hmhco.com

HMH

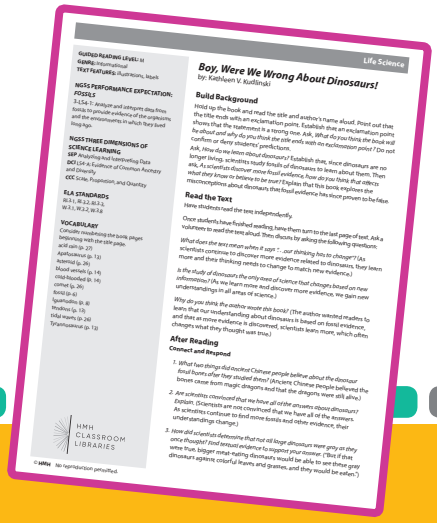
NEW

HMH CLASSROOM LIBRARIES

Science Classroom Libraries

Grades K–5

Develop literacy and content-area knowledge with engaging, relevant texts!

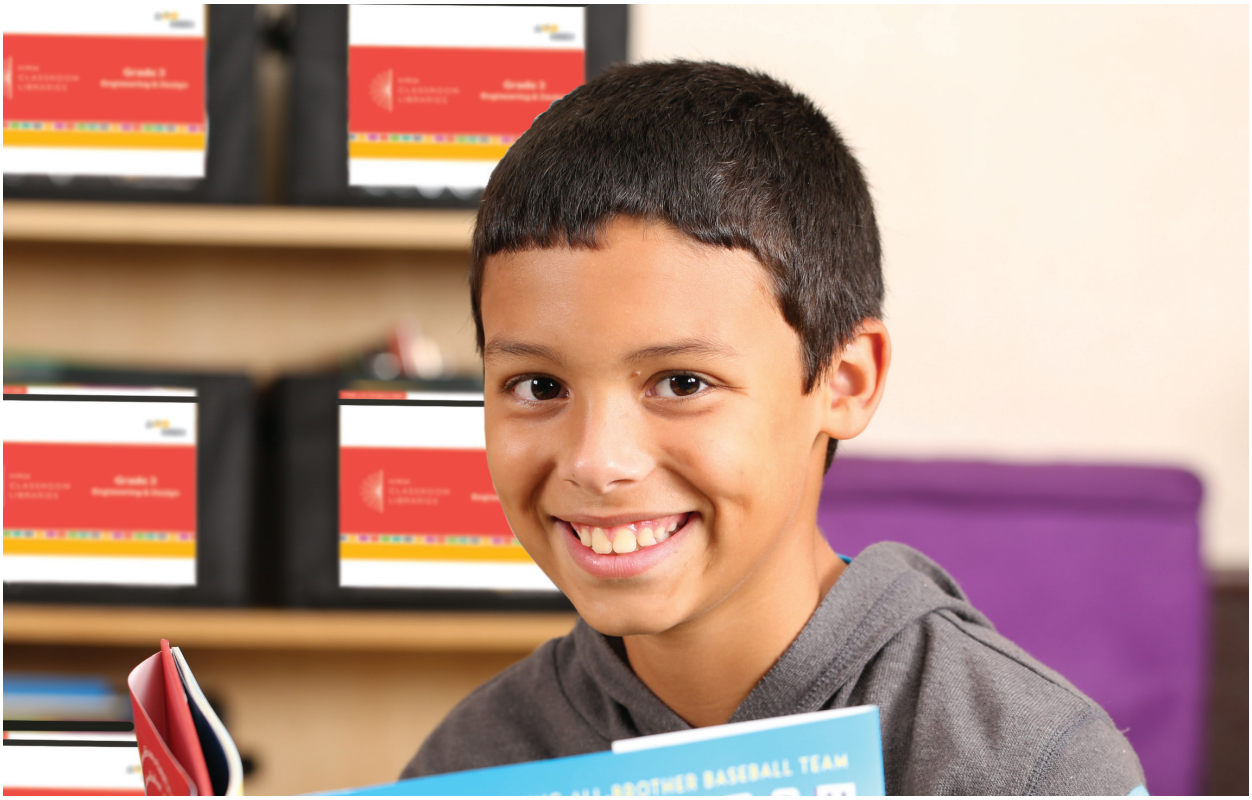


Standards-based Lesson Plans included for every book!

* Next Generation Science Standards and logo are registered trademarks of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards were involved in the production of this product, and they do not endorse it.

Are you looking for an effective way to address cross-curricular science instruction during your literacy block?

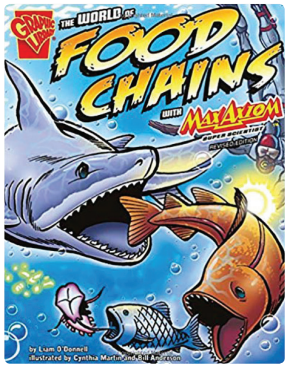
HMH Classroom Libraries are the perfect solution!

