

BOOKS ABOUT CHEMISTRY FOR YOUNG READERS

This list contains a selection of fiction and non-fiction books related to chemistry—the theme of GSK Science in the Summer™ in 2020. Most are recent publications; some are older favorites.

Chemistry is the study of all the “stuff”—the matter—that makes up the world. Chemistry is everywhere! As a result, this list covers a wide range of topics.

The Database of Award-Winning Children's Literature, American Library Association (ALA), American Association for the Advancement of Science (AAAS), and National Science Teachers Association (NSTA), along with reviews and other resources, were consulted to develop this list. Descriptions were mainly adapted from information provided by the publishers.

NONFICTION

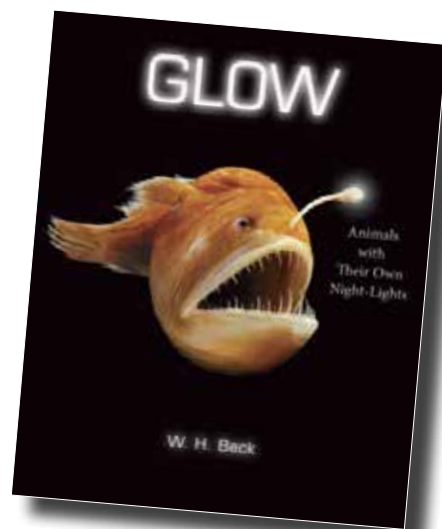
GENERAL KNOWLEDGE AND HANDS-ON ACTIVITIES

Glow: Animals with Their Own Night-Lights

By W. H. Beck

Reading age range: 4-7 years

(2015) Why be afraid of the dark when there is so much to see? Whether it's used to hunt, hide, find a friend, or escape an enemy, bioluminescence—the ability to glow—is an intriguing natural adaptation made possible by special chemicals. Join world-renowned photographers and biologists on their close encounters with the curious creatures that make their own light. *NSTA Outstanding Science Trade Book*

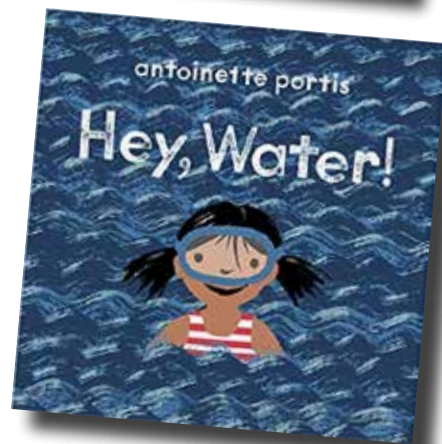


Hey, Water!

By Antoinette Portis

Reading age range: 4-8 years

(2019) Splash! A spunky little girl plays a spirited game of hide-and-seek with water in this picture book from award-winning author-illustrator Antoinette Portis. As the child explores her surroundings, she sees that water is everywhere. But water doesn't always look the same, it doesn't always feel the same, and it shows up in lots of different shapes. Water can be a lake, it can be steam, it can be a tear, or it can even be a snowman. The book ends with the child's gratitude for all water does: “Hey, water, thank you!” At the back of this book, readers will find accessible information on the water cycle, water conservation, and more. *A School Library Journal Best Book of the Year*

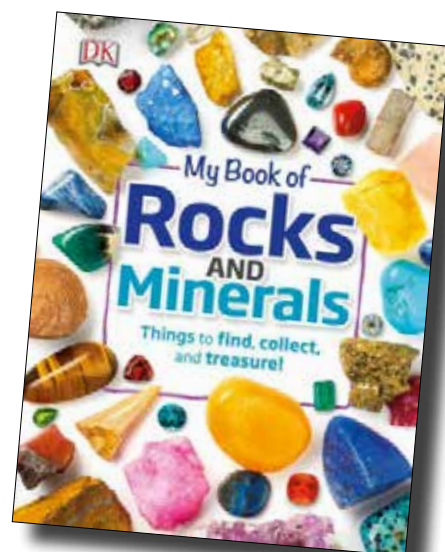


My Book of Rocks and Minerals: Things to Find, Collect, and Treasure!

By Devin Dennie

Reading age range: 6-9 years

(2017) This highly visual children's reference from DK Children explains what rocks and minerals are, how they form, and how they're used, as well as highlights astounding record breakers and amazing facts. *My Book of Rocks and Minerals* is filled with fascinating information about and amazing images of rocks, minerals, gems, and fossils from the deepest caves to outer space. Features introduce different categories, from crystals to glow-in-the-dark minerals, and illuminating high-resolution images offer a closer look at awesome geological formations. Kids can take their fascination one step further and use the catalog and activity pages to help them collect and group rocks, and to discover how different rock types fit into the world around them.



