

# OUTSTANDING SCIENCE TRADE BOOKS FOR STUDENTS K-12

## BOOKS PUBLISHED in 2016

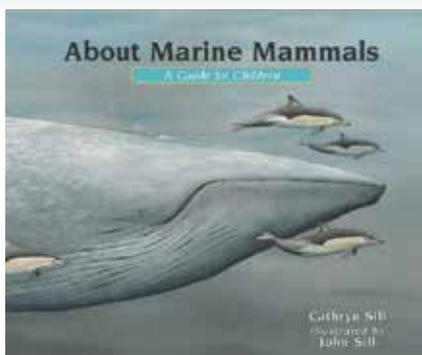
**W**e invite you to explore this year's list of Outstanding Science Trade Books, which builds upon our 44-year history of identifying the very best in science books for children. In the award-winning titles below, you'll find not only traditional science content but also engineering and design. We hope you'll enjoy enhancing your own spirit of inquiry as you and the children in your life investigate science through the year's best trade books.

### LSI: From Molecules to Organisms: Structures and Processes

*A Beetle Is Shy.* Dianna Hutts Aston. Illustrated by Sylvia Long. Chronicle Books. 40pp. Trade ISBN 9781452127125, \$16.99. (K-2) This intricately illustrated book showcases the fascinating world of beetles and is sure to spark the imagination of readers of all ages. (GSM)

*About Marine Mammals.* Cathryn Sill. Illustrated by John Sill. Peachtree Publishers. 48pp. Trade ISBN 9781561459063, \$16.95. (K-2) Full-page plates support the succinct text about general characteristics of marine mammals, such as their need to come to the surface for air and adaptations for various habitats. Afterword, Glossary, Additional Resources. (KTR) CCC6

*After a While Crocodile: Alexa's Diary.* Dr. Brady Barr and Jennifer Keats Curtis. Illustrated by Susan Detwiler. Arbordale Publishing. 32pp.



Trade ISBN 9781628558340, \$17.95. Paperback ISBN 9781628558357, \$9.95. (K-2) Through her journal entries readers, follow Alexa, a Costa Rican schoolgirl, as she cares for an American crocodile and then releases him to the wild. Author's Note, Bibliography. (GSM)

*Animals by the Numbers: A Book of Animal Infographics.* Steve Jenkins. Houghton Mifflin Harcourt Books for Young Readers.

48pp. Trade ISBN 9780544630925, \$17.99. (K-2) Infographics give a visual representation for many different facts about living organisms. Compare the speed of a peregrine falcon to that of a cheetah, or the length of a giant anteater's tongue to a giraffe's, or find out which animal causes the most human deaths through the infographics presented in this book. (SAK) CCC3, CCC6

*Day of the Dinosaurs: Step Into a Spectacular Prehistoric World.* Dr. Steve Brusatte. Illustrated by Daniel Chester. Quarto Publishing/Wide Eyed Editions. 80pp. Trade ISBN 9781847808455, \$22.99. (3-4) Explore the rise and fall of these magnificent creatures as well as some of their unique defense mechanisms, diets, and ancient environmental habitats during their approximate 187-million-year reign on Earth. Publisher's Note, Index, and Further Resources. (LS) SEP4, SEP8, CCC3, CCC6, CCC7, LS4, ESS1, ESS2

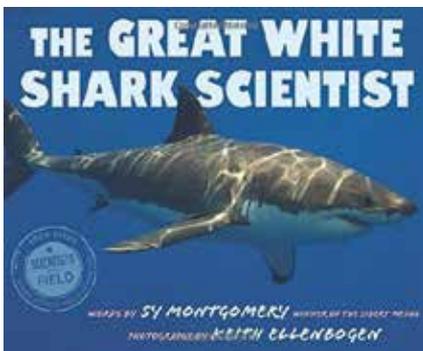
**Every Breath We Take: A Book About Air.** Maya Ajmera and Dominique Browning. Charlesbridge. 32pp. Trade ISBN 9781580896160, \$16.95. (K–2) Through bright photographs and simple text structure, this book examines how air is needed by living creatures and useful for other activities we engage in as well. Informational End Notes. (CAR) LSI, CCC2

**Flying Frogs and Walking Fish.** Steve Jenkins and Robin Page. Illustrated by Steve Jenkins. Houghton Mifflin Harcourt Books for Young Readers. 40pp. Trade ISBN 9780544630901, \$17.99. (K–2) There are many ways to move from one place to another and different reasons to move. This title takes a look at the various ways animals move from one place to another, as well as the reason for specific organisms. Additional information about each animal is recorded at the end. (SAK) CCC6

**Giant Squid.** Eric Rohmann. Illustrated by Candace Fleming. Macmillan Children's Publishing Group/Roaring Brook Press, 40pp. Trade ISBN 9781596435995, \$18.99. (K–2) This is a beautifully illustrated book about the mysterious life of the elusive giant squid, which generates many questions. Why do they change color and pattern? How do they hunt? These things are still a mystery. The back matter includes a labeled diagram and more detailed information about this creature. (BOD) SEP1, CC6

