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The *Gold Books*, written by Dr. Greg Strayer and Timothy Nichols (co-author only on *British Literature*) for high school level, are very different from other *Learning Language Arts through Literature* books reviewed in [chapter 9](#). There are two *Gold Books*—one for British literature and one for American literature.

These books are written in units rather than as individual lessons, with students reading entire poems and pieces of literature rather than small excerpts.

In *American Literature*, students read from *Great American Short Stories*, *The Mentor Book of Major American Poets*, *The Red Badge of Courage*, *The Pearl*, and *The Old Man and the Sea*. A Bible and a concordance are required. *British Literature* requires *Frankenstein*, *Emma*, *A Tale of Two Cities*, *The Time Machine*, *Animal Farm*, and *The Mentor Book of Major British Poets*. You can use the books in whichever order you prefer.

Students study the elements of fiction and poetry as well as how to analyze the particular pieces. All of this is done within the context of a Christian worldview, but worldview study does not dominate as much as in Stobaugh's courses.

Writing assignments range from simple answers to essays, with significant attention given to essay writing. Discussion is an essential part of the learning process, so parents should also read the literature so they can lead the discussion. Suggested answers to questions are provided on pages following each set of questions.

These are excellent college preparatory courses. Other than the reading material, each course is self-contained within one nonconsumable book. Students do their writing in a separate notebook or on the computer.

I need to add a short note on *Norton Anthologies* since I mention them a number of times. There are a number of literary anthologies (priced from \$35.00 to \$40.00 each) published by Norton, including *Norton Anthology of English Literature*, *Norton Anthology of American Literature* (two volumes), *The Norton Anthology of World Masterpieces* (two volumes), *Norton Anthology of Literature by Women*, *Norton Anthology of Poetry*, and others.

These books emphasize classical selections unlike most anthologies written for high school students. Commentary is included, although it is written at college/adult level. Various editions of these books have been printed over many years, so it is fairly easy to find them in used bookstores at fantastic prices.

These are great for families who want to introduce their children to a wide variety of literary types, but who want to make their own selections. There are so many choices in these hefty books that you will certainly find plenty of selections to suit your purposes. Many selections are complete plays, complete books, or significant excerpts, which is made possible by use of small print and thin paper plus the fact that books range from about 1,500 to 2,500 pages each!

These are not high school level texts! I used them as resource books as does James Stobaugh. Parents need to select readings and guide discussion and assignments in some fashion rather than just handing these books to students to read on their own.

The books are nonsectarian, so commentary focuses on literary and historical background plus biographical information on authors.

Norton Anthologies
W. W. Norton and Co.
(800) 223-2584
www.wwnorton.com

Recommended Reading for High-School-Level Literature

The following are taken primarily from core literature recommendations for high school students, but I have added some titles I think important from a Christian perspective. Some of the listed titles are recommended by schools but are not necessarily titles I would recommend.

- *The Adventures of Huckleberry Finn* and other works by Mark Twain
- *The Aeneid* of Virgil
- *Alice's Adventures in Wonderland* by Lewis Carroll
- *All Quiet on the Western Front* by Erich Maria Remarque
- *All the King's Men* by Robert Penn Warren
- *Anna Karenina*, *War and Peace*, and other works by Leo Tolstoy
- *Anne Frank: Diary of a Young Girl* by Anne Frank
- *Anne of Green Gables* and other titles by Lucy Maud Montgomery
- *Billy Budd*, *Moby Dick*, and other works by Herman Melville
- *Black Like Me* by John Howard Griffin
- *Brave New World* by Aldous Huxley
- *Canterbury Tales* by Geoffrey Chaucer
- "The Charge of the Light Brigade" and other works by Alfred Lord Tennyson
- *The Chosen* by Chaim Potok
- *Christy* by Catherine Marshall
- *Crime and Punishment* by Fyodor Dostoyevsky
- *Cry the Beloved Country* by Alan Paton
- *David Copperfield*, *Great Expectations*, *A Tale of Two Cities*, and other works by Charles Dickens
- *The Death of Socrates* and other works by Plato
- "The Devil and Daniel Webster" and other works by Stephen Vincent Benet
- *The Divine Comedy* by Dante
- *Don Quixote* by Miguel de Cervantes
- *Exodus* by Leon Uris
- *A Farewell to Arms* by Ernest Hemingway
- *The Good Earth* by Pearl Buck
- *The Grapes of Wrath*, *The Pearl*, *The Red Pony*, *Of Mice and Men*, and other works by John Steinbeck
- *The Great Divorce*, *Screwtape Letters*, and *Mere Christianity* by C. S. Lewis
- *The Great Gatsby* by F. Scott Fitzgerald

- *Gulliver's Travels* and other works by Jonathan Swift
- *The Guns of August* by Barbara W. Tuchman
- *Hamlet, Henry V, Macbeth, A Midsummer Night's Dream, Othello, The Merchant of Venice*, and other works by William Shakespeare
- "The Hollow Men" and other works by T. S. Eliot
- *The Hound of the Baskervilles* and other works by Sir Arthur Conan Doyle
- *The Iliad* and *The Odyssey* by Homer
- *In His Steps* by Charles M. Sheldon
- *The Invisible Man* by Ralph Ellison
- *Jane Eyre* by Charlotte Brontë
- "The Legend of Sleepy Hollow" and other works by Washington Irving
- *Lés Miserables* by Victor Hugo
- *The Life and Times of Frederick Douglass* by Frederick Douglass
- *The Light in the Forest* by Conrad Richter
- *Little Women* by Louisa May Alcott
- *A Man for All Seasons* by Robert Bolt
- *The Marquis' Secret* and other works by George MacDonald (updated versions)
- *Martian Chronicles* and other works by Ray Bradbury
- *Men of Iron* by Howard Pyle
- *The Miracle Worker* by William Gibson
- *Moby Dick* by Herman Melville
- *1984* and *Animal Farm* by George Orwell
- *Oedipus Rex, Antigone*, and other plays by Sophocles
- *One Day in the Life of Ivan Denisovitch* by Aleksandr Solzhenitsyn
- "Ozymandias" and other works by Percy Bysshe Shelley
- *Paradise Lost* by John Milton
- *Perelandra, Out of the Silent Planet*, and other works by C. S. Lewis
- *Pilgrim's Progress* by John Bunyan
- "The Pit and the Pendulum" and other works by Edgar Allen Poe
- *Pride and Prejudice* by Jane Austen
- *The Prince* by Niccolo Machiavelli
- *The Princess Bride* by William Goldman
- *Pygmalion* by George Bernard Shaw
- *A Raisin in the Sun* by Lorraine Hansberry
- "The Road Not Taken" and other works by Robert Frost
- *Robinson Crusoe* by Daniel Defoe
- *The Scarlet Letter* by Nathaniel Hawthorne
- *Silas Marner* by George Elliott
- *The Spy* and other works by James Fenimore Cooper

- *Stranger in a Strange Land* by Robert A. Heinlein
- “Tiger, Tiger” and other poems by William Blake
- *The Time Machine* by H. G. Wells
- *To Kill a Mockingbird* by Harper Lee
- *Treasure Island*, *Kidnapped*, and other works by Robert Louis Stevenson
- *A Tree Grows in Brooklyn* by Betty Smith
- *The Lord of the Rings Trilogy* by J. R. R. Tolkien
- *Twenty Thousand Leagues under the Sea*, *Around the World in Eighty Days*, and other works by Jules Verne
- *Uncle Tom's Cabin* by Harriet Beecher Stowe
- *Wuthering Heights* by Emily Brontë
- *The Yearling*, *Cross Creek*, and other works by Marjorie K. Rawlings

Obviously, the above list is not comprehensive. You might also want to focus more on the Great Books, only a few of which are included in the above list. You might want to refer to the Great Books lists on the Internet at addresses listed on p. 17 or the Great Books lists for St. John's College's Great Books program, which can be found at <http://home.comcast.net/~antaylor1/greatbooksstjohns.htm>.

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Mathematics

My top picks for math are a diverse assortment to suit different situations and learning styles. Since I've had to be selective, I have narrowed my choices to resources that fit the largest number of children.

You might notice that I have not included programs from A Beka or Bob Jones University Press (BJUP), and I should explain why. A Beka's math program is very traditional, does an excellent job developing computation skills, and has more than enough review and practice. Explanation of new concepts is included within student worktexts, so students can work independently most of the time. However, the series is weak in developing conceptual understanding, especially in comparison to programs like *Math-U-See* and *Singapore Math*. Curriculum guides offer some teaching assistance, but my experience is that homeschoolers rarely use them. Instead, they are more likely to purchase only the teacher editions that serve as answer keys. Some children are strong enough conceptual thinkers that A Beka still works very well for them.

In contrast, BJUP's math program is strong on conceptual development. The drawback with their program is that it needs to be taught from the teacher's edition—this is not a program for independent study. The teacher's editions include teaching strategies that explain concepts and address different learning styles. While this is very helpful, it also means that it takes longer to get through a lesson, either in planning and selecting what to use or in actually doing the lesson with your child. Consequently, I find that too many homeschoolers try to shortcut by just handing their children the workbook without adequate instruction. If you have time to use the program correctly, it is very good.

I have also left out the University of Chicago School Mathematics Project (UCSMP) math program from ScottForesman. This is one of the very best high-school-level math programs; however, it needs to be taught, and it assumes that the teacher has a good math background. Lack of time or expertise makes it very difficult for many homeschooling families to use. However, if you have a good supply of both, you should check it out at <http://social-sciences.uchicago.edu/ucsmc/Secondary.html>

Supplements

Narrowing down to the top hundred resources meant skipping all the wonderful supplemental items. This was especially frustrating when it came to math since there are so many great supplements that you really might need to use. You can check the Web site at www.CathyDuffyReviews.com for reviews of many math-related resources, but meanwhile,

the following are a few ideas to consider. All of these type supplements can be found at teacher supply stores, homeschool stores and catalogs, and directly from their publishers.

