

Diverse STEM Children’s Book:

An Annotated Bibliography

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Introduction

Women and people of color are underrepresented in the STEM fields. Most children by the age of fourteen have decided the direction of their future career—what if we could present more options to children that are female and of color? To do this, children’s STEM books with diverse sets of characters need to be introduced early and often. The following annotated bibliography has been written to encourage female children and children of color that they too can be part of the STEM fields.

The following list of recommended purchases is curated for children ages 0-6 years old around the topic of STEM. STEM is an acronym for Science, Technology, Engineering, and Math, and this idea has become a hot topic in the past 5 or so years. According to research, a child’s will to enter a STEM field for future employment is established before age 14, and the need for even more STEM professionals will grow and grow in the future (Raupp, 2018). Therefore, it is especially important to introduce very young minds to the STEM fields, so they may decide later if those subjects are of interest.

White males vastly outnumber the presence of women and people of color in the current world of STEM careers. Only 28% of current STEM professionals are women (AAUW, n.d.). For this annotated bibliography, it seemed imperative to include both

women and people of color as capable of achieving careers in STEM fields, and a focus on these underrepresented groups was brought into forming this recommended purchase list.

In order to narrow the overwhelming choices, lists of “best” STEM books were consulted. Book Riot (2024) was utilized as were several education websites, like Read Brightly (2024), Blooming Brilliant (2024), and Tiny Beans (2024). The National Science Teaching Association (2022) also keeps a list of top STEM books for each year as well as awards books yearly for excellence in STEM reading. All these sources were balanced against simple Amazon (2024) searches for popular STEM books. This collected list could, of course, look very different dependent on the librarian choosing the books, but it serves the purpose of sparking STEM interest in children 0-6 by exposing them to the ideas of STEM through a multicultural and varied gender lens.

Annotated Bibliography

STEM Ages 0 - 3

Carle, Eric. (1996). *1, 2, 3, to the zoo.* World of Eric Carle.

With full color illustrations in the classic Eric Carle style, this simple counting book starts where any future scientist will: basic counting skills. Each page features a number and an accompanying illustration of a matching number of animals, with a running tally at the bottom of all the animals. The numbers 1 through 10 are illustrated.

Dhoot, H. (2019). *Machine learning for kids.* Tinker Toddlers.

This book teaches the youngest readers the basic types of machine learning with simple language. The illustrations are bright, boxy, and orderly. There is a glossary of terms in the back and a series of questions for young minds to consider about machines.

Ferrie, C. (2018). [4 book set.] *ABCs of mathematics. ABCs of physics. ABCs of science. ABCs of space* (with author Kregenow, J.). Sourcebooks Explore.

These alphabet books each display a scientific term per letter under their respective theme. In addition to the term, there is a definition and longer explanation of the term's use. This way, the book grows with the child as they age.

Ferrie, C. (2019). *Goodnight lab: A scientific parody.* Sourcebooks Explore.

A girl of color works in her lab late as she says goodnight to all her instrumentation and objects in the lab. A parody of the famous *Goodnight Moon* by Brown, the illustrations are simplistic as in the original with a mix of color and grayscale. Teaches basic materials used in a laboratory while entertaining.

Kastner, E. (2021). [6 book set]. *Nerdy babies: Space. Nerdy babies: Ocean. Nerdy babies: Transportation. Nerdy babies: Weather. Nerdy babies: Rocks. Nerdy babies: Dinosaurs.* Roaring Book Press.

Jam packed with short explanations of vocabulary about the topic at hand, each Nerdy Babies book illustrates multicultural babies enjoying themselves as they learn about different topics. Adorable graphics of scientific phenomena complement the text that explains complex topics in relatable ways.

Litton, J. (2018). *Baby 101: Anatomy for babies.* (Elliott, T. Illus.). Doubleday Books for Young Readers.

In this book, simple, bright illustrations of a cast of multi-ethnic children accompany the simple explanations of body systems. Both boys and girls are featured with their body parts labeled and easy to understand text defines the major systems of the body. Bones, muscles, brain, skin, lungs, heart, and bowel are all included.

McKellar, D. (2018). *Bathtime mathtime.* (Padrón, A. Illus.). Crown Books for Young Readers.

The text of this book has a cute end rhyme while teaching the basics of addition. The story is of a child taking a bath, an everyday activity easily related to by children. The colorful tabs to the right help children see the addition happening on the pages.

