

TITLE	IL STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
A Trip Through the Solar System * ISBN 0022846662 6 PK ISBN 0022864539	12.F.2a	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	12.E.2b, 13.B.2a, 13.B.2f	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	12.B.2b	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	12.A.2a	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	11.A.2b, 12.E.2a, 12.E.2b	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	12.B.2b, 13.B.2e, 13.B.2f	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	13.B.2b, 13.B.2c	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	12.B.2b	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	12.B.2a, 12.B.2b	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	12.B.2a, 12.B.2b, 13.B.2f	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	12.C.2a, 13.B.2b, 13.B.2c	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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Energy for Your Body * ISBN 0022846735 6 PK ISBN 0022864598	12.B.2b, 12.C.2a	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	13.B.2a	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	13.B.2c	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	12.E.2b, 13.A.2a	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	12.C.2b, 13.B.2b, 13.B.2c	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	11.A.2a, 11.A.2b, 11.A.2e, 12.B.2b, 12.C.2a	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	IL STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
How Earthquakes & Volcanoes Shape the Earth * ISBN 0022858806 6 PK ISBN 002286590X	12.E.2a, 12.E.2b, 13.B.2b	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	12.B.2a, 12.B.2b	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	12.D.2b, 13.B.2b, 13.B.2c	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	13.B.2b, 13.B.2c	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	12.B.2b, 12.D.2b, 13.B.2b This book provides an introduction to standard 12.D.2a	J	700	<i>Moving Fast</i> describes and compares the speeds of the fastest-moving animals, cars, trains, planes and people.	distance measure speed

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TITLE	IL STANDARDS ADDRESSED	GR LEVEL	LEXILE LEVEL	BOOK SUMMARY	VOCABULARY
Natural Defenses * ISBN 0022846530 6 PK ISBN 0022864407	12.B.2b	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
Predator and Prey ISBN 002286167X 6 PK ISBN 0022865896	12.B.2a, 12.B.2b	O	680	<i>Predators and Prey</i> 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	12.C.2a, 12.F.2a, 13.B.2c	L	540	<i>Sun Stories</i> 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	12.C.2a, 12.B.2c	L	780	<i>The Sounds of Music</i> 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	12.B.2a, 12.B.2b	N	690	<i>The Way Eyes See It</i> describes the human eye and compares it to several kinds of animal eyes.	cornea iris lens
Volcano! ISBN 0022861688 6 PK ISBN 0022865918	12.E.2b, 13.B.2a	O	650	<i>Volcano!</i> 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	11.A.2b, 11.A.2e, 12.E.2a, 13.B.2a, 13.B.2c	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	12.C.2a, 12.C.2b, 12.E.2a	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	12.B.2a, 12.B.2b, 13.B.2f	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	12.A.2a, 12.A.2b	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	11.A.2a, 11A.2b, 11.A.2d, 11.A.2e	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
What Your Body is Made Of * ISBN 0022858830 6 PK ISBN 0022865977	12.B.2b	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

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Why We Need the Sun ISBN 0022846646 6 PK ISBN 0022864512	12.B.2a, 12.C.2a, 12.E.2a, 12.F.2a, 13.B.2f	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	12.C.2a, 13.B.2b, 13.B.2f	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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ILLINOIS LEARNING STANDARDS

STATE GOAL 11:

Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.

Why This Goal Is Important: The inquiry process prepares learners to engage in science and apply methods of technological design. This understanding will enable students to pose questions, use models to enhance understanding, make predictions, gather and work with data, use appropriate measurement methods, analyze results, draw conclusions based on evidence, communicate their methods and results, and think about the implications of scientific research and technological problem solving.

A.

Know and apply the concepts, principles and processes of scientific inquiry.

11.A.2a

Formulate questions on a specific science topic and choose the steps needed to answer the questions.

11.A.2b

Collect data for investigations using scientific process skills including observing, estimating and measuring.

11.A.2c

Construct charts and visualizations to display data.

11.A.2d

Use data to produce reasonable explanations.

11.A.2e

Report and display the results of individual and group investigations.

