

TITLE	MO STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
A Trip Through the Solar System * ISBN 0022846662 6 PK ISBN 0022864539	1.2.C.a, 6.1.A.a, 8.2.A.a	N	730	<i>A Trip Through the Solar System</i> describes the characteristics of each planet in the solar system, describes the conditions that allow life to flourish on Earth, and mentions that humans have observed the planets for thousands of years.	orbit planet solar system
Amazing Earth ISBN 0022846654 6 PK ISBN 0022864520	1.2.A.a, 5.1.C.c, 8.3.A.a	L	620	<i>Amazing Earth</i> describes Earth's lithosphere, explains that the lithosphere is divided into plates that move, and compares Earth's lithosphere to that of other planets. The hydrosphere and atmosphere are also discussed in this book.	atmosphere hydrosphere lithosphere
Amazing Invertebrates * ISBN 0022858784 6 PK ISBN 0022865837	No correlation	N	520	<i>Amazing Invertebrates</i> distinguishes vertebrates and invertebrates and describes in detail many kinds of invertebrates. Invertebrate adaptations for movement, finding food, and staying safe are discussed.	invertebrate mollusk vertebrate
Animal Life Cycles * ISBN 0022858792 6 PK ISBN 0022865861	No correlation	N	450	<i>Animal Life Cycles</i> defines the terms life span and metamorphosis. It describes the life cycle of various animals, including mammals, birds, butterflies, and amphibians.	chrysalis larva life cycle
Bad Weather ISBN 0022858768 6 PK ISBN 0022865942	1.1.D.c, 1.2.A.a, 5.1.C.a, 5.1.C.b, 5.1.C.c, 5.2.E.a, 7.1.B.a	J	430	<i>Bad Weather</i> defines weather and uses a diagram to illustrate the water cycle. It also describes in detail many forms of severe weather including thunderstorms, lightning, tornadoes, and hurricanes.	hurricane tornado weather

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California Condor ISBN 0022846581 6 PK ISBN 0022864458	7.1.E.a	L	640	California Condor identifies the factors that led to the decline of the California condor population. It also describes measures that are being taken to save the condor from extinction.	extinct habitat wilderness
Chocolate ISBN 0022846719 6 PK ISBN 0022864571	1.1.D.b, 1.1.D.g, 3.1.A.a, 8.1.A.a	O	700	Chocolate explores the history of chocolate, resources required to make chocolate commercially, and the manufacturing process used to make chocolate.	liquid mixture solid
Claws and Wings and Other Neat Things ISBN 0022859438 6 PK ISBN 0022865845	7.1.E.a	Q	620	Claws and Wings and Other Neat Things describes adaptations that help living things survive. Examples include a falcon's wings, a wolf's fur, and a badger's claws.	environment peregrine falcon survive
Cool Cats ISBN 0022846522 6 PK ISBN 0022864393	8.3.A.a	L	510	Cool Cats describes the characteristics of different members of the cat family. Similarities and difference between different types of cats are discussed.	domestic: predator savanna
Coral Reefs * ISBN 0022846565 6 PK ISBN 0022864431	4.2.A.a, 4.2.A.b, 4.2.A.c, 8.3.A.a	N	750	Coral Reefs identifies locations where coral reefs are found, explains how coral reefs are formed, and describes the great variety of living things found in a coral reef environment. It also describes ways that human activity threatens coral reefs and ways that coral reefs can be protected.	coral polyp coral reef limestone
Electrical Inventions ISBN 002285939X 6 PK ISBN 0022866019	1.2.A.b, 8.1.A.a, 8.2.A.a	P	700	Electrical Inventions describes inventions, such as the electric light and the electric motor. Information about inventors and current electrical innovations are also included.	circuit conductor invention