Burn: Michael Faraday's Candle

By Darcy Pattison and Michael Faraday; illustrated by Peter Willis

Reading age range: 6-12 years

(2016) What makes a candle burn? Solid wax is somehow changed into light and heat. But how? Travel back to December 28, 1848—to one of the most famous juvenile science Christmas lectures at the Royal Institution in London, England. British scientist Michael Faraday (1791-1867) encouraged kids to carefully observe a candle and to try to figure out how it burned. Faraday is known as one of the best science experimenters ever. His passion was always to answer the basic questions of science: “What is the cause? Why does it occur?” Since Faraday's lecture, “The Chemical History of a Candle,” was published in 1861, it's never been out of print; however, it's never been published as a children's picture book—until now. Faraday originally gave seven lectures on how a candle burns. Pattison has adapted the first 6000-word lecture to about 650 words for modern elementary students.



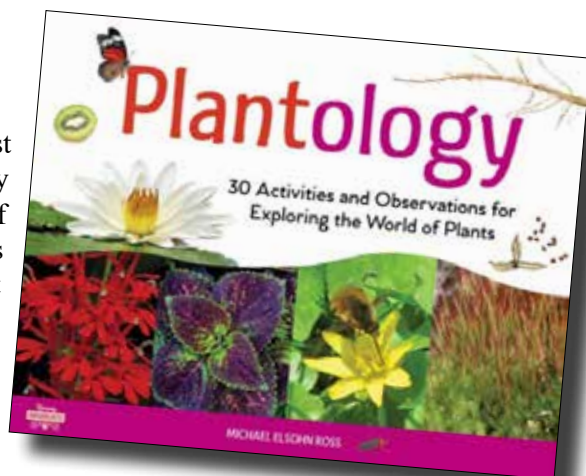
MOREHEAD

Plantology: 30 Activities and Observations for Exploring the World of Plants

By Michael Elsohn Ross

Reading age range: 7 years and up

(2019) Did you know ... scientists believe that mosses, the first plants, may have changed Earth's climate from hot to cold by removing carbon dioxide from the atmosphere? Many members of the cabbage family release a poison gas to fend off grazers? Plants are used in thousands of industries, from low-cost sewage treatment to new medical cures? *Plantology* contains fun, kid-friendly discussions and activities to explore many topics—from seeds, roots, and sprouts to plant skeletons, leaves, petals, and fruits. It then goes beyond the basics to delve into the unknown world of common weeds, fascinating plant defense systems, and the countless roles plants play in our lives. With encouragement to “Try This,” “Smell It,” and “Look For,” kids participate in hands-on activities that promote observation



and analysis, writing and drawing, math and science. They can keep a plant journal, discover plant-based and chemically produced fibers in clothing, start a seed collection, make tasty vegetarian dishes, and more. Readers from any environment will start to notice the plants all around them. *Finalist, AAAS/Subaru SB&F Prize for Excellence in Hands-On Science Books*

Science in a Jar: 35+ Experiments in Biology, Chemistry, Weather, the Environment, and More!

By Julia Garstecki

Reading age range: 8-12 years

(2019) With *Science in a Jar*, kids and grown-ups need only gather a jar and a few other inexpensive and readily available household objects to begin investigating the science at work all around them. Some activities, like creating a cloud in a jar, are quick experiments that can be performed over and over again. Others, like the earthworm habitat, will be enjoyed over time. *Science in a Jar* also features projects that help demonstrate how science and art intertwine. Directions and photographs guide readers through each experiment, while short features offer explanations of terms, interesting facts, and descriptions of how scientists apply the concepts that readers just witnessed. *Finalist, AAAS/Subaru SB&F Prize for Excellence in Hands-On Science Books*

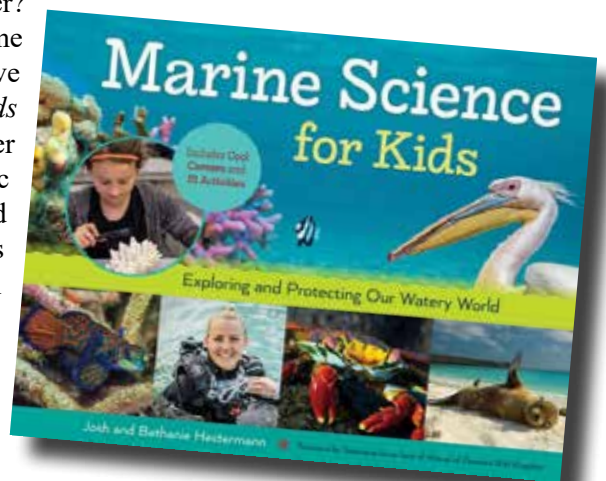


Marine Science for Kids: Exploring and Protecting Our Watery World: Includes Cool Careers and 21 Activities

By Bethanie Hestermann and Josh Hestermann

Reading age range: 9-12 years

(2017) Do you ever dream of being a marine explorer or adventurer? Are you a fan of cool, cute, or creepy creatures? Then here's some good news: some of the coolest, cutest, and creepiest creatures live in Earth's oceans and other watery places. *Marine Science for Kids* is a colorful, fun, photo-filled guide to exploring our underwater world. In these pages, you'll delve deep into the science of aquatic study, including geology, chemistry, and biology in both salt- and freshwater environments. You'll discover how and why oceans move, and learn the answers to questions such as "Why is the ocean blue?" You'll meet sharks and rays, penguins and other seabirds, whales and dolphins, squids and octopuses, and many more creatures. You'll uncover some of the most pressing challenges facing marine environments and find out how you can use your talents to make a difference. Hands-on activities include making an edible coral reef, exploring marine camouflage, constructing a water-propelled squid, testing methods of cleaning up an oil spill, experimenting with ocean acidification, and much more.