**Glow: Animals With Their Own Night-Lights.** W.H. Beck. Houghton Mifflin Harcourt Books for Young Readers. 32pp. Trade ISBN 9780544416666, \$17.99. (K–2) Have you ever wondered how animals deep in the ocean survive without any light? One answer is bioluminescence. Take a journey to see these animals and learn how they use bioluminescence to survive in such an extreme environment. (SAK) CCC6

**Great White Shark Scientist.** Sy Montgomery. Illustrated by Keith Ellenbogen. Houghton Mifflin Harcourt Books for Young Readers. 40pp. Trade ISBN 9780544352988, \$18.99. (5–6) Follow a team of researchers led by biologist Greg Skomal as they study the largest and most feared fish, the great white shark. The reader is encouraged to examine their opinion about the danger surrounding this fierce predator and the need for its conservation. Web Resources, Bibliography, Index. (BOD) SEP1, SEP3, SEP4, CC6



**If You are a Kaka, You Eat Doo Doo, and Other Poop Tales From Nature.** Sara Martel. Illustrated by Sara Lynn Cramb. Tilbury House Publishers. 36pp. Trade ISBN 9780884484882, \$17.95. (K–2) Who knew there were so many ways an animal could use its poo? Discover fascinating poo adaptations that help an animal survive, impress, hide, and more in this creative blend of science and fun. Cast of Characters, Glossary. (LMSA) CCC6

**Insects.** Seymour Simon. HarperCollins Children's Books. 40pp. Trade ISBN 9780062289155, \$17.99. Paperback ISBN 9780062289148, \$16.99. (3–4) With stunning photographs and informational text, Simon explains the changes in insects since prehistoric times and describes characteristics unique to

common insect orders such as beetles. Glossary, Index. (KTR) CCC1, CCC6

**Manatee Rescue.** Nicola Davies. Illustrated by Annabel Wright. Candlewick Press. 112pp. Trade ISBN 9780763678302, \$14.99. (3–4) After going with her father on a manatee hunt, a girl takes a risky stand against her community's traditions to protect an orphaned manatee. Based on a real incident that occurred on the Amazon in Colombia. Author Notes ("Living with Manatees"). (LMSA) CCC6

✪ **Natural World.** A.J. Wood and Mike Jolley. Illustrated by Owen Davey. Quarto Publishing/Wide Eyed Editions. 112pp. Trade ISBN 9781847807823, \$27.99. (3–4) This book allows a reader of any age to create his/her own learning adventure while going through stunning illustrations and a treasure trove of information about our natural world. The book cover unfolding into a large poster is an additional bonus to any science classroom. Index. (TBV) CCC4, CCC5, SEP1, SEP4, SEP8

**Octopuses One to Ten.** Ellen Jackson. Illustrated by Robin Page. Simon & Schuster/Beach Lane Books. 32pp. Trade ISBN 9781481431828, \$17.99. (K–2) There's more to know about an

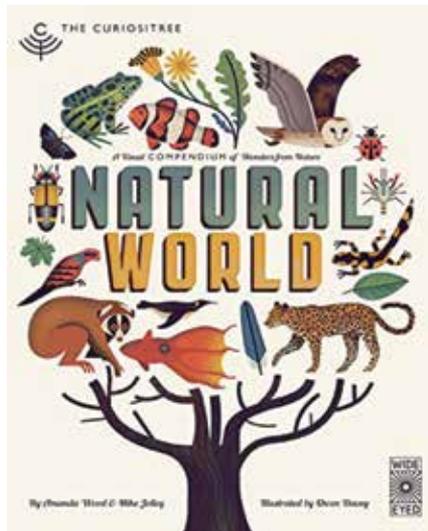
## About the Reviews

(SAMPLE)

1 ✪ **The Opryland.** The Nashville Brothers. Illustrated with photographs. Tennessee Press. 168pp. Trade ISBN 0-592-67321-1, \$18.95; Library ISBN 0-592-64213-X, \$18.99. Paper ed. (F). (5–12) Members of the Opryland crew take readers on a tour of a tropical indoor environment. Author's Note. (ABC) CC4 3 4 5 6 7 2

In addition to standard publishing information, the reviews indicate the following:

1. Titles marked with ✪ are Selectors' Choices—books that individual panel members responded to with particular enthusiasm.
2. International Standard Book Numbers (ISBN) are included for all available editions (trade, library, and paperback).
3. The prices are current as of January 2017.
4. The notation Paper ed. (F) indicates that a paperback edition is forthcoming and whether the publisher is different from the hardcover edition.
5. Reading levels are provided by the reviewers. They are intended as guidelines and are not meant to limit the potential use of titles.
6. The reviewer's initials follow each description (see Members of the Book Selection Panel listed on page 53).
7. The most relevant Next Generation Science Standards are indicated by codes (see page 51).



octopus than just its eight legs! Rhyming text and colorful illustrations make this counting book a perfect read-aloud. Dual layer text provides additional science content. Additional Resources. (KTR) CCC6

