



2025 Indiana Science Trade Book Annual Reading List (IN-STAR): Teaching Science Through Literature

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ABSTRACT

The 2025 IN-STAR List is a curated list of books elementary teachers can use to integrate children's literature and science. The titles align to the domains of the Disciplinary Core Ideas of the K-12 Science Indiana Academic Standards. Several nationally recognized lists are produced to help teachers identify books that can be used in elementary classrooms, but these lists don't align their selections to grade levels and Indiana's K-5 science standards. The IN-STAR list bridges that gap. The IN-STAR List ensures that the recommended books meet the specific science standards for each grade level in Indiana. This alignment helps teachers deliver targeted instruction and assess student learning effectively. All books were published in 2024 and there are two high-quality titles per grade level and three honorable mention selections for the primary and intermediate grade bands. A brief description and ISBN number are offered so that the reader may consider classroom connections and work with local libraries to acquire books.

KEYWORDS

Science,
children's
literature, K-6

The 2025 Indiana Science Trade Book Annual Reading List (IN-STAR) features unique selections which provide thought-provoking connections between rich literature and science content. The criteria and process to identify books has been previously described (Thomas & Gulley, 2012). Selections meet the following criteria:

1. The book has substantial science content.
2. The 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 the Indiana Science Standards for grades K-5.
8. Books are readily available in public libraries or bookstores.

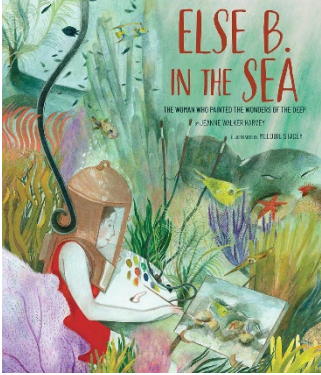
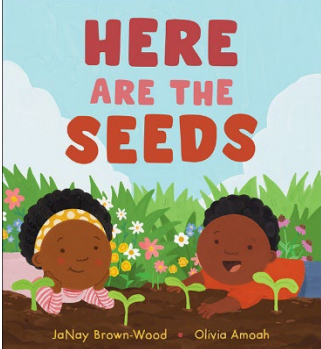
9. Books have received at least one positive review in one of the identified professional resources: [Booklist](#), [Bulletin of the Center for Children’s Books](#), [Horn Book](#), [Kirkus Reviews](#), [Publishers Weekly](#), [School Library Journal](#), and [Science and Children](#).

Items one through five are critical because they help teachers select quality science-focused books for classroom use. Item six ensures a teacher’s universal responsibility to promote classrooms and resources which promote a variety of populations and cultures. Items seven through nine ensure the selections are high quality and easily attainable by classroom teachers.

Chosen titles were published in the preceding year. Books are selected through a continuous review of resources highlighting new publications in children’s literature. As interesting and appropriate books are discovered, they are purchased or acquired through local libraries for review. Their content is assessed for the nine criteria and if they address the science content listed in the K-12 Science Indiana Academic Standards for each grade level. The reading level of books is considered when aligning them with grade levels.

The titles can certainly be used in other grade levels to help with readers at different levels that teachers have in their classroom. Additionally, read alouds make using some of the upper grades appropriate for the lower grades if the content aligns. And, of course, upper-level students can explore the deeper meaning in a simple image or part of a lower-level book. The authors anticipate that teachers will implement a variety of reading strategies while using these science-based books. Examples include highlighting character descriptions in biographies, demonstrating how to use text features to gain meaning from a text, and incorporating opportunities for retelling main ideas and key details of a text. Presented below are this year’s selections.


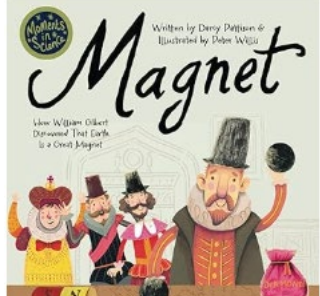
The 2025 Indiana Science Trade Book Annual Reading List (IN-STAR)