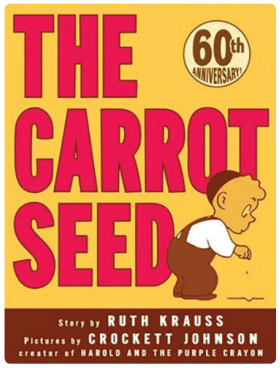


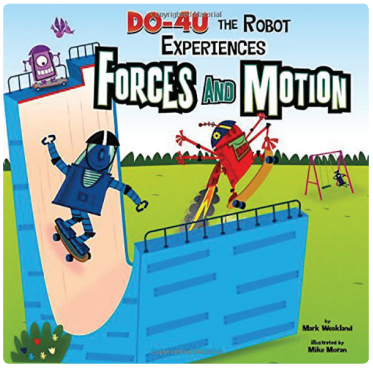
Each grade-level library includes science titles in the focus areas of Engineering & Design, Physical Science, Life Science, and Earth & Space Science.

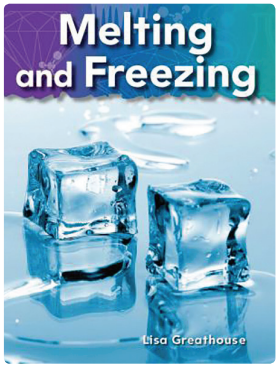
Each grade-level collection

- is carefully aligned to recommended Guided Reading Levels for each grade.
- is filled with high-interest literary and informational texts.
- is designed to help you meet today's rigorous standards, including Next Generation Science Standards.*
- contains content-area support such as captions, glossaries, and high-quality photographs and illustrations.
- builds academic vocabulary to strengthen reading and writing skills.
- is organized in durable totes labeled with title details, including reading levels, for active classroom management.
- includes title-specific lesson plans.









Diverse and Inspiring Science Libraries

Meticulously curated to contain high-quality books—Titles are chosen from a wide variety of publishers to ensure collections include only the best literary and informational texts.

Engaging and award-winning titles—Carefully curated books empower teachers to build strong, fluent readers and informed citizens who understand the relevance of science in today's world.

Thoughtfully aligned content—Hand-picked titles represent a range of topics in the following science strands: Engineering & Design, Physical Science, Life Science, and Earth & Space Science.

Precisely leveled texts—Books are strategically chosen based on recommended Guided Reading Levels for each grade to meet the needs of a diverse classroom.

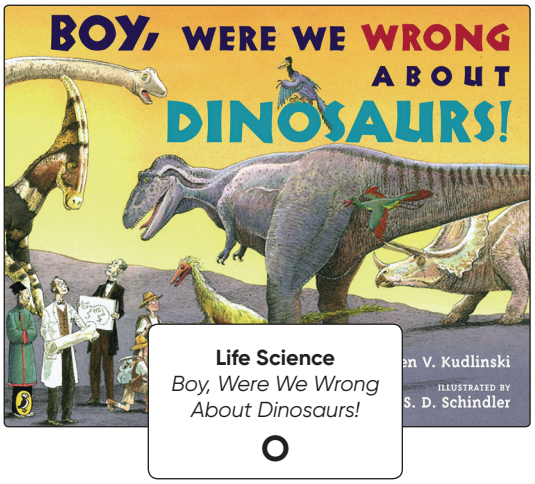
Grade	Guided Reading Levels
Grade K	A B C D E F
Grade 1	C D E F G H I J K L
Grade 2	I J K L M N O
Grade 3	L M N O P Q R
Grade 4	O P Q R S T U
Grade 5	R S T U V W X

Each Classroom Library can be purchased as either an Independent Reading Library or as a Guided Reading Library

Independent Reading Libraries

Each grade-level collection includes

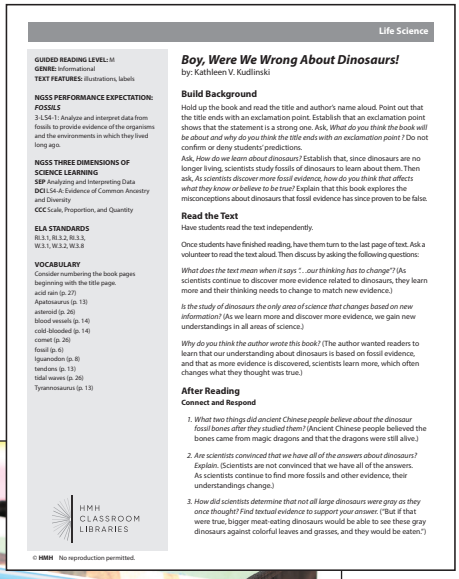
- 1 copy of each science title
- books labeled with title details, including Guided Reading Level
- books organized in durable, clearly labeled totes



Guided Reading Libraries

Each grade-level collection includes

- 6 copies of each science title
- 6-packs packaged in resealable, clearly labeled plastic bags
- books organized in durable, clearly labeled totes
- title-specific Lesson Plans


Life Science

GUIDED READING LEVEL: M
GENRE: Informational
TEXT FEATURES: illustrations, labels

NGSS PERFORMANCE EXPECTATION:
FOSSILS
3-LS4-1: Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

NGSS THREE DIMENSIONS OF SCIENCE LEARNING
SEP Analyzing and Interpreting Data
DCI LS4-A: Evidence of Common Ancestry and Diversity
CCC Scale, Proportion, and Quantity

ELA STANDARDS
RI.3.1, RI.3.2, RI.3.3, W.3.1, W.3.2, W.3.8

VOCABULARY
Consider numbering the book pages beginning with the title page.
acid rain (p. 27)
Apatosaurus (p. 13)
asteroid (p. 26)
blood vessels (p. 14)
cold-blooded (p. 14)
comet (p. 26)
fossil (p. 6)
Iguanodon (p. 8)
tendons (p. 13)
tidal waves (p. 26)
Tyrannosaurus (p. 13)

Boy, Were We Wrong About Dinosaurs!
by: Kathleen V. Kudlinski

Build Background

Hold up the book and read the title and author's name aloud. Point out that the title ends with an exclamation point. Establish that an exclamation point shows that the statement is a strong one. Ask, *What do you think the book will be about and why do you think the title ends with an exclamation point?* Do not confirm or deny students' predictions.