- Focused topical books: When children struggle with a particular topic or skill, they often need to get a better understanding of the concept itself. Supplemental books are often the solution. The *Key to ...* series workbooks from Key Curriculum Press are an example of this sort of thing. They have excellent series on *Fractions*, *Decimals*, *Measurement*, and *Geometry* (www.keypress.com). Other publishers offer single books on such topics.

- Computer-based computation drill programs: I hate to mention any single program since there are so many good ones. This is one area where computers are really useful. Drill can be so boring, but the computer can jazz things up, put it into a game format, add color, and make it fun.

- *Cuisenaire® Rods*, *Base Ten Blocks®*, and other manipulatives can be used as supplements alongside more traditional programs. If your children do not need *Math-U-See's* immersion in manipulatives, it can be relatively inexpensive to purchase these other manipulatives and a few resource books on how to use them to teach particular concepts. *Cuisenaire* actually has some activity books for working with the rods that are just plain fun.

- Games: many traditional games like Monopoly and Life have quite a bit of math built in. Other games have been developed specifically to focus on math skills. Check homeschool distributors, educational product stores, and the catalogs below for ideas.

- Supplemental activity books: Some children love to do activity pages when the math practice is linked to a dot-to-dot picture, puzzle, or something that provides motivation for figuring out the correct answers. Drill and review in such formats is much more appealing than what is generally offered in math textbooks.

Some of the best catalogs that specialize in math supplements are:

Activities for Learning, (888) 272-3291, www.Alabacus.com

Creative Teaching Associates, (800) 767-4282, www.mastercta.com

Dale Seymour Publications, (800) 526-9907, www.pearson

learning.com/dalesey/dalesey_default.cfm

Learning Resources, (800) 333-8281, www.learningresources.com

Nasco Math, (800) 558-9595, www.eNasco.com

Programs

Algebra

by Leonard Firebaugh

Keyboard Enterprises

5200 Heil, #32

Huntington Beach, CA 92649

(800) 737-6284



(714) 840-8004

e-mail: info@mathrelief.com

www.mathrelief.com

Videotapes: \$49.95 or \$69.95 per phase; DVDs \$69.95 per phase, \$209.85 for full course

Reports I consistently hear from parents are that their children really understand algebra when they go through this course. It may not be exciting or colorful, but it really works.

This set of videos with accompanying worksheets and answer keys comprises a complete first-year algebra course and then some. Presentation is definitely not exciting, but it moves along at a steady pace without wasting time. Firebaugh uses a whiteboard to demonstrate problem solving, explaining concepts clearly as he goes.

Each video lesson presentation (145 in all) takes about fifteen minutes, then students practice on worksheets for about thirty to forty-five minutes. Answer keys showing full solutions are included as well as tests. About eight hundred pages of worksheets, solutions, and tests come with the course. No parent preparation or participation is necessary. Students can work independently through all course work.

The complete course consists of three groups of tapes, listed on the order form as Phase One, Phase Two, and Phase Three. One benefit of the “phase arrangement” is that you can purchase Phase One, try it out, then decide whether to invest in the complete program. A more important benefit is that you can use only Phases One and Two for a slower student who does not intend to pursue algebra any further. The material covered in the first two parts will still be sufficient for a first-year algebra course. Students who complete all three phases will have covered some coordinate geometry along with many Algebra 2 concepts.

The cost for videos varies according to different quality options for each phase—choices of good or better quality reproduction tapes. The better quality has improved clarity and is recorded on more tapes. (Compare these to taping on your VCR at varying speeds.) Of course, DVDs are the best quality reproduction, so they make the most sense as long as you have a DVD player or computer that can run them. When you think about the cost, keep in mind that the videos or DVDs are not consumable, and you can reuse or resell them.

Overall, this is a time- and cost-effective solution even though it lacks polish.

Firebaugh is also just completing *Geometry* and *Algebra II* courses. Contact Keyboard Enterprises for information about availability.



The Algebra 1 Classmate

Classmate, L.L.C.

3535 Westheimer, Suite 215

Houston, TX 77027

(800) 579-0470

e-mail: info@classmate.net

www.classmate.net/homeschool

\$74.50 per course

Teacher Mike Maggart created the first in this series of CD-ROM based courses, *Algebra I*, based upon his teaching experience at a rigorous private school in Houston, Texas. He then tested and developed it through actual use in a number of schools. Although developed through traditional school settings, it works especially well in independent tutorial situations such as homeschooling.

Algebra 1 and *Prealgebra* are available thus far, with *Geometry* and *Algebra 2* yet to come. Programs are delivered via CD-ROMs that run on either Windows (Win 95 or higher) or Mac

(OS 7 or higher). These programs are very easy to use; there's no installation required. Just pop in the CD and it runs.

I'll begin with *Algebra 1* since it was the first Classmate course I reviewed. For *Algebra 1*, eleven CDs come in a compact, zip-up case. Three levels of tests for every unit as well as solutions for problems in the program are available either on an optional twelfth CD or in the "instructor's tools" section of the publisher's Web site.

In addition, the "E-book" feature in the software allows the student to print out summary notes for every chapter plus sets of extra practice problems. There are five thousand printable problems plus another one thousand printable problems designed for discussion. I suspect the notes feature will be especially useful for quick review if students print out these pages and store them in a binder.

The program incorporates both audio and video with interactive problem solving, help, solutions, and quizzes (both on-screen and printable) for a complete, self-contained course. CDs each focus on one or two topics: simplifying, equations, word problems, functions, linear equations, systems of equations, polynomials, factoring, rational expressions and equations, inequalities and absolute value, radicals, and quadratic equations.

Think of each CD as being equivalent to a textbook unit, with a number of chapters within each unit. Each CD has a number of "chapter" sections representing subtopics, with each of those units divided into lessons and quizzes.

Each lesson is accessed by clicking on examples shown to the left of the video screen. Each example brings up a short video presentation of Mr. Maggart teaching the concept on a whiteboard. Another button allows students to view and/or print out a screen summarizing key concepts for the section.

Buttons at the bottom give students seven or eight practice problems on the section topic—1,100 practice problems altogether. For each problem, students have immediate access to visual hints, audio explanation, written explanation, and the correct answer. Practice problems are actually worked on paper rather than on screen. Then students push a button to get the answer and compare it with their own. Additional problems (from a database of 5,000 more problems) are available as a printout; answers for the odd problems are printed upside down on the printout. Complete solutions for odd and even problems are included on an optional twelfth CD. (Tests and solutions are also available at the password protected "instructor's tools" pages at Classmate's Web site.) There are also some "deep thought" problems for those who need a greater challenge.

There is a self-test for each "chapter" and a quiz at the end of each unit, both of which are computer scored. The student's score can then be sent over the Internet to an online gradebook that has been set up by the parent. Parents can then access the gradebook from any computer hooked up to the Internet without having to use the program disk. Students can retake tests, and the gradebook tracks each version of the self-test and each student score. The gradebook feature combined with the printout tests make it easy to check if students are mastering the material when they are working independently.

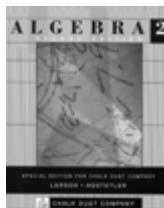
With 140 interactive lessons and all of the problem solving, this amounts to a tremendous amount of material for instruction and practice. Students can do as much or as little on a topic as needed (or required by parents), and they can choose from some or all of the options for

practice problems. The program is very nicely put together and provides one of the most thorough yet easy-to-use options I've seen.

Prealgebra is the second course produced by Classmate. The format and interface is identical to that for *Algebra 1*; however, the teacher for this course is Ms. Gruber. There are fewer units, but more chapters per unit, all contained on nine CD-ROMs. This course is actually quite challenging, reflecting the National Council of Teachers of Mathematics standards. This is especially evident in the last three units on geometry, measurement, and probability and statistics.

Neither of these two courses could be described as entertaining. Material is presented without embellishment or personal comment. Perhaps a need to keep the audio and video within certain limits forced them to cut out anything extraneous. That means that despite the audio and video, these programs lack the personal feel you get from courses such as Steve Demme's *Math-U-See*. On the other hand, students who want "Just the facts, Ma'am" should find the efficiency a plus.

I was able to preview part of *Classmate's Geometry* course that is still in development. *Geometry* is taught by Mrs. Vandersea on about nine CD-ROMs. It uses a traditional approach to geometry, introducing two-column proofs in the first unit. Unfortunately from what I saw, this course seems a bit dry in comparison to some of the other geometry courses available. There is no construction activity by students. Concepts are presented with minimal practical application.



Chalk Dust Math Courses

by Dana Mosely

Chalk Dust Company

11 Sterling Court

Sugar Land, TX 77479

(800) 588-7564

e-mail: sales@chalkdust.com

www.chalkdust.com

Professor Dana Mosely is your video instructor in this outstanding series of math courses for sixth grade through early college levels. High production quality and skillful presentation combine to make these top-notch video courses. Mosely's many years of teaching experience are obvious as he clarifies commonly confusing issues. He keeps the presentation moving at just the right pace, although students can always rewind and review if they don't catch it the first time around.

Courses like these are critical for many families who are deciding whether or not they can handle homeschooling through high school. These courses really do allow students to work independently, which means parents who never went beyond Algebra 1 can still provide their children with a solid math education.

