

Library in a Math Classroom

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### 1. The Number Devil: A Mathematical Adventure

- a. In twelve dreams, Robert, a boy who hates math, meets a Number Devil, who leads him to discover the amazing world of numbers: infinite numbers, prime numbers, Fibonacci numbers, numbers that magically appear in triangles, and numbers that expand without. As we dream with him, we are taken further and further into mathematical theory, where ideas eventually take flight, until everyone—from those who fumble over fractions to those who solve complex equations in their heads—winds up marveling at what numbers can do.  
(goodreads.com)
- b. This book would be beneficial in my classroom because it would hopefully be a great way to help the students in my classroom grow curious about math.

### 2. Measuring the World

- a. Toward the end of the eighteenth century, two young Germans set out to measure the world. One of them, the Prussian aristocrat Alexander von Humboldt, negotiates savanna and jungle, travels down the Orinoco, tastes poisons, climbs the highest mountain known to man, counts head lice, and explores every hole in the ground. The other, the barely socialized mathematician and astronomer Carl Friedrich Gauss, does not even need to leave his home in Göttingen to prove that space is curved. He can run prime numbers in his head. He cannot imagine a life without women, yet he jumps out of bed on his wedding night to jot down a mathematical formula. Von Humboldt is known to history as the Second Columbus. Gauss is recognized as the greatest mathematical brain since Newton. Terrifyingly famous and more than eccentric in their old age, the two meet in Berlin in 1828. Gauss has hardly climbed out of his carriage before both men are embroiled in the political turmoil sweeping through Germany after Napoleon's fall. (goodreads.com)
- b. This book would be beneficial in my classroom because it puts a fun twist on mathematicians that makes them seem like very interesting characters. The title alone gives an idea to the student of something wild that can be done with mathematics.

### 3. The Library of Babel

- a. Jorge Luis Borges's famous 1941 meditation on language, alphabets, and the library that contains all knowledge is an allegory of our Universe, and in this edition, is complemented and enhanced by the etching of the French artist, Érik Desmazières. (goodreads.com)
- b. This book would be great in my future classroom because it is very creative and should allow for the students to be using their imagination in math,

### 4. 101 Careers in Mathematics

- a. This second edition of the immensely popular, "101 Careers in Mathematics," contains updates on the career paths of individuals profiled in the first edition, along with many new profiles. No career counselor should be without this valuable resource. (amazon.com)
- b. This book is useful for many practical reasons. It gives the students who want to pursue math in college an idea of what they can do with a math major.

### 5. Math Girls

- a. Currently in its eighteenth printing in Japan, this best-selling novel is available in English at last. Combining mathematical rigor with light romance, Math Girls is a unique introduction to advanced mathematics, delivered through the eyes of three students as they learn to deal with problems seldom found in textbooks. Math Girls has something for everyone, from advanced high school students to math majors and educators. (barnesandnoble.com)
- b. This book would be great for my advanced math students in my classroom, and, based on the title, it might appeal to girls.

### 6. How to Bake Pi: An Edible Exploration of the Mathematics of Mathematics

- a. Combined with her infectious enthusiasm for cooking and true zest for life, Cheng's perspective on math is a funny journey through a vast territory no popular book on math has explored before. So, what is math? Let's look for the answer in the kitchen. (play.google.com)
- b. This book would be great in my classroom because it allows students to see how math is everywhere around us.

### **7. The Fractal Geometry of Nature**

- a. Clouds are not spheres, mountains are not cones, and lightening does not travel in a straight line. The complexity of nature's shapes differs in kind, not merely degree, from that of the shapes of ordinary geometry, the geometry of fractal shapes. Now that the field has expanded greatly with many active researchers, Mandelbrot presents the definitive overview of the origins of his ideas and their new applications. The Fractal Geometry of Nature is based on his highly acclaimed earlier work, but has much broader and deeper coverage and more extensive illustrations. (amazon.com)
- b. This book is great because it has pictures of the beautiful creations that are done with math. I would love to see my future students grow curious when reading this book.

### **8. The Mathematics Lover's Companion: Masterpieces for Everyone**

- a. How can a shape have more than one dimension but fewer than two? What is the best way to elect public officials when more than two candidates are vying for the office? Is it possible for a highly accurate medical test to give mostly incorrect results? Can you tile your floor with regular pentagons? How can you use only the first digit of sales numbers to determine if your accountant is lying? Can mathematics give insights into free will? Edward Scheinerman, an accomplished mathematician and enthusiastic educator, answers all these questions and more in this book, a collection of mathematical masterworks. In bite-sized chapters that require only high school algebra, he invites readers to try their hands at solving mathematical puzzles and provides an engaging and friendly tour of numbers, shapes, and uncertainty. The result is an unforgettable introduction to the fundamentals and pleasures of thinking mathematically. (amazon.com)
- b. This book is great because it explains some interesting ways to use math in the real world. It is great because it relates math to the real world.

**9. The Golden Ratio: The Divine Beauty of Mathematics**

- a. Featuring clear, entertaining, and enlightening commentary alongside stunning full-color illustrations by Venezuelan artist and architect Rafael Araujo, this gorgeous book examines the presence of this divine number in art and architecture throughout history, as well as its ubiquity among plants, animals, and even the cosmos. (amazon.com)
- b. This book, like the seventh book on the list, emphasizes the beauty of mathematics. This book would be great because it gives math a different purpose.

**10. Infinity: Beyond the Beyond the Beyond**

- a. Infinity. It sounds simple...but is it? This elegant, accessible, and playful book artfully illuminates one of the most intriguing ideas in mathematics. Lillian Lieber presents an entertaining, yet thorough, explanation of the concept and cleverly connects mathematical reasoning to larger issues in society. (amazon.com)
- b. This book would be great for my students because infinity is such a large concept, and I'd like to start formulating bigger questions about bigger concepts.