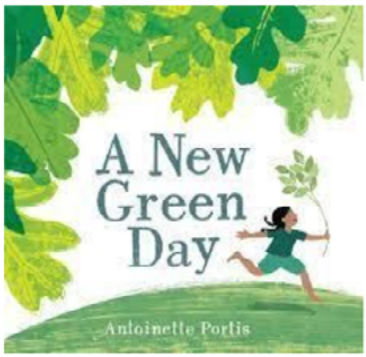
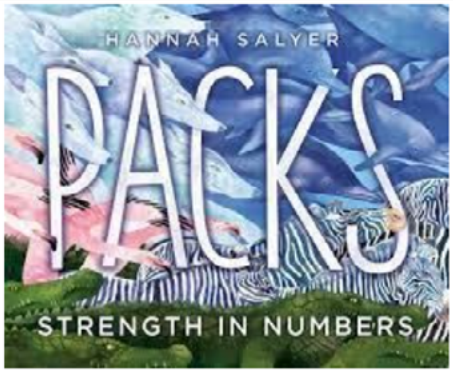
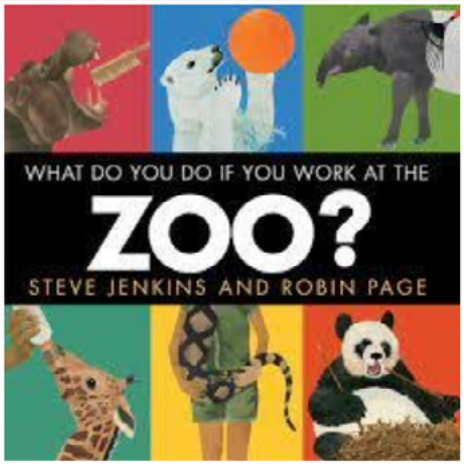
The 2021 Indiana Science Trade Book Annual Reading List (IN-STAR)

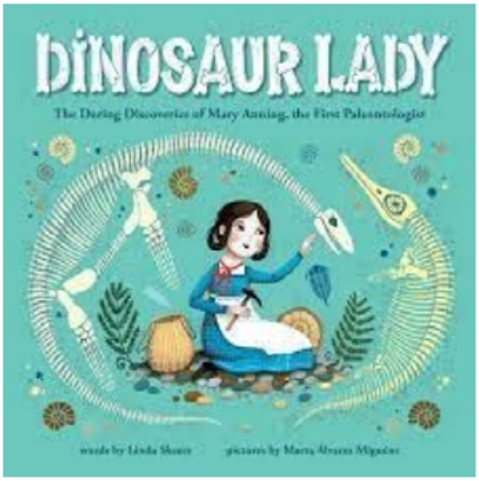
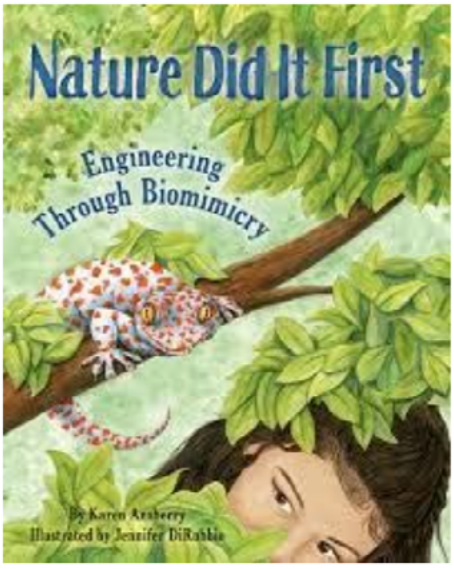
The 2021 Indiana Science Trade Book Annual Reading List (IN-STAR) has some visually stunning and content rich resources. The criteria and process to identify books has been previously described (Gulley & Thomas, 2012). Selections meet the following criteria:

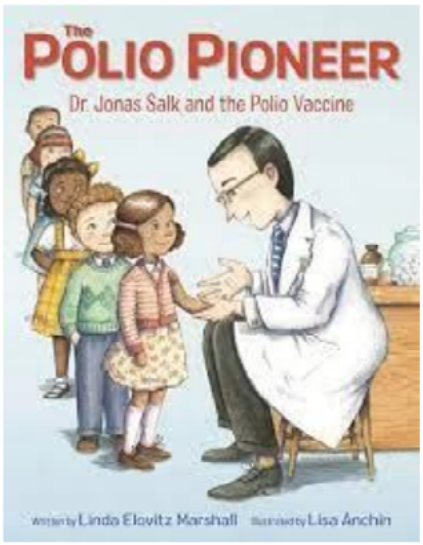
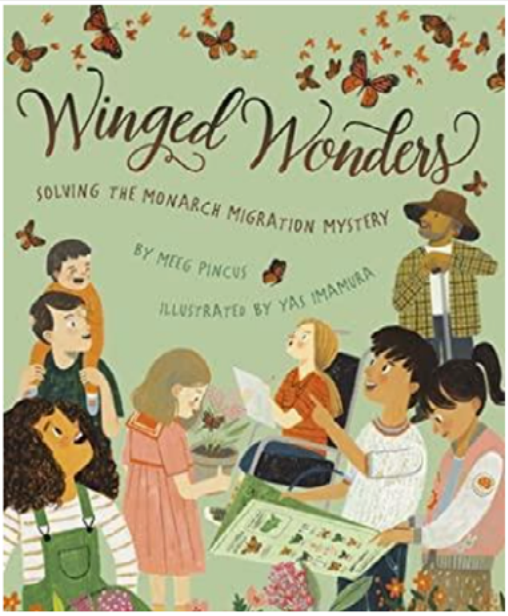
1. The book has substantial science content.
2. Information is clear, accurate, and up to date.
3. Theories and facts are clearly distinguished.
4. Facts are not oversimplified to the point where the information is misleading.
5. Generalizations are supported by facts and significant facts are not omitted.
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.
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.

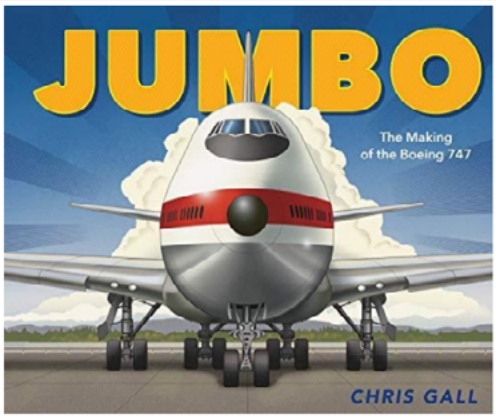
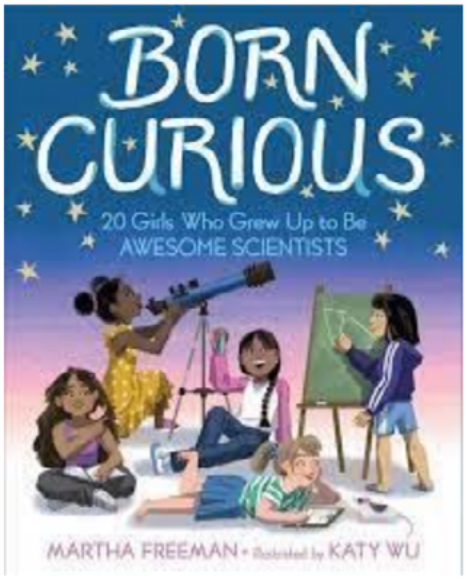
The INSTAR selections are books that teachers can use across grade levels to teach science standards and to integrate science with other content areas. Below are overviews of this year's titles:

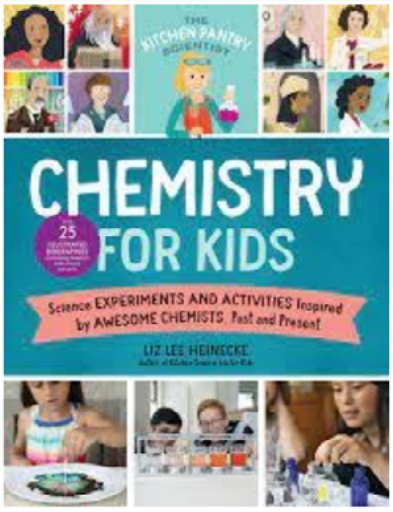
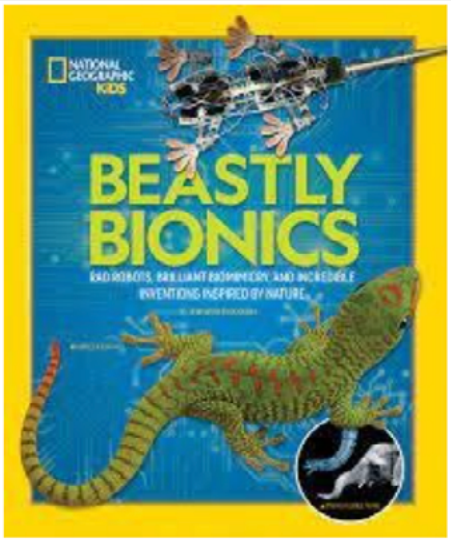
	Kindergarten
	BUTTERFLIES IN ROOM 6. 2019. Caroline Arnold. Charlesbridge. 40 pp. ISBN 13: 978-1580898942. Vivid up-close photographs and easy-to-understand text document the journey of painted lady butterflies from egg to larva, to pupa, to adult, as witnessed by a Kindergarten class. STANDARD: LIFE SCIENCE.
	A NEW GREEN DAY. 2020. Antoinette Portis. Holiday House. 40 pp. ISBN 13: 978-0823444885. Poetic riddles invite readers to consider physical features and behaviors of common objects and animals found in nature. STANDARD: LIFE SCIENCE.

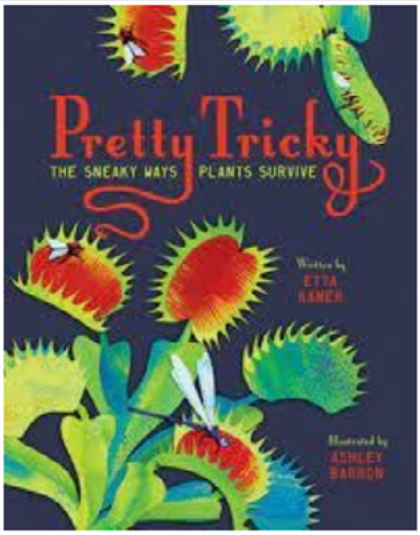
	First Grade
	PACKS: STRENGTH IN NUMBERS. 2020. Hannah Salyer. Clarion Book. 48 pp. ISBN 13: 978-1328577887. From a flamboyance of flamingos to a mob of mongooses, packs, herds, and pods of animal families survive and thrive because they stand together. Twenty-four such groups are described and vividly illustrated. STANDARD: LIFE SCIENCE.
	WHAT DO YOU DO IF YOU WORK AT THE ZOO? 2020. Steve Jenkins & Robin Page. Illus. Steve Jenkins. Houghton Mifflin Harcourt. 40 pp. ISBN 13: 978-0544387591. Zookeepers have some unusual behind-the-scenes chores, from brushing a hippo's teeth to tickling a tapir, to shining a tortoise's shell. Each job has a purpose in helping sustain the animals' quality of life. STANDARD: LIFE SCIENCE.