Parents with weak math backgrounds should love these courses since they really do the teaching for you. Even better, purchase of a course entitles students to free technical assistance from Professor Mosely. (Those who purchase complete used courses can pay a \$50.00 fee for consultation service per student, per course, per year.)

Courses start with *Basic Math* (sixth grade level) and continue through *Calculus I*. (Chalk Dust also produces *SAT Math Review*, which is not included in this review.) Each course has six to sixteen video tapes; DVDs are also available for all courses. The number of tapes or DVDs per course reflects both the size of textbooks and the complexity of concepts taught.

All courses include a textbook and solution guide. Mosely follows the textbook lessons in order of presentation, with the exception being the geometry course. In that course, Mosely provides different approaches to some topics. In all the courses, he usually expands upon the textbook presentation, sometimes adding his own learning strategies to the lessons. He covers the main concepts, then works out sample problems on a chalkboard with an occasional computer graphic or graphing calculator illustration.

Students should watch a section of the video, then go to the text and work about thirty exercise problems in that particular section in the book. Each section requires about two days to complete. In most of the texts there are far more problems than most students will ever need to complete, so use discretion in assigning exercises. *Chalk Dust* includes a missive with each course explaining how to assign problems.

The textbooks are from Houghton Mifflin, and the lead author on most of them is Ron Larson, one of the most respected and prolific math authors in the United States. However, the *Basic Math* text is authored by Aufmann, Barker, and Lockwood, and these authors are also responsible for the *Prealgebra* text. Some texts are identical to those used in schools, while some have been published as special editions for Chalk Dust. *Algebra 1* and *2* texts are softbound standard with a hardbound option for an extra \$20.00.

The textbooks are designed for classroom teachers, so they do not function well on their own for homeschooling students. However, the combination of video presentations and solution guides with the texts results in excellent courses that work well for independent study.

This series of texts is strong on real-life applications and word problems that enhance conceptual understanding. They include calculator use at all levels. In addition to lessons, examples, and practice problems, textbooks also have reviews and tests.

The softbound solution guides for all courses include complete solutions to all problems, with the exception of guides for *Trigonometry* and *College Algebra*. Their guides are student editions that have worked-out solutions to the odd problems from student exercises, although they have all solutions for test questions. Solution guides are a valuable component in these courses. You can purchase components separately, but you really need all three components—text, videos, and solution guide.

Chalk Dust's Web site has short demos of programs available for free viewing, so you can check them out before purchasing. An “evaluation tape” (volume 1 of the series) can be ordered for any program if you agree to return it within thirty days. Full-set orders include a thirty-day money back guarantee, a one-year VHS tape replacement warranty, and a thirty-day DVD warranty. Also available on the Chalk Dust Web site (www.chalkdust.com) is information about creating tests (if you need to retest from time to time), grading tests, and assigning test and course grades.

***Basic Math* (2003)**

6 videos or 2 DVDs, text, and solutions guide—\$225.00

The text for this course is Houghton Mifflin's *Basic Math, Second Edition*, by Aufmann, Barker, and Lockwood, but it is a special edition published for Chalk Dust. The course functions well for remediation or reteaching of basic concepts students might not have mastered at earlier levels.

While Chalk Dust lists it as a sixth grade course, it is not a complete course by some standards because topics such as geometry, area, volume, and integers are not included. The Chalk Dust course covers basic concepts and operations, including exponents and order of operations with whole numbers, fractions, and decimals. It also covers ratio and proportion, percents, and graphs. Also, new to this edition are the topics of statistics, probability, U.S. customary units of measurement, and the metric system of measurement.

Many practical applications appear in examples and word problems, and an entire chapter is devoted to business and consumer math skills such as percent calculations in making purchases, computing interest, calculating the cost of buying a home or car, calculating wages, and balancing a checkbook.

Although the course is not typical of sixth grade math due to the omission of several topics mentioned above, those topics are covered in the next Chalk Dust course, *Prealgebra*, so *Basic Math* may be regarded as a foundation in the basics necessary for upper level work.

I would use it with an average student at seventh grade or higher who needs remediation before going on to a grade level course. A four-function calculator might be used along with this course, but it's not absolutely essential. If you are looking ahead, you might want to go ahead and purchase a TI-83 Plus graphing calculator since it can be used with all courses.

***Prealgebra* (2002)**

10 videos or 6 DVDs, text, and solutions guide—\$335.00

This prealgebra course is fairly similar in content to *Saxon's Algebra 1/2*. The text is *Prealgebra, Second Edition*, by Aufmann, Barker, and Lockwood, published especially for Chalk Dust Company by Houghton Mifflin Company.

This approximately 650-page, hardcover textbook includes instruction, examples, exercises, tests, and answers to odd-numbered problems in the exercises. It comes with a softcover *Complete Student Solutions Manual* that contains step-by-step solutions to both even- and odd-numbered problems.

The text first reviews basic math skills and concepts, including exponents and radicals, before moving on to topics such as polynomials, first-degree equations, the rectangular coordinate system, measurement, proportion, percent, geometry, statistics, and probability. Even though this level of math covers many algorithms with no immediate applications, this text still includes many word problems and practical applications.

Periodically, lessons include mention of how to use a scientific calculator, with a few questions directing students to perform calculator operations. Calculator use is introduced at this level, and students should use a scientific or graphing calculator with the course.

Courses such as this used to be considered eighth grade level, but the new math standards have advanced the math agenda, so this is now considered seventh grade level in most states.

***Algebra 1* (2001)**

11 videos or 6 DVDs, text, and solutions guide—\$354.00

The text for this course is *Algebra 1* by Larson and Hostetler in a special edition published for Chalk Dust. This is a traditional course targeted toward the average student. Mosely's thorough presentations plus the combination of video instruction with textbook reinforcement should make it easy for most students to master algebra while working independently through the course. In addition, the solution guide will help when both students and parents are stumped.

While this text does not incorporate geometry instruction (as does *Saxon*) it does include algebraic applications in geometry. (Chalk Dust offers a separate *Geometry* course, as do most publishers.) The *Algebra 1* course has lessons and exercises for using a graphing calculator. In addition, the book's appendix adds sections on graphing calculators, geometry, and statistics, but the appendix sections are not included on video.

***Algebra 2* (2001)**

14 videos or 8 DVDs, textbook, and solutions guide—\$429.00

The textbook for this course is *Algebra 2* by Larson and Hostetler in a special second edition published for Chalk Dust Company. Mosely closely follows the lessons as presented in the textbook. Many first-year algebra concepts are reviewed at length, a boon for students who have taken geometry after one year of algebra and need a refresher. The solution guide covers all the problems.

The scope and sequence is a bit different from some other Algebra 2 courses. While it covers functions at length along with radicals, inequalities, conic sections, systems of equations, matrices, and logarithms, it does not even introduce trigonometry. The inclusion of elementary trigonometry techniques is a relatively recent trend in Algebra 2 courses, and Chalk Dust follows the more traditional approach in offering trigonometry as a separate and much more comprehensive course.

Instructions for using a TI-83 graphing calculator are part of the video instruction and also appear in a separate section in the appendix. Additional calculator information appears as “technology tips” in sidebars throughout the book. Occasionally, video lessons actually show the calculator and its screen so that students can use their own calculators and follow along performing operations.

In my opinion, this is the most practical solution for covering Algebra 2 unless parents are great at math and have time to teach it themselves. Even though the cost seems high, keep in mind that everything can be used with other children, then resold when you are finished, or you could share a set of tapes with another family.

***College Algebra* (2001)**

12 videos or 9 DVDs, textbook, and solutions guide—\$409.00

The *College Algebra* textbook is by Larson and Hostetler. The text follows the same format as do Larson's other algebra books. As you might have guessed from the course title, *College Algebra* is really a college course rather than a high school course. However, you might use it after *Algebra 2* or, in exceptional cases, instead of *Algebra 2*.

The course reviews much of the material covered in *Algebra 2* but takes it to a deeper level in most instances and at a more rapid pace. For example, in the section on graphing equations, you encounter new types of equations and graphs. In the study of functions, you will encounter more complex functions than you did previously.

It might be possible for outstanding *Algebra 1* students to skip *Algebra 2* and move directly into this text, but for most students it should follow an *Algebra 2* course. Some students will be able to skip the first section of the course that reviews fundamental concepts of algebra.

The solution guide for this course is actually a student edition, so complete solutions are shown for only odd problems from student exercises (this is typical of college math textbooks). All test solutions are shown.

Although the course is titled *College Algebra*, it is only a little more challenging than *Algebra 2*. In comparison to *Saxon's* math series, the content of *College Algebra* is somewhat equivalent to algebra coverage in *Saxon's Advanced Math*. However, *Saxon* also covers geometry and trigonometry, which this course does not. Chalk Dust offers separate *Geometry* and *Trigonometry* courses and also covers trigonometry within its *Precalculus* course. On the other hand, this course covers statistics and probability, which receive little attention in *Saxon*, and it also has more coverage on conic sections. The use of a graphing calculator is highly recommended, but the course can be completed without one.

College-bound students who do not need calculus and trigonometry will have a very solid math background if they continue algebra studies through this course. Students completing the Chalk Dust *College Algebra* course should be able to test out of college algebra at the college of their choice.

College-bound students interested in an engineering or science degree are advised to take the Chalk Dust *Precalculus* course, which covers topics in both the *Trigonometry* and *College Algebra* courses plus other material. An additional benefit of taking *Precalculus* rather than *Trigonometry* and *College Algebra* separately is the cost: \$514.00 for *Precalculus* versus \$818.00 for the other two courses.