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TITLE	MO STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
Energy for Your Body * ISBN 0022846735 6 PK ISBN 0022864598	7.1.E.a	N	780	Energy for Your Body explains why the human body needs energy, identifies that food is the energy source used by humans, and describes how the digestive system changes food to a form the body can use.	carbohydrate mineral protein
Exploring Mars ISBN 0022846670 6 PK ISBN 0022864547	8.1.B.a, 8.2.A.a	P	730	Exploring Mars explains how humans have learned about Mars throughout history. Technology, such as orbiters and landers, which advance science are also described.	astronomer lander orbiter
Fossil Hunters ISBN 0022861696 6 PK ISBN 0022865926	8.2.A.a	I	610	Fossil Hunters describes how fossils are formed, what paleontologists can learn by studying fossils, and tools that fossil hunters use.	dinosaur fossil paleontologist
Gems * ISBN 0022858814 6 PK ISBN 0022865934	7.1.B.a, 7.1.E.a, 8.1.A.a, 8.2.A.a	N	540	Gems describes gems and minerals, describes how to grow crystals, and identifies the many uses of diamonds.	crystal mineral precious
Glassmaking ISBN 0022846689 6 PK ISBN 0022864555	1.1.D.b, 1.1.D.g, 7.1.E.a, 8.1.A.a	M	670	Glassmaking identifies the resources used to produce glass, describes the process of manufacturing glass, and includes a timeline of the history of glass.	heat hollow solid
Growing a Garden ISBN 0022858741 6 PK ISBN 0022865853	1.2.C.a, 3.1.A.a, 3.1.B.a, 3.1.D.a, 7.1.A.a, 7.1.A.b, 7.1.B.a, 7.1.B.b, 7.1.B.d, 7.1.C.a, 7.1.E.a	I	400	Growing a Garden explains that humans use gardens to produce food and describes the function of a plant's parts. The basic needs of plants are identified and photosynthesis is defined.	bulb fertilizer photosynthesis

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TITLE	MO STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
How Earthquakes & Volcanoes Shape the Earth * ISBN 0022858806 6 PK ISBN 002286590X	8.1.B.a	N	580	<i>How Earthquakes and Volcanoes Shape Earth</i> describes tectonic plates, illustrates how volcanoes and earthquakes change Earth's surface, and explains how scientists help people stay safe in the event of a volcanic eruption or earthquake.	earthquake fault volcano
Living Communities ISBN 002285875X 6 PK ISBN 0022865888	1.2.C.a, 4.2.A.a, 4.2.A.b, 4.2.A.c, 4.2.A.d	J	460	<i>Living Communities</i> identifies the components of an ecosystem, explains the interactions that occur in ecosystems, and describes in detail ecosystems found in hot deserts, cold deserts, grasslands, tundra, and rain forests.	community ecosystem food web
Machines That Build ISBN 0022859454 6 PK ISBN 0022866000	7.1.B.a	P	690	<i>Machines That Build</i> defines the scientific meaning of the word work, illustrates examples of simple machines, and shows how simple machines are combined in machines used in construction.	compound machine simple machine work
Mighty Metals ISBN 0022858776 6 PK ISBN 0022865969	1.1.D.b	J	430	<i>Mighty Metals</i> describes how metals are used and how metals are mined. The properties of particular metals that makes them well-suited for certain applications are described.	alloy metal ore
Moving Fast ISBN 0022861718 6 PK ISBN 0022865993	7.1.B.d	J	700	<i>Moving Fast</i> describes and compares the speeds of the fastest-moving animals, cars, trains, planes and people.	distance measure speed
Natural Defenses * ISBN 0022846530 6 PK ISBN 0022864407	3.1.D.a	N	740	<i>Natural Defenses</i> describes adaptations that plants and animals use to stay safe. Examples of adaptations described include thorns, quills, poisons, and bad smells.	defense poison spines