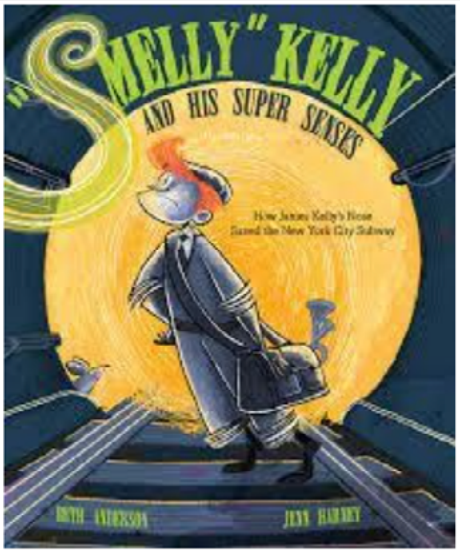
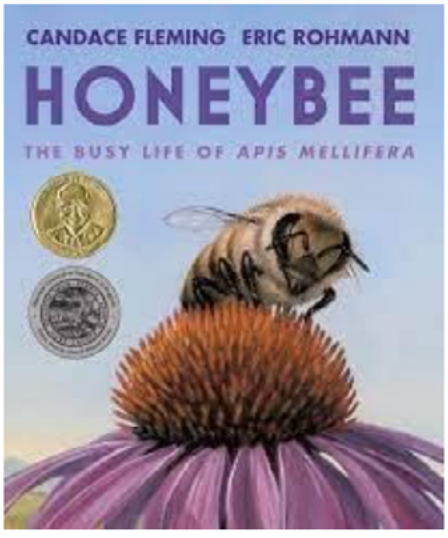
	Second Grade
	DINOSAUR LADY: THE DARING DISCOVERIES OF MARY ANNING, THE FIRST PALEONTOLOGIST. 2020. Linda Seekers. Illus. Marta Álvarez Miguéns. Sourcebooks Explore. 40 pp. ISBN 13: 978-1728209517. Simple text and colorful folk art introduce readers to the life and work of Mary Anning, a bold woman who is credited with creating the science of paleontology. STANDARD: LIFE SCIENCE.
	NATURE DID IT FIRST: ENGINEERING THROUGH BIOMIMICRY. 2020. Karen Ansberry. Illus. Jennifer DiRubbio. Dawn Publications. 32 pp. ISBN 13: 978-1584696582. Rhyming poems with double-spread illustrations describe seven different animals' special adaptations and how engineers have mimicked that trait to solve human problems. STANDARD: LIFE SCIENCE.

	Third Grade
	THE POLIO PIONEER: DR. JONAS SALK AND THE POLIO VACCINE. 2020. Linda Elovitz Marshall. Illus. Lisa Anchin. Knopf Books for Young Readers. 40 pp. ISBN-13: 978-0525646518. The tireless work of Dr. Jonas Salk, who dedicated his career to preventing the spread of the influenza virus and then polio, is depicted in this book. The societal impact of polio prior to Dr. Salk's life saving vaccine will sound familiar to young students experiencing the effects of Covid-19. STANDARD: LIFE SCIENCE.
	WINGED WONDERS: SOLVING THE MONARCH MIGRATION MYSTERY. 2020. Meeg Pincus. Illus. Yas Imamura. Sleeping Bear Press. 40 pp. ISBN-13: 978-1534110403. How are questions about the world around us answered? This book explores the quest to discover the mystery behind the annual monarch migration. STANDARD: LIFE SCIENCE.

	Fourth Grade
	JUMBO: THE MAKING OF THE BOEING 747. 2020. Chris Gall. Illus. Chris Gall. Roaring Brook Press. 48 pp. ISBN-13: 978-1250155801. Realistic cartoon-style illustrations complement the informational text about the history of this magnificent engineering feat. STANARD: ENGINEERING.
	BORN CURIOUS: 20 GIRLS WHO GREW UP TO BE AWESOME SCIENTISTS. 2020. Martha Freeman. Illus. Katy Wu. 128 pp. ISBN-13: 978-1534421530. Both commonly-known women in science, such as Sylvia Earle, and lesser-known women, such as Shirley Ann Jackson, are portrayed in this book. Young students will find connections to these scientists through the exploration of the scientists' childhood experiences that center on curiosity. STANDARDS: EARTH AND SPACE, PHYSICAL AND LIFE.