**Our Food: A Healthy Serving of Science and Poems.** Grace Lin and Ranida T. McKneally. Illustrated by Grace Zong. Charlesbridge. 40pp. Trade ISBN 9781580895903, \$16.95. (K–2) Answers to questions such as “why are so many vegetables green?” are asked and answered as children visit a farm and learn about the different types of food we eat through informative text and short, witty poems. Glossary. (CAR) LS1, LS4, SEPI, CCC1

**Owls! Strange and Wonderful.** Laurence Pringle. Illustrated by Meryl Henderson. Boyds Mills Press. 32pp. Trade ISBN 9781620916513, \$16.95. (3–4) Fascinating, informative text and detailed artwork tell readers about these beautiful and elusive animals. These “ghost birds,” once feared by many, are now appreciated worldwide. Glossary, Extra Resources. (CLN)

**Platypus.** Sue Whiting. Illustrated by Mark Jackson. Candlewick Press. 32pp. Trade ISBN 9780763680985, \$16.99. (K–2) Beautiful, full-page illustrations and lyrical text follow a platypus though its typical day as it emerges from its burrow and searches for food. Scientific information accompanies the text on each page. Extra Facts. (CLN) LS3, LS4

**Strange, Unusual, Gross & Cool Animals.** Animal Planet and Charles Ghigna. Time Inc. Books. 128pp. Trade ISBN 9781618931665, \$18.95. (5–6) This captivating book is a visual encyclopedia that provides amazing

## The Three Dimensions of the Framework

(from *A Framework for K–12 Science Education*, National Research Council, 2012)

### Scientific and Engineering Practices

- SEP1: Asking questions (for science) and defining problems (for engineering)
- SEP2: Developing and using models
- SEP3: Planning and carrying out investigations
- SEP4: Analyzing and interpreting data
- SEP5: Using mathematics and computational thinking
- SEP6: Constructing explanations (for science) and designing solutions (for engineering)
- SEP7: Engaging in argument from evidence
- SEP8: Obtaining, evaluating, and communicating information

### Crosscutting Concepts

- CCC1: Patterns
- CCC2: Cause and effect: Mechanism and explanation
- CCC3: Scale, proportion, and quantity
- CCC4: Systems and system models
- CCC5: Energy and matter: Flows, cycles, and conservation
- CCC6: Structure and function
- CCC7: Stability and change

### Disciplinary Core Ideas

#### Physical Sciences

- PS1: Matter and its interactions
- PS2: Motion and stability: Forces and interactions
- PS3: Energy
- PS4: Waves and their applications in technologies for information transfer

#### Life Sciences

- LS1: From molecules to organisms: Structures and processes
- LS2: Ecosystems: Interactions, energy, and dynamics
- LS3: Heredity: Inheritance and variation of traits
- LS4: Biological evolution: Unity and diversity

#### Earth and Space Sciences

- ESS1: Earth’s place in the universe
- ESS2: Earth’s systems
- ESS3: Earth and human activity

#### Engineering, Technology, and Applications of Science

- ETS1: Engineering design
- ETS2: Links among engineering, technology, science, and society

In keeping with the National Science Teachers Association’s Strategic Goal 3 (*Next Generation Science Standards* and STEM), for this year’s annotations, titles that have been awarded the *Outstanding Science Trade Book* award from NSTA/CBC will be aligned to the Scientific and Engineering Practices, Crosscutting Concepts, and Disciplinary Core Ideas from *A Framework for K–12 Science Education*, on which the NGSS is based.

All titles will be listed primarily by the prevailing Disciplinary Core Idea (DCI). This will allow teachers to quickly identify books that may be used with specific concepts.

Titles may receive notations of secondary DCIs, Science and Engineering Practices (SEPs), and Crosscutting Concepts (CCCs) at the end of each notation. Titles are not being listed primarily by SEPs and CCCs because these should be woven throughout all science concepts.

scientific information about lesser-known animals through stunning pictures sparking curiosity and scientific interest in young minds. Glossary, Index, Photo Credits, Acknowledgments. (TBV) CCC4, CCC5, SEP1, SEP4, SEP8

**Treecology.** Monica Russo. Photographs by Kevin Byron. Chicago Review Press. 144pp. Trade ISBN 9781613733967, \$15.99. (3–4) A delightful introduction to trees, this information-packed resource has activities and observations for nature enthusiasts of all ages. Author’s Note, Bibliography, Glossary, Index, Teacher’s Guide. (GSM) ESS3

## LS2: Ecosystems: Interactions, Energy, and Dynamics

**Because of an Acorn.** Lola M. and Adam Schaefer. Illustrated by Frann Preston-Gannon. Chronicle Books. 36pp. Trade ISBN 9781452112428, \$16.99. (K–2) Beautifully illustrated introduction for young children to the interconnections among living things in the forest ecosystem. The back matter information adds depth to the simple text and gives the adult reader more information to enrich discussion with a child. (BOD) CC2

**Best in Snow.** April Pulley Sayre. Photographs by April Pulley Sayre. Simon & Schuster/Beach Lane Books. 40pp. Trade ISBN 9781481459167, \$17.99. (K–2) Descriptive words, minimal text, and breathtaking photos tell the story of snowfall, snow melt, and the seeping of water into the Earth. Wonderful book to engage young students in discussions. Connections, End Notes. (CAR) CCC1, CCC4, PS1, LS2



## About CBC and NSTA

The Children’s Book Council (CBC) is the nonprofit trade association for children’s book publishers in North America, dedicated to supporting and informing the industry and fostering literacy. The CBC offers children’s publishers the opportunity to work together on issues of importance to the industry at large, including educational programming, literacy advocacy, and collaborations with other national organizations. The anchor sponsor of Children’s Book Week, the CBC is proud to partner with other national organizations on co-sponsored reading lists, educational programming, and literacy initiatives. For more information, visit [www.cbcbooks.org](http://www.cbcbooks.org).