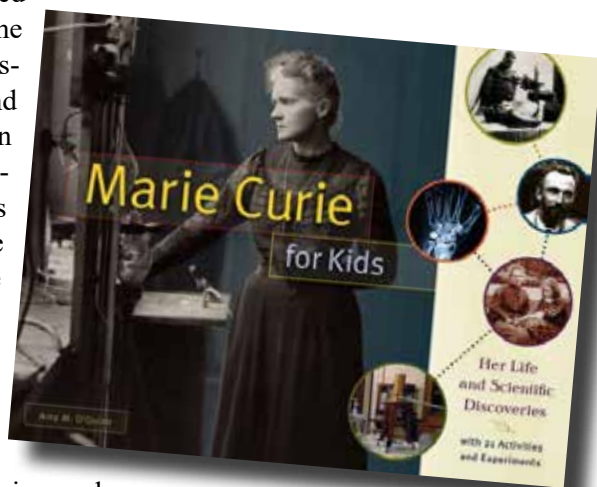


Marie Curie for Kids: Her Life and Scientific Discoveries, with 21 Activities and Experiments

By Amy M. O'Quinn

Reading age range: 9-12 years

(2016) As a girl growing up in her native Poland, Marie Curie reveled in reading, learning, and exploring nature. She went on to become one of the world's most famous scientists. Curie's revolutionary discoveries over several decades created the field of atomic physics, and Curie herself coined the word radioactivity. She was the first woman to win a Nobel Prize and the first person ever to win in two different fields—chemistry and physics. *Marie Curie for Kids* introduces this legendary figure in all her complexity. Kids learn how Curie worked alongside her husband and scientific partner, Pierre, while also teaching and raising two daughters; how this intense scientist sometimes became so involved with her research that she forgot to eat or sleep; and how she struggled with health issues, refused to patent her discoveries (which would have made her very wealthy), and made valuable contributions during World War I. Hands-on activities that illuminate Curie's life and work invite kids to examine real World War I X-rays, make a model of the element carbon, make traditional Polish pierogies, and much more. *NSTA Outstanding Science Trade Book*

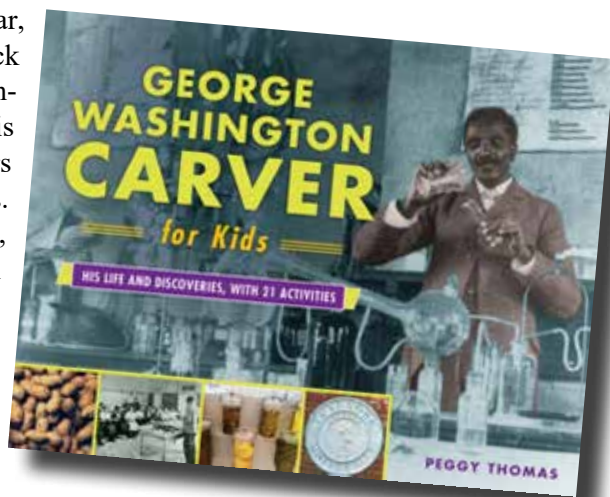


George Washington Carver for Kids: His Life and Discoveries, with 21 Activities

By Peggy Thomas

Reading age range: 9-12 years

(2019) George Washington Carver was a scientist, educator, artist, inventor, and humanitarian. Born into slavery during the Civil War, he later pursued an education and would become the first black graduate from Iowa Agricultural College. Carver then took a teaching position at the Tuskegee Institute in Alabama, where he used his training as an agricultural chemist to teach poor Southern farmers how to nourish the soil, conserve resources, and feed their families. He also developed hundreds of new products from the sweet potato, peanut, and other crops, and his discoveries gained him a place in the national spotlight. *George Washington Carver for Kids* tells the inspiring story of this remarkable American, and includes hands-on activities to help kids better appreciate Carver's genius. Kids construct a model of a sod house, brew ginger tea, create paints using items found in nature, grow sweet potatoes, build a compost bin for kitchen and yard waste, and more! *Finalist, AAAS/Subaru SB&F Prize for Excellence in Hands-On Science Books*



Try This! Extreme: 50 Fun & Safe Experiments for the Mad Scientist in You

By Karen Romano Young

Reading age range: 10 years and up

(2017) Discover what makes science fun in this engaging book filled with weird, wacky science facts, basic principles, and 50 creative science projects that take interactivity to a whole new level. Dynamic photos and art highlight projects step by step so kids can conduct experiments with confidence and accuracy. Most projects involve kid-friendly subjects like electrical charges, chemical explosions, and food chemistry and are based on materials easily found at home. Bonus projects throughout encourage curious kids to dig deeper and experiment on their own. *Finalist, AAAS/Subaru SB&F Prize for Excellence in Hands-On Science Books*



