

LIVING MATH THROUGH HISTORY

Advanced and High School Level Booklist

History Cycle 1 Quarter Unit 3: Renaissance to Age of Enlightenment


These selections are not final.


Plan updates are in progress and some substitutions or additions could occur.

If using book lists without purchasing plans, please consider purchasing books through the Amazon affiliate links on the Living Math site to benefit Living Math, or enter through <http://www.amazon.com/exec/obidos/redirect-home/livingmath-20>


Note: Recommendations for upper middle school through high school are included. Comments are included to help discern which resources to choose from, particularly for borderline individuals.

 **Joy of Mathematics** by Theoni Pappas. Math vignettes to inspire exploration

 **Math Talk Poetry in Two Voices** by Theoni Pappas. Poetry in two voices

 **String, Straightedge & Shadow** by Julia Diggins Classic early math history book written in a story style for middle school level.

 **Euclid's Window** by Leonard Mlodinow - more advanced reading than SS&S,

 **The Pantheon Story of Mathematics for Young People** - P. 29-33. An older style book, well illustrated, middle school level.


 **Marvels of Math**, Kendall Haven

  **The Story of Science** by Joy Hakim, middle school+ level

 **MathFocus Math Smart Junior** - Marcia Lerner - Pre algebra OR

 **MathFocus Algebra** by Gelfand / Shen OR

 **MathFocus Realm of Algebra** by Isaac Asimov, out of print, may be difficult to find, middle school level+

 **Great Moments in Science** by Kendall Haven - Reader's Theatre, well done, recommended if you have the ability to act out as a family or in groups.

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Advanced and High School Level Cycle 1, Unit 2 Booklist

Renaissance to Age of Enlightenment



Giants of Science, "Nicolaus Copernicus, Father of Modern Astronomy" by Scott Ingram - deeper biographical source



"Galileo Galilei, Inventor, Astronomer & Rebel" by Michael White OR

Galileo Galilei: First Physicist James MacLauchlan (Oxford Portraits in Science)



The Kid Who Named Pluto and Stories of Other Extraordinary Young People in Science by Marc McCutcheon



Biography of Kepler, Recommended sources:

Johannes Kepler: Giant of Faith and Science by John Tiner

More challenging: Johannes Kepler and the New Astronomy, James Voelkel (Oxford Portraits in Science)



Biographical Essay: **Blaise Pascal**, Living Math History by Julie Brennan - written for 5th to 10th grade levels



Teaching resources: Pascal's Triangle: A Teacher's Guide by Tony Colledge; Seymour, Dale: **Visual Patterns in Pascal's Triangle.**



Biographies on Newton - any or all, mix and match:

Isaac Newton: Discovering Laws That Govern the Universe (Giants of Science) by Michael White

Dead Famous, Sir Isaac Newton by Kjartan Poskitt (author of Murderous Maths, irreverent in tone)

Isaac Newton and the Scientific Revolution (Oxford Portraits in Science)

Newton (Discoveries Series) Maury, Jean-Pierre



MathFocus **Calculus By and For Young People** by Don Cohen - Parent resource for activities




MathFocus **Prof. E. McSquared's Exanded Intergalactic Version! Calculus Primer** by Swann & Johnson - Pretty advanced, comic style presentation


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Renaissance to Age of Enlightenment


 **MathFocus Ten Things All Future Mathematicians and Scientists Must Know** by Edward Zaccarro

 **Five Equations That Changed the World** by Michael Guillen - This book was recommended for the advanced level, however, more mature readers in this group may enjoy it. It contains far more detail than what I have written in the lesson synopsis, and it contains both the background leading up to Daniel Bernoulli's work, and the subsequent use of it in aeronautics. It does not contain adult themes.

 Also recommended (tie in with Bernoulli's work) **William Harvey And the Mechanics of the Heart** (Oxford Portraits in Science) by Jole Shackelford

High School Mathematics and History Reading

 **HS+ From Five Fingers to Infinity, A Journey Through the History of Mathematics**, Frank Swetz - A series of essays through the history of mathematics emphasizing the human element of math. Text is more readable than most math histories I've run across, with numerous clear diagrams / pictures.

 **HS+ Mathematics: From the Birth of Numbers** by Jan Guillberg. See introductory material on how to use this text.

 **Euclid's Window** by Leonard Mlodinow

 **The Day The Universe Changed** by James Burke

 **HS+ The Measure of Reality, Quantification and Western Society, 1250-1600**, by Alfred W. Crosby

 **HS Men of Mathematics** by E.T. Bell

 **HS Galileo's Commandment** (original writings excerpted)

 **HS On The Shoulders of Giants** Original writings compiled and commented on by Stephen Hawkins


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Renaissance to Age of Enlightenment



*Original writings: **Pensees**, by Blaise Pascal; **The Mind on Fire: An Anthology of the Writings of Blaise Pascal** (Classics of Faith and Devotion) by Blaise Pascal - These both highlight Pascal's philosophical and religious writings*

 **Video** PBS special based on Galileo's Daughter, **Galileo's Battle for the Heavens**.

 **History of Science: Antiquity to 1700** (Teaching Company Series www.teach12.com) Parent resource (college level)

 **My Favorite Universe Series** - (Teaching Company Series www.teach12.com) accessible to middle school level on up as instructor is engaging, or parent resource