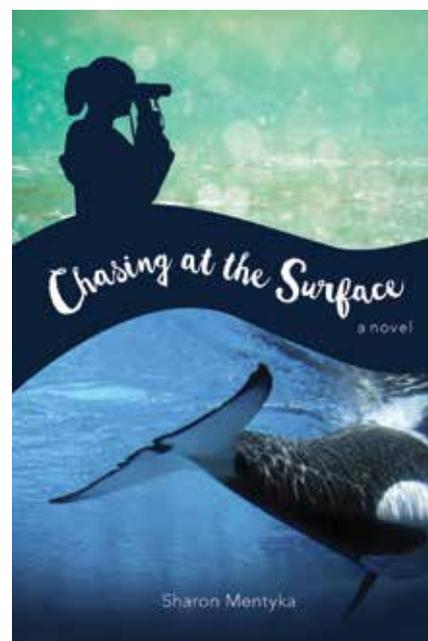
The books that appear in these lists were chosen by a review panel made up of educators and other subject-area experts, all appointed by the National Science Teachers Association. NSTA and CBC have joined forces on developing this annual list since 1973, and over the years it has become the go-to resource for school librarians, science teachers, and parents eager to cultivate a love of science in young readers. Initially, the list was primarily targeted at grades K through 8. Beginning in 2002, it expanded to include high school. Down through the years, this effort has had but a single mission—to highlight the very best in science trade books for young audiences.

**Bubonic Panic: When Plague Invaded America.** Gail Jarrow. Boyds Mill Press/Calkins Creek. 200pp. Trade ISBN 9781620917381, \$18.95. (5–6) Track the spread of plague through gruesome details before it reached America. Some people tried to keep it hidden while others uncovered its secrets and found a way to fight it. Frequently Asked Questions, Glossary, Time Line, Author’s Note. (CLN)

**Chasing at the Surface.** Sharon Mentyka. Graphic Arts Books/WestWinds Press. 228pp. Trade ISBN 9781943328628, \$23.99. Paperback ISBN 9781943328604, \$12.99. (5–6) A girl’s courageous struggle to understand the meaning of family unfolds after her mom mysteriously leaves and she rallies her community and scientists to save a pod of orcas stranded in their remote inlet. Author’s Note. (LMSA) SEP1, CCC1, CCC2

**Circle.** Jeannie Baker. Candlewick Press. 48pp. Trade ISBN 9780763679668, \$17.99. (K–2) Join the bar-tailed godwits as they circle from their breeding grounds in the Arctic to Australia and New Zealand and back again in this beautifully illustrated story. Author’s Note, References. (GSM)

**Illuminature.** Rachel Williams. Illustrated by Carnovsky. Quarto Publishing/Wide Eyed Editions. 64pp. Trade ISBN 9781847808875, \$30. (3–4) The reader can explore the world in a unique way—using a three-colored lens—to discover its diverse habitats, animals that roam by day, and creatures that come out at night. Species Guide provides additional



information about each animal featured in the habitat. (TBV) CCC2, CCC4, CCC5, SEP8

**Poop Detectives: Working Dogs in the Field.** Ginger Wadsworth. Charlesbridge. 80pp. Trade ISBN 9781580896504, \$17.95. (5–6) How can the use of dogs to detect scat help scientists in their research? This book examines this question with a variety of application examples around the world. Included is information about characteristics of dogs that are best suited to this work along with how they are trained. Author’s Note, Photo Credits, Quotation Sources, Glossary,

Resources, Bibliography, Index. (BOD) SEP1, SEP3, SEP4, CC2, CC4, CC7

*Squirrels Leap, Squirrels Sleep.* April Pulley Sayre. Illustrated by Steve Jenkins. Macmillan Children's Publishing Group/Henry Holt. 40pp. Trade ISBN 9780805092516, \$17.99. (K–2) How can a person describe the actions of squirrels? What is the purpose of these actions? This book looks at the lives of squirrels through poetry. Further information is given about the actions of the squirrels at the end of the book. (SAK) CCC6

### LS3: Heredity: Inheritance and Variation of Traits

*Charles Darwin's Around the World Adventure.* Jennifer Thermes. Abrams. 48pp. Trade ISBN 9781419721205, \$18.95. (3–4) The biographical path, scientific explorations, and discoveries that encompassed the life of Charles Darwin are detailed in age-appropriate text and engaging drawings. Information on different species he examined is included. End Notes. (CAR) LS3