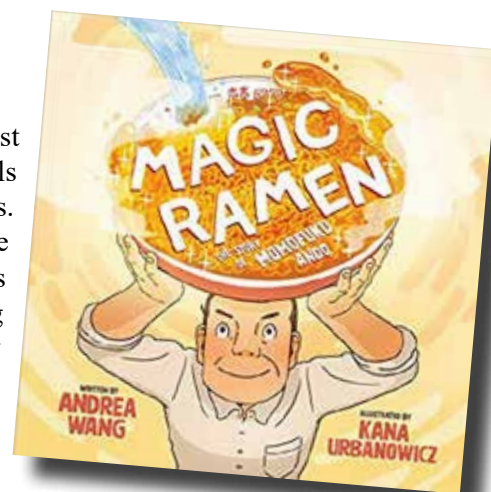
BIOGRAPHY

Magic Ramen: The Story of Momofuku Ando

By Andrea Wang; illustrated by Kana Urbanowicz

Reading age range: 4-8 years

(2019) According to the American Chemistry Society, “Cooking is just applied chemistry, and chemistry is a lot like cooking.” *Magic Ramen* tells the true story behind the creation of one of the world’s most popular foods. Inspiration struck when Momofuku Ando spotted the long lines for a simple bowl of ramen following World War II. Every day, he would retire to his lab—a little shed in his backyard. For years, he’d dreamed about making a new kind of ramen noodle soup that was quick, convenient, and tasty for the hungry people he’d seen in line for a bowl on the black market following World War II. *Peace follows from a full stomach*, he believed. Day after day, Ando experimented. Night after night, he failed. But Ando kept experimenting and—with perseverance, creativity and a little inspiration—he succeeded. *School Library Journal*’s starred review called this an “inspiring story of persistence.”



Moth and Wasp, Soil and Ocean: Remembering Chinese Scientist Pu Zhelong's Work for Sustainable Farming

By Sigrid Schmalzer; illustrated by Melanie Linden Chan

Reading age range: 6-8 years

(2018) “The first time I saw a scientist in my village was also the first time I saw a wasp hatch out of a moth’s egg,” writes the narrator of this picture book about Chinese scientist Pu Zhelong. “In that moment I could not have said which was the more unexpected—or the more miraculous.” In the early 1960s, while Rachel Carson was writing and defending *Silent Spring* in the United States, Pu Zhelong was teaching farmers in Mao Zedong’s Communist China how to forgo pesticides and instead use parasitic wasps to control the moths that were decimating crops and contributing to China’s



widespread famine. This story told through the memories of a farm boy (a composite of people inspired by Pu Zhelong) will immerse young readers in Chinese culture, the natural history of insects, and sustainable agriculture. *Notable Social Studies Trade Book for Young People*

The Crayon Man: The True Story of the Invention of Crayola Crayons

By Natascha Biebow; illustrated by Steven Salerno
Reading age range: 6-9 years

(2019) Celebrate the inventor of the Crayola crayon! What child doesn't love to hold a crayon in their hands? But children didn't always have such magical boxes of crayons. Before Edwin Binney set out to change things, children couldn't really even draw in color. This picture book tells the true story of an inventor who so loved nature's vibrant colors that he found a way to bring the outside world to children—in a bright green box for only a nickel! With experimentation, and a special knack for listening, Edwin and his dynamic team at Crayola created one of the world's most enduring, best-loved childhood toys—empowering children to dream in COLOR!



Mario and the Hole in the Sky: How a Chemist Saved Our Planet

By Elizabeth Rusch; illustrated by Teresa Martinez

Mario y el agujero en el cielo: Cómo un químico salvó nuestro planeta

By Elizabeth Rusch; illustrated by Teresa Martinez; translated by Carlos E. Calvo

Reading age range: 6-9 years

(2019) This is the true story of how a scientist saved the planet from environmental disaster. Mexican American Mario Molina is a modern-day hero who helped solve the ozone crisis of the 1980s. Growing up in Mexico City, Mario was a curious boy who studied hidden worlds through a microscope. As a young man in California, he discovered that CFCs, used in millions of refrigerators and spray cans, were tearing a hole in Earth's protective ozone layer. Mario knew the world had to be warned—and quickly. Today Mario is a Nobel laureate and a recipient of the Presidential Medal of Freedom. His inspiring story gives hope in the fight against global warming.



