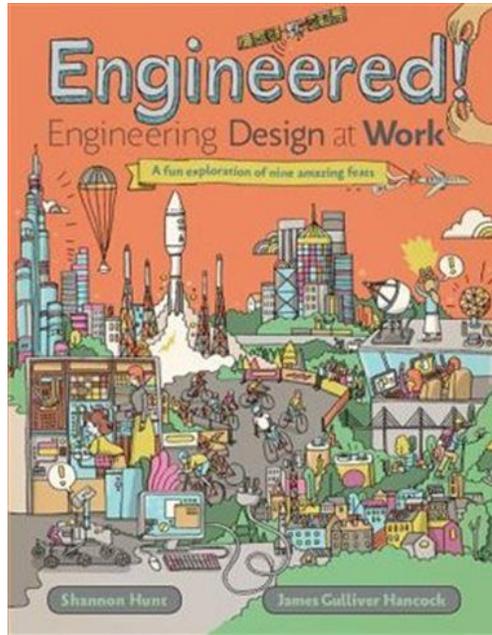


## Upper Elementary ADST: Design Thinking - Mathematics

### Book (Alphabetical by Author)

### Summary

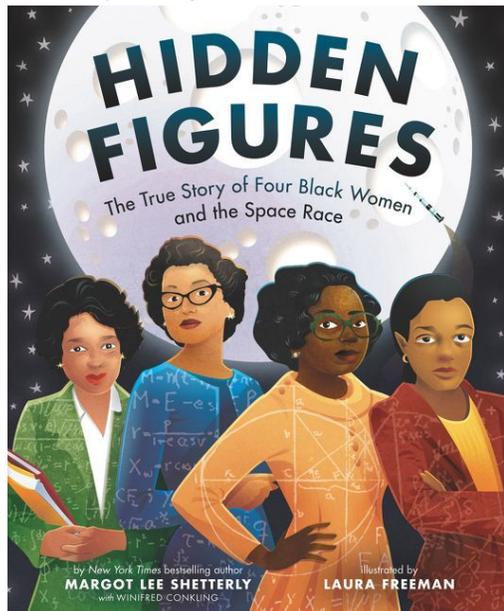
“Engineered! Engineering Design at Work: A Fun Exploration of Nine Amazing Feats”  
Hunt, Shannon



Author Shannon Hunt presents nine real-life problems for which engineers designed inventive (and even crazy!) solutions. Each was solved using a different field of engineering --- from aerospace and mechanical to the new field of geomatics. A helpful seven-step flowchart of the engineering design process is also featured: define the problem, investigate the requirements, develop solutions, design a prototype, test it, improve it and share the idea. These steps are highlighted in each chapter with helpful icons that refer back to the flowchart.

(One copy)

“Hidden Figures: The True Story of Four Black Women and the Space Race”  
Shetterly, Margot Lee with Winifred Conkling

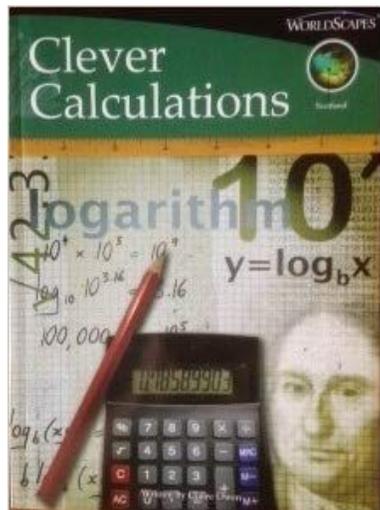


Based on the New York Times bestselling book and the Academy Award–nominated movie, author Margot Lee Shetterly brings the true story of four black women who helped NASA launch men into space. Dorothy Vaughan, Mary Jackson, Katherine Johnson, and Christine Darden were good at math...really good. They participated in some of NASA's greatest successes, like providing the calculations for America's first journeys into space. And they did so during a time when being black and a woman limited what they could do. But they worked hard. They persisted. And they used their genius minds to change the world.

(One copy)

“Clever Calculations”

Owens, Claire

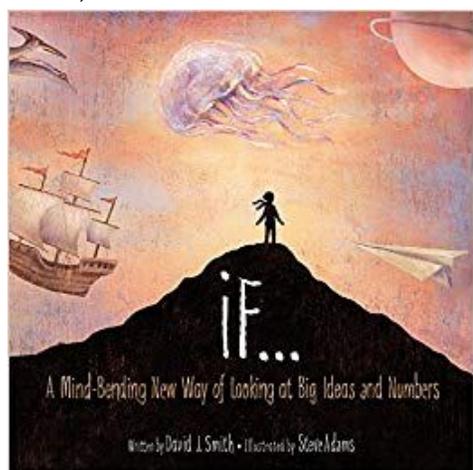


In the days before electronic calculators, scientists spent a lot of time doing routine calculations. The book explores how an important invention from Scotland helped to make multiplication and division easier and faster.

(One copy)

“If ... A Mind-Bending New Way of Looking at Big Ideas and Numbers”

Smith, David J.



Visualizing huge distances and sizes and numbers is difficult. In the book, David J. Smith takes a variety of concepts and—by scaling them down and using analogies— and makes them understandable to young readers and adults alike. From the geography of the universe to the history of life on earth to contemporary economics, Smith reduces huge sizes and numbers to items children can envisage, such as imagining the earth as a baseball. He also provides an afterword, offering interesting activities on scaling for the classroom or home.

(One copy)