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Predator and Prey ISBN 002286167X 6 PK ISBN 0022865896	1.2.C.a, 4.2.A.a, 4.2.A.b, 4.2.A.c	O	680	Predators and Prey describes the predator/prey relationship, and identifies adaptations that enhance predators' ability to hunt and preys' ability to stay safe.	camouflage defense predator
Sun Stories ISBN 002284662x 6 PK ISBN 0022864482	1.2.A.a, 1.2.A.b, 1.2.C.a, 6.1.A.a, 6.1.A.b, 6.2.A.a, 6.2.C.c, 8.2.A.a	L	540	Sun Stories describes the importance of the Sun. It also explores ways that ancient cultures, such as the Egyptians, Greeks, Maya, and Aztecs, explained the Sun.	solar eclipse solar system star
The Sounds of Music ISBN 0022846727 6 PK ISBN 002286458X	7.1.E.a	L	780	The Sounds of Music explains that sound is generated by vibrating objects and describes how the ear hears sounds. It gives a detailed description of each family of musical instruments.	percussion sound waves vibration
The Way Eyes See It * ISBN 002284676X 6 PK ISBN 0022864636	1.2.A.b, 1.2.A.c	N	690	The Way Eyes See It describes the human eye and compares it to several kinds of animal eyes.	cornea iris lens
Volcano! ISBN 0022861688 6 PK ISBN 0022865918	7.1.B.a, 8.1.B.a, 8.2.A.a	O	650	Volcano! describes volcanic eruptions in detail. It explains the cause of eruptions, the effects of eruption, and methods scientists use to predict eruptions.	ash erupt magma

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Watching the Weather * ISBN 0022858822 6 PK ISBN 0022865950	1.2.A.a, 5.1.C.a, 5.1.C.b, 5.1.C.c, 5.2.E.a, 7.1.B.b, 7.1.B.c, 7.1.B.d, 7.1.C.b, 8.1.B.a, 8.2.A.a	M	510	<i>Watching the Weather</i> defines weather, describes tools used to track weather, and includes instructions for setting up a weather station.	air pressure meteorologist rain gauge
Water, Water Everywhere * ISBN 0022846697 6 PK ISBN 0022864563	1.1.D.a, 1.1.D.b, 1.1.D.c, 1.1.D.e, 5.1.C.a, 5.1.C.b, 5.2.E.a	N	730	<i>Water, Water, Everywhere</i> describes the three states in which water exists on Earth, explains the properties of water molecules, and describes the water cycle.	gas matter water cycle
Wetlands ISBN 0022846611 6 PK ISBN 0022864474	8.2.A.a, 8.3.A.a	O	670	<i>Wetlands</i> describes different types of wetlands, identifies some living things found in wetlands, explains the ecological and economic importance of wetlands, and describes measures that can be taken to save wetlands.	ecosystem marsh swamp
What Makes You Special? ISBN 0022858849 6 PK ISBN 002286587X	No correlation	P	510	<i>What Makes You Special?</i> describes genetic traits, explains how traits are passed from parent to offspring, and illustrates the structure of DNA.	DNA heredity trait
What Sinks and Floats ISBN 0022858857 6 PK ISBN 0022865985	7.1.A.a, 7.1.A.b, 7.1.B.a, 7.1.C.b, 7.1.E.a	P	490	<i>What Sinks and Floats</i> defines matter and density. It also describes experiments about sinking and floating that students can carry out.	density mass volume

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TITLE	MO STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
What Your Body is Made Of * ISBN 0022858830 6 PK ISBN 0022865977	No correlation	N	540	<i>What Your Body is Made Of</i> identifies the most common elements in the human body, describes the role of water in the body, and explains how food is used to supply nutrients to the body.	cell element nutrient
Why We Need the Sun ISBN 0022846646 6 PK ISBN 0022864512	1.1.D.c, 1.2.C.a, 3.1.A.a, 4.2.A.a, 4.2.A.c, 5.1.C.a, 6.1.A.a	O	630	<i>Why We Need the Sun</i> describes how the Sun impacts Earth's weather and how fossil fuels form. It also describes Sun safety tips.	fossil fuel solar energy water cycle
Wind Energy ISBN 0022846743 6 PK ISBN 002286461X	8.2.A.a	P	730	<i>Wind Energy</i> explains how wind energy has been used in the past and present. It also offers predictions about ways that wind energy may be used in the future.	generator wind wind farm

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Missouri Science Grade-Level Expectations

Strand 1

Properties and Principles of Matter and Energy

1.1

Changes in properties and states of matter provide evidence of the atomic theory of matter

1.1.D

Physical changes in the state of matter that result from thermal changes can be explained by the Kinetic Theory of Matter

1.1.D.a

Compare the observable physical properties of solids, liquids, or gases (air) (i.e., visible vs. invisible, changes in shape, changes in the amount of space occupied)

1.1.D.b

Identify everyday objects/substances as solid, liquid, or gas (e.g., air, water)