The Bluest of Blues: Anna Atkins and the First Book of Photographs

By Fiona Robinson
Reading age range: 6-9 years

(2019) *The Bluest of Blues* is an illustrated biography of botanist and photographer Anna Atkins (1799–1871)—the first person to ever publish a book of photography. After losing her mother very early in life, Anna was raised by her loving father. He gave her a scientific education, which was highly



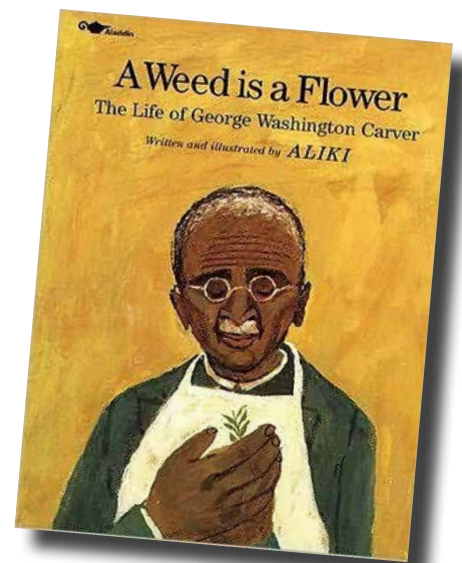
unusual for women and girls in the early 19th century. Fascinated with the plant life around her, Anna became a botanist. She recorded all her findings in detailed illustrations and engravings, until the invention of cyanotype photography in 1842. Anna used this new technology to catalogue plant specimens—a true marriage of science and art. In 1843, she published *Photographs of British Algae: Cyanotype Impressions*, considered the first book of photographs ever published. Weaving together histories of women, science, and art, *The Bluest of Blues* will inspire young readers to embark on their own journeys of discovery and creativity.

A Weed Is a Flower: The Life of George Washington Carver

By Alik

Reading age range: 7-9 years

(1988) *A Weed Is a Flower* was first published in 1965 and continues to be widely read. This picture book presents the life of an extraordinary man, who was born into slavery, became a scientist, and devoted his life to helping the South improve its agriculture. Author-illustrator Alik tells how, from very difficult beginnings, George Washington Carver worked to become one of the great scientists of the United States.

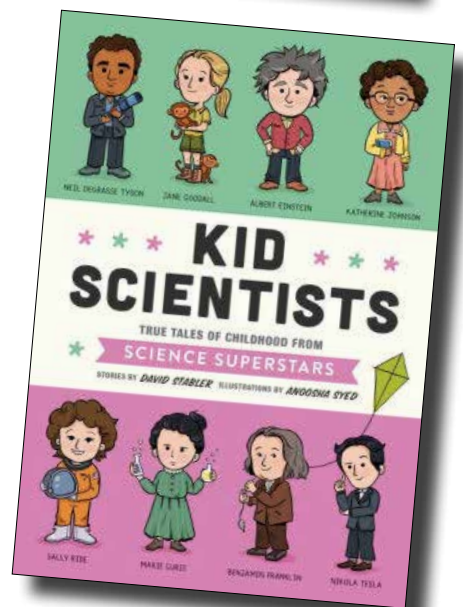


Kid Scientists: True Tales of Childhood from Science Superstars

By David Stabler; illustrated by Anoosha Syed

Reading age range: 9-12 years

(2018) Every great scientist started out as a kid. Before their experiments, inventions, and discoveries that changed the world, the world's most celebrated scientists had regular-kid problems. Stephen Hawking hated school, and preferred to spend his free time building model airplanes, inventing board games, and even building his own computer. Jane Goodall got in trouble for bringing worms and snails into her house. And Neil deGrasse Tyson had to start a dog-walking business to save up money to buy a telescope. Through kid-friendly texts and full-color cartoon illustrations on nearly every page, *Kid Scientists* tells stories from the challenging yet defining growing-up years of a diverse and inclusive group of 16 brilliant scientists, including notable chemists such as Marie Curie and Rosalind Franklin. *Finalist, AAAS/Subaru SB&F Prize for Excellence in Middle Grades Science Books*

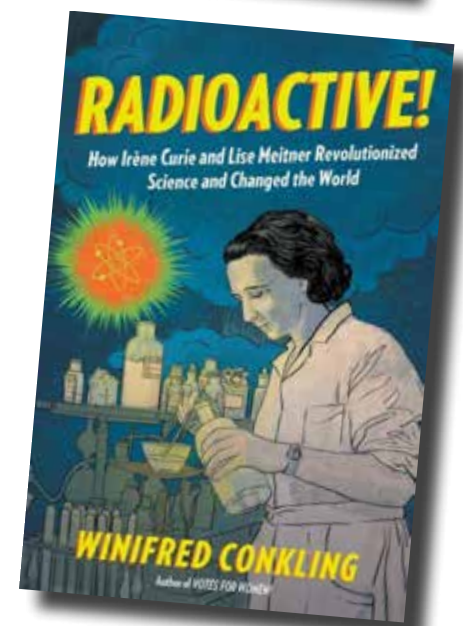


Radioactive! How Irène Curie and Lise Meitner Revolutionized Science and Changed the World

