

Reading Ideas in Mathematics Education and Popular Mathematics

Mathematics Education (found in Crumb Library under QA 11 – QA 13)

Ascher, M. (2002) *Mathematics Elsewhere: An Exploration of Ideas Across Cultures*, Princeton.

*Artzt, A. (2002) *Becoming a Reflective Mathematics Teacher*, LEA.

Bereiter, C. (1993) *Surpassing Ourselves: An inquiry into the nature and implications of expertise*. Open Court.

*Boaler, J. (2000) *Multiple Perspectives on Mathematics Teaching and Learning*, Ablex.

Brown, S. (2001) *Reconstructing School Mathematics: Problems with Problems and the Real World*, Peter Lang.

Brown, S. and Walter, M. (1990) *The Art of Mathematical Problem Posing (2nd ed.)*, LEA.

Chazan, D. (2000) *Beyond Formulas in Mathematics and Teaching: Dynamics of the High School Algebra Classroom*, Teachers College Press.

Davis, R. & Maher, C. (1993) *Schools, mathematics and the world of reality*. Allyn and Bacon.

Driscoll, M. (1999) *Fostering Algebraic Thinking: A guide for teachers in grades 6-10*, Heinemann.

*Germain-McCarthy, Y. (2001) *Bringing the NCTM Standards to Life*, Eye on Education.

Ginsburg, H. (1989) *Children's arithmetic: How they learn it and how you teach it (2nd ed.)*. Pro.Ed.

*Heaton, R. (2000) *Teaching Mathematics to the New Standards*, Teachers College Press.

Hiebert, J. (1997) *Making Sense: Teaching and learning mathematics with understanding*. Heinemann.

Lampert, M. (2001) *Teaching Problems and the Problems of Teaching*, Yale.

*Leutzing, L. (1998) *Mathematics in the Middle*, NCTM.

*Ma, L. (1999) *Knowing and teaching elementary mathematics*. Lawrence Erlbaum Associates.

*Posamentier, A. (1998) *Tips for the Mathematics Teacher*, Corwin.

*Pimm, D. (1987) *Speaking Mathematically*, Routledge.

*Stigler, J. and Hiebert, J. (1999) *The Teaching Gap: Best ideas from the World's Teachers for Improving Education in the Classroom*. Free Press.

*Tobias, S. (1993) *Overcoming Math Anxiety*, Norton.

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Wilson, S. (2003) *California Dreaming: Reforming Mathematics Education*, Yale.

Popular Math (found in Crumb Library under QA 20 – QA 63)

Aczel, Amir – *Fermat's Last Theorem: Unlocking the Secret of an Ancient Mathematical Problem*, Delta.

Bunch, Bryan – *The Kingdom of Infinite Number: A Field Guide*, Freeman.

Clawson, Calvin – *Mathematical Mysteries: The Beauty and Magic of Numbers*, Plenum.
- *Mathematical Sorcery: Revealing the Secrets of Numbers*, Perseus.

Cohen, Jack and Ian Stewart – *The Collapse of Chaos: Discovering Simplicity in a Complex World*, Viking.

Cole, K. C. – *The Universe and the Teacup: The Mathematics of Truth and Beauty*, Harcourt.

Conway, John and Guy, Richard – *The Book of Numbers*, Copernicus.

*Davis and Hersh – *The Mathematical Experience*

Davis, Donald – *The Nature and Power of Mathematics*, Princeton.

Dehaene, Stanislas – *The Number Sense: How the Mind Creates Mathematics*, Oxford.

Derbyshire, John – *Prime Obsession: Bernhard Riemann and the Greatest Unsolved Problem in Mathematics*, Joseph Henry.

*Devlin, Keith – *Mathematics: The Science of Patterns*, Scientific American.
- *Mathematics: The New Golden Age*, Pelican.
- *The Language of Mathematics: Making the Invisible Visible*, Freeman.
- *Life by the Numbers*

Du Sautoy, Marcus – *The Music of the Primes: Searching to Solve the Greatest Mystery in Mathematics*, Harper Collins.

*Dunham, William – *The Mathematical Universe: An Alphabetical Journey through the Great Proofs, Problems and Personalities*, Wiley.
- *Journey Through Genius*, Penguin

Eastway, Rob – *Why Do Buses Come In Threes? The Hidden Mathematics of Everyday Life*, Wiley.

Flannery, Sarah – *In Code*, Algonquin Books

Gardiner, Anthony – *Understanding Infinity: The Mathematics of Infinite Processes*, Dover.

Gardner, Martin – *Time Travel and Other Mathematical Bewilderments*

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- *Mathematics Mystery and Magic*
- *Penrose Tiles to Trapdoor Ciphers*
- *Knotted Doughnuts*
- *Wheels, Life and Other Mathematical Amusements*

Gazale, Midhat – *Number: From Ahmes to Cantor*, Princeton.

- *Gnomon: From Pharaohs to Fractals*, Princeton.

Havil, Julian – *Gamma: Exploring Euler's Constant*, Princeton.

Hersh, Reuben – *What is Mathematics, Really?* Oxford.

Higgins, Peter – *Mathematics for the Curious*, Oxford.