Ask, How do we learn about dinosaurs? Establish that, since dinosaurs are no longer living, scientists study fossils of dinosaurs to learn about them. Then ask, *As scientists discover more fossil evidence, how do you think that affects what they know or believe to be true?* Explain that this book explores the misconceptions about dinosaurs that fossil evidence has since proven to be false.

Read the Text

Have students read the text independently.

Once students have finished reading, have them turn to the last page of text. Ask a volunteer to read the text aloud. Then discuss by asking the following questions:

What does the text mean when it says "...our thinking has to change"? (As scientists continue to discover more evidence related to dinosaurs, they learn more and their thinking needs to change to match new evidence.)

Is the study of dinosaurs the only area of science that changes based on new information? (As we learn more and discover more evidence, we gain new understandings in all areas of science.)

Why do you think the author wrote this book? (The author wanted readers to learn that our understanding about dinosaurs is based on fossil evidence, and that as more evidence is discovered, scientists learn more, which often changes what they thought was true.)

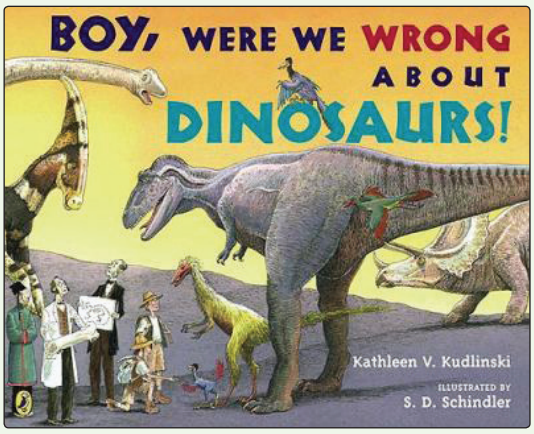
After Reading
Connect and Respond

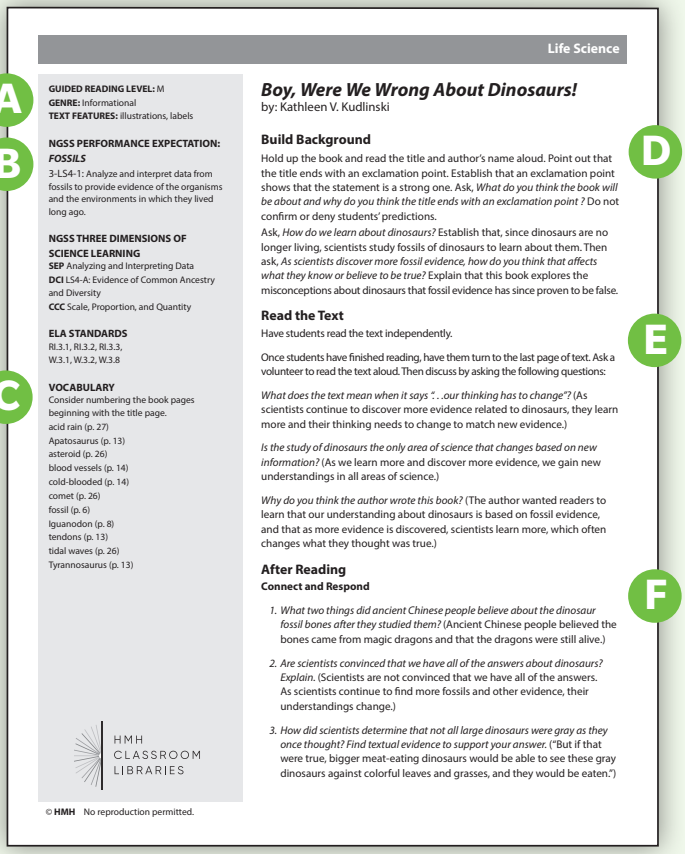
1. *What two things did ancient Chinese people believe about the dinosaur fossil bones after they studied them?* (Ancient Chinese people believed the bones came from magic dragons and that the dragons were still alive.)
2. *Are scientists convinced that we have all of the answers about dinosaurs? Explain.* (Scientists are not convinced that we have all of the answers. As scientists continue to find more fossils and other evidence, their understandings change.)
3. *How did scientists determine that not all large dinosaurs were gray as they once thought? Find textual evidence to support your answer.* ("But if that were true, bigger meat-eating dinosaurs would be able to see these gray dinosaurs against colorful leaves and grasses, and they would be eaten.")

HMH CLASSROOM LIBRARIES

Engaging, Standards-Based Lesson Plans

Title-specific lesson plans accompany each book in the Guided Reading Libraries. Instruction, including text discussion prompts and extension activities, offers rich opportunities for students to gain and practice literacy skills and deepen science content knowledge.





