Women in STEM Intermediate Book Collection

Mid-Valley
STEM-CTE HUB

www.midvalleystem.org
midvalleystemctehub@linnbenton.edu
Linn-Benton Community College
Albany Campus - CC-212

Mid-Valley
STEM-CTE HUB

Women In STEM Collection

This inspiring book collection highlights the lives and achievements of pioneering women in science, technology, engineering, and mathematics (STEM). Through engaging, illustrated biographies, students will discover how figures like Grace Hopper, Wu Chien Shiung, Mary Golda Ross, and others broke barriers and made lasting contributions to physics, computing, aviation, architecture, and more.

Each story blends personal perseverance, cultural context, and hands-on STEM problem-solving, making history come alive. The collection not only sparks interest in STEM but also promotes diversity, inclusion, and resilience in the face of adversity. Ideal for grades 3–7, this kit encourages young readers—especially girls and students from underrepresented backgrounds—to envision themselves as future innovators.

Grade Level 3rd - 7th

Reading Level Intermediate

Mid-Valley
STEM-CTE HUB

Contents of Kit

- **Joan Procter, Dragon Doctor by Patricia Valdez & Felicita Sala -** Back in the days of long skirts and afternoon teas, young Joan Procter entertained the most unusual party guests: slithery and scaly ones, who turned over teacups and crawled past the crumpets.... While other girls played with dolls, Joan preferred the company of reptiles. She carried her favorite lizard with her everywhere--she even brought a crocodile to school!

- **Grace Hopper: Queen of Computer Code by Laurie Wallmark & Kety Wu -** Who was Grace Hopper? A software tester, workplace jester, cherished mentor, ace inventor, avid reader, naval leader—AND rule breaker, chance taker, and troublemaker. Grace Hopper coined the term “computer bug” and taught computers to “speak English.” Throughout her life, Hopper succeeded in doing what no one had ever done before. Delighting in difficult ideas and in defying expectations, the insatiably curious Hopper truly was “Amazing Grace”... and a role model for science- and math-minded girls and boys.

- **Wood, Wire, Wings by Kirsten W. Larson & Tracy Subisak** - Emma Lilian Todd's mind was always soaring--she loved to solve problems. Lilian tinkered and fiddled with all sorts of objects, turning dreams into useful inventions. As a child, she took apart and reassembled clocks to figure out how they worked. As an adult, typing up patents at the U.S. Patent Office, Lilian built the inventions in her mind, including many designs for flying machines. However, they all seemed too impractical. Lilian knew she could design one that worked. She took inspiration from both nature and her many failures, driving herself to perfect the design that would eventually successfully fly.

- **CLASSIFIED: The Secret Career of Mary Golda Ross, Cherokee Aerospace Engineer by Traci Sorell & Natasha Donovan -** Discover the story of how a math-loving girl blazed a trail for herself and others. Mary Golda Ross designed classified airplanes and spacecraft as Lockheed Aircraft Corporation's first female engineer. Find out how her passion for math and the Cherokee values she was raised with shaped her life and work. Cherokee author Traci Sorell and Métis illustrator Natasha Donovan trace Ross's journey from being the only girl in a high school math class to becoming a teacher, to pursuing an engineering degree, joining the top-secret Skunk Works division of Lockheed, and being a mentor for Native Americans and young women interested in engineering.

Mid-Valley
STEM-CTE HUB

Contents of Kit

- **Queen of Physics: How Wu Chien Shiung Helped Unlock the Secrets of the Atom by Teresa Robeson & Rebecca Huang -** When Wu Chien Shiung was born in China 100 years ago, most girls did not attend school; no one considered them as smart as boys. But her parents felt differently. Giving her a name meaning “Courageous Hero,” they encouraged her love of learning and science. This engaging biography follows Wu Chien Shiung as she battles sexism and racism to become what Newsweek magazine called the “Queen of Physics” for her work on beta decay.

- **Nothing Stopped Sophie by Cheryl Bardoe & Barbara McClintock -** When her parents took away her candles to keep their young daughter from studying math...nothing stopped Sophie. When a professor discovered that the homework sent to him under a male pen name came from a woman, nothing stopped Sophie. And when she tackled a math problem that male scholars said would be impossible to solve...still, nothing stopped Sophie.

- **You Should Meet: Women Who Launched the Computer Age by Laurie Caulkhoven & Alyssa Peterson -** In 1946, six brilliant young women programmed the first all-electronic, programmable computer, the ENIAC, part of a secret World War II project. They learned to program without any programming languages or tools, and by the time they were finished, the ENIAC could run a complicated calculus equation in seconds. But when the ENIAC was presented to the press and public, the women were never introduced or given credit for their work. Learn all about what they did and how their invention still matters today in this story of six amazing young women everyone should meet!

- **Secret Engineer: How Emily Roebling Built the Brooklyn Bridge by Rachel Dougherty -** It was the first trip across an engineering marvel that had taken nearly fourteen years to construct. The woman's husband was the chief engineer, and he knew all about the dangerous new technique involved. The woman insisted she learn as well. When he fell ill mid-construction, her knowledge came in handy. She supervised every aspect of the project while he was bedridden, and she continued to learn about things only men were supposed to know: Math, Science, Engineering. Women weren't supposed to be engineers. But this woman insisted she could do it all, and her hard work helped to create one of the most iconic landmarks in the world.

Mid-Valley
STEM-CTE HUB

Learning Extensions

STEAM Connections: Engineering - Math - Design

Learning Objectives:

- Students will explore the contributions of women to major STEM advancements throughout history.
- Students will recognize the importance of perseverance, innovation, and critical thinking in scientific and engineering pursuits.
- Students will connect STEM concepts to real-world challenges and career paths.
- Students will reflect on the impact of gender and cultural identity in access to education and professional opportunities.

Career Connections:

- **Computer Scientist/Programmer –** Grace Hopper, Women of ENIAC.
- **Aerospace Engineer –** Mary Golda Ross, Emma Lilian Todd.
- **Physicist/Research Scientist –** Wu Chien Shiung, Sophie Germain.
- **Zoologist/Curator –** Joan Procter.
- **Civil/Structural Engineer –** Emily Roebling (Brooklyn Bridge construction leadership).

Essential Employability Skills:

- Leadership
- Initiative
- Problem Solving
- Adaptability
- Collaboration
- Communication
- Advocacy

Mid-Valley
STEM-CTE HUB

Resources and Accessibility

Safety Guidelines

- **Avoid Food and Drinks Near Books -** Encourage clean, dry reading areas to prevent spills, stains, or water damage.
- **Handle Books Gently -** Model how to turn pages carefully, avoid bending spines, and store books upright or flat.
- **Use Clean Hands -** Have students wash or sanitize hands before handling shared books to keep materials in good condition.
- **Designate a Safe Storage Spot -** Store books in a sturdy, dry, and clearly labeled bin or tote to protect them from wear and tear between uses.

Accessibility

- **Use Book Stands or Holders -** Provide angled book holders or clipboards to support independent reading for students with mobility or motor challenges.
- **Pair Audio with Print -** Use audiobooks or teacher-read recordings when available to support students with reading disabilities or visual impairments.
- **Incorporate Read-Alouds and Peer Reading -** Offer opportunities for shared or buddy reading to help students who benefit from auditory learning or support with decoding.
- **Offer Visual Aids and Discussion Prompts -** Supplement books with images, models, or key vocabulary cards to reinforce understanding and engagement.

Library Catalog

Library Resources

Feedback

QR to feedback survey