Geometry

11 videos or 7 DVDs, textbook, and solutions guide—\$399.00

This course reflects the positive side of what the standards movement in education has been trying to accomplish. The approach used in this course, which aligns with the math standards, combines conceptual learning and computational skills while teaching with both construction activity and traditional proofs.

The text used is Houghton Mifflin's *Geometry: An Integrated Approach* by Larson, Boswell, and Stiff. I believe students should use the text with this course even more than they might with other Chalk Dust courses because videos and text complement each other rather than repeating all the same (or very similar) material.

While the text is fairly good on its own, explanations of some concepts are perfunctory. Professor Mosely expands the lessons wherever necessary. For example, the book's presentation on slope is very brief, so Mosely uses visual aids for a much lengthier, more complete teaching of the topic. On the other hand, construction activity is used throughout the book, and some inductive methods similar to those in *Discovering Geometry* show up in "Special Projects," "Chapter Explorations," and "Lesson Investigations" in the text. The text also features some optional computer and calculator activities. The projects, explorations, investigations, and computer and calculator activities are presented only in the text, not on the video. I highly recommend that students tackle as many of the projects, explorations, and investigations as they are able. A computer drawing program is necessary for the computer

activities and a graphing calculator for the calculator activities. However, neither is crucial to the course as a whole.

The course covers typical content, including a brief introduction of trigonometry. Proofs are introduced in the second chapter, then used throughout the text, although the stress on logic is not at the level we encounter in Harold Jacobs' *Geometry* text.

The text is heavily illustrated with lots of practical application: e.g., "Why does a 'baby gate' not have a bi-directionally rigid framework while a bridge using a similar parallelogram structure is rigid?" (p. 282). Some of this carries over to the videos, but the video presentations focus primarily on key concepts and skills. Algebra is applied within geometry lessons, and some "mixed reviews" in the text offer opportunity for problem-solving practice on algebra problems to help students retain skills.

After lesson 13 in the text, there are seven "Excursions in Geometry," which are optional short lessons dealing with topics such as Platonic and Archimedean solids, topology and Mobius strips, and fractal geometry. Most of these are very interesting and not overly challenging, so consider using them if you have time.

Overall, I think this course is great for homeschoolers. It includes some of the elements I like so much from *Discovering Geometry* (application, inductive thinking, construction activity, and interesting presentation), and it can be used by students working independently, while *Discovering Geometry* really needs a teacher.

***Trigonometry* (2001)**

12 videos or 9 DVDs, textbook, and solutions guide—\$409.00

The text for this course is *Trigonometry, Fifth Edition*, by Larson and Hostetler. This is a traditional course covering both trigonometry and some analytic geometry. Graphing calculators are referenced throughout the text and demonstrated throughout the video as well. Although these calculators can be somewhat expensive, they can be critical in demonstrating equations and the relationship between the algebraic form (the equation) and the geometric form (the graph). The TI-83 Plus is recommended.

If students are not already familiar with the calculator, they should go through the user-friendly instructions that come with it and learn the calculator techniques on a need-to-know basis as they are encountered during the course. Keep in mind that Chalk Dust provides technical support by phone or e-mail so calculator issues are not a big deal.

The solutions guide is a student edition, so complete solutions are shown for only odd problems from student exercises. All test solutions are shown. (Note: *Precalculus* covers the content of *Trigonometry* and *College Algebra*, so students need not do either of those courses in addition to *Precalculus*.)

***Precalculus* (2001)**

16 videos or 13 DVDs, textbook, and solutions guide—\$514.00

There are more tapes or DVDs for this course than for other Chalk Dust courses because this course is really two courses in one, college algebra and trigonometry, with the addition of even more material not contained in either of the other two. There are more than forty hours of video presentation associated with this course.

Professor Mosely follows lessons in the text, expanding explanations and working out sample problems. With this course, students really should stop the video occasionally and try to solve example problems so they can fully grasp the concepts.

This would be a one-semester course at the college level, but high school students should definitely take a full school year or more to complete it. The text used in the 2004 version of this course is *Precalculus with Limits, A Graphing Approach, Third Edition*, by Larson, Hostetler, and Edwards. Both content and presentation in the textbook help make the course more appealing. There are a number of fully-explained examples for each topic in the book. In addition, the text has some full-color illustrations; historical/biographical sidebars; and real life, business, and science applications within the chapter problems.

With the combination of videos, textbook, and the complete solution guide (with solutions to all problems), students really should be able to learn independently. After completing this course, students should be ready for college-level calculus, so they should be able to test out of college algebra and trigonometry or out of precalculus.

A graphing calculator is standard equipment for this course. The TI-83 Plus is recommended. (See the review of *Trigonometry* for comments on the calculator.)

Calculus 1 (2001)

12 videos or 8 DVDs, text and solutions guide—\$409.00

The text for this course is *Calculus of a Single Variable, Sixth Edition*, by Larson, Roland, Hostetler, and Edwards. The text actually covers two courses—Calculus 1 and Calculus 2—but the videos and the solutions guide cover only Calculus 1.

This is a true college level course. I suspect that most students tackling such a course will want to earn college credit if possible, so students should check with the college of their choice beforehand to make sure they will have the opportunity to test out of Calculus I once the course is completed. I would not be surprised if the college uses the same text since it is one of the most popular calculus texts in the country.

Chalk Dust for the Elementary Grades

1 CD or online access plus binder—\$80.00 per course

I have to add a note about Chalk Dust's new computer-based math courses for the elementary grades, marketed under the trade name *Math Matters*. These courses for grade levels 3, 4, and 5 (thus far) were developed under the direction of Dana Mosely of Chalk Dust. The courses include colorful illustrations and animations as well as voice instruction for a key topic in each lesson.

You can choose to purchase either online access to a course or the CD-ROM that contains the course. Both come with a three-ring binder that includes tests, answers, and other material.

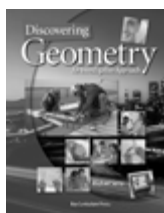
Each course has approximately 180 lessons and covers an entire year's math curriculum. All lessons include cumulative review. Some of the lessons allow the student to type answers in blanks provided, while others call for written work from the student. Written midchapter and chapter tests are provided in the binder.

Unlike other math courses offered by Chalk Dust, students are not expected to work independently. Parents will still have to monitor and control the learning experience due to the grade levels involved.

Math Matters offers a unique assessment and placement test that may be taken whether or not the student signs up for a course. The cost is \$15.00, but about half that cost will be deducted from the cost of any *Math Matters* course you purchase. The online tests accessed through the *Math Matters* Web site, adapts as students answer questions, providing easier or more difficult questions as needed so that the end result is a very precise evaluation of a student's ability throughout a spectrum of topics.

Students also have the opportunity to take tests written in the standardized format called *MCAT (Math Comprehensive Assessment Tests)*. These self-correcting tests appear at the end of each chapter. As with all Chalk Dust courses, *Math Matters* offers technical support online or by phone.

Sample lessons and more course information are available at the Math Matters Web site, www.mathmatters.com or by phone at (888) 693-6284.



***Discovering Geometry: An Inductive Approach*
(third edition)**

Key Curriculum Press
1150 65th Street
Emeryville, CA 94608
(800) 995-MATH
(800) 338-7638

e-mail: info@keypress.com
www.keypress.com

Student book—\$53.70, teacher's edition—\$79.43, solution manual—\$35.95, assessment resources—\$37.90

I used this text twice, each time with groups of three students with widely diverse mathematical aptitudes. Amazingly, after completion of the course, all my students actually thought geometry was fun! That's because *Discovering Geometry* truly uses a different approach to teaching the subject. This is a complete college-preparatory course that is more inviting than any other I have seen.

The first thing students encounter in the book is art—geometric art. The art leads students into their first investigations about lines and shapes. Investigations by students help them discover postulates and theorems by inductive reasoning. Many investigations involve students in activities, especially making and working with constructions using a straightedge and compass.

Word problems are imaginative, although the latest edition (third edition) has dropped many of those we liked best from earlier editions. Real-life applications are more true-to-life than in some other texts. Mathematical thinking is the goal of this text rather than mere memorization of postulates and theorems.

The text moves from the concrete to the abstract—a strategy essential for many students to be able to succeed in geometry. In the teacher's edition, the author explains his philosophy of gradually working through levels of thinking to the point where students are able to deal with proofs.

Paragraph proofs are introduced in [chapter 2](#) as a means of getting students to organize data and make conjectures. Flowchart proofs are taught in [chapter 4](#), and column proofs are saved

for the last two chapters (12 and 13) after students have mastered concepts and understand relationships between theorems. Even though formal proofs are not taught at the beginning of the course, students are applying both inductive and deductive reasoning and working with logic and language leading up to use of two-column proofs.

Now, here's the hangup that explains why more homeschoolers are not using this text. It was definitely designed for classroom use. It requires cooperative learning with two or more students working together. It is possible that a parent could function as a second student for some of the activities, but it is more than a bit tricky for a parent to function simultaneously as teacher and student. Lest you view the cooperative learning requirement as a negative, I must tell you that it is one of the features that makes it so enjoyable. This is primarily where students have the many "Aha!" experiences of this course. It will be well worth your while to pull together even a small group class to make this course work.

You need both the student text and the teacher's edition. The hardcover student text is printed in full color. It has "Hints for Selected Exercises" at the back, but no answer keys.

In addition to the aforementioned straightedge and compass, students will need a protractor and a ruler. Numerous other items are used to make this a hands-on course, although most of the time their use is optional. Among these items are drinking straws, interlocking cubes, geometric shapes, geoboards and rubber bands, a meter stick, modeling clay, patty paper (the lightweight paper used to separate burger patties), toothpicks, cubes, and uncooked spaghetti.