Life Science

GUIDED READING LEVEL: M
GENRE: Informational
TEXT FEATURES: Illustrations, labels

NGSS PERFORMANCE EXPECTATION:
FOSSILS
3-LS4-1: Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

NGSS THREE DIMENSIONS OF SCIENCE LEARNING
SEP Analyzing and Interpreting Data
DCI LS4-A: Evidence of Common Ancestry and Diversity
CCC Scale, Proportion, and Quantity

ELA STANDARDS
RI.3.1, RI.3.2, RI.3.3, W.3.1, W.3.2, W.3.8

VOCABULARY
Consider numbering the book pages beginning with the title page.
acid rain (p. 27)
Apatosaurus (p. 13)
asteroid (p. 26)
blood vessels (p. 14)
cold-blooded (p. 14)
comet (p. 26)
fossil (p. 6)
Iguanodon (p. 8)
tendons (p. 13)
tidal waves (p. 26)
Tyrannosaurus (p. 13)

HMH CLASSROOM LIBRARIES

Boy, Were We Wrong About Dinosaurs!
by: Kathleen V. Kudlinski

Build Background
Hold up the book and read the title and author's name aloud. Point out that the title ends with an exclamation point. Establish that an exclamation point shows that the statement is a strong one. Ask, *What do you think the book will be about and why do you think the title ends with an exclamation point ?* Do not confirm or deny students' predictions.
Ask, *How do we learn about dinosaurs?* Establish that, since dinosaurs are no longer living, scientists study fossils of dinosaurs to learn about them. Then ask, *As scientists discover more fossil evidence, how do you think that affects what they know or believe to be true?* Explain that this book explores the misconceptions about dinosaurs that fossil evidence has since proven to be false.

Read the Text
Have students read the text independently.

Once students have finished reading, have them turn to the last page of text. Ask a volunteer to read the text aloud. Then discuss by asking the following questions:

What does the text mean when it says "…our thinking has to change"? (As scientists continue to discover more evidence related to dinosaurs, they learn more and their thinking needs to change to match new evidence.)

Is the study of dinosaurs the only area of science that changes based on new information? (As we learn more and discover more evidence, we gain new understandings in all areas of science.)

Why do you think the author wrote this book? (The author wanted readers to learn that our understanding about dinosaurs is based on fossil evidence, and that as more evidence is discovered, scientists learn more, which often changes what they thought was true.)

After Reading
Connect and Respond

1. *What two things did ancient Chinese people believe about the dinosaur fossil bones after they studied them?* (Ancient Chinese people believed the bones came from magic dragons and that the dragons were still alive.)
2. *Are scientists convinced that we have all of the answers about dinosaurs? Explain.* (Scientists are not convinced that we have all of the answers. As scientists continue to find more fossils and other evidence, their understandings change.)
3. *How did scientists determine that not all large dinosaurs were gray as they once thought? Find textual evidence to support your answer.* ("But if that were true, bigger meat-eating dinosaurs would be able to see these gray dinosaurs against colorful leaves and grasses, and they would be eaten.")

A TITLE DETAILS
Includes reading levels, genre, and text features

B NGSS AND ELA STANDARDS AND EXPECTATIONS

C VOCABULARY

D BUILD BACKGROUND

E READ THE TEXT
Suggestions to guide students in applying critical reading strategies

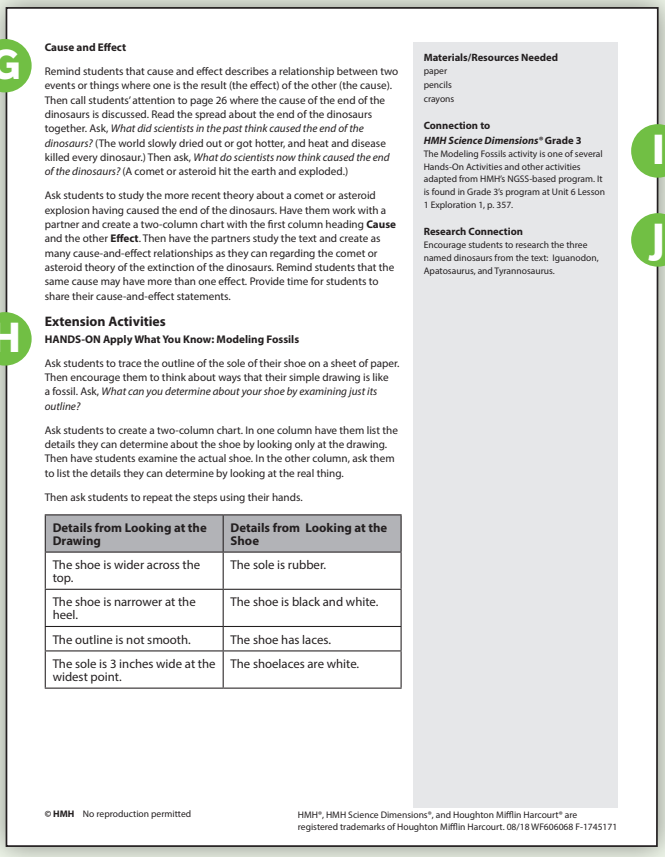
F AFTER READING: CONNECT AND RESPOND
Text discussion prompts focusing on recalling, making inferences, and providing textual evidence

G AFTER READING: CAUSE AND EFFECT or WRITE IT DOWN
Teach important science concepts and related literacy skills

H EXTENSION ACTIVITIES
Project-based science activities reinforce and extend the text content

I CONNECTION TO *HMH SCIENCE DIMENSIONS*®
Activity connections identified for users of the program

J RESEARCH CONNECTION
Ideas provided for further study



Cause and Effect

Remind students that cause and effect describes a relationship between two events or things where one is the result (the effect) of the other (the cause). Then call students' attention to page 26 where the cause of the end of the dinosaurs is discussed. Read the spread about the end of the dinosaurs together. Ask, *What did scientists in the past think caused the end of the dinosaurs?* (The world slowly dried out or got hotter, and heat and disease killed every dinosaur.) Then ask, *What do scientists now think caused the end of the dinosaurs?* (A comet or asteroid hit the earth and exploded.)