By Winifred Conkling

Reading age range: 10-14 years

(2018) This is the fascinating, little-known story of how two brilliant female physicists' groundbreaking discoveries led to the creation of the atomic bomb. In 1934, Irène Curie, working with her husband and fellow scientist, Frederic Joliot, made a discovery that would change the world: artificial radioactivity. This breakthrough allowed scientists to modify elements and create new ones



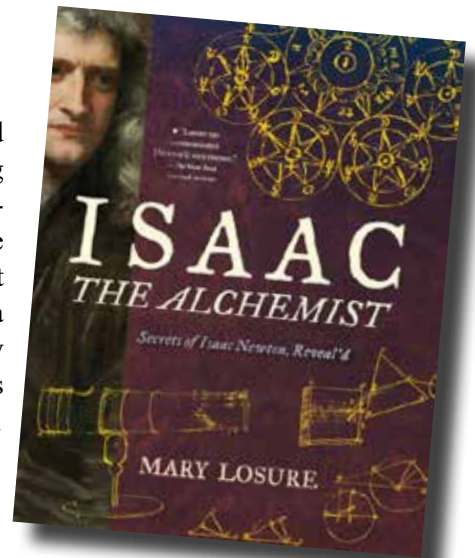
by altering the structure of atoms. Curie shared a Nobel Prize with her husband for their work. But when she was nominated to the French Academy of Sciences, the academy denied her admission and voted to disqualify all women from membership. Four years later, Curie's breakthrough led physicist Lise Meitner to a brilliant leap of understanding that unlocked the secret of nuclear fission. Meitner's unique insight was critical to the revolution in science that led to nuclear energy and the race to build the atom bomb, yet her achievement was left unrecognized by the Nobel committee in favor of that of her male colleague. *NSTA Outstanding Science Trade Book*

Isaac the Alchemist: Secrets of Isaac Newton, Revealed

By Mary Losure

Reading age range: 10 years and up

(2018) Before Isaac Newton became the father of physics, an accomplished mathematician, or a leader of the scientific revolution, he was a boy living in an apothecary's house, observing and experimenting, recording his observations of the world in a tiny notebook. As a young genius living in a time before science as we know it existed, Isaac studied the few books he could get his hands on, built handmade machines, and experimented with alchemy—a process of chemical reactions that seemed, at the time, to be magical. Mary Losure's riveting narrative nonfiction account of Isaac's early life traces his development as a thinker from his childhood, in friendly prose that will capture the attention of today's budding scientists—as if by magic. *NSTA Outstanding Science Trade Book*

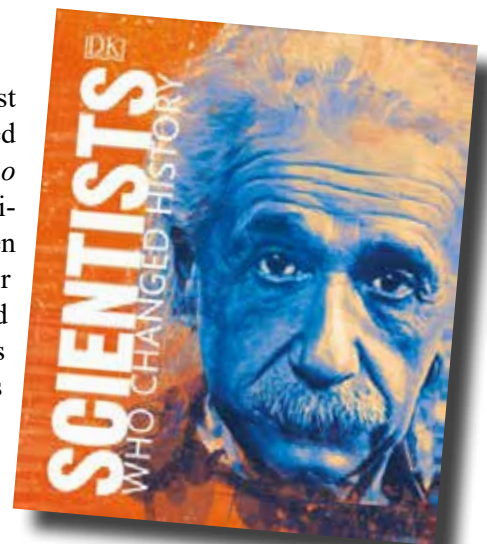


Scientists Who Changed History

By DK

Reading age range: 11 years and up

(2019) Explore the lives and achievements of more than 85 of the world's most inspirational and influential scientists with this boldly graphic, biography-led book. The second title in DK's new illustrated biography series, *Scientists Who Changed History* profiles trailblazing individuals from ancient mathematicians such as Archimedes and Hipparchus to modern greats such as Stephen Hawking and Tim Berners-Lee. Each featured individual has made a major contribution to one or more scientific fields, from chemistry, astronomy, and psychology, to computer science, geology, and biology. Combining elements of biography, history, and analysis, *Scientists Who Changed History* explains the groundbreaking contributions made by these revolutionary men and women in a clear and informative way.