1.1.D.c

Recognize water evaporates (liquid water changes into a gas as it moves into the air)

1.1.D.d

Measure and compare the temperature of water when it exists as a solid to its temperature when it exists as a liquid

1.1.D.e

Investigate and recognize water can change from a liquid to a solid (freeze), and back again to a liquid (melt), as the result of temperature changes

1.1.D.f

Describe the changes in the physical properties of water (i.e., shape, volume) when frozen or melted

1.1.D.g

Predict and investigate the effect of heat energy (i.e., change in temperature, melting, evaporation) on objects and materials

1.2

Energy has a source, can be transferred, and can be transformed into various forms but is conserved between and within systems

1.2.A

Forms of energy have a source, a means of transfer (work and heat), and a receiver

1.2.A.a

Identify sources of thermal energy (e.g., Sun, stove, fire, body) that can cause solids to change to liquids, and liquids to change to gas

1.2.A.b

Identify sources of light energy (e.g., Sun, bulbs, flames)

1.2.A.c Recognize light can be transferred from the source to the receiver (eye) through space

1.2.A.d Identify the three things (light source, object, and surface) necessary to produce a shadow

1.2.C Electromagnetic energy from the Sun (solar radiation) is a major source of energy on Earth

1.2.C.a Recognize the Sun is the primary source of light and food energy on Earth

Strand 3

Characteristics and Interactions of Living Organisms

3.1 There is a fundamental unity underlying the diversity of all living organisms

3.1.A Organisms have basic needs for survival

3.1.A.a Describe the basic needs of most plants (i.e., air, water, light, nutrients, temperature)

3.1.B Organisms progress through life cycles unique to different types of organisms

3.1.B.a Recognize plants progress through life cycles of seed germination, growth and development, reproduction, and death

3.1.B.b Sequence and describe the stages in the life cycle of a flowering plant

3.1.D Plants and animals have different structures that serve similar functions necessary for the survival of the organism

3.1.D.a Identify the major organs (roots, stems, flowers, leaves) and their functions in vascular plants (e.g., absorption, transport, reproduction) (Do NOT assess the term vascular)

3.2 Living organisms carry out life processes in order to survive

3.2.C Complex multicellular organisms have systems that interact to carry out life processes through physical and chemical means

3.2.C.a Illustrate and trace the path of water and nutrients as they move through the transport system of a plant

3.3 **There is a genetic basis for the transfer of biological characteristics from one generation to the next through reproductive processes**

3.3.D **There is heritable variation within every species of organism**

3.3.D.a Identify and relate the similarities and differences between plants and their offspring (i.e., seedlings)

Strand 4

Changes in Ecosystems and Interactions of Organisms with their Environments

4.2 **Matter and energy flow through an ecosystem**

4.2.A **As energy flows through the ecosystem, all organisms capture a portion of that energy and transform it to a form they can use**

4.2.A.a Identify sunlight as the primary source of energy plants use to produce their own food

4.2.A.b Classify populations of organisms as producers or consumers by the role they serve in the ecosystem

4.2.A.c Sequence the flow of energy through a food chain beginning with the Sun

4.2.A.d Predict the possible effects of removing an organism from a food chain

Strand 5

Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)

5.1 **Earth's systems (geosphere, atmosphere, and hydrosphere) have common components and unique structures**

5.1.C **The atmosphere (air) is composed of a mixture of gases, including water vapor, and minute particles**

5.1.C.a Recognize liquid water can change into a gas (vapor) in the air

5.1.C.b Recognize clouds and fog are made of tiny droplets of water

5.1.C.c

Recognize air is a substance that surrounds us, takes up space, and moves around us as wind

5.2

Earth's Systems (geosphere, atmosphere, and hydrosphere) interact with one another as they undergo change by common processes

5.2.E

Changes in the form of water as it moves through Earth's systems are described as the water cycle

5.2.E.a

Describe clouds and precipitation as forms of water

Strand 6

Composition and Structure of the Universe and the Motion of the Objects Within It

6.1

The universe has observable properties and structure

6.1.A

The Earth, Sun, and moon are part of a larger system that includes other planets and smaller celestial bodies