Ask students to study the more recent theory about a comet or asteroid explosion having caused the end of the dinosaurs. Have them work with a partner and create a two-column chart with the first column heading **Cause** and the other **Effect**. Then have the partners study the text and create as many cause-and-effect relationships as they can regarding the comet or asteroid theory of the extinction of the dinosaurs. Remind students that the same cause may have more than one effect. Provide time for students to share their cause-and-effect statements.

Extension Activities
HANDS-ON Apply What You Know: Modeling Fossils

Ask students to trace the outline of the sole of their shoe on a sheet of paper. Then encourage them to think about ways that their simple drawing is like a fossil. Ask, *What can you determine about your shoe by examining just its outline?*

Ask students to create a two-column chart. In one column have them list the details they can determine about the shoe by looking only at the drawing. Then have students examine the actual shoe. In the other column, ask them to list the details they can determine by looking at the real thing.

Then ask students to repeat the steps using their hands.

Details from Looking at the Drawing	Details from Looking at the Shoe
The shoe is wider across the top.	The sole is rubber.
The shoe is narrower at the heel.	The shoe is black and white.
The outline is not smooth.	The shoe has laces.
The sole is 3 inches wide at the widest point.	The shoelaces are white.

Materials/Resources Needed
paper
pencils
crayons

Connection to *HMH Science Dimensions*® Grade 3
The Modeling Fossils activity is one of several Hands-On Activities and other activities adapted from HMH's NGSS-based program. It is found in Grade 3's program at Unit 6 Lesson 1 Exploration 1, p. 357.

Research Connection
Encourage students to research the three named dinosaurs from the text: Iguanodon, Apatosaurus, and Tyrannosaurus.

Grade K Science Independent Reading Library

978-1-328-63744-4

- *1 copy of 30 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade K Science Guided Reading Library

978-1-328-63756-7

- *6 copies of 30 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

ENGINEERING & DESIGN

B Big Machines, Small Machines
B Yesterday and Today
D Building a Birdhouse
D Interpreting Data
F What Is It Made From?

PHYSICAL SCIENCE

A Push and Pull (Rosen Real Readers)
A Pushes and Pulls (TIME FOR KIDS® Nonfiction Readers)
D I Move Like This
D Push and Pull (Animal Opposites)
F Magnets

LIFE SCIENCE

B Life in a Desert
B We Need Air to Breathe
E Animal Homes
F Keeping Cool in Summer
F We All Need Plants

EARTH & SPACE SCIENCE

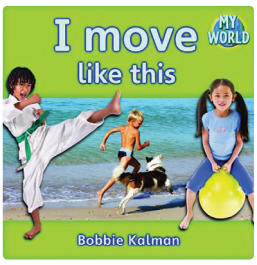
A Learning About Clouds
B All About Sunlight
D Day Sky
D Rivers
E I Am Water
E Our Sun
E The Four Seasons
E Umbrellas and Tents Make Shade
E Why We Need Water
F Earth Day (F)
A Here Comes the Sun
A Too Much Trash!
D Our Sun Brings Life
E What Is Snow?
E When It Rains

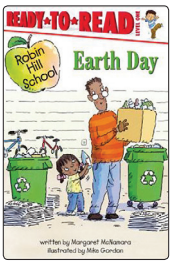
Due to availability of titles, substitutions may be made. Grade K substitutions are:

B It Starts as a Seed
B Weather Changes
D Wheels
F Pushes and Pulls (First Science)

Blue letters identify Guided Reading Levels

(F) identifies fiction titles





NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering & Technology

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

PHYSICAL SCIENCE

Forces & Motion

K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.

K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.

LIFE SCIENCE

Plants & Animals

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

EARTH & SPACE SCIENCE

Sun Warms Earth

K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.

K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.

Weather

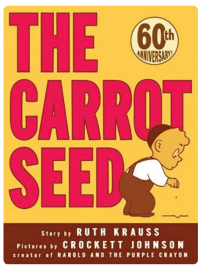
K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

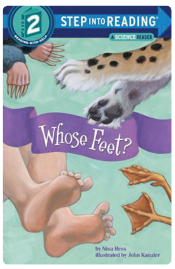
K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

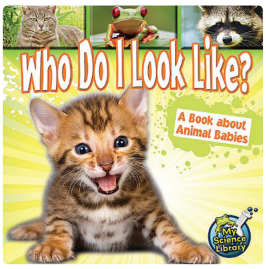
Earth's Resources

K-ESS3-1. Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.







Grade 1 Science Independent Reading Library

978-1-328-63745-1

- *1 copy of 30 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade 1 Science Guided Reading Library

978-1-328-63757-4

- *6 copies of 30 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering & Technology

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

PHYSICAL SCIENCE

Sound

1-PS4-1. Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

Light

1-PS4-2. Make observations to construct an evidence-based account that objects can be seen only when illuminated.