Kindergarten	
	<p>ELSE B. IN THE SEA: THE WOMAN WHO PAINTED THE WONDERS OF THE DEEP. 2024. Cedar Wang. Illus. Cedar Wang. Abrams Books for Young Readers. 32pp. ISBN 13 978-1605379999. The title shares a colorful story of how an artist, Else Bostelmann, dove into the ocean and painted the wonders of the deep. She and her team used a bathyscope for herself and her painting supplies to capture the wonders of the deep and share them with the world. Teachers will be able to use it as a launching pad to integrate art and science. STANDARD: EARTH AND SPACE SCIENCE, ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE, and LIFE SCIENCE</p>
	<p>HERE ARE THE SEEDS. 2024. JaNay Brown-Wood. Illus. Olivia Amoah. Kids Can Press. 32 pp. ISBN-13 978-1525308307. Two young gardeners plant seeds and watch them grow. Throughout the season they learn what nurtures the life cycle of plants and crops in their garden. STANDARD: LIFE SCIENCE</p>

First Grade	
	<p>CLEVER CROW. 2024. Chris Butterworth. Ilus. Olivia Lomenech Gill. Candlewick Press. 32 pp. ISBN-13 978-1536235425. This rhyming book explores the surprising intelligence (and sneakiness!) of crows. With engaging facts and lively illustrations, young readers learn how crows use tools, play tricks, and solve problems. This nonfiction book fosters curiosity about animal behavior and highlights the cleverness hidden in one of nature’s most common birds. STANDARD: LIFE SCIENCE</p>
	<p>THE DEN THAT OCTOPUS BUILT. 2024. Randi Sonenshine. Ilus. Anne Hunter. Candlewick Press. 32 pp. ISBN-13 978-1536226546. This lyrical, rhyming nonfiction book follows a clever octopus as she builds a safe den, hunts, and prepares for motherhood. With poetic language and interesting vocabulary, it reveals the survival skills, adaptations, and life cycle of an octopus and introduces young readers to the wonders and intelligence of marine life beneath the sea. STANDARD: LIFE SCIENCE</p>
Second Grade	
	<p>BUILDING A BEAK: HOW A TOUCAN’S RESCUE INSPIRED THE WORLD. 2024. Becca McMurdie. Ilus. Diana Hernandez. Page Street Publishing. 32 pp. ISBN-13 978-1645678687. A real-life story of Grecia, a toucan who lost part of her beak in a cruel attack. Veterinarians and engineers come together to design and create a beak for her to live a full life. Written with engaging language and vivid illustrations, teachers will be able to highlight problem solving and the engineering process. STANDARD: LIFE SCIENCE and ENGINEERING, TECHNOLOGY, AND APPLICATIONS OF SCIENCE</p>
	<p>THE MIGHTY POLLINATORS. 2024. Helen Frost. Illus. Rick Lieder. Candlewick. 32 pp. ISBN-13 978-1536229103. The title celebrates the types of pollinators beyond bees (e.g., ants, bats, and the wind). Two--page photo spreads allow readers to observe close-up, dazzling details of the pollinators in action. Playful poetry accompanies the images to help share the story of how pollinators help plants. STANDARD: LIFE SCIENCE</p>
Third Grade	

	<p>FIRE ESCAPE: HOW ANIMALS AND PLANTS SURVIVE WILDFIRES. 2024. Jessica Stremer. Illus. Michael Garland. Holiday House. 128 pp. ISBN-13 978-0823454426. This non-narrative informational book describes traits of animals and plants that help them survive during wildfires and survive in their changed environment after the devastation. The narrative is supported by wood-cut style illustrations and photographs and is interspersed with text boxes of “Fire facts.” End pages include a glossary and bibliography. STANDARD: LIFE SCIENCE</p>
	<p>THE IGUANODON’S HORN. 2024. Sean Ruben. Clarion Books. 48 pp. ISBN-13 978-0063239210. How do we “know” what extinct animals such as the iguanodon looked like when only their fossils remain? As Ruben reveals in this book, the interpretation of fossil data can change over time as technological advances are made, thereby changing what scientists thought they knew. Detailed illustrations include cartoonish elements and occasional humor. STANDARD: LIFE SCIENCE</p>
<p>Fourth Grade</p>	
	<p>WHIRLIGIGS: THE WONDROUS WINDMILLS OF VOLLIS SIMPSON'S IMAGINATION. 2024. Carole Boston Weatherford. Illus. Edwin Fotheringham. Calkins Creek Books. 32 pp. ISBN-13 978-1662680410. Always fascinated by how things work, Vollis Simpson spent a lifetime tinkering with, fixing, and repurposing machines. The whimsical illustrations enhance this story of how someone with a creative mind and problem-solving approach can turn simple machines into objects that are valued for both functionality and artistic design. STANDARD: PHYSICAL SCIENCE</p>
	<p>OWLS: WHO GIVES A HOOT? 2024. Frances Backhouse. Orca Book Publishers. 96 pp. ISBN-13 978-1459835290. This non-narrative informational book describes how owls use their senses for survival, and describes how their structures to support growth, behavior, and reproduction. The engaging storylines, captioned photos, and text boxes of additional facts provide readers with an abundance of information about these amazing creatures. STANDARD: LIFE SCIENCE.</p>
<p>Fifth Grade</p>	