The teacher's edition is a larger hardcover edition that includes reproductions of student pages, with some answers overprinted in magenta, plus teaching information, solutions, and other helps in margins and at the bottom of the page. Additional teacher information is in the front matter and at the beginning of each chapter. One valuable part of this information is course outlines that will help you schedule lessons, tailoring the course for "standard," "enriched," or "block" schedules. Answers to all problems are found either in the chapter or at the back of the teacher's edition. A separate solution manual shows the steps leading to the answers. Parents who are not strong in math might want to have this on hand in case they get stuck.

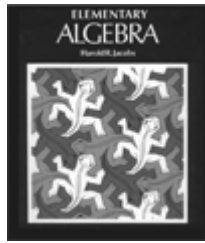
Every exercise set in the student book includes some review questions. Reviews at the end of each chapter consist of about fifty or more problems. Assessment Resources (quizzes and tests) are available separately.

The third edition has upped the number of opportunities to incorporate technology into learning, although it is not required. The author suggests that students have a graphing calculator and/or software such as *Geometer's Sketchpad*. *Geometer's Sketchpad* (\$39.95 for a student edition) is a computer program (either Macintosh or Windows version) that can be used in conjunction with *Discovering Geometry* or other geometry courses. I expect that *Geometer's Sketchpad* might help compensate if you absolutely cannot find a second student. Students can create numerous constructions quickly on the computer and compare results, whereas it would be too time consuming to do many of them manually. However, you would not want to use the software as a total substitute for a student learning to create constructions with compass and straightedge.

Elementary Algebra

by Harold Jacobs

W. H. Freeman



Homeschool orders should be directed to VHPS
16365 James Madison Highway
Gordonsville, VA 22942
(888) 330-8477, press 1 for order entry, then 3 for
high school orders

(Note: All orders placed by homeschool parents
must be placed with a credit card. All
homeschooling orders that include teacher's

materials must be accompanied by a current certificate from your state or other source
documenting homeschooling status.)

Student text (#0716710471)—\$50.00, instructor's guide (#0716710757)—\$25.00, test bank
(#0716710773)—\$25.00

This is an atypical algebra text. *Elementary Algebra* covers all concepts typical of a first-year algebra course, but it invites students to explore algebra concepts in a friendlier environment than other texts. Cartoons, comic strips (e.g., *Broom Hilda, B.C., Wizard of Id*, and *Doonesbury*), interesting and creative applications, puzzles, and even poetry capture the interest of students who struggle with abstract mathematics.

For example, a lesson on mixture problems opens with the story of Archimedes and the King of Syracuse's golden crown that the king suspected was not really solid gold. Jacobs then sets up a volume/weight equation based on the problem.

In addition to stories and practical applications, Jacobs uses the rectangle-building concept throughout the text to demonstrate how concepts work. This is the same rectangle-building idea used by *Math-U-See* and some other manipulative systems. While Jacobs' book shows pictures and doesn't require use of manipulatives, students can still use them if they are helpful. I think most students really benefit from this approach when they are learning to multiply and factor polynomials. (This last feature makes this text a particularly good one to use after *Math-U-See's Prealgebra* level. If you don't already have manipulatives, check out either *Algebra Tiles* or *Algebra Base 10 Kit* from Nasco (www.lcsc.org/nascomath.html, 800-558-9595).

The book is divided into seventeen chapters, with each chapter subdivided into a number of lessons. A summary and review section is at the end of each chapter. Four exercise sets are at the end of each lesson, with problems ranging from simple computation, through word and application problems, to challenging thought problems. Generally, you will choose two of these sets for students to work. By assigning appropriate problems, the text can be used with students of varying capabilities. Answers to questions from one of the sets from each lesson are in the back of the student text so students can see if they are getting the correct answers. The instructor's guide is the source for the rest of the answers. A test bank is also available.



***Geometry: Seeing, Doing, Understanding* (third
edition)**

by Harold R. Jacobs

W. H. Freeman

(See ordering information for *Elementary Algebra*
by Jacobs above.)

Student text (#0716743612)—\$52.50, instructor's

guide (#0716756072)—

\$30.00, test bank: book (#0716756080)—\$30.60 or CD (#0716756102)—

\$66.30

Jacobs has managed to write a user-friendly geometry text that is heavy on logic and proofs. This is one book where you don't want to skip the introduction that introduces students to Euclid and teaches them the basics of construction with a straightedge and compass.

In the newly revised third edition, the first chapter is an introduction to vocabulary, tools, and basic ideas of geometry. But it ends with a lesson titled "We Can't Go On Like This," a lesson that takes students through some intriguing problems to demonstrate the necessity for a logical approach to geometry.

Then in the second chapter, Jacobs begins to teach logic. Many people cite the value of geometry as being the development of logical thinking skills. Jacobs takes this idea seriously, ensuring that students are truly tuned in to logical thinking before tackling other geometry topics. Given the foundation in logic, students then immediately begin work with proofs, which continues throughout the text.

Jacobs uses entertaining illustrations (including cartoons), as well as practical-application explanations and engaging word problems. For example, the lesson on similar figures and ratio begins with a comparison of movie and television screens, including the "letter box" option that changes the ratio.

Topic arrangement is different from what I have seen in most texts. For instance, work with circles follows introductory lessons on trigonometry. The trigonometry is introduced as a natural progression in the study of triangles, so this is not really an outlandish arrangement. Even if the arrangement is unusual, there is a clear continuity to topics, building one upon another.

There are sixteen chapters in the book, with each chapter divided into a number of lessons. Each lesson has three problem sets. All students should try to complete the first two sets, but skip the second set for struggling students. The third set frequently features really intriguing investigations, but these should be used as a challenge for better students who have the time. A summary and review at the end of each chapter includes specific algebra review.

Construction activities (using straightedge and compass) are minimal. Because of this and the emphasis on logic, I recommend this text for abstract thinkers rather than hands-on learners. But I suspect that even some students who struggle with the logic will like this text because the presentation is so appealing.

Problems from SAT tests are interspersed throughout the exercises. They are labeled as such so students preparing for the test can be sure to master these.

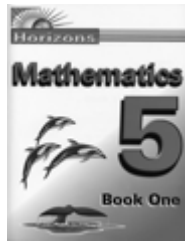
Selected answers for about one-fourth to one-third of the problems from each lesson (selected in no numerical sequence) are at the back of the student text. All answers are in the instructor's guide. A separate test bank is available in either book or CD-ROM format (both Windows and Mac versions on one disk).

Horizons Mathematics

Alpha Omega

300 North McKemy

Chandler, AZ 85226-2618



(800) 622-3070

www.aop.com

Sets for each level include teacher handbook and two student workbooks:

K—\$59.95, grades 1 through 3—\$69.95 each; grades 4 through 6—\$71.95 each

Those familiar with Alpha Omega's *LIFEPAC* curriculum are often surprised when they check out Alpha Omega's *Horizons Mathematics* because they are so different in both format and methodology. Whereas *LIFEPAC* courses are comprised of ten (in most cases) individual worktexts through which students work independently, *Horizons Mathematics* follows a more traditional format. In *Horizons Mathematics*, the teacher handbook is the main part of the program, although each level does have two full-color student workbooks.

The teacher handbook outlines every step of each lesson, listing objectives, materials needed, stories, poems, and games. Some preparation time is needed, and lessons must be taught. However, lessons are purposeful; they don't waste time on peripheral topics as do some other math programs, such as *Saxon* for younger levels.

Horizons uses a variety of manipulatives throughout all levels, although far more in the early grades than fifth and sixth grades. Among manipulatives used are dominoes, counters, play money, place-value materials (might be craft sticks or something similar), flannel board and numbers, abacus, beads, and flash cards, along with household items such as bags, a calendar, an egg carton, a ruler, and straws. For the most part, these are either household items, things you can make easily yourself, or easy-to-find and relatively inexpensive items. *Base Ten Blocks*® used at upper levels would be one of the more costly items. Charts at the front of each level's teacher handbook list manipulatives to be used and lessons for which they are to be used. It also indicates which are essential and which are optional.

Each lesson has instruction on a new concept and practice or review of previously learned concepts. This continual practice and review marks this as a "spiral" curriculum.

Each lesson includes a number of activities that require interaction between teacher and student, often with hands-on materials. For example, one lesson in the first grade program includes paper-and-pencil work with a hundreds chart, regrouping demonstration with place-value manipulatives, oral number chart work, time-telling practice using small clocks, written place-value practice, addition practice, writing the words for large numbers, and word problems.

Alpha Omega explains their scope and sequence and course layout in great detail at the beginning of each teacher handbook, making it very easy to see what should happen when. A readiness evaluation is also found there, so you can make sure that each child is ready for this level and also spot weaknesses.

The teacher handbook is very well designed, with each part of the lesson clearly labeled. Novice home educators should especially appreciate the easy-to-follow layout. Activity instructions are numbered and spaced so they are easy to locate and read quickly. All instruction is provided through one-to-one teacher instruction, demonstrations, and hands-on activity, although there is less and less of this as you move into the upper levels.

Students have two separate workbooks (each about one-half inch thick) to cover each level. This is a lot of workbook pages (two to four per lesson depending upon grade level), especially for kindergarten, but they are appealingly designed with full color, large print, and variety in the layout—illustrations, puzzles, and lesson explanations take up some space. Simple instructions are included with each activity in the workbooks.

I suspect that many parents will be tempted to hand their children the workbooks and ignore the teacher handbooks, but there are some important lessons and presentation ideas in the handbooks you should not skip. You should review the lesson plans and determine how much of each presentation is useful for each student.