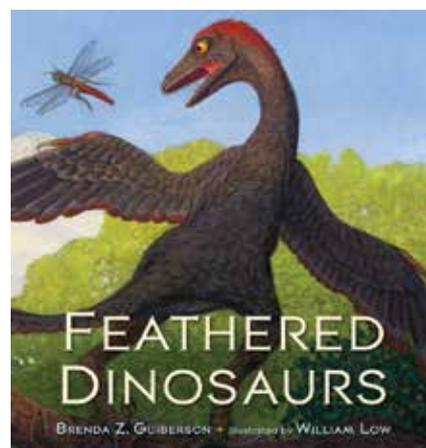
*Hopping Ahead of Climate Change—Snowshoe Hares, Science, and Survival.* Sneed B. Collard III. Bucking Horse Books. 64pp. Trade ISBN 9780984446087, \$18. (5–6) Can animals that change their coat colors with the seasons survive shorter winters caused by climate change? This is the question that biologist Scott Mills is trying to answer while studying the snowshoe hare's response to climate change. This book has a lot of back matter giving the reader the opportunity to get more information and do more research: Hop Up to the Plate (do your part to minimize climate change), Bound to the Head of the Class—Books & Videos; Websites; Hare-y Words; Index. (BOD) ESS3, SEP1, SEP3, SEP4, SEP6, CC1, CC2

*Inside of a Dog—Young Readers Edition: What Dogs See, Smell, and Know* Alexandra Horowitz. Illustrated by Sean Vidal Edgerton. Simon & Schuster Books for Young Readers. 256pp. Trade ISBN 9781481450935, \$15.99. Paperback ISBN 9781481450942, \$7.99. (5–6) Step inside the mind of a dog, viewing its daily activities and communication with humans through the eyes, ears, and thoughts of this beloved companion in this scientific exploration of behavior. Postscript, Glossary, Notes and Sources, Index. (LMSA) CCC1, CCC2

### LS4: Biological Evolution: Unity and Diversity

★ *Ancient Earth Journal: The Late Jurassic, Notes, Drawings, and Observations From Prehistory.* Juan Carlos Alonso and Gregory S. Paul. Illustrated by Juan Carlos Alonso. Quarto Publishing/Walter Foster Jr. 112pp. Trade ISBN 9781633221086, \$19.95. (5–6) Explore the late Jurassic period of geologic time and discover the diversity of dinosaurs, through beautiful illustrations, that roamed Earth circa 150 million years ago. This book skillfully brings the arts and sciences together to visualize a world of intriguing creatures from Earth's past. Pronunciation Key, Forewords. (LS) SEP8, CCC3, CCC7, ESS2

*Feathered Dinosaurs.* Brenda Z. Guiberson. Illustrated by William Low. Macmillan Children's Publishing Group/Henry Holt. 40pp. Trade ISBN 9780805098280, \$17.99. (K–2) What feathered dinosaurs? A beautifully illustrated text that visually details the major evolutionary development of the feather and provides evidence of the "connection between the feathered dinosaurs and modern birds." Extensive Bibliography. (LS) SEP8, CCC1, CCC2, CCC3, CCC6, CCC7, ESS1, ESS2



*Good Trick, Walking Stick!* Sheri Mabry Bestor. Illustrated by Jonny Lambert. Sleeping Bear Press. 32pp. Trade ISBN 9781585369430, \$16.99. Library ISBN 9781585369430, \$16.99. Paperback ISBN 9781585369812, \$8.99. (K–2) Through both narrative and expository text features as well as whimsical pictures that convey additional information, the life cycle of a walking stick is examined. Inset text information expands on the story. (CAR) LS4, LS1, CCC4

★ *Nefertiti the Spidernaut: The Jumping Spider Who Learned to Hunt in Space.* Darcy Pattison. Illustrated by Valeria Tisnés. Mims House. 32pp. Trade ISBN 9781629440606, \$22.99.

### Members of the Book Selection Panel

**Laura Arndt** (LMSA)  
Consultant, Writer, and Educator  
McREL International  
Franktown, Colorado

**Scott A. Kratzer** (SAK)  
Fifth-Grade Teacher  
Garrett Elementary  
Hazelwood, Missouri

**Genet Mehari** (GSM)  
Science Specialist  
Curley K–8  
Jamaica Plain, Massachusetts

**Cathy Newton** (CLN)  
Director of Curriculum, Instruction, and Assessment  
Hartford School District  
White River Junction, Vermont

**Betsy O'Day** (BOD)  
Elementary Science Specialist  
Hallsville Intermediate School  
Hallsville, Missouri

**Kristin T. Rearden** (KTR)  
Clinical Associate Professor  
University of Tennessee  
Knoxville, Tennessee

**Christine Anne Royce** (CAR)  
Professor and Department Chairperson  
Shippensburg University  
Shippensburg, Pennsylvania

**Len Sharp** (LS)  
Adjunct Professor  
LeMoyne College  
Syracuse, New York

**Trupti Vora** (TBV)  
Science Teacher  
Cameron Middle School  
Framingham, Massachusetts

Visit CBC's and NSTA's websites at  
[www.cbcbooks.org](http://www.cbcbooks.org) and [www.nsta.org](http://www.nsta.org).