	Fifth Grade
	THE KITCHEN PANTRY SCIENTIST: CHEMISTRY FOR KIDS. 2020. Liz Lee Heinecke. Illus. Kelly Anne Dalton. Quarry Books. 128 pp. ISBN-13: 978-1631598302. Going beyond just kitchen chemistry experiments, this book includes both activities and scientist biographies for historical context. STANDARD: PHYSICAL SCIENCE
	BEASTLY BIONICS: RAD ROBOTS, BRILLIANT BIOMIMICRY, AND INCREDIBLE INVENTIONS INSPIRED BY NATURE. 2020. Jennifer Swason. National Geographic Kids. 96 pp. ISBN-13: 978-1426336737. Over 40 examples of innovations based on natural phenomena are presented in non-narrative format and supported by captivating photos. STANDARD: ENGINEERING.

	Primary Honorable Mention
	TRICKY PLANTS: THE SNEAKY WAYS PLANTS SURVIVE. 2020. Owlkids. 48 pp. ISBN 13: 978-1771473699. Cut-paper collages and detailed text will help young readers learn how plants use special adaptations to secure food, defend themselves, and reproduce. STANDARD: LIFE SCIENCE.
	WHAT DO SCIENTISTS DO ALL DAY? 2020. Jane Wilsher. Illus. by Maggie Li. Wide Eyed Editions. 64 pp. ISBN 13: 978-0711249783. Children will discover the myriad of jobs performed by different types of scientists in different locations, from forests, to hospitals, to research labs, to outer space.
	YOUR PLACE IN THE UNIVERSE. 2020. Jason Chin. Holiday House. 40 pp. ISBN 13: 978-0823446230. Caldecott and Sibert Honoree Jason Chin uses his brilliant art to help readers of all ages understand the scope, size, age, and expanse of the universe. Using the height of eight year-olds as the starting point, Chin provides referenced examples of scale to depict objects on Earth and in the galaxy. STANDARD: EARTH AND SPACE SCIENCE.

	Intermediate Honorable Mention
	WOOD, WIRE, WINGS: EMMA LILIAN TODD INVENTS AN AIRPLANE. 2020. Kirsten W. Larson. Illus. Tracy Subisak. Calkins Creek. 48 pp. ISBN-13: 978-1629799384. Whimsical illustrations accompany the text chronicling the life of this little-known citizen engineer who tinkered with airplane designs in the early 1900s. STANDARD: ENGINEERING.
	"SMELLY" KELLY AND HIS SUPER SENSES: HOW JAMES KELLY'S NOSE SAVE THE NEW YORK CITY SUBWAY. 2020. Beth Anderson. Illus. Jenn Harney. Calkins Creek. 40 pp. ISBN-13: 978-1684373994. Using his keen sense of smell and his problem-solving insights, James Kelly served as New York City's first subway "leak detective" and thwarted potential catastrophes in the metropolitan area's underground transportation system. STANDARD: ENGINEERING.
	HONEYBEE: THE BUSY LIFE OF APIS MELLIFERA. 2020. Candace Fleming. Illus. Eric Rohmann. Neal Porter Books. 40 pp. ISBN-13: 978-0823442850. Exquisite artwork and succinct science content combine to create an informative book about the life stages of a honeybee. Endnotes extend the science content to provide additional information about honey bee conservation efforts. STANDARD: LIFE SCIENCE.

References

Thomas, J., & Gulley, 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/

Jeff Thomas, Professor of Teacher Education at University of Southern Indiana, works with emerging and current elementary teachers to promote integration of inquiry-based science, children's literature, and technology.

Joyce Gulley, Professor of Teacher Education at University of Southern Indiana, works with teacher candidates to identify high quality children's literature to promote literacy and student engagement with text.

Kristin Rearden, Clinical Professor of Science Education at University of Tennessee, works with elementary and middle grades teacher candidates to support their implementation of research-based interdisciplinary instructional strategies in science.

Amy Broemmel, Associate Professor of Elementary and Literacy Education at University of Tennessee, works with elementary teacher candidates to support their implementation of research-based interdisciplinary instructional strategies.