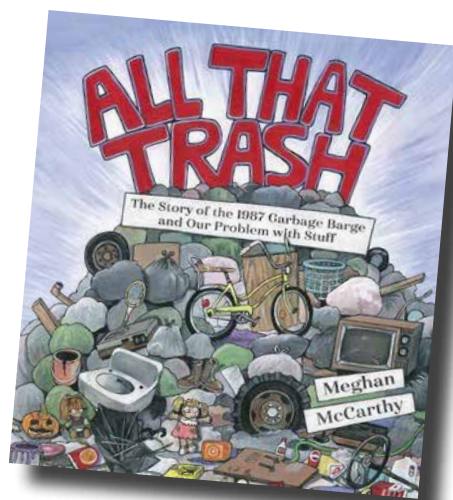
HISTORY

All That Trash: The Story of the 1987 Garbage Barge and Our Problem with Stuff

By Meghan McCarthy

Reading age range: 4-8 years

(2018) A garbage barge that can't find a place to welcome it sparks a recycling movement in the United States in this smart and smelly picture book from the author of *Earmuffs for Everyone*. Lowell Harrelson wanted to turn trash into methane gas, so he rented a barge called *Morbo 4000*. He planned to ship the garbage from New York to North Carolina, but as the barge floated down the coast, no state would let him dock because of the smelly waste on board! The barge became a mockery and the subject of many jokes in the media, and what started as an attempted business venture turned into quite the predicament for Mr. Harrelson. *Morbo 4000* roamed the seas for 45 days and traveled 6,000 miles. While awaiting its fate, the trash floated in New York's harbor, garnering much attention from onlookers. Greenpeace activists put up a large banner across the barge that read, "NEXT TIME ... TRY RECYCLING." Even though the garbage barge was a farce, the unintended consequence inspired America to find a new way to deal with its trash. *ALA Notable Children's Book*

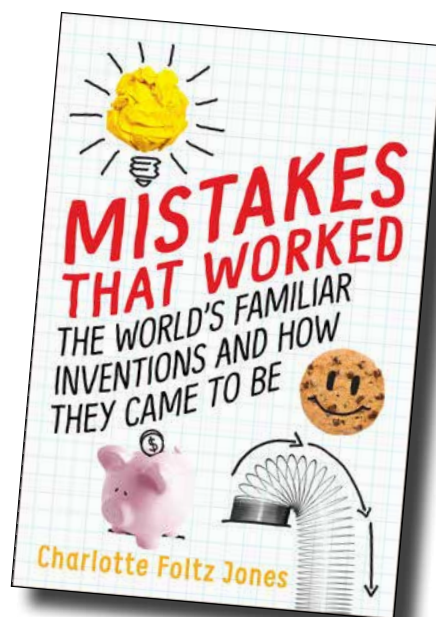


Mistakes That Worked: The World's Familiar Inventions and How They Came to Be

By Charlotte Foltz Jones; illustrated by John O'Brien

Reading age range: 8-12 years

(2016) Do you know how many things in your daily life were invented by accident? Sandwiches came about when an English earl was too busy gambling to eat his meal and needed to keep one hand free. Potato chips were first cooked by a chef who was furious when a customer complained that his fried potatoes weren't thin enough. Coca-Cola, Silly Putty, and X-rays have fascinating stories behind them, too! Their unusual tales, and many more, along with hilarious cartoons and weird, amazing facts, make up this fun-filled book about everyday items that had surprisingly haphazard beginnings. *Booklist's* starred review called this a "splendid book that is as informative as it is entertaining."



How We Got to Now: Six Innovations That Made the Modern World

By Steven Johnson

Reading age range: 10 years and up

(2018) Did you drink a glass of water today? Did you turn on a light? Did you think about how miraculous either one of those things is when you did it? *New York Times*-bestselling author Steven Johnson has. This adaptation of his adult book and popular PBS series explores the fascinating stories of innovations—like clean drinking water and electricity—that changed the way people live. Johnson connects history, geography, politics, and scientific advances with the deep curiosity of inventors or quirky interests of tinkerers to show how



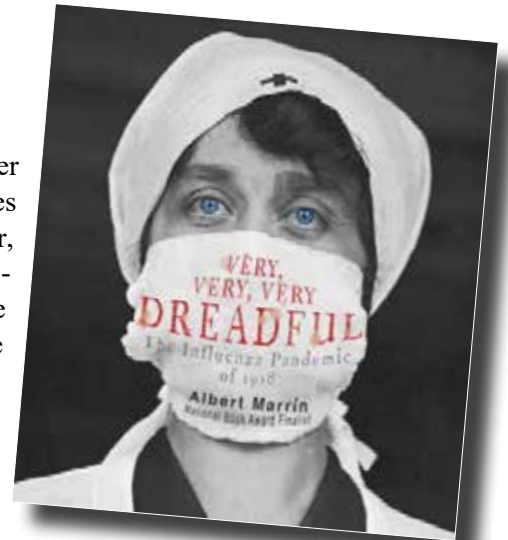
innovation truly comes about. This fresh exploration of six simple concepts—glass, cold, sound, clean, time, light—creates an endlessly absorbing story that moves from lightning strikes in the prehistoric desert to the herculean effort to literally raise up the city of Chicago to laser labs straight out of a sci-fi movie. In other words, it's the story of how we got to now! *NSTA Outstanding Science Trade Book*

Very, Very, Very Dreadful: The Influenza Pandemic of 1918

By Albert Marrin

Reading age range: 12-17 years

(2018) Of all diseases, the 1918 flu was by far the worst that has ever afflicted humankind. Not even the Black Death of the Middle Ages comes close in terms of the number of lives it took. No war, no natural disaster, no famine has claimed so many. In the space of eighteen months in 1918-1919, about 500 million people—one-third of the global population at the time—came down with influenza. The exact total of lives lost will never be known, but the best estimate is between 50 and 100 million. In this powerful book filled with black and white photographs, National Book Award finalist Albert Marrin examines the history, science, and impact of this great scourge—and the possibility for another worldwide pandemic today. *NSTA Outstanding Science Trade Book*