Expanded reviews of these  
award-winning books are available at  
[www.nsta.org/recommends](http://www.nsta.org/recommends).

Paperback ISBN 9781629440613, \$11.99. (3–4) People are not the only living organisms on the International Space Station! Other organisms, including spiders, are involved in experiments in this microgravity environment. An investigation that tested a jumping spider’s ability to adapt to microgravity to catch fruit flies is described in this book. (SAK) SEP1, SEP3, CCC7

## ESS1: Earth’s Place in the Universe

*I, Humanity.* Jeffrey Bennett. Big Kid Science. 32pp. Trade ISBN 9781937548520, \$15. (3–4) The voice of humanity describes how its understanding of the sky’s stars and planets has changed over time in this unique illustrated story of scientific wonder, curiosity, and discovery. Glossary, Suggested Activities, A Note to Parents and Teachers. (LMSA) SEP2, SEP4, SEP6, CCC1, CCC3, CCC4

*Our Moon: New Discoveries about Earth’s Closest Companion.* Elaine Scott. Houghton Mifflin Harcourt Books for Young Readers. 72pp. Trade ISBN 9780547483948, \$18.99. (K–2) People have gazed at the moon and wondered about it for centuries. Elaine Scott provides an examination of Earth’s nearest neighbor from a historical perspective to the most recent discoveries and missions, such as finding water on the surface, accompanied by stunning photographs. A look to the future includes the possibility of moon colonies. Glossary, Further Reading, Index. (BOD) SEP1, SEP3, CCI

## ESS2: Earth’s Systems

*A Global Warming Primer.* Jeffrey Bennett. Big Kid Science. 128pp. Paperback ISBN 9781937548780, \$15. (9–12) A straightforward and easy read concerning the impact of humans upon Earth’s climate through the use of a question-and-answer format that will assist the reader to better understand “The Science, The Consequences, and The Solutions” of a warming climate. Acknowledgments, Suggested Children and Adult Reading, Video Recommendations, Websites, Index. (LS) SEP1, SEP4, SEP8, CCC2, ESS3, ETS2

*Next Time You See a Cloud.* Emily Morgan. Photographs by Judd Patterson, Tom Uhlman, Steven David Johnson, and NASA. NSTA Press/

NSTA Kids. 32pp. Trade ISBN 9781938946363, \$12.95. Library ISBN 9781941316320, \$18.95. (3–4) Take a closer look at clouds through striking photography and answers to everyday questions. Author’s Note, References. (GSM) PS1

*The Rock and Gem Book.* DK. DK Publishing. 192pp. Trade ISBN 9781465450708, \$22.99. (5–6) This book is a valuable resource for any earth science reference library and/or young collector. The reader is provided with colorful and accurate illustrations of rocks, minerals, gems, fossils, and exotic shells as well as brief descriptions of materials found in the Earth’s crust. Acknowledgments, Index, Glossary, Identifying Minerals. (LS) SEP2, SEP8, CCC1, CCC3, CCC6, ESS2, ESS3

## ESS3: Earth and Human Activity

*Grow! Raise! Catch! How We Get Our Food.* Shelley Rotner. Holiday House. 32pp. Trade ISBN 9780823436439, \$16.95. (K–2) Rotner takes readers through the farm-to-table process by way of colorful photos of food and the farmers who produce it. Author’s Note, Glossary. (GSM) ETS1, PS3, CCC2, SEP2

*Under Water, Under Earth.* Aleksandra Mizielinska and Daniel Mizielinski. Candlewick Press/Big Picture Press. 112pp. Trade ISBN 9780763689223, \$35. (3–4) Simple but mesmerizing illustrations in this unique book explore mysteries beneath water and

earth to captivate the reader’s imagination. Children and adults can delve into this oversized book from either end, with one side of the book probing into activities and life underwater, ranging from submarines to blue whales, and the other side taking the reader on a journey to processes and life inside the Earth, such as fossils and subways. (TBV) CCC2, CCC4, CCC6, SEP1, SEP4, SEP6, SEP8

## ETS1: Engineering Design

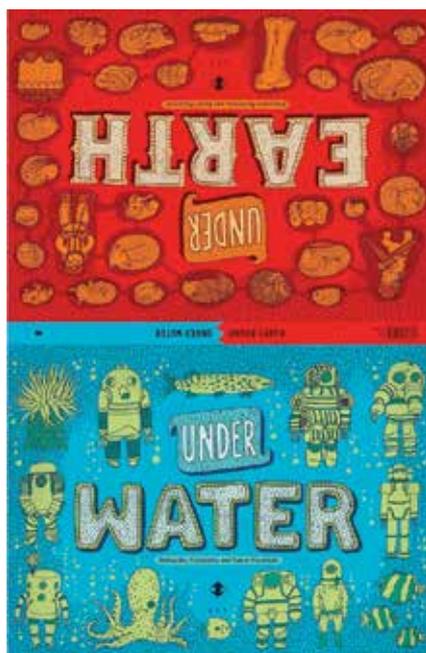
*Cleared for Takeoff: The Ultimate Book of Flight.* Rowland White. Chronicle Books. 320pp. Trade ISBN 9781452135502, \$21.99. (5–6) Any reader interested in man’s pursuit of flight will be taken on the ride of a lifetime as all areas, whether technological, historical or related to human interest, related to flight are examined in this book. (CAR)