1-PS4-3. Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

1-PS4-4. Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.

LIFE SCIENCE

Plants & Animal Structures

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Living Things & Their Young

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

EARTH & SPACE SCIENCE

Objects & Patterns in the Sky

1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted.

1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.

ENGINEERING & DESIGN

- E Computer Mouse
- G What's the Solution?
- H Engineers Work with Pulleys
- J How to Build Flipsticks
- K How to Build a Tornado in a Bottle

PHYSICAL SCIENCE

- D Shadows
- G Reflection
- G Sending Messages With Light and Sound
- G The Sounds We Hear
- H What Are Light Waves?
- I Amazing Sound
- I Playing With Light and Shadows
- J Sound: Loud, Soft, High, and Low
- K Light
- K Turn That Down!

LIFE SCIENCE

- C Catcher Plants
- C Who Do I Look Like? A Book About Animal Babies
- D Fast and Flightless
- F Animal Adaptations
- F Becoming a Plant
- H Who Lives Here?
- I Animal Hearing
- I Whose Feet?
- J How Animals Communicate
- K Seeds

EARTH & SPACE SCIENCE

- D Night Sky
- E Day and Night
- F The Seasons
- I Earth
- K Motion in Space

Due to availability of titles, substitutions may be made. Grade 1 substitutions are:

- J How Does Sound Change?
- F Sun
- G The Carrot Seed (F)
- H I Can Build a Robot

Blue letters identify Guided Reading Levels

(F) identifies fiction titles

HMH makes every effort to ensure all titles are delivered as shown; however, in instances where titles are unavailable, HMH reserves the right to substitute titles of equal quality that will maintain the appropriate balance of the collection.

Grade 2 Science Independent Reading Library

978-1-328-63746-8

- *1 copy of 35 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade 2 Science Guided Reading Library

978-1-328-63758-1

- *6 copies of 35 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

ENGINEERING & DESIGN

- I Floating a Paper Clip
- J What if We Didn't Have Refrigerators?
- M Answer! Analyze Your Data
- M Asking Questions and Finding Solutions
- M Let's Get Organized
- O A Bridge Goes Over
- O Cones

PHYSICAL SCIENCE

- K Shaping Materials
- L Measuring Temperature
- M Describe It
- M How Water Changes
- M What Is a Liquid?
- N Matter: See It, Touch It, Taste It, Smell It
- O Curious Pearl Explains States of Matter

LIFE SCIENCE

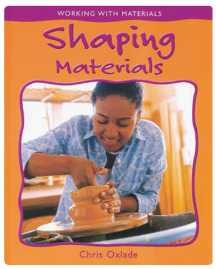
- J Growing a Pumpkin
- K A Butterfly's Life
- K Weird Sea Creatures
- M Flowers Bloom
- M Experiment With What a Plant Needs to Grow
- N Experiments With Plants
- O Photosynthesis

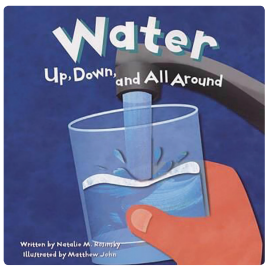
EARTH & SPACE SCIENCE

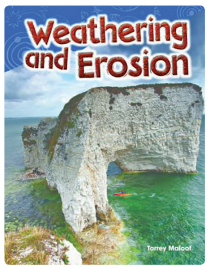
- J Coasts
- J Follow the Water From Brook to Ocean
- J Rising Waters: A Book About Floods
- J Weathering and Erosion
- K Earthquakes!
- L Deltas
- L Volcanoes
- M Landforms
- M Water: Up, Down, and All Around
- N Cracking Up: A Story About Erosion
- N Down Comes the Rain
- N Erosion: Changing Earth's Surface
- N Mountains
- O River Story

Due to availability of titles, substitutions may be made. Grade 2 substitutions are:

- I Living Things Need Water
- J Matter Matters
- J What's the Problem?
- L I Am the Rain (F)







NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering Design Process

K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

PHYSICAL SCIENCE

Matter

2-PS1-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

2-PS1-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.

2-PS1-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

2-PS1-4. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

LIFE SCIENCE

Environments for Living Things

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.

2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

EARTH & SPACE SCIENCE

Earth's Surface

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

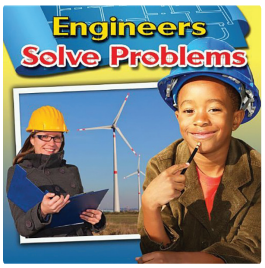
Changes to Earth's Surface

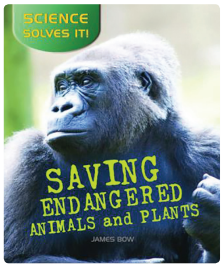
2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.

Blue letters identify Guided Reading Levels

(F) identifies fiction titles





Grade 3 Science Independent Reading Library

978-1-328-63747-5

- *1 copy of 49 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade 3 Science Guided Reading Library

978-1-328-63759-8

- *6 copies of 49 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering Design Process

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

PHYSICAL SCIENCE

Forces

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.

Motion

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

LIFE SCIENCE

Life Cycles & Inherited Traits

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Organisms & Their Environments

3-LS2-1. Construct an argument that some animals form groups that help members survive.

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

EARTH & SPACE SCIENCE

Fossils

3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

Weather & Patterns

3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

3-ESS2-2. Obtain and combine information to describe climates in different regions of the world.