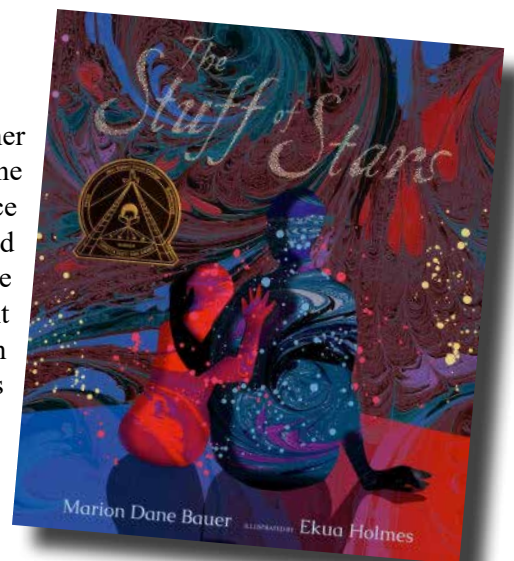
FICTION AND VERSE

The Stuff of Stars

By Marion Dane Bauer; illustrated by Ekua Holmes

Reading age range: 4-8 years

(2018) In an astonishing unfurling of our universe, Newbery Honor winner Marion Dane Bauer and Caldecott Honor winner Ekua Holmes celebrate the birth of every child. Before the universe was formed, before time and space existed, there was ... nothing. But then ... BANG! Stars caught fire and burned so long that they exploded, flinging stardust everywhere. And the ash of those stars turned into planets. Into our Earth. And into us. Poetic text takes readers from the trillionth of a second when our universe was born to the singularities that became each one of us, while vivid illustrations capture the void before the Big Bang and the ensuing life that burst across galaxies. A seamless blend of science and art, this picture book reveals the composition of our world and beyond—and how we are all the stuff of stars. *Coretta Scott King Illustrator Award Winner*



Georgia's Terrific, Colorific Experiment

By Zoe Persico

Reading age range: 4-8 years

(2019) Science and art come together in this colorful and empowering picture book about a strong-minded scientist and her artist family. Is it possible for science and art to really mix? Georgia wants to be a scientist, and a great one at that. But in order to become a great scientist, she must first create her own, unique experiment. Her mother, father, grandma, and brother all want to help, but they're artists. How could they possibly help her with science? Everyone knows art and science just don't go together! As Georgia struggles to create her unique experiment, she eventually learns that sometimes science, too, can be a work of art.



The Princess in Black and the Science Fair Scare

By Shannon Hale and Dean Hale; illustrated by LeUyen Pham

Reading age range: 5-8 years

(2019) *It's mayhem at the science fair! A squishy goo monster is a challenge for the Princess in Black—but luckily some science-loving princesses are on hand to help.* Princess Magnolia is excited. Excited and nervous. She's going to the Interkingdom Science Fair today to present her poster about seeds and plants—and when she arrives, she sees that her friends are there, too! Princess Honeysuckle made a mole habitat, Princess Sneezewort has built a blanket fort, and Tommy Wigtower has a talking volcano that's saying “EAAAAT!” Wait, what? A surprise goo monster makes this a job for the Princess in Black, and the Princess in Blankets is on the scene to lend a hand. But will two masked heroes be enough to save the science fair? A little scientific problem-solving—and a lot of princess power—will make the sixth entry in this *New York Times* best-selling series a smash hit with young readers.



Ada Twist and the Perilous Pants (The Questioners Series #2)

By Andrea Beaty; illustrated by David Roberts

Reading age range: 6-9 years

(2019) In this chapter book, Ada Twist must rely on her curious mind, her brave spirit, and her best pals Rosie Revere and Iggy Peck to solve a mystery in her own backyard. A scientist to her very core, Ada asks “why” again and again. One question always leads to another, until she's off on a journey of discovery! When Rosie's Uncle Ned gets a little carried away wearing his famous helium pants, it's up to Ada and friends to chase him down. As Uncle Ned floats farther and farther away, Ada starts asking lots of questions: How high can a balloon float? Is it possible for Uncle Ned to float into outer space? And what's the best plan for getting him down?



The Blackthorn Key

By Kevin Sands

Reading age range: 10-14 years

(2016) Christopher Rowe was happy learning how to solve complex codes and puzzles and creating powerful medicines, potions, and weapons as an apprentice to Master Benedict Blackthorn—with maybe an explosion or two along the way. But when a mysterious cult begins to prey on London’s apothecaries, the trail of murders grows closer and closer to Blackthorn’s shop. With time running out, Christopher must use every skill he’s learned to discover the key to a terrible secret with the power to tear the world apart. *Publishers Weekly*’s starred review noted that “readers with an existing interest in chemistry, history, and decoding puzzles” will find this story “especially intriguing.” This is Book 1 in the Blackthorn Key Series—four books published in 2016-2019.

ALA Notable Children’s Book