6.1.A.a

Describe our Sun as a star because it provides light energy to the solar system

6.1.A.b

Recognize the moon is a reflector of light

6.2

Regular and predictable motions of objects in the universe can be described and explained as the result of gravitational forces

6.2.A

The apparent position of the Sun and other stars, as seen from Earth, change in observable patterns

6.2.A.a

Illustrate and describe how the Sun appears to move slowly across the sky from east to west during the day

6.2.B

The apparent position of the moon, as seen from Earth, and its actual position relative to Earth change in observable patterns

6.2.B.a

Illustrate and describe how the moon appears to move slowly across the sky from east to west during the day and/or night

6.2.B.b

Observe the change in the moon's appearance relative to time of day and month over several months and note the pattern in this change

6.2.C

The regular and predictable motions of the Earth and moon relative to the Sun explain natural phenomena on Earth, such as day, month, year, shadows, moon phases, eclipses, tides, and seasons

6.2.C.a

Recognize there is a day/night cycle every 24 hours

6.2.C.b

Describe the changes in length and position (direction) of shadows from morning to midday to afternoon

6.2.C.c

Describe how the Sun's position in the sky changes the length and position of shadows

Strand 7**Scientific Inquiry****7.1**

Science understanding is developed through the use of science process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking

7.1.A

Scientific inquiry includes the ability of students to formulate a testable question and explanation, and to select appropriate investigative methods in order to obtain evidence relevant to the explanation

7.1.A.a

Pose questions about objects, materials, organisms, and events in the environment

7.1.A.b

Plan and conduct a fair test to answer a question

7.1.B

Scientific inquiry relies upon gathering evidence from qualitative and quantitative observations

7.1.B.a

Make qualitative observations using the five senses

7.1.B.b

Make observations using simple tools and equipment (e.g., hand lenses, magnets, thermometers, metric rulers, balances, graduated cylinders)

7.1.B.c

Measure length to the nearest centimeter, mass using grams, temperature using degrees Celsius, volume using liters

7.1.B.d

Compare amounts/measurements

7.1.B.e

Judge whether measurements and computation of quantities are reasonable

7.1.C**Evidence is used to formulate explanations**

7.1.C.a

Use quantitative and qualitative data as support for reasonable explanations

7.1.C.b

Use data as support for observed patterns and relationships, and to make predictions to be tested

7.1.D**Scientific inquiry includes evaluation of explanations (hypotheses, laws, theories) in light of scientific principles (understandings)**

7.1.D.a

Evaluate the reasonableness of an explanation

7.1.D.b

Analyze whether evidence supports proposed explanations

7.1.E**The nature of science relies upon communication of results and justification of explanations**

7.1.E.a

Communicate simple procedures and results of investigations and explanations through:

- oral presentations
- drawings and maps
- data tables
- graphs (bar, single line, pictograph)
- writings

Strand 8**Impact of Science, Technology and Human Activity****8.1****The nature of technology can advance, and is advanced by, science as it seeks to apply scientific knowledge in ways that meet human needs****8.1.A****Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all**

8.1.A.a

Recognize some objects or materials (e.g., Sun, fire, ice, snow) occur in nature (natural objects); others (e.g., stoves, refrigerators, bulbs, candles, lanterns) have been designed and made by people to solve human problems and enhance the quality of life (manmade objects)

8.1.B**Advances in technology often result in improved data collection and an increase in scientific information**

- 8.1.B.a Describe how new technologies have helped scientists make better observations and measurements for investigations (e.g., telescopes, magnifiers, balances, microscopes, computers, stethoscopes, thermometers)
- 8.2 Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time**
- 8.2.A People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations**
- 8.2.A.a Research biographical information about various scientists and inventors from different gender and ethnic backgrounds, and describe how their work contributed to science and technology (Assess Locally)
- 8.3 Science and technology affect, and are affected by, society**
- 8.3.A People, alone or in groups, are always making discoveries about nature and inventing new ways to solve problems and get work done**
- 8.3.A.a Identify a question that was asked, or could be asked, or a problem that needed to be solved when given a brief scenario (fiction or nonfiction of people working alone or in groups solving everyday problems or learning through discovery)
- 8.3.A.b Work with a group to solve a problem, giving due credit to the ideas and contributions of each group member (Assess Locally)