*Super Cool Tech: Technology, Invention, Innovation.* DK. DK Publishing. 192pp. Trade ISBN 9781465452054, \$24.99. (5–6) Open this computer-like book to explore super cool technology, including things that are designed for play and help you move, breathtaking structures, energy production systems, and things that haven’t even been created yet. Reference Page, Glossary. (CLN)

## ETS2: Links Among Engineering, Technology, Science and Society

*Ada Lovelace, Poet of Science: The First Computer Programmer.* Diane Stanley. Illustrated by Jessie Hartland. Simon & Schuster/Paula Wiseman Books. 40pp. Trade ISBN 9781481452496, \$17.99. (K–2) An incredible story of a brilliant woman scientist born of both a poet and a mathematician and how she hoped to one day do something meaningful with her beautiful mind. Author’s Note, Controversy, Important Dates, Glossary. (CLN)

*Ada’s Ideas: The Story of Ada Lovelace, the World’s First Computer Programmer.* Fiona Robinson. Abrams. 40pp. Trade ISBN 9781419718724, \$17.95. (3–4) This book tells a story of Ada Byron Lovelace, who overcame struggles to pursue her interests in math and science. The information about how this remarkable woman influenced modern computer science



by writing the world's first computer program is a story that will inspire young students. Artist's Note, A Note about Bernoulli's Numbers, Acknowledgments, Bibliography. (TBV) CCC2, SEP1, SEP2, SEP3, SEP5, SEP6

***Florence Nightingale: The Courageous Life of the Legendary Nurse.*** Catherine Reef. Houghton Mifflin Harcourt Books for Young Readers. 192pp. Trade ISBN 9780544535800, \$18.99. (3–4) This beautifully written biography of the famous nurse Florence Nightingale provides valuable information about her life and struggles. Illustrations and pictures in this fascinating story give an insight to the era in which Nightingale faced opposition. Source Notes, Selected Bibliography, Picture Credits, Index. (TBV) CCC2, SEP1, SEP8

***Marie Curie for Kids.*** Amy M. O'Quinn. Chicago Review Press. 144pp. Trade ISBN 9781613733202, \$16.99. (5–6) This captivating biography of the legendary scientist tailored for young adults is accompanied by dozens of historical photos that explain Curie's valuable contribution to science. Informative sidebars and 21 hands-on activities and experiments make this book an essential resource in any science classroom. Resources to Explore, Glossary, Selected Bibliography, Index, Acknowledgments. (TBV) CCC5, SEP1, SEP3, SEP6, SEP8

***Milestones of Flight: From Hot Air Balloons to SpaceShipOne.*** Tim Grove. Abrams. 112pp. Trade ISBN 9781419720031, \$21.95. (5–6) Brilliantly illustrated with objects from the Smithsonian's Air and Space Museum, this book takes readers on a historical journey through aviation and its iconic flying machines. Epilogue, Glossary, Time Line, End Notes, Index. (CLN) PS3

***Notable Notebooks: Scientists and their Writings.*** Jessica Fries-Gaither. Illustrated by Linda Olliver. NSTA Press/NSTA Kids. 32pp. Trade ISBN 9781681403076, \$12.95. Library ISBN 9781941316320, \$18.95. (3–4) Scientists use science notebooks in a variety of ways, as examined by this book. Children will learn about the different ways scientists have used notebooks, from drawing pictures to recording data and making observations. Written as poetry and including examples from actual notebooks, this book will inspire readers to keep their own notebooks. (SAK) SEP4, SEP6, SEP8

***Peeking Under the City.*** Esther Porter. Illustrated by Andrés Lozano. Capstone

Press/Picture Window Books. Library ISBN 9781479586653, \$20.49. Paperback ISBN 9781479586691, \$7.99. (K–2) The reader is taken on a graphically illustrated journey beneath the city, down to all of the aspects of life that are found there, which range from transportation to infrastructure to evidence of long ago. Glossary, Reader Resources. (CAR) ETS2, CCC3, CCC6, SEP1

***Radioactive! How Irène Curie and Lise Meitner Revolutionized Science and Changed the World.*** Winifred Conkling. Algonquin Young Readers. 240pp. Trade ISBN 9781616204150, \$17.95. (9–12) Weaving science with history, culture, and politics, this chapter book describes the scientific achievements and intersecting pathways of two lesser-known physicists and the effects of

## About the Books and the Selection Process

The books that appear in this annotated bibliography selected as Outstanding Science Trade Books were published in 2016. They are intended primarily for grades K–12. They were selected by members of a book review panel appointed by the National Science Teachers Association (NSTA) and assembled in cooperation with the Children's Book Council (CBC). NSTA and CBC have cooperated on this bibliographic project since 1973.

The panel looks at both content and presentation. Selection is based generally on the following criteria:

- The book has substantial science content.
- Information is clear, accurate, and up-to-date.
- Theories and facts are clearly distinguished.
- Facts are not oversimplified to the point that the information is misleading.
- Generalizations are supported by facts, and significant facts are not omitted.
- Books are free of gender, ethnic, and socioeconomic bias.