B.**Know and apply the concepts, principles and processes of technological design.**

11.B.2a

Identify a design problem and propose possible solutions.

11.B.2b

Develop a plan, design and procedure to address the problem identifying constraints (e.g., time, materials, technology).

11.B.2c

Build a prototype of the design using available tools and materials.

11.B.2d

Test the prototype using suitable instruments, techniques and quantitative measurements to record data.

11.B.2e

Assess test results and the effectiveness of the design using given criteria and noting possible sources of error.

11.B.2f

Report test design, test process and test results.

STATE GOAL 12:**Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.**

Why This Goal Is Important: This goal is comprised of key concepts and principles in the life, physical and earth/space sciences that have considerable explanatory and predictive power for scientists and non-scientists alike. These ideas have been thoroughly studied and have stood the test of time. Knowing and being able to apply these concepts, principles and processes help students understand what they observe in nature and through scientific experimentation. A working knowledge of these concepts and principles allows students to relate new subject matter to material previously learned and to create deeper and more meaningful levels of understanding.

A.**Know and apply concepts that explain how living things function, adapt and change.**

12.A.2a

Describe simple life cycles of plants and animals and the similarities and differences in their offspring.

12.A.2b

Categorize features as either inherited or learned (e.g., flower color or eye color is inherited; language is learned).

B.**Know and apply concepts that describe how living things interact with each other and with their environment.**

12.B.2a	Describe relationships among various organisms in their environments (e.g., predator/prey, parasite/host, food chains and food webs).
12.B.2b	
C.	Know and apply concepts that describe properties of matter and energy and the interactions between them.
12.C.2a	Describe and compare types of energy including light, heat, sound, electrical and mechanical.
12.C.2b	
D.	Know and apply concepts that describe force and motion and the principles that explain them.
12.D.2a	Explain constant, variable and periodic motions.
12.D.2b	
E.	Know and apply concepts that describe the features and processes of the Earth and its resources.
12.E.2a	Identify and explain natural cycles of the Earth's land, water and atmospheric systems (e.g., rock cycle, water cycle, weather patterns).
12.E.2b	
12.E.2c	
F.	Know and apply concepts that explain the composition and structure of the universe and Earth's place in it.
12.F.2a	Identify and explain natural cycles and patterns in the solar system (e.g., order of the planets; moon phases; seasons as related to Earth's tilt, one's latitude, and where Earth is in its yearly orbit around the sun).
12.F.2b	
12.F.2c	Identify easily recognizable star patterns (e.g., the Big Dipper, constellations).

STATE GOAL 13:**Understand the relationships among science, technology and society in historical and contemporary contexts.**

Why This Goal Is Important: Understanding the nature and practices of science such as ensuring the validity and replicability of results, building upon the work of others and recognizing risks involved in experimentation gives learners a useful sense of the scientific enterprise. In addition, the relationships among science, technology and society give humans the ability to change and improve their surroundings. Learners who understand this relationship will be able to appreciate the efforts and effects of scientific discovery and applications of technology on their own lives and on the society in which we live.

A.**Know and apply the accepted practices of science.****13.A.2a**

Demonstrate ways to avoid injury when conducting science activities (e.g., wearing goggles, fire extinguisher use).

13.A.2b

Explain why similar investigations may not produce similar results.

13.A.2c

Explain why keeping accurate and detailed records is important.

B.**Know and apply concepts that describe the interaction between science, technology and society.****13.B.2a**

Explain how technology is used in science for a variety of purposes (e.g., sample collection, storage and treatment; measurement; data collection, storage and retrieval; communication of information).

13.B.2b

Describe the effects on society of scientific and technological innovations (e.g., antibiotics, steam engine, digital computer).

13.B.2c

Identify and explain ways that science and technology influence the lives and careers of people.

13.B.2d

Compare the relative effectiveness of reducing, reusing and recycling in actual situations.

13.B.2e

Identify and explain ways that technology changes ecosystems (e.g., dams, highways, buildings, communication networks, power plants).

13.B.2f

Analyze how specific personal and societal choices that humans make affect local, regional and global ecosystems (e.g., lawn and garden care, mass transit).