
2019 INDIANA SCIENCE TRADE BOOK ANNUAL READING LIST (IN-STAR): ENGAGING READERS THROUGH SCIENCE

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The 2019 Indiana Science Trade Book Annual Reading List (IN-STAR) includes many outstanding reads for elementary students that will help them explore science. The criteria and process to identify books has been previously described (Gulley & Thomas, 2012). The selections meet the following criteria.

1. The book has substantial science content;
2. Information is clear, accurate, and up to date;
3. Theories and facts are clearly distinguished;
4. Facts are not oversimplified to the point where the information is misleading;
5. Generalizations are supported by facts and significant facts are not omitted;
6. Books are free of gender, ethnic, and socioeconomic bias;
7. Information can be connected to an Indiana Core Standard in Science for grades K-6;
8. Books are readily available in public libraries or bookstores; and
9. Books have received at least one positive review in one of the identified professional journals: [*Booklist*](#), [*Bulletin of the Center for*](#)

[*Children's Books*](#), [*Horn Book*](#), [*Kirkus Reviews*](#), [*Publishers Weekly*](#), [*School Library Journal*](#), and [*Science and Children*](#).

The 2019 INSTAR selections are books that teachers can use across grade levels to teach science standards and to integrate science with other content areas. Below are some of this year's highlighted titles.

Beautifully illustrated underground habitats by Steve Jennings highlight [*Mama Dug a Little Den*](#) by Jennifer Ward. The main text is appropriate for primary grades and inserted sidebars and backmatter allow teachers (perhaps through a read aloud) and advanced readers to dive deeper into specific content around habitats for the featured animals.

[*In Fur, Feather, and Fin: All of Us are Kin*](#) by Diane Lange readers will enjoy the rhyming text that describes the characteristics for many of the major classes of animals. And, by weaving a narrative of similarities and differences between animals the author creates opportunities for teachers and

students to learn about the dynamics of animal interactions in their ecosystems.

Band-Aids come in all shapes, sizes, and colors, and are as common in your school nurse’s office as a box of tissues. But do your students know the story of how they were invented? In [Boo-Boos that Changed the World: A True Story About an Accidental Invention \(Really!\)](#), Barry Wittenstein presents a humor-filled narrative about Earle Dickson’s unlikely leap into becoming an inventor.

Exploring space and exploring the oceans may seem like very different feats, but Jennifer Swanson masterfully compares the two in [Astronaut, Aquanaut: How Space Science and Sea Science Interact](#).

Photographs and realistic cartoons support the conversational text that highlights how exploration above and below the surface of the Earth presents similar challenges.

The 2018 Indiana Science Trade Book Annual Reading List (IN-STAR)

Kindergarten
<p><u>FUR, FEATHER, FIN: ALL OF US ARE KIN</u>. 2018. Diane Lang. Illus. Stephanie Laberis. Simon & Schuster, Beach Lane Books. 48 pp. ISBN-13: 9781481447096. Colorful illustrations accompany rhyming poems to explain how animals are classified. End matter provides additional facts and suggested activities. STANDARD 3: LIFE SCIENCE.</p>
<p><u>LOVELY BEASTS: THE SURPRISING TRUTH</u>. 2018. Kate Gardner. Illus. Heidi</p>

Smith. 48 pp. ISBN-13: 9780062741615. Balzer + Bray/Harper Collins. Readers explore the characteristics for animals using a single word format. Supportive text of the single-word descriptor offers an ideal format for a read aloud. STANDARD 3: LIFE SCIENCE

First Grade
<p><u>THE BRILLIANT: DEEP REBUILDING THE WORLD’S CORAL REEFS: THE STORY OF KEN NEDIMYER AND THE CORAL REEF FOUNDATION</u>. 2018. Kate Messner Illus. Matthew Forsythe Chronicle Books. 48 pp. ISBN-13: 9781452133508 Appropriate for many grade levels, this book introduces readers to the efforts of conservationist Ken Nedimyer in restoring and preserving the world’s coral reefs. Eye-catching illustrations and riveting text will inspire readers to action. STANDARD 3: LIFE SCIENCE.</p>



MAMA DUG A LITTLE DEN. 2018.

Jennifer Ward. Illus. Steve Jenkins.
Simon & Schuster, Beach Lane Books. 32
pp. ISBN-13: 9781481480376. Rhyming
text introduces young readers to the
different types of homes mother animals
create for their young to provide shelter
and protect them from harm. Sidebars
and backmatter give additional facts
about the animals and their habitats.
STANDARD 3: LIFE SCIENCE.

