

Middle Grades Mathematics and Literature:

Education Beyond Textbooks

by Bethany Barnosky (May 2005)

This bibliography contains *only* books available locally, at the Peterborough Town Library. You can find similar books at your local library (search under Mathematics, then sort by call number to isolate the "juvenile" books) or ask your reference librarian to help you with an inter-library loan.

Remember: also search under specific sub-topics such as geometry, or symmetry.

Even though many of these are "picture" books, they are shelved with juvenile non-fiction due to their high math content :) If you are in the mood to browse, check out the 510-513 areas of the juvenile stacks.

I checked out a pile of math books, set them up in piles around the living room, and proceeded to read and annotate them for this article... My "anti-math" daughter has been pouring through them for days. Maybe the key is to *not* tell your students that these are math books?

String, Straightedge, and Shadow by Julia Diggins. This book has practical, enjoyable sections which teach you such skills as how to measure the height of a pyramid. This chapter book has black and white illustrations.

Roman Numerals I to MM: Liber De Difficillimo Computando Numerum by Arthur Geisert. This picture book is a simple, fun introduction to roman numerals. The illustrations and explanations are appropriate for younger readers, but not appropriate for Orthodox Jewish readers as most of the counting is of pigs. This picture book for younger readers has color illustrations.

Making Fractions by Andrew King. This is a wonderful book with lavish, exciting mathematics activities. Part of King's "Math for Fun" series, this book includes directions for giant sized fraction blocks, practice pizza, and a fairness grab bag. In addition to fractions, it covers decimals, percents, and ratios. This Usborne-type book is filled with full color photographic illustrations.

Arithme-Tickle: An Even Number of Odd Riddle-Rhymes by J. Patrick Lewis and Frank Remkiewicz. Eighteen fun and beautifully illustrated math-riddles designed to make math fun and non-threatening. This is an enjoyable book for all ages. This picture book is filled with gorgeous full color illustrations.

Graphs by Dyno Lowenstein. This book is, simply, all about graphs--line graphs, bar charts, pie charts, and pictographs. While the graphics are clear and effective, they are fairly dry. This book is useful but not entirely inspiring. This chapter book has black and white illustrations.

Symmetry by Arthur G. Razzell and K.G.O. Watts. This is just one of the "Exploring Mathematics" series. It is an excellent coverage of symmetry--beginning with symmetry in art including rotational symmetry, puzzles, and paper folding. There is quite a bit of conceptual text as well as illustration and application. This chapter book has simple color illustrations.

Math Curse by Jon Scieszka and Lane Smith. This is more of a story of math in everyday life--how everything in life really is a word problem. It is not the most pro-math book in the world, so I wouldn't read it to an "math phobic" child (or parent!). This picture book has lavish, if somewhat dark, color illustrations.

G is for Googol: A Math Alphabet Book by David M. Schwartz. This is a gorgeous book with articles on various mathematics topics from "Abacus" to "Zillion". It is great for research on a particular topic or as a supplement to your curriculum. The coverage and topics range in age appropriateness, so this is an excellent resource for a teacher of different ability levels. This picture book has nice color illustrations.

Circles by Mindel and Harry Sitemer. This is a good introduction to a geometry unit. Using graph paper, string, straight edge, and the traditional compass, the author explains many of the basics, and intricacies, of the circle. This chapter book has simple, bold illustrations.

How do Octopi Eat Pizza Pie? edited by Time-Life for Children. This is a terrific, colorful, and fun book for children with some great middle grades math concepts. It covers addition, subtraction, measurement, number patterns, geometry, fractions, and logical thinking, and is part of the Time Life "I Love Math" series. This book is filled with wonderful, full color illustrations.

How Math Works by Carol Vorderman. This is a fabulous book--perfect for any teacher or parent who is looking to supplement a "boring" textbook math curriculum with hands on experiments and activities. There are many activities along with concept explanations and brief biographic excerpts. Topics include numbers, proportions, algebra, measurement, shapes, and mathematical thinking. This Usborne-type book is filled with full color photographic illustrations.

For the younger set, consider books by Loreen Leedy. She has great books (in the picture book section under "L") which colorfully cover such topics as multiplication, fractions, addition, subtraction, measuring, and maps. As a teacher, consider *Exploring Mathematics Through Literature* by Diane Thiessen. This title is available through Keene State College's Curriculum Materials Library, which is open to any New Hampshire teacher.