	<p>THE FABULOUS FANNIE FARMER: KITCHEN SCIENTIST AND AMERICA'S COOK. 2024. Emma Bland Smith. Illus. Susan Reagan. Calkins Creek Books. 40 pp. ISBN-13 978-1635926125. Fannie Farmer was truly a kitchen chemist, relying on precise measurements rather than guesswork when cooking just as scientists would. Her life story is presented in the narrative well-suited as a read-aloud. End pages provide photos, a timeline, and more in-depth content about her promotion of using standard measurements in cooking. STANDARD: PHYSICAL SCIENCE</p>
	<p>WILDLIFE CROSSINGS OF HOPE: CONNECTING CREATURES AROUND THE GLOBE. 2024. Teddi Lynn Chichester. Illus. Jamie Green. Holiday House. 160 pp. ISBN-13 978-0823453542. This chapter book presents the problems of animal crossings and associated solutions designed to ensure that species worldwide can safely move from place to place for migration and survival. Current and proposed solutions for species such as mountain lions are presented with some digital art interspersed. End pages include an epilogue and bibliography. STANDARD: STANDARD: ENGINEERING, TECHNOLOGY, AND SOCIETY</p>
Primary Honorable Mention	
	<p>SLEEPY: SURPRISING WAYS ANIMALS SNOOZE. Jennifer Ward. 2024. Illustrated by Robin Page. Beach Lane Books. 32 pp. ISBN-13 978-1665935104. Featuring otters, bears, giraffes, and other animals, each page spread presents the interesting characteristics of an animal's sleep patterns through a four-line rhyming verse. Additional information about each animal is provided in smaller font on the page for advanced readers. STANDARD: LIFE SCIENCE</p>
	<p>ONE DAY THIS TREE WILL FALL. 2024. Leslie Barnard Booth. Illus. Stephanie Fizer Coleman. Margaret K. McElderry Books. 40 pp. ISBN-13 978-1534496965. Sharing the story of a fir tree, this beautifully illustrated title reminds children that death is part of an organism's life cycle. The book's images and poetic text detail important relationships a tree can have with its community during its life cycle and after its death. Examples include providing microhabitats for spiders and mushrooms and creating shelter for salamanders and birds. STANDARD: LIFE SCIENCE and EARTH AND SPACE SCIENCE</p>
Intermediate Honorable Mention	

	<p>SUSTAINABLE STRUCTURES: 15 ECO-CONSCIOUS BUILDINGS AROUND THE WORLD. 2024. Kate McMillan. Holiday House. Pp 40. ISBN-13 978-0823455669. Organized into five categories such as local materials and adaptability, fifteen sustainable structures from around the world are detailed to show how engineers work to support conservation. Most of the content is presented through digitally-designed visuals that are engaging and informative. STANDARD: ENGINEERING, TECHNOLOGY, AND SOCIETY</p>
	<p>MAGNET: HOW WILLIAM GILBERT DISCOVERED THAT EARTH IS A GREAT MAGNET. 2024. Darcy Pattison. Illus. Peter Willis. Mims House. 33 pp. ISBN-13 978-1629442457. The life of William Gilbert, the “Father of Magnetism,” is presented along with his research on magnetic interactions. Cartoon-style text and varied font styles are included throughout the book. STANDARD: PHYSICAL SCIENCE.</p>

References

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

Authors

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