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

ENGINEERING & DESIGN

M	Engineers Solve Problems	Q	Building Bridges
O	Building Tiny Houses: Compose and Decompose Shapes	Q	Build It: Invent New Structures and Contraptions
O	Robots: Inspired by Nature	R	Stand-Out Skyscrapers
P	Building Vehicles That Roll		

PHYSICAL SCIENCE

L	What Makes a Magnet?	P	The Gripping Truth About Forces and Motion
M	Magnet Power! Science Adventures with MAG-3000 the Origami Robot	Q	Balanced and Unbalanced Forces
N	Experiments With Magnets and Metals	Q	DO-4U the Robot Experiences Forces and Motion
O	All About Magnetism	L	What Holds Us to Earth? A Look at Gravity
P	Building Squishy Circuits	M	Motion
P	Could a Robot Make My Dinner? And Other Questions About Technology	N	Gravity! Do You Feel It?
P	Experiments in Forces and Motion With Toys and Everyday Stuff	N	Motion: Push and Pull, Fast and Slow

LIFE SCIENCE

L	Amazing Gorillas!	M	Wonderful Nature, Wonderful You
L	Animals: Armed for Survival	N	Amphibians
M	Animals That Climb	N	Amphibians and Reptiles
M	Camouflage: Changing to Hide	O	Saving Endangered Plants and Animals
M	Do You Know About Insects?	P	Pass the Energy, Please!
M	How and Why Do Animals Change?	Q	Deserts
M	Insects	R	Inheritance and Variation of Traits

EARTH & SPACE SCIENCE

L	How Do We Know About Dinosaurs? A Fossil Mystery	R	The Science of a Flood
M	Floods	R	Tracking the Weather
N	Weather Infographics	R	What Are Fossils?
O	Boy, Were We Wrong About Dinosaurs!	M	Digging for Poop Fossils
O	Mapping the Land and Weather	N	20 Fun Facts About Fossils
Q	The Science of a Tornado	N	Investigating Fossils
Q	What's Up With the Weather? A Look at Climate	Q	Marine Fossils

Due to availability of titles, substitutions may be made. Grade 3 substitutions are:

L	What Do Critters Do in the Winter?	O	A Skyscraper Reaches Up: Area
M	Sloping Up and Down: The Inclined Plane	R	Detecting Tornadoes

Blue letters identify Guided Reading Levels

Grade 4 Science Independent Reading Library

978-1-328-63748-2

- *1 copy of 56 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade 4 Science Guided Reading Library

978-1-328-63760-4

- *6 copies of 56 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

ENGINEERING & DESIGN

P	What's the Plan? Designing Your Experiment	S	Technology: Feats and Failures
Q	Bridges	S	The Kids' Guide to Sports Design and Engineering
R	Experiments With Forces	T	Selling More Snacks
R	The Journey Into Space		

PHYSICAL SCIENCE

O	Electricity for the Future	S	Sound Waves and Communication
O	Solving the Energy Crisis	S	The Science of Sound Waves
P	Light	S	Waves and Information Transfer
Q	Color and Light	U	Energy Experiments Using Ice Cubes, Springs, Magnets, and More: One Hour or Less Science Experiments
Q	All About Light and Sound	U	The Transfer Of Energy
Q	Energy Exchange	U	Waves of Light and Sound
R	What Are Waves?	U	Wind Power

LIFE SCIENCE

O	Eating and the Digestive System	Q	The Secret of the Squiggly Green Bombers ... and More!
O	Roots	R	Creeping Killers: Extreme Plants
P	Eyes and Ears	R	Experiments With Plants
P	How Do Animals Adapt?	S	Animal Senses
P	The Brain and Nerves	S	Plant Reproduction
P	The Secret Lives of Plants!	S	The Secret of the Scuba Diving Spider ... and More!
Q	The Secret of the Bird's Smart Brain ... and More!	T	Weird Meat-Eating Plants

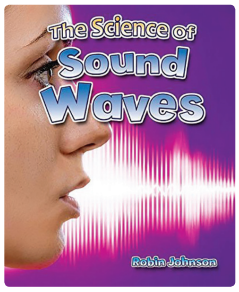
EARTH & SPACE SCIENCE

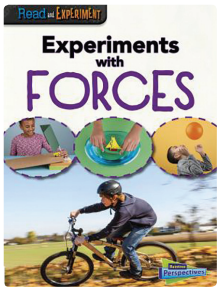
P	A Look at Erosion and Weathering	R	How Do Humans Depend on Earth?
P	How Natural Gas Is Formed	R	Physical Maps
P	Investigating Landforms	R	Studying Sinkholes
P	Our Ever-Changing Environment	R	The Story of Fossil Fuels
Q	A Look at Igneous Rocks	R	Using Topographic Maps
Q	Flood and Monsoon Alert!	S	Fossils and Rocks
Q	Investigating the Rock Cycle	S	From Oil Rig to Gas Pump
R	A Look at Sedimentary Rocks	T	Using Digital Maps
R	Climate Maps	T	Volcanoes
R	Earth Movements	U	Oil and Coal
R	Examining Erosion		

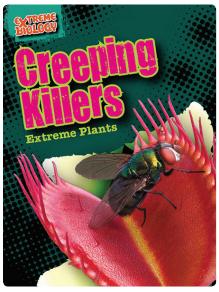
Due to availability of titles, substitutions may be made. Grade 4 substitutions are:

O	Plant Parts: Flowers	R	Uncovering Earth's Crust
Q	Roads	R	What Is Electromagnetism?