Supplemental, reproducible worksheets are also included in the teacher's handbook with clear indication of the lessons to which they correlate. Periodic tests are in student workbooks. Answer keys to workbook pages, including tests, are in the teacher's handbook.

Each level goes beyond most other programs by spending more time on development and practice of concepts and skills. The scope and sequence is purposely advanced in keeping with the national mathematics standards.

Alpha Omega's educational philosophy is also evident in this program. They believe repetition and review are essential until a subject has been mastered to the point where it becomes second nature. They view math, in particular, as both a basic functional skill and a communications skill that develops precision in thinking. Within this framework that emphasizes mental discipline, they have done an excellent job of breaking tasks down into manageable increments and also building in learning methods that address the needs of various learning styles.

However, this also means that you might not need to use everything in each lesson with each of your children; they might not need all the multisensory instruction, and they might not need all of the practice and review (in spite of instructions to the contrary in the teacher's handbooks). You will need to exercise some discretion as to what you might skip. Also, keep in mind the advanced speed of the program, and slow down if necessary.

Quarterly tests and a final, plus answer keys for workbooks, worksheets, and tests are all in the teacher's handbook, except for level K. There is also a test after every ten lessons in the student workbooks.

This program was designed very much with home educators in mind, so there are few classroom-only type activities that must be adapted or skipped.

Horizons Mathematics K

The *Horizons Mathematics K* program follows an advanced scope and sequence, closer to some publishers' first-grade programs. Students are doing addition and subtraction (two digits plus or minus one digit) with no regrouping by the end of the year. However, lessons are taught with visual aids and manipulatives to better help young children grasp concepts. Time, money, measurement, ordinal numbers, and introductory fractions are among other concepts covered. For home educators who want an academic math program for kindergarten, this is a practical solution.

Horizons Mathematics 1

The first grade program begins with concepts such as place value and counting by twos and fives—all within the first ten lessons. Addition works up through addition of triple-digit

numbers with carrying from the ones column. Subtraction works up through three-digit numbers, but without borrowing. In addition to basic number concepts (e.g., counting, addition, subtraction, place value), this level teaches time, money, the calendar, measurement, fractions, sets, shapes, bar graphs, and estimation.

A solid foundation in number recognition and meaning along with other concepts (such as colors and shapes) is essential before beginning this level. This foundation is laid in *Mathematics K*. Readiness assessment tools in the teacher's handbook will help you evaluate readiness. If children are weak in some areas, extra lessons in the handbook can be used to cover some topics. However, some children in first grade might need to start with *Mathematics K*. Choose levels according to appropriate skill levels rather than equating them to grade levels.

Horizons Mathematics 2

Mathematics 2 expects that children have learned two-digit addition and subtraction with carrying, but it still reteaches the concepts, then moves on to larger numbers. Multiplication facts for 1 to 10 are taught along with place value, number order, sets, correspondence, cardinal and ordinal numbers, shapes, graphs, fractions, measurement, temperature, estimation, ratio, the calendar, time, money, area, perimeter, volume, and decimals (in money).

Horizons Mathematics 3

Mathematics 3 covers the same topics as *Mathematics 2* but at more challenging levels; for example, multiplication teaches up through four-digit multipliers, division works up through two-digit divisors with remainders. Algebraic thinking is introduced with equations like $n + 5 = (7 + 2) + 4$.

Horizons Mathematics 4

The readiness test at the front of the book will help you know whether or not your child is able to work at this level. It asks students to reduce fractions, multiply four-digit numbers by multiples of 10, perform short division, compare values of fractions with unlike denominators, round off numbers, understand ratio, add fractions with common denominators, and solve simple algebraically-expressed addition equations.

Lessons are designed to be presented by the teacher as with lower levels, but students should be able to do the majority of their work independently. Lesson objectives are clearly spelled out in the teacher handbook. Materials or supplies needed are listed, and you might have to plan ahead to procure some of these. One lesson describes a bingo game for the teacher to construct, but most materials are much more standard—counters, flash cards, rulers, *Base Ten Blocks*®, a clock, and play money. While much of the lesson activity takes place within the two student workbooks for this level, there are additional activities such as mental math or manipulative work described in the lesson plans. About every other lesson uses a worksheet, for which reproducible masters are found in the teacher's handbook.

Among concepts covered by the end of the course are long division with two-digit divisors, adding and subtracting fractions with unlike denominators, converting fractions to decimals, adding and subtracting decimals, metric measurement, and multiplying or dividing to find equal ratios. Time, money, geometry, and graphs are also covered.

Horizons Mathematics 5

As in *Mathematics 4*, there is a four-page readiness test at the front of the teacher's handbook to help determine whether students are ready for this level. Among concepts they are

expected to know *before* beginning this course are division of two-digit divisors into dollar amounts with decimals; acute angles; diameters and radii of circles; similar and congruent figures; simple perimeter, area, and volume; ratios; addition of fractions with unlike denominators, addition and subtraction of mixed numbers, decimal values, and metric measurements. As with earlier levels, there is a great deal of review, so if your child has not yet covered all of these concepts, he or she might be able to pick them up easily through the review that is built into Level 5.

Among concepts taught by the end of this course are multiplying three-digit by three-digit numbers, values of exponential numbers, finding averages, division by two-digit divisors, types of triangles, least common multiples, multiplying and dividing fractions, all four functions applied to decimal numbers, percent, and probability. Calculators are used, primarily for checking answers. This course continues to stress both computation skills and understanding of concepts.

Horizons Mathematics 6

Students *beginning* this level are expected to know how to work with fractions, decimals, and percent, although not all types of functions (e.g., division with decimal divisors). Some other concepts covered in *Horizons'* earlier levels might not have been taught yet in other programs: congruency/similarity; diameter, chords, and radius of a circle; and different types of averages. However, the continual review and spiral approach used throughout the program mean that these concepts are reviewed and/or retaught at this level. Still, the program moves beyond the level of most others. For example, *Saxon's Math 76* introduces the idea of ratio while *Horizons Mathematics 6* teaches cross multiplication to solve for n . Geometry coverage is more complex, with students learning to construct geometric figures using a compass and straightedge. Students continue to work with fractions, decimals, and percent. Consumer math topics such as check writing, banking, budgeting, and calculating interest are covered along with more advanced equations, graphs, measurement, and problem solving.



Math-U-See

1378 River Road
Drumore, PA 17518
(888) 854-6284
www.mathusee.com

Teacher packs (include VHS or DVD plus teacher manual): Primer—\$25.00, levels Alpha through Zeta—\$35.00 each, Prealgebra through Geometry—\$50.00 each, Algebra 2—\$75.00, Trigonometry—\$70.00

Student kits (include student text and test booklet except for Primer, Algebra 2, and Trigonometry levels): Primer level—\$15.00, levels Alpha through Geometry—\$20.00 each, Algebra 2 (text plus Extra Practice Sheets book)—\$27.50, Trigonometry—\$15.00

Starter set of manipulatives—\$30.00, completer set—\$35.00, Fraction Overlays—\$30.00, Algebra and Decimal Inserts—\$20.00, skip-counting tape or CD with book—\$12.00

Steve Demme, creator of *Math U-See*, combines hands-on methodology with incremental instruction and continual review in this manipulative-based program. It excels in its hands-on

presentation of math concepts that enables students to understand how math works. It is the only truly multisensory math program I know of that covers all grade levels.

Manipulative blocks, Fraction Overlays, and Algebra and Decimal Inserts are used at different levels to teach concepts, primarily using the “rectangle building” principle. This basic idea, consistently used throughout the program—even through algebra—is one of the best ways to demonstrate math concepts.

Taking a tip from Saxon, Demme incorporates another key feature—a spiral design for the problem pages, continually reviewing and practicing previously learned concepts.

In the newly revised editions there are eight books for elementary grades titled *Primer*, *Alpha*, *Beta*, *Gamma*, *Delta*, *Epsilon*, *Zeta*, and *Prealgebra*. The Greek letter designations were chosen particularly to emphasize the order of learning rather than grade level designation. Students should move on to the next level once they’ve mastered the content of a book. These first eight books are followed by *Algebra 1*, *Geometry*, *Algebra 2*, and *Trigonometry* (in unrevised editions). Placement tests for the different levels are available free at the *Math-U-See* Web site.

For those familiar with the original series, the concepts covered in these books are the same as those in the original books, but the formatting and arrangement have been greatly improved. Improvements have been made in coverage of some topics, review, word problems, and layout of all the components.

First I’ll discuss the lower-level books, saving high-school-level courses for later. These eight books have thirty lessons each. They should take about one year each to complete, but students can take more or less time as needed.

For each level except *Primer* there are four basic components: a video (your choice of VHS or DVD), teacher's manual, student worktext, and test booklet. The *Primer* level has no test booklet.

The program also uses plastic blocks, color-coded to correspond to each number. The blocks snap together like Legos because of their raised surfaces. The Starter Set of manipulative blocks is required for all levels. At *Alpha* level, you will probably want to add the Completer Set so you will have plenty of manipulative blocks. You will need the Fraction Overlays at level *Epsilon*. And the Algebra and Decimal Inserts will be needed for levels *Zeta*, *Prealgebra*, and *Algebra 1*.

All books are comb bound and designed to be written in. Both teacher's manuals and student books are printed on only one side of each page so there is extra room for teacher notes and student work respectively. Student books contain three lesson-practice pages and three review pages for each lesson. Word problems are included in both types of pages.

