

Linking Science, Engineering, and Language Literacy in the K-6 Classroom

Bibliography

Barretta, G. *Neo Leo: The Ageless Ideas of Leonardo da Vinci*. (2009). New York: Henry Holt. K-5

At once an artist, inventor, engineer, and scientist, da Vinci wrote and drew detailed descriptions of what would later become hang gliders, automobiles, robots, and much more. This book shows how Leonardo's ideas—many inspired by his love of nature—foreshadowed modern inventions, offering a window into the future.

Barton, C. *The Day-Glo Brothers*. (2009). Watertown, MA: Charlesbridge. Grades 3-5
Joe and Bob Switzer were brothers who experimented with ultraviolet light and fluorescent paints. Together they invented a whole new kind of color, one that glows with an extra-special intensity—Day-Glo, making the world a brighter place. The actual book is printed using three Day-Glo colors: Saturn Yellow, Fire Orange, and Signal Green.

Briggs, J. *Snowflake Bentley*. (1998). Boston: Houghton Mifflin. K-5

This beautifully illustrated story tells about the perseverance of the man who had a scientist's vision and a passion for nature and developed the method for photographing snowflakes. This book won a Caldecott Medal.

Clements, A. *The Handiest Things in the World*. ((2010). New York: Simon & Schuster. K-2

The work done by hands paved the way for some of the world's most useful tools. Read the story of some of our favorite tools.

Driscoll, L. *George Washington Carver: The Peanut Wizard*. (2003). New York: Grosset & Dunlap. 2-5

George Washington Carver was responsible for the popularity of peanuts. Born into slavery, his dedication and unquenchable thirst for knowledge drove him to become a professor at a time when most institutions of higher learning were closed to blacks. This book explores the brilliant career and discoveries of one of the world's most renowned plant experts.

Dooling, M. *Young Thomas Edison*. (2005). New York: Holiday House. K-5

This book explores the beginnings of Thomas Edison, who was to become the inventor of the incandescent light bulb, tinfoil phonograph, and many other great inventions.

Hatkoff, J, Hatkoff, I., & Hatkoff, C. *Winter's Tail*. (2009). New York: Scholastic. K-5. The amazing story of an injured bluenose dolphin that learned to swim again through the efforts of a team of experts who make prosthetics. When her tail fell off due to her injuries, Winter, the dolphin, learned to use a prosthetic tail to swim again. Winter is now the subject of a new hit movie. This book was selected by NSTA as an Outstanding Science Trade Book.

Kramer, S. *Theodoric's Rainbow*. (1995). New York: W.H. Freeman & Co. 2-5. A fictitious account of a monk who investigated rainbows by using a prism to create a spectrum on the walls inside the monastery where he lived. Read the story of his amazing discovery.

Krull, K. *The Boy Who Invented T.V: The Story of Philo Farnsworth*. (2009). New York: Alfred A. Knopf. Plowing a potato field in 1920, a 14-year-old farm boy from Idaho saw in the parallel rows of overturned earth a way to "make pictures fly through the air." This boy was not a magician; he was a scientific genius and just eight years later he made his brainstorm in the potato field a reality by transmitting the world's first television image. This fascinating picture-book biography of Philo Farnsworth covers his early interest in machines and electricity, leading up to how he put it all together in one of the greatest inventions of the 20th century. The author's afterword discusses the lawsuit Farnsworth waged and won against RCA when his high school science teacher testified, using a notebook entry Philo made, that Philo's invention of television was years before RCA's.

Lasky, K. *The Librarian Who Measured the Earth*. (1994). Boston: Little, Brown, & Co. 2-8. This lively picture book biography tells the story of a man in ancient Greece who devised a way to measure the circumference of the Earth. Eratosthenes knew he couldn't walk around the Earth to measure it, so he used observation, mathematics, a stick, and shadows to solve the problem.