Michal, Z. (2021). *All mommies love their babies.* (Shojaie, N. Illus.). Give Back Books, LLC.

This book chronicles how much moms love their children, except it is a biology book full of animals with scientific terms used to identify the mother and child. Physical details,

such as pectoral flippers, are used to describe each animal in accurate and fun ways. The lines end-rhyme, making it easy for children to enjoy the story of each animal.

Spiro, R. (2021). *Baby loves scientists!: You can be anything.* (Chan, I. Illus.).

Charlesbridge.

The adorable illustrations in this book feature both male and female characters of different ethnicities all while explaining several types of scientists and what each studies. Through bright, friendly illustrations children learn how they can turn their passions into practical modes of study.

Yi, A. S. (2018). *STEAM for babies: Science, technology, engineering, art, and math.*

CreateSpace Independent Publishing Platform.

Created in high contrast black, red, and white, this early learning STEAM book is svelte. Each page features a silhouette of an object related to STEAM with text in red for the child to learn new vocabulary.

STEM Ages 4 - 6

Beaty, A. (2017). *Rosie Revere's big project book for bold engineers.* (Roberts, D.

Illus.). Abrams Books for Young Readers.

Featuring Rosie Revere: Engineer from the picture book, this book of activities targets children with engineering experiments they can try at home. With interactive elements, the book presents not just activities to do, but also how to work and think as a scientist.

Betts, B. (2020). *My first book of planets: All about the solar system.* Rockridge Press.

This book utilizes simple, short sentences and comparisons to familiar objects and ideas to teach small children about the solar system where we live. It includes artist

renderings of the planets, actual satellite photography, and photos of familiar Earth settings to captivate young audiences. In the back of the book is a glossary of terms used.

Butterworth, C. *How does my home work?* (Gaggiotti, L. Illus.). Candlewick.

With a bend toward energy consciousness, this book covers the major systems of the home and their basic functioning. There is a short index in the back so children can find the topic they'd like to learn about. The illustrations are bright and boxy with easily understood diagrams.

Fliess, S. (2018). *Mary had a little lab.* (Bouloubais, P. Illus.). Albert Whitman & Company.

This rhyming tale of Mary the scientist creating cloned sheep in her lab is both funny and heartwarming. Mary, lonely in her lab, creates a machine to clone sheep, but when everyone in her class wants one, things get out of control as the machine clones too many sheep. After running amok in town, the sheep are gifted to farmers, and Mary, with her new human friends, create dazzling sweaters.

Kamkwamba, W. & Mealer, B. (2012). *The boy who harnessed the wind.* (Zunon, E. Illus.).

Dial Books for Young Readers.

This book is the story of a fourteen-year-old village boy in Malawi, Africa that brought electricity and water to his village. He taught himself English and used science texts from the library to learn about wind powered energy. This vibrantly illustrated true tale from Africa is one of triumph and determination overcoming difficult conditions because of a child's brilliance.

Maier, B. (2018). *The little red fort.* (Sánchez, S. Illus.). Scholastic Press.

In the lead role of this book is an Asian girl, Ruby, who works hard to build a fort while her lazy brothers deny her calls to help. The illustrations are full of chaotic energy and bright colors with large text. In the end Ruby receives some help from her brothers and invites them into the fort; there is an end note from the author about the inspiration for the story.

Meltzer, B. (2014). *I am Albert Einstein.* (Eliopoulos, C. Illus.). Dial Books.

This picture book focuses on Albert Einstein's young life up until he invented his famous $E=MC^2$ formula. It calls special attention to his curiosity and different style of thinking. It has comic book like speech bubbles, and in the back a timeline of his life and accomplishments as well as a quote from him about curiosity.

Parachini, J. (2021). *Listening to the stars: Jocelyn Bell Burnell discovers pulsars.* (Badiu, A. Illus.) Albert Whitman & Company.

The female scientist, Jocelyn Bell Burnell, has her story told through this picture book. It addresses both her work in physics and some of the sexism she faced as a woman in a predominantly male field. The illustrations are clean and bright, and a glossary of terms is in the back along with a note from the author covering more about Dame Burnell and other female scientists.

Slade, S. (2019). *A computer called Katherine: How Katherine Johnson helped put America on the moon.* (Jamison, V. M. Illus.). Little Brown Books for Young Readers.