The panel also uses rigorous selection guidelines relating to the presentation of material, including the following: logical presentation and a clear sequence of ideas; appropriate content level for the intended audience; compatible text and illustrations; illustrations that are accurate representations in size, color, and scale; appropriate trim size and format of the book for the subject and audience; and well-organized layout that advances the text. The panel also gives attention to the quality of binding, paper, reproduction, and the appropriateness of typeface. Each panel member reads all the books, but reviews reflect only the appraisal of the individual panelist whose initials appear at the end of each entry.

Publishers' names appear in abbreviated form; complete names and addresses are available from the CBC and in standard reference works such as *Children's Books in Print*. CBC's Member List is available at [www.cbcbooks.org/about/members.html](http://www.cbcbooks.org/about/members.html).

Titles are arranged by subject category. Although some titles are appropriate for more than one category, the books have been placed where their usefulness in science education appears greatest. Panelists have also indicated the *Next Generation Science Standards* (see About the Reviews on page 40) to which the books relate. Where more than one standard is listed, the most applicable standard is given first.

worldwide conflicts on their lives. Afterword, Timeline, Glossary, Index, and Additional Resources. (KTR) SEP5, SEP8, PS1

***Solving the Puzzle under the Sea: Marie Tharp Maps the Ocean Floor.*** Robert Burleigh. Illustrated by Raúl Colón. Simon & Schuster/Paula Wiseman Books. 40pp. Trade ISBN 9781481416009, \$17.99. (K–2) Presented as if told by Marie Tharp herself, the story of how this 20th-century geologist used creative problem-solving skills to map the Atlantic Ocean is supported through beautiful watercolor and pencil illustrations. End Note, Glossary, and Additional Resources. (KTR) CCC1, CCC4, SEP4

***The Story of Seeds: From Mendel's Garden to Your Plate, and How There's More of Less to Eat Around the World.*** Nancy F. Castaldo. Houghton Mifflin Harcourt Books for Young Readers. 144p. Trade ISBN 9780544320239, \$17.99. (3–4) The impact of modern day science and technology ranging from genetically modified foods to the importance of maintaining seed vaults is examined from the context that seeds have an extremely important job in the world—the production of food. Resources, Glossary, Author's Note, Timeline, Index. (CAR) ETS2, LS3, CCC4, CCC6, SEP1, SEP6

★ ***Whoosh! Lonnie Johnson's Super-Soaking Stream of Inventions.*** Chris Barton. Illustrated by Don Tate. Charlesbridge. 32pp. Trade ISBN 9781580892971, \$16.95. (3–4) This biography of Lonnie Johnson, a NASA engineer who invented the Super Soaker water toy, highlights his perseverance in bringing design ideas to fruition. Cartoon-style illustrations support the engaging text. Author's note. (KTR) CCC6, SEP2

## PS1: Matter and Its Interactions

***Super Gear: Nanotechnology.*** Jennifer Swanson. Charlesbridge. 80pp. Trade ISBN 9781580897204, \$17.95. (5–6) Athletes are excelling with a new age of sports equipment designed with nanoparticles. These microscopic particles are making faster super suits and lighter, stronger shoes and bats. Author's Note, Glossary, Resources, Source Notes, Selected Bibliography, Image Credits, Index. (LMSA) SEP3, CCC2, CCC3

## Call for Submissions

for 2018 Outstanding Science Trade Books for Students K–12

**Deadline for submissions: June 30, 2017**

### Eligibility

- Titles should be for grades K–12.
- All titles must originate from a children's publishing company or division and must be published (not simply distributed) by a publisher incorporated in the United States.
- Titles must be published in 2017.
- Titles originally published abroad are eligible only if they have a 2017 U.S. publication date; reprints or licensed editions of titles initially published in the United States before 2017 are not eligible.
- Original paperbacks are eligible; paperback reprints are not. If a book is published simultaneously in hardcover and paperback, either edition may be submitted. If both editions are submitted, they constitute separate entries.
- Revisions are eligible only if the book has been newly illustrated or if substantial text, constituting at least 25% of the book, has been changed or added.
- Math books are not eligible unless the mathematical principles are applied to scientific functions such as measuring for experiments, using statistical models for scientific research, and so on.
- Textbooks, workbooks, kits, experiment-only books, and activity books are not eligible.
- Spanish-language editions of titles published in English before 2017 are not acceptable. Spanish-language editions published simultaneously with English-language editions in 2017 are eligible.
- Fiction is eligible if the book has substantial science content.

### Number of titles that may be submitted

Each participating publisher may submit an unlimited number of titles.

### Submission guidelines

Books should have value for both classroom studies and library collections supporting students' work.

Full submission guidelines will be available through June 2017 at [www.cbcbooks.org/outstanding-science/](http://www.cbcbooks.org/outstanding-science/).

### Fees

There is no submission fee for CBC Regular and Affiliate Members. The fee is \$75 per title for Associate and Initiating Members and \$300 per title for non-members. All fees are non-refundable. Titles may not be substituted. There is no refund if a title is canceled or postponed.