Blue letters identify
Guided Reading Levels







NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering and Technology

3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2.	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3.	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

PHYSICAL SCIENCE

Energy

4-PS3-1.	Use evidence to construct an explanation relating the speed of an object to the energy of that object.
4-PS3-2.	Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
4-PS3-3.	Ask questions and predict outcomes about the changes in energy that occur when objects collide.
4-PS3-4.	Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

Waves and Informational Transfer

4-PS4-1.	Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.
4-PS4-2.	Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
4-PS4-3.	Generate and compare multiple solutions that use patterns to transfer information.

LIFE SCIENCE

Plant Structure and Function

4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Animal Structure and Function

4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

EARTH & SPACE SCIENCE

Changes to Earth's Surface

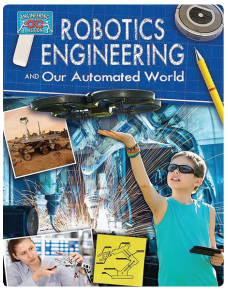
4-ESS2-1.	Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
4-ESS2-2.	Analyze and interpret data from maps to describe patterns of Earth's features.

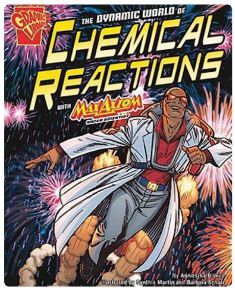
Rocks and Fossils

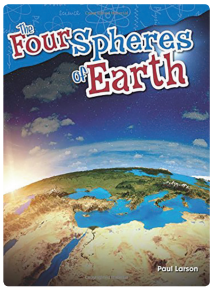
4-ESS1-1.	Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

Natural Resources and Hazards

4-ESS3-1.	Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
4-ESS3-2.	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.







Grade 5 Science Independent Reading Library

978-1-328-63749-9

- *1 copy of 49 titles*
- *books labeled with title details, including Guided Reading Level*
- *organized in durable, labeled totes*

Grade 5 Science Guided Reading Library

978-1-328-63779-6

- *6 copies of 49 titles*
- *6-packs packaged in labeled plastic bags*
- *organized in durable, labeled totes*
- *title-specific lesson plans*

NEXT GENERATION SCIENCE STANDARDS

ENGINEERING & DESIGN

Engineering & Technology

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

PHYSICAL SCIENCE

Matter

5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.

5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

5-PS1-3. Make observations and measurements to identify materials based on their properties.

5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

LIFE SCIENCE

Energy & Matter in Organisms

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Energy & Matter in Ecosystems

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

EARTH & SPACE SCIENCE

Systems in Space

5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.

5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.

5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Earth's Systems

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

Earth & Human Activities

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect Earth's resources and environment.

ENGINEERING & DESIGN

- S Building Structures and Towers
- S Structural Engineering: Learn It, Try It!
- T Henry Ford and the Assembly Line
- T Makerspaces
- V Audio Engineering and the Science of Sound Waves
- V Engineering and Building Robots for Competitions
- W Robotics Engineering and Our Automated World

PHYSICAL SCIENCE

- R Chemical Reactions
- R Conservation of Mass
- S Chemistry Around the House
- T States of Matter
- V Positive Reaction: A Crash Course in Science
- V The Dynamic World of Chemical Reactions With Max Axiom, Super Scientist
- W Composition of Matter

LIFE SCIENCE

- R Composting at School
- R Decomposers
- R Growing Nutritious Food
- R Life and the Flow of Energy
- R Producers, Consumers, and Decomposers
- S Life and Non-Life in an Ecosystem
- S Projects with Plants
- T Digestion and Using Food
- T The World of Food Chains With Max Axiom, Super Scientist
- U Super Cool Science Experiments: Ecosystems
- U The Life Cycles of Plants
- V How Plants Grow
- V Plant Growth
- X Food Chains and Webs

EARTH & SPACE SCIENCE

- R From Raindrop to Tap
- R Gravity
- R The Solar System
- S Is There a Future for Fossil Fuels?
- S Our Universe
- S The Four Spheres of Earth
- T A Crash Course in Forces and Motion With Max Axiom, Super Scientist
- T Hurricanes
- T Journey to the Sun
- T Seas
- T The Sun
- T Water Is Precious
- U Humans and Other Life on Earth: Sharing the Planet
- U Renewable Energy
- U The Earth and the Role of Water
- U The Forever Forest: Kids Save a Tropical Treasure (F)
- V Biosphere 2: Solving Word Problems
- V Champions of the Wilderness
- W Champions of the Ocean
- W Energy from the Sun: Solar Power
- X Gravity (Great Scientific Theories)

Due to availability of titles, substitutions may be made. Grade 5 substitutions are:

- R Classifying/Grouping Materials
- T Design Thinking
- T Physics Is Out of This World
- U Experimenting with Plants Science Projects

Blue letters identify Guided Reading Levels

(F) identifies fiction titles

Science Classroom Libraries

Contact your Account Executive to learn more about these exciting and engaging K–5 Science Classroom Libraries!

HMH
CLASSROOM
LIBRARIES

Connect with us:

Houghton Mifflin Harcourt.
The Learning Company™

hmhco.com/literacy