, SWK-4, SWK-5	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	SWK-3, SWK-4, SWK-5	S	830	<i>Skates, Bikes, and Rockets</i> 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	SWK-5	X	900	<i>Sun Storms</i> 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	ST-1, ST-2	Z	940	<i>The Ring of Fire</i> 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	LS-1, LS-7, ST-1, ST-2, SWK-5	S	840	<i>The Story of DNA</i> 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	LS-8, PS-4	V	860	The flow of energy in a variety of ecosystems is described in <i>Tracing the Food Web</i> . Human impact on the world's ecosystems is also described.	consumer decomposer ecosystem food chain food web
Tsunami! * ISBN 0022847391 6 PK ISBN 002286525X	ST-1, ST-2, SWK-4, SWK-5	X	880	<i>Tsunami!</i> 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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Ohio Science Academic Content Standards

Standard 1

Earth and Space Sciences

Earth Systems

- ESS-1 Describe the rock cycle and explain that there are sedimentary, igneous and metamorphic rocks that have distinct properties (e.g., color, texture) and are formed in different ways.
- ESS-2 Explain that rocks are made of one or more minerals.
- ESS-3 Identify minerals by their characteristic properties.

Standard 2

Life Sciences

Characteristics and Structure of Life

- LS-1 Explain that many of the basic functions of organisms are carried out by or within cells and are similar in all organisms.
- LS-2 Explain that multicellular organisms have a variety of specialized cells, tissues, organs and organ systems that perform specialized functions.
- LS-3 Identify how plant cells differ from animal cells (e.g., cell wall and chloroplasts).

Heredity

- LS-4 Recognize that an individual organism does not live forever; therefore reproduction is necessary for the continuation of every species and traits are passed on to the next generation through reproduction.
- LS-5 Describe that in asexual reproduction all the inherited traits come from a single parent.
- LS-6 Describe that in sexual reproduction an egg and sperm unite and some traits come from each parent, so the offspring is never identical to either of its parents.
- LS-7 Recognize that likenesses between parents and offspring (e.g., eye color, flower color) are inherited. Other likenesses, such as table manners are learned.

Diversity and Interdependence of Life

LS-8

Describe how organisms may interact with one another.

Standard 3**Physical Sciences****Nature of Matter**

PS-1

Explain that equal volumes of different substances usually have different masses.

PS-2

Describe that in a chemical change new substances are formed with different properties than the original substance (e.g., rusting, burning).

PS-3

Describe that in a physical change (e.g., state, shape and size) the chemical properties of a substance remain unchanged.

PS-4

Describe that chemical and physical changes occur all around us (e.g., in the human body, cooking and industry).

Nature of Energy

PS-8

Explain that the energy found in nonrenewable resources such as fossil fuels (e.g., oil, coal and natural gas) originally came from the sun and may renew slowly over millions of years.

PS-6

Explain that energy derived from renewable resources such as wind and water is assumed to be available indefinitely.

PS-7

Describe how electric energy can be produced from a variety of sources (e.g., sun, wind and coal).

PS-8

Describe how renewable and nonrenewable energy resources can be managed (e.g., fossil fuels, trees and water).

Standard 4**Science and Technology****Understanding Technology**

ST-1

Explain how technology influences the quality of life.

ST-2

Explain how decisions about the use of products and systems can result in desirable or undesirable consequences (e.g., social and environmental).

ST-3

Describe how automation (e.g., robots) has changed manufacturing including manual labor being replaced by highly-skilled jobs.

ST-4

Explain how the usefulness of manufactured parts of an object depend on how well their properties allow them to fit and interact with other materials.

Abilities To Do Technological Design

ST-5

Design and build a product or create a solution to a problem given one constraint (e.g., limits of cost and time for design and production, supply of materials and environmental effects).

Standard 5**Scientific Inquiry****Doing Scientific Inquiry**

SI-1

Explain that there are not fixed procedures for guiding scientific investigations; however, the nature of an investigation determines the procedures needed.

SI-2

Choose the appropriate tools or instruments and use relevant safety procedures to complete scientific investigations.

SI-3

Distinguish between observation and inference.

SI-4

Explain that a single example can never prove that something is always correct, but sometimes a single example can disprove something.

Standard 6**Scientific Ways of Knowing****Nature of Science**

SWK-1

Identify that hypotheses are valuable even when they are not supported.

Ethical Practices

SWK-2

Describe why it is important to keep clear, thorough and accurate records.

Science and Society

SWK-3

Identify ways scientific thinking is helpful in a variety of everyday settings.

SWK-4

Describe how the pursuit of scientific knowledge is beneficial for any career and for daily life.

SWK-5

Research how men and women of all countries and cultures have contributed to the development of science.