This book follows the life of Katherine Johnson as she grew up being a math whiz and skipping grades to finally helping NASA get men to the moon. It does not shy away from the

fact that she was both a woman and African American, addressing that issue head on in an age-appropriate way. This book captures the inspiring tale of a great female mathematician who would not give up her dream and kept on counting.

Smith, K. (2020). *Boxitects*. Clarion Books.

Two girls of color lead this book of rivalry and eventual friendship. Meg and Simone both build fantastic structures from boxes, but they clash personalities at Maker School. Brilliant illustrations accompany the text that tells of the girls' fight and eventual camaraderie as they learn to appreciate each other's passion.

References

- AAUW. (n.d.). *The STEM gap: Women and girls in science, technology, engineering and mathematics*. AAUW.org. <https://www.aauw.org/resources/research/the-stem-gap/>
- Amazon. (2024). *Amazon*. <https://www.amazon.com/>
- Beaty, A. (2017). *Rosie Revere's big project book for bold engineers* (Roberts, D. Illus.). Abrams Books for Young Readers.
- Betts, B. (2020). *My first book of planets: All about the solar system*. Rockridge Press.
- Blooming Brilliant. (2024). *Blooming Brilliant*. <https://www.bloomingbrilliant.net/>
- Book Riot. (2024). *Book Riot*. <https://bookriot.com/>
- Butterworth, C. *How does my home work?* (Gaggiotti, L. Illus.). Candlewick.
- Carle, Eric. (1996). *1, 2, 3, to the zoo*. World of Eric Carle.
- Dhoot, H. (2019). *Machine learning for kids*. Tinker Toddlers.
- Ferrie, C. (2018). [4 book set.] *ABCs of mathematics. ABCs of physics. ABCs of science. ABCs of space*. (with author Kregenow, J.). Sourcebooks Explore.
- Ferrie, C. (2019). *Goodnight lab: A scientific parody*. Sourcebooks Explore.
- Fliess, S. (2018). *Mary had a little lab*. (Bouloubais, P. Illus.). Albert Whitman & Company.
- Kamkwamba, W. & Mealer, B. (2012). *The boy who harnessed the wind*. (Zunon, E. Illus.). Dial Books for Young Readers.
- Kastner, E. (2021). [6 book set]. *Nerdy babies: Space. Nerdy babies: Ocean. Nerdy babies: Transportation. Nerdy babies: Weather. Nerdy babies: Rocks. Nerdy babies: Dinosaurs*. Roaring Book Press.
- Litton, J. (2018). *Baby 101: Anatomy for babies*. (Elliott, T. Illus.). Doubleday Books for

Young Readers.

Maier, B. (2018). *The little red fort*. (Sánchez, S. Illus.). Scholastic Press.

McKellar, D. (2018). *Bathtime mathtime*. (Padrón, A. Illus.). Crown Books for Young Readers.

Meltzer, B. (2014). *I am Albert Einstein*. (Eliopoulos, C. Illus.). Dial Books.

Michal, Z. (2021). *All mommies love their babies*. (Shojaie, N. Illus.). Give Back Books, LLC.

National Science Teaching Association. (2022). *Best STEM books K-12: 2022*.

<https://www.nsta.org/beststem22>

Parachini, J. (2021). *Listening to the stars: Jocelyn Bell Burnell discovers pulsars*. (Badiu, A. Illus.) Albert Whitman & Company.

Raupp, A. B. (2018, November 8). *Moving target: Preparing today's minds for the STEM jobs of tomorrow*. Forbes.com.

<https://www.forbes.com/sites/forbestechcouncil/2018/11/08/moving-target-preparing-todays-minds-for-the-stem-jobs-of-tomorrow/?sh=4623642fe147>

Read Brightly. (2024). *Read Brightly*. <https://www.readbrightly.com/>

Slade, S. (2019). *A computer called Katherine: How Katherine Johnson helped put America on the moon*. (Jamison, V. M. Illus.). Little Brown Books for Young Readers.

Smith, K. (2020). *Boxitects*. Clarion Books.

Tiny Beans. (2024). *Books*. <https://tinybeans.com/books/>

Yi, A. S. (2018). *STEAM for babies: Science, technology, engineering, art, and math*.

CreateSpace Independent Publishing Platform.