Second Grade

THE BEE BOOK. 2018. Charlotte Milner.

DK Children. 48 pp. ISBN-13:
9781465535. Detailed photographs and
diagrams explain many facets of the
honeybee's life, from their anatomy, to
their lifecycle, to the structures and
activities within a hive. An online teacher's
guide provides extension projects.
STANDARD 3: LIFE SCIENCE.



PERFECTLY PECULIAR PLANTS.

2018. Chris Thorogood. Illus. Catell
Ronca. The Quarto Group/Words &
pictures. 64 pp. ISBN-13: 9781786032850.
Often overlooked in elementary
classrooms, plants are important organisms
in the world. Readers will explore how
humans use plants, how they live in
symbiotic relationships with other plants
and animals, and that some plants are
carnivorous. STANDARD 3: LIFE
SCIENCE.

Third Grade

THE BOO-BOOS THAT CHANGED
THE WORLD: A TRUE STORY ABOUT
AN ACCIDENTAL INVENTION

(REALLY!). 2018. Barry Wittenstein.
Illus. Chris Hsu. Charlesbridge. 32 pp.
ISBN-13: 978-1580897457. Earle
Dickson's wife was prone to minor
injuries, and he was the son of a doctor and
worked at Johnson & Johnson. This chance
combination, along with Earle's
perseverance, led to the invention of the
famous Band-Aid. Told with humor and
supported by cartoon-style drawings, this
story of the now-famous invention is
perfect for reading aloud. STANDARD 4:
ENGINEERING.

NOTHING STOPPED SOPHIE: THE
STORY OF THE UNSHAKABLE
MATHEMATICIAN SOPHIE GERMAIN.

Cheryl Bardoe. Illus. Barbara McClintock.
Little, Brown Books for Readers. 40 pp.
ISBN-13: 978-0316278201. With a

brilliant mind and sheer determination, French mathematician Sophie Germain worked tirelessly to solve a problem about sound vibration patterns for years before finally achieving success. Whimsical illustrations and inspiring biographical text will engage and inspire readers.

STANDARD 1: PHYSICAL SCIENCE.

Fourth Grade

[THE WRIGHT BROTHERS: NOSE-DIVING INTO HISTORY \(EPIC FAILS #1\)](#). 2018.

Ben Thompson and Erik Slader. Illus. Tim Foley. Roaring Brook Press. 128 pp. ISBN-13: 978-1250150561. Cartoon-style pen and ink drawings support the text of this chapter book that chronicles the history of flight innovations, with a focus on the lives of Orville and Wilbur Wright. Highlights of unexpected failures over time serve as a reminder of the magnitude of the logistical challenges to achieve flight. A timeline summarizes attempts and successes throughout history. STANDARD 4: ENGINEERING.

[NATIONAL PARKS OF THE U.S.A.](#)

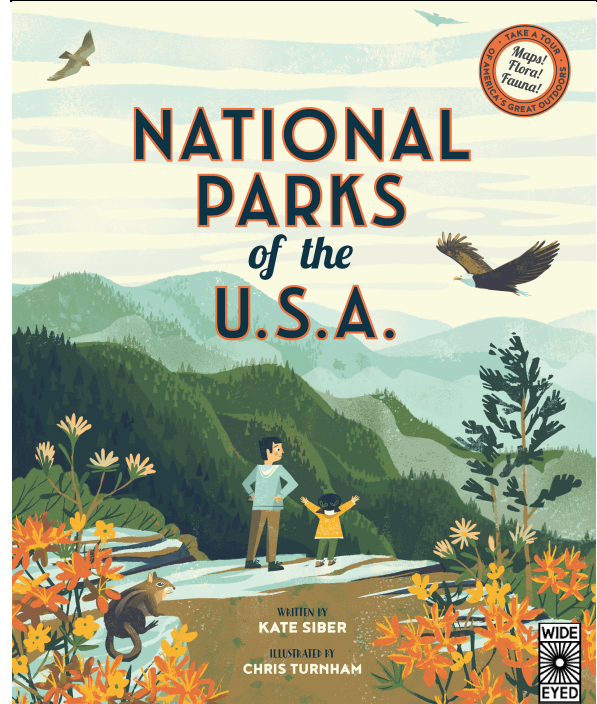
2018. Kate Siber. Illus. Chris Turnham. Wide Eyed Editions. 112 pp. ISBN-13: 978-1847809766. Twenty-one national parks are depicted through captivating text that makes readers feel as if they are on a cross-country exploration of these treasured lands. A must-have for all fourth graders as they can get a pass for [free access](#) to national parks for the year. STANDARD 2: EARTH AND SPACE SCIENCE.