The test booklets have tests to be used at the end of each lesson plus four unit tests and a final exam. Answers are in the teacher manuals. Neither student worktext pages nor tests are reproducible; you need to purchase books for each student or come up with a creative solution such as using a wipe-off overlay.

Primer will generally be the starting place for most kindergartners. At the early levels, you will also want to use the *Skip-Counting and Addition Songs* cassette tape or CD. Both a Bible version and a science and literature version are included on the tape or CD.

Parents must watch the videos or DVDs to understand the basic concepts that are the foundation of the program. On the videos, Demme works through each level, lesson by lesson, demonstrating and instructing. Although the videos are very basic (two cameras focused on Demme with a whiteboard), Demme's presentation is enthusiastic and engaging. Although he is actually teaching the lessons to a class, we don't see or hear the students except on rare occasions. Demme clearly explains why and what he is doing. He throws in lots of math tricks, the kind that make you scratch your head and ask why they never taught us that in school.

The video presentations are critical components of the courses, although teacher's manuals have briefer lesson presentations of the same material covered on the videos.

I expect that most parents will have their children watch the videos with them, although it is fine if parents choose to watch the videos and then do their own presentations to their children.

After the initial viewing or lesson presentation, parents and children work through lessons together for as many days as it takes for children to master the concepts. Once students have grasped a concept, they practice and do problem pages on their own with occasional assistance. Typically, children should be spending about a week per lesson, but you need to take as long as necessary for your child to learn each lesson.

All books are printed in black-and-white with no illustrations. This is not a particular problem in the first four levels if students are watching the videos, working with the colorful manipulatives, and learning the skip-count songs. In other words, the other multisensory experiences make up for the bland worktext. However, as older students need manipulatives less and less, the "plainness" of the worktexts is a point to consider.

The program covers all basic math concepts, including time and money. It does not try to correlate with the national math standards. Thus, for example, children are not working on graphing and probability in the early levels.

The *Primer* level begins with essential number concepts and continues up through adding to make 10, telling time, and introduction to subtraction. Children use manipulatives more than in upper levels of the program (and far more than in most kindergarten math programs). While I generally don't recommend formal math programs for kindergarteners, I make an exception for this one because its design makes it more developmentally appropriate than most others.

Alpha level focuses most heavily on place value, addition, and subtraction. *Beta* level teaches regrouping for both addition and subtraction. *Gamma* primarily covers multiplication, while *Delta* moves on to division. Fractions are the main topic in *Epsilon*, while *Zeta* tackles decimals and percents. Of course, other topics are included alongside these primary themes, topics such as money, measurement, geometry, time telling, graphs, estimation, prime and composite numbers, Roman numerals, and solving for unknowns. Prealgebra topics are similar to those in other such courses: positive and negative numbers, exponents, roots and radicals, order of operation, geometry, ratio and proportions, and other such topics. One unusual topic for this level is irrational numbers.

I have heard from a number of parents that as their children get older, they use the manipulatives less and less. Sometimes, by *Epsilon* or *Zeta* levels, students will skip the manipulatives altogether, moving through lessons more quickly.

When students complete the *Prealgebra* level, they can move on to *Math-U-See's Algebra 1* or to *Saxon's Algebra 1/2*. *Math-U-See* is slightly behind most other courses at this level, so students who want to shift to another publisher for Algebra 1 should first take a placement test for the course if one is available. However, if the Algebra 1 course has a decent review section at the beginning, students might be able to make the transition with no problem.

As we move into the high-school-level books, I have some reservations about the layout of the courses. Each course has videos, a teacher's manual, and a student text. Instruction is in the videos and teacher's manual but not in the student book. If a student needs to review a topic or, perhaps, look up a geometry theorem covered in an earlier lesson, they must use the teacher's manual or go back through the video. Even using the teacher's manual might be a challenge because indexes at the back of each volume are sparse. While the books have glossaries and charts of symbols and tables, *Geometry* lacks any list of theorems and postulates. How much of a problem any of this might be depends on how well students retain knowledge.

High-school-level math is challenging to start with, so presentation matters a lot in overcoming student resistance. The fact that student books are strictly black-and-white with no illustrations other than graphs and geometric forms is a negative feature, especially since students are no longer working with manipulatives all the time. While the algebra courses feature many word problems and applications, these are missing from the geometry and trigonometry courses. This lack, coupled with the visual lack of appeal, makes the latter courses significantly less attractive than other alternatives. (I expect some of these deficits will be addressed when new editions of these courses are published.)

In *Algebra 1*, manipulatives (the standard set plus the algebra and decimal inserts) are still used, but not as much as in earlier levels. For example, manipulatives are used to demonstrate basic equations, including the use of unknowns and negative quantities. However, they are not used to teach line slope since the graph itself is very visual and manipulatives would be cumbersome at this point.

Demme presents concepts simply and clearly, avoiding dense-sounding mathematical abstractions common to many algebra textbooks. At this level there are two videos with a total of four hours of instruction.

The format at this level is the same for all lessons: two pages of lesson practice concentrating on the new concept followed by three lesson sheets for additional practice and review of other concepts.

The teacher's manual has complete solutions to student exercises and tests. Tests themselves are in a separate book. These include weekly tests, cumulative unit tests, and a final exam. All are in multiple-choice format similar to standardized tests.

Algebra 1 does not cover as much territory as do most other first-year algebra courses. For example, quadratic equations, complex work with radicals, and motion problems are taught in *Algebra 2*, although they are included in most other first-year courses. Consequently, I would recommend this course for students who are average to slow in math.

Geometry has two videotapes providing four hours of instruction covering thirty lessons. Following the same format as *Algebra 1*, each lesson has two practice sheets and three lesson sheets in the student book. Students rarely use manipulatives, but they do need a protractor, a compass, and a straightedge to draw constructions.

This course is fairly traditional in presentation and coverage, although it is an easier course than most. While it covers the standard topics, it does not go as far in depth as *Discovering Geometry*. For example, Demme deals only with regular polygons when teaching about interior and exterior angles of pentagons, hexagons, etc. There is minimal work with tangents compared to both *Discovering Geometry* and *Jacob's Geometry*.

However, Demme introduces geometric proofs in lesson 24 and uses them through the end of the course. He also introduces trigonometry and transformations in the last three lessons. Algebra is reviewed from time to time within the lessons.

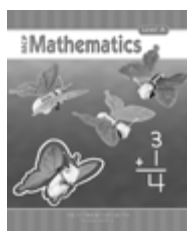
As with *Algebra 1*, I would consider using this course with average to slow students.

Algebra 2 has five and a half hours of instruction on either two videotapes or DVDs covering thirty-one lessons. The student book has four practice pages per lesson, and a book of extra practice sheets adds another two pages for each lesson. Tests and solutions/answer keys are in the teacher's manual.

This course moves on to new material rather quickly (as compared to many other second-year algebra courses), so it brings the total of *Math-U-See's* algebra coverage up close to that of other publishers. It introduces matrices and determinants in the last lesson but does not get into functions at all. Students should be able to move on to either precalculus or trigonometry courses after completing *Algebra 2*.

Trigonometry has four hours of instruction on two videos. The student text has twenty-six lessons plus two review lessons, with four practice pages per lesson. Students need a protractor, a ruler, and a scientific calculator. (Note that this is the only *Math-U-See* course that uses a calculator.) The teacher's manual has more pages per lesson than other courses, with up to eleven pages for one lesson. Probably because the teacher manual is already bulky, solutions are published in a book with the tests.

This is a straightforward and relatively unexciting course, but the video teaching might make a huge difference for many students since Demme does a great job explaining and illustrating concepts.



***Modern Curriculum Press Mathematics series,
Levels K and A through F***

Modern Curriculum Press/Pearson Learning Group
P.O. Box 2500

Lebanon, IN 46052

(800) 393-3156

www.pearsonlearning.com

Student book—\$28.50 each, teacher's edition—

\$29.50 each, set of both—\$45.50

MCP Mathematics is one of the most practical and affordable math resources for the elementary grades. The student book comes in worktext format, so lesson presentation and work pages are combined in one place for the most part.

I sometimes use the *MCP Mathematics* teacher's manual as an example of what a good teacher's manual should look like. It is very useful, even though children can do much of their work independently. It features reduced student pages with answers overprinted, so it is easy to check your child's work. Around the outside of the reproduced pages are lesson objectives,

items you might use for a hands-on presentation for some lessons, mental math activities for practice, and very brief instructions for lesson presentation. The teacher's manual also has error pattern analysis that can help you determine why children make certain errors. I really appreciate this format where everything you might need is visible on a two-page spread. It is easy to pick out what you want to use, so lesson preparation time is minimal.

Instruction within student books includes explanations of concepts, usually with visual diagrams and sometimes with suggestions for using hands-on materials. *Base Ten Blocks*® are pictured from time to time, so they might be a good choice for math manipulatives to use alongside this series. Word problems combine with the conceptual presentations to help children develop mathematical thinking skills.

Many parents find that their children can work through lessons without parental lesson presentation, so this series works well for independent study situations as well as for more interactive situations.

A weakness of this series is that it deals with only one subject per lesson, reviewing previously learned concepts at infrequent intervals on tests. This does not usually present a problem up through third grade, but by fourth grade you need to either supplement with other means of review or do as one mom suggested—skip occasional problems in each lesson, then come back and use those for review.

This series moves at a slower pace than A Beka, *Horizons*, and *Saxon* (e.g., long division is usually taught in fourth grade, but in MCP it is taught in fifth). However, it does a good job on concept development through lesson presentations and word problems that are often quite challenging. Level K for kindergarten is very easy and not really necessary. I would begin with Level A (first grade) and use the series through Level D (fourth grade), perhaps moving children at a faster rate than suggested by the publisher.