Lee, D. *Biomimicry*. (2011). Biomimicry examines the extraordinary innovations of the natural world and the human inventions they have inspired, such as high-performance swimsuits modeled after sharkskin and the sleek front ends of Japanese bullet trains based on the long, streamlined beak of the kingfisher. There's also plenty about what glimmers on the horizon: A Brazilian beetle may be key to developing computers that run on light, and the gecko's humble foot may hold the secret to revolutionizing the way surgical wounds are closed. Best of all, nature's inventions are lean, green machines that are self-sustaining and generate zero waste -- yet another cue humans are taking from the

natural world. Astounding facts, easy-to-understand prose and luminous illustrations bring the wonders of nature into the science lab.

Martin, J. *Snowflake Bentley* (1998). New York: Houghton Mifflin. Grades K-5
This is the story of Wilson Bentley, a farmer born in 1865 in Jericho, Vermont. He was determined to design camera that would capture the wonder of snowflakes. The photographs of this farmer with a scientist's vision and perseverance showed that all snowflakes are six-sided and no two are alike.

Marzollo, J. *Pierre the Penguin*. (2010). Ann Arbor, MI: Sleeping Bear Press. K-3
Pierre the penguin lives at the California Academy of Sciences. He loses his feathers and thus will not swim because he is too cold. In addition, the other penguins are afraid of him and bray at him. Pam, his handler, designs a neoprene wetsuit that keeps him warm when swimming. Over time, his feathers grow back.

McCarthy, M. *Pop! The Invention of Bubble Gum*. (2101). New York: Simon & Schuster. K- 5.

In the late 1920's people in a factory located in Philadelphia worked on a secret substance that would become an incredible substance. Read the amazing story of the invention of bubble gum.

McCully, E.A. *Marvelous Mattie*. (2006). New York: Farrar Straus Giroux. K-5
With her sketchbook labeled *My Inventions* and her father's toolbox, Mattie could make almost anything – toys, sleds, and a foot warmer. When she was just twelve years old, Mattie designed a metal guard to prevent shuttles from shooting off textile looms and injuring workers. As an adult, Mattie invented the machine that makes the square-bottom paper bags we still use today. However, in court, a man claimed the invention was his, stating that she “could not possibly understand the mechanical complexities.” Marvelous Mattie proved him wrong by presenting dated entries from her notebook.

Mortensen, L. *Come See the Earth Turn*. (2010). New York: Random House. 3-5
The story of Louis Foucault, who devised a way to visually demonstrate that the Earth turns on its axis. Discover the story of the man behind the famous Foucault's Pendulum.

Murphy, G. *Inventions*. (2009). New York: Simon & Schuster. 3-8
A book for young reader describing great inventions, including the deep diver submarine, the airship, the telescope, and many more.

Sheldon, D. *Into the Deep: The life of Naturalist and Explorer William Beebe*. (2009). Watertown, MA: Charlesbridge. 2-5.

The father of deep sea exploration, William Beebe invented the Bathysphere. Read the amazing story of this pioneer in the field of ecology and avid conservationist, who figured out a way to explore the mysteries of the undersea world.

Sneed, D. *Ferris Wheel*. (2008). New Jersey: Enslow. Grades 4-6

Though Ferris wheels are a staple at every fair and amusement park today, the man whose name they carry was at first ridiculed for proposing the idea for the World's Fair in Chicago in 1893. A feat of human engineering and creativity, the original Ferris wheel, at 250 feet tall, was larger than any Ferris wheel in the western hemisphere today. In this fact-filled biography, author Dani Sneed describes how the visionary George Ferris overcame great obstacles to build his dream.

Thomas, P. *Farmer George Plants a Nation*. (2008). Honesdale, PA: Calkins Creek. K-5.

Besides being our first president, George Washington also enjoyed being a farmer. He designed the six-sided barn and made many other improvements on his Virginia farm.

Yaccarino, D. *The Fantastic Undersea Life of Jacques Cousteau*. (2009). New York: Alfred Knopf. K-5.

This book tells the inspiring story of Jacques Cousteau, who helped invent diving equipment and waterproof cameras so the world under the ocean's waves could be explored and shown to the world.