Fifth Grade

[ASTRONAUT, AQUANAUT: HOW SPACE SCIENCE AND SEA SCIENCE](#)

[INTERACT](#). 2018. Jennifer Swanson.

National Geographic Children's Books. 96 pp. ISBN-13: 978-1426328671. This informational text compares and contrasts the exploration of space and the Earth's oceans. Timelines, captioned pictures, a glossary, and index add to the ease of using this book as a go-to resource about exploration of the unknown. STANDARD 2: EARTH AND SPACE SCIENCE.



<p><u>HOW WE GOT TO NOW: SIX INNOVATIONS THAT MADE THE MODERN WORLD</u>. 2018. Stephen Johnson. Viking Books for Young Readers. 160 pp. ISBN-13: 978-0425287781. This non-narrative informational text focuses on six innovations: glass, cold, sound, clean, time, and light. The history and nature of science is presented in a seamless manner and the innovations we take for granted today are chronicled throughout history. Captioned photos, a bibliography, additional resources, and an index make this a comprehensive text about innovations. STANDARD 1: PHYSICAL SCIENCE AND STANDARD 4: ENGINEERING.</p>
<p>Primary Honorable Mention</p>
<p><u>COUNTING ON KATHERINE HOW KATHERINE JOHNSON SAVED APOLLO 13</u>. 2018. Helaine Becker Illus. Dow Phumiruk. 40 pp. ISBN-13: 9781250137524. Macmillan Children’s Publishing Group/ Henry Holt and Co. (BYR). This remarkable story describes the obstacles and challenges one woman overcame to help Apollo 13 successfully navigate to the moon and back. Experiences from her childhood help young readers connect to Katherine. STANDARD 2: EARTH AND SPACE SCIENCE AND STANDARD 4: ENGINEERING.</p>
<p><u>FLOW, SPIN, GROW LOOKING FOR PATTERNS IN NATURE</u>. 2018. Patchen Barss. Illus. Todd Stewart. 32 pp. ISBN-</p>

<p>13: 978-1771472876. Owlkids Books. Using colorful drawings, readers explore the many ways in which they can observe patterns in nature. Descriptions for the major types of patterns support the illustrations. STANDARD 2: EARTH AND SPACE SCIENCE.</p>
<p><u>MAE AMONG THE STARS</u>. 2018. Roda Ahmed. Illus. Stasia Burrington. HarperCollins. 40 pp. ISBN-13: 9780062651730. This picture book biography will inspire readers to follow their dreams and reach for the stars, even when the odds of achieving their goals seems impossible. STANDARD 2: EARTH AND SPACE SCIENCE.</p>
<p>Intermediate Honorable Mention</p>
<p><u>WHEN SPARKS FLY: THE TRUE STORY OF ROBERT GODDARD, THE FATHER OF US ROCKETRY</u>. 2018. Kristen Fulton. Illus. Diego Funck. Margaret K. McElderry Books. 40 pp. ISBN-13: 978-1481460989. Through tinkering, experimenting, and problem-solving, Robert Goddard eventually turned his boyhood dream of making things fly into the reality of supporting rocket design for the US space program. Cartoon-style drawings and concise text make this a perfect read-aloud for the generation that may go to Mars! STANDARD 4: ENGINEERING.</p>
<p><u>ANIMAL DISCOVERIES</u>. 2018. Tamra B. Orr. 32p. Capstone Press. 32 pp. ISBN-13: 978-1543526196. High-quality pictures and informative text introduce readers to</p>

some of the most recently discovered – and unusual! – species on the planet, such as the hog-nosed rat and the ghost ant. Realizing that there are still so many species to discover will broaden readers’ perspectives about the diversity of life. STANDARD 3: LIFE SCIENCE.

[CHAMPION: THE COMEBACK TALE OF THE AMERICAN CHESTNUT TREE](#). 2018. Sally Walker. Henry Holt and Co. 144 pp. ISBN-13: 978-1250125231. Blending history and science, this book chronicles the impact of an invasive species that has devastated the American chestnut tree population. Even today, scientists are attempting to find ways to restore this iconic symbol of the forest. Suitable for 5th grade and up. STANDARD 3: LIFE SCIENCE.

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References

Gulley, J., & Thomas, J. A. (2012). Spotlight on science: Introducing the Indiana science trade book annual reading list. *The Indiana Reading Journal*, 45(1), 31-35.

Resources

<http://www.usi.edu/science/southwest-indiana-stem/instar/>