Hildebrandt, Stefan and Tromba, Anthony – *The Parsimonious Universe: Shape and Form in the Natural World*, Copernicus.

*Hoffman, Paul – *The Man Who Loved Only Numbers: The Story of Paul Erdos and the Search for Mathematical Truth*, Hyperion.

Kaplan, Robert – *The Nothing That Is: A Natural History of Zero*, Oxford.

- *The Art of the Infinite: The Pleasures of Mathematics*, Oxford.

Livio, Mario – *The Golden Ratio: The Story of Phi, the World's Most Astonishing Number*, Broadway Books.

MacNeal, Edward – *Mathsemantics: Making Numbers Make Sense*, Viking.

Maor, Eli – *Trigonometric Delights*, Princeton.

- *e: The Story of a Number*, Princeton.
- *To Infinity and Beyond: A Cultural History of the Infinite*, Birkhauser.

Mazur, Barry – *Imagining Numbers (particularly the square root of minus fifteen)*, Farrar.

Mlodinow, Leonard – *Euclid's Window: The Story of Geometry from Parallel Lines to Hyperspace*, Free Press.

*Nasar, Sylvia – *A Beautiful Mind: A Biography of John Nash*, Simon and Schuster.

*Nelson – *Multicultural Mathematics*, Oxford.

Olsen, Steve – *Count Down*

Pappas, Theoni – *The Joy of Mathematics*

- *More Joy of Mathematics*
- *The Magic of Mathematics*

Paulos, John Allen – *Innumeracy: Mathematical Illiteracy and Its Consequences*, Hill and Wang.

- *Beyond Numeracy: Ruminations of a Numbers Man*, Knopf.

Reading Ideas in Mathematics Education and Popular Mathematics

- *A Mathematician Reads the Newspaper*, Anchor.
- Peterson, Ivars – *The Mathematical Tourist: Snapshots of Modern Mathematics*, Freeman.
 - *The Jungles of Randomness: A Mathematical Safari*, Wiley.
 - *Islands of Truth: A Mathematical Mystery Cruise*, Freeman.
- *Pickover, Clifford – *The Zen of Magic Squares, Circles, and Stars*, Princeton.
 - *Wonders of Numbers: Adventures in Mathematics, Mind and Meaning*, Oxford.
 - *Computers, Pattern, Chaos and Beauty*, St. Martins.
- Schechter, Bruce – *My Brain is Open: The Mathematical Journeys of Paul Erdos*, Touchstone.
- Schneider, Michael – *A Beginner's Guide to Constructing the Universe: The Mathematical Archetypes of Nature, Art and Science*, Harper Collins.
- Seife, Charles – *Zero: The Biography of a Dangerous Idea*, Viking.
- Singh, Simon – *Fermat's Enigma: The Epic Quest to Solve the World's Greatest Mathematical Problem*, Walker.
- Sossinsky, Alexei – *Knots: Mathematics with a Twist*, Harvard Univ. Press.
- *Steen, Lynn – *On the Shoulder of Giants: New Approaches to Numeracy*, NAP.
- *Stein, Sherman – *Strength in Numbers: Discovering the Joy and Power of Mathematics in Everyday Life*, Wiley.
 - *How the Other Half Thinks: Adventures in Mathematical Reasoning*, McGraw Hill.
 - *Mathematics: The Man-made Universe*, Freeman.
- Stewart, Ian – *From Here to Eternity: A Guide to Today's Mathematics*, Oxford.
 - *Does God Play Dice?*
 - *Fearful Symmetry: Is God a Geometer?*
 - *Nature's Numbers: The Unreal Reality of Mathematical Imagination*, Basic Books.
 - *The Magical Maze: Seeing the World Through Mathematical Eyes*, Wiley.
- Wells, David
 - *You are a Mathematician*, Wiley.
 - *The Penguin Book of Curious and Interesting Geometry*, Penguin.
 - *The Penguin Book of Curious and Interesting Mathematics*, Penguin.
 - *The Penguin Book of Curious and Interesting Numbers*, Penguin.
 - *The Penguin Book of Curious and Interesting Puzzles*, Penguin.
- Wilson, Robin – *Four Colors Suffice: How the Map Problem was Solved*, Princeton.
- Zaslavsky, Claudia – *Fear of Math*, Rutgers.
 - *Africa Counts*, Lawrence Hill.

Reading Ideas in Mathematics Education and Popular Mathematics

Literature/fiction involving Mathematics

Brown, Dan – The DaVinci Code
- Digital Fortress

Crichton, Michael – Jurassic Park

Enzensberger, Hans – The Number Devil: A Mathematical Adventure, Metropolitan.

Haddon, Mark – The Curious Incident of the Dog in the Night-time, Doubleday.

Juster, Norman – The Phantom Tollbooth
-- The Dot and the Line

Tahan, Malba – The Man Who Counted

Schogt, Philibert – The Wild Numbers

Comics involving Mathematics

Foxtrot

Movies involving Mathematics

A Beautiful Mind
Die Hard
The Enigma
Good Will Hunting
Jurassic Park
Pi
Rain Man
Stand and Deliver
Straw Dogs
Sneakers