This series *does not* reflect the national standards for math, a factor that might be considered both positive and negative. With its narrower focus on the most important math concepts and skills, it does a better job of teaching foundational math skills than do many resources that try to cover “everything.” However, the slower progression might put children behind their age-mates in covering even the basics like multiplication and division.



Moving with Math

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Minneapolis, MN 55416
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Fax: (952) 546-7502

www.movingwithmath.com

This program offers a compromise between the extremes of a totally manipulative-based approach and a workbook approach. You can actually shift back and forth between the different program components depending upon whether or not you want to use manipulatives to cover each topic.

The original *Moving with Math* program, Levels A–D, offers tremendous flexibility for designing the program to fit your child's needs using the diagnostic/prescriptive tools and instructions that come with the program. The scope and sequence is slower than most other

programs. It spends more time on concept development, so it cannot cover as many concepts as quickly as other programs.

The original program, which I will describe first, is divided into four levels: A for grades 1 and 2, B for 3 and 4, C for 5 and 6, and D for 7 and 8. There are three essential components at each level: *Math Capsules*, *Moving with Math* (student workbooks), and *Skill Builders*. These are all consumable, so you will need extra sets for additional students. (The publisher does have reproducible versions available, so check them out if you are teaching more than one or two children.)

Much of the instruction comparable to that found in a teacher's manual is in *Skill Builders*. *Skill Builders* also contains activity pages—some using paper-and-pencil and some also using manipulatives. This is a substantial part of the program.

Moving with Math workbooks include basic instruction and practice along with instruction for some manipulative activity. Answers are in the teacher's guides. It is not absolutely necessary to use manipulatives with the workbooks, but it is strongly recommended.

Math Capsules contains pre- and posttests for the entire level; however, there are also pre- and posttests for each chapter or unit in each *Moving with Math* workbook. *Math Capsules* contains a detailed key to the objectives, but you can see the objectives by simply reading the table of contents in each book—they read like a scope and sequence list. While this is useful, the most important part of *Math Capsules* is “Maintenance Tests”—reproducible, short quizzes to be used for continual review of previous concepts. Every question in each maintenance test is matched to an objective so parents always can identify what their child does and does not know. Another feature of the Level A *Math Capsules* component is “Oral Drill,” exercises to be used along with the “Maintenance Tests.”

To use the program, you identify which objective you wish to work on, then plan a combination of both the workbook and *Skill Builder* sheets and activities that is most appropriate for each child.

This really is not that confusing, but some parents and teachers have had trouble making decisions about what to use. So the publisher has put together teacher's guides that lay out step-by-step lesson plans showing which program components to use when. The teacher's guides are not essential if you can figure this out for yourself. You do not need to follow their lesson plans if you find another arrangement more suitable.

If you use the teacher's guides, you should still be making the underlying decision of whether or not your child actually needs to do each lesson. MTP recommends that most homeschooling parents purchase the teacher's guides to understand how to organize instruction and teach with the manipulatives. I suspect that many home educators will want the guides since they will save much time in lesson planning and help parents understand concepts they are trying to teach.

MTP also provides home educators with free *Instructions with Daily Calendar* for each level that show you how to break down program material into one-year programs, suggest how many days to spend on each objective, and provide record-keeping and planning forms. Trained educational consultants are available at MTP's toll-free number to answer questions.

You might also be interested in MTP's hour-long video, *Moving with Math: An Overview for Home School*, which describes the philosophy and components of the program, the role of

manipulatives in bridging the gap from concrete to abstract, and practical suggestions from a homeschool parent. It also shows students from various levels working with manipulatives.

There is a PreK-Kindergarten level available to begin with three- and four-year-olds, but I generally recommend that parents begin with Level A since the PreK program is high in cost for what children actually learn.

Level A for grades 1 and 2

Homeschool set that includes *Skill Builders*, three student workbooks, *Math Capsules*, *Using Models to Learn Addition and Subtraction*, and manipulatives—\$150.00, or separate grade 1 and grade 2 programs, each with student book, teacher's resource manual, and essential manipulative set—\$185.00 each

Level A has three workbooks: *Parts I* (numeration), *II* (addition and subtraction), and *III* (fractions, geometry, and measurement). It reviews basic number activities taught in kindergarten, so it is possible to begin arithmetic instruction with Level A. The Level A package integrates one more component that is especially useful to those with no experience teaching with manipulatives—a book titled *Using Models to Learn Addition and Subtraction Facts*. Manipulatives needed for Level A include *Base Ten Blocks*®, a Number Stair, Geoboard, and Unifix® cubes, all available from MTP.

Those beginning *Moving with Math* at second-grade level might appreciate an option that MTP has developed. They have broken Level A into separate grade 1 and grade 2 programs to make it easier for those with second graders to jump into the program. This does not save you money, but it does eliminate material that your child already knows so you do not have to spend as much time figuring out which elements of the program to use. (Free *Instructions with Daily Calendar* are still available for grades 1 and 2.)

The grade 1 and grade 2 programs teach the same objectives as Level A but separate the material into two grade levels and present it a little differently. These versions are enhanced by children's stories (from the library or bookstore) that are integrated with the math lessons. Students have a single workbook each for grade 1 and grade 2. You will need a student book for each student plus the teacher's resource manual.

The teacher's resource manual for each grade includes detailed lesson plans. They are scripted, telling you what to say as you follow each step-by-step lesson plan. Smaller-sized copies of student pages show correct answers. Within the lesson plans are suggestions for using more than 280 children's books and extensive activities that help children see math in the real world. Combined with additional art activities, this approach might be more appealing to children with literary or artistic “bents.”

Also within the teacher's manual are the reproducible *Skill Builders* and *Math Capsules* that come as separate books in Level A. The grades 1 and 2 versions offer more security for parents who are uncertain about their teaching ability and want less decision making and planning.

Level B for grades 3 and 4

Homeschool set—\$150.00

There are three primary components: *Skill Builders B*; three *Moving with Math* workbooks—*Part I* (Numeration, Addition, and Subtraction), *Part II* (Multiplication and Division), *Part*

III (Fractions, Geometry, and Measurement); and *Math Capsules*. The layout and components for Level B are similar to those of Level A omit “Oral Drills.”

Multiplication covers through two-digit multipliers, but division covers only through single-digit divisors. Considering that this level is supposed to cover through fourth grade level, the program's overall rate of progress is slower than that of *A Beka*, BJUP, and Modern Curriculum Press. Part of the reason is that *Moving with Math* is designed for mastery of objectives with long-term retention rather than the constant review found in some of the other programs. (Of course, students can move on to higher levels as quickly as they are able.) For example, two-digit division, which is typically introduced at fourth-grade level in other programs, is introduced at Level C (grades 5 and 6). This might be an important factor for those concerned about standardized tests since those tests are geared toward earlier introduction of some of these concepts. However, Math Teacher's Press proudly points to an outside study that shows very positive test results in schools where *Moving with Math* has been used. (A one-page summary is available from MTP if you are interested.)

This level also includes the book *Using Models to Learn Multiplication and Division Facts*. *Using Models* should be especially helpful to those unfamiliar with the use of manipulatives. Manipulative activities need one-to-one presentation as will many of the worksheet activities, but there are many pages students will be able to do alone. If you already have level A, you can purchase only the additional manipulatives you need rather than the whole set for each new level.

Level C for grades 5 and 6

Homeschool set—\$150.00

Components: *Skill Builders C*; *Moving with Math* workbooks—*Part I* (Numeration and Problem Solving with Whole Numbers), *Part II* (Fractions, Decimals, and Percent), *Part III* (Geometry, Measurement, and Problem Solving); and *Math Capsules*.

Part I stresses problem solving using various strategies. At this level the need for manipulatives is not universal; but for those students who need hands-on work, this program is one of the few that really addresses that need well.

There is a moderate amount of manipulative work in the *Moving with Math* student workbooks, but it may be enough for many students. Those who need more will benefit from the lessons in *Skill Builders*, which often require more manipulative work. The diagnostic tests (for identifying which areas need attention) and maintenance tests (for review) in *Math Capsules* are very important at this level.

At this level, the need for manipulatives for whole number concepts is often greatly reduced; however, students benefit from the Fraction Bar activities for developing fraction concepts, *Base Ten Blocks*® for developing decimal concepts, and the Geoboard activities for increased understanding of geometric concepts.

Level D for grades 7 and 8

Homeschool set—\$180.00

This program is one of only two I know of for students who still need extensive manipulative (hands-on) work at this level. The layout is similar to earlier levels, but there are five *Moving with Math* workbooks covering numeration and problem solving with whole

numbers; problem solving with fractions and decimals; problem solving with percent; geometry and measurement; and prealgebra.

Calculator activities that emphasize estimation, checking answers, and looking for patterns are integrated throughout the Level D teacher guides, but you can use calculator lessons as you wish if you don't have the teacher guides.



Progress in Mathematics

Sadlier-Oxford, a division of William H. Sadlier, Inc.

9 Pine Street

New York, NY 10005-1002

(800) 221-5175

www.sadlier-oxford.com

Package prices for each grade: K—\$110.00, grade

1—\$160.00, grade 2—\$220.00,
grades 3 through 6—\$250.00 each

Progress in Mathematics is a classroom-designed math program that reflects the national math standards. I generally don't review many such programs since their publishers are usually not set up to deal with homeschoolers and because the classroom design makes them cumbersome and expensive for homeschoolers. In addition, adherence to the national math standards often skews such programs so that they skimp on basic computation skills in favor of all the other concepts that are in the standards.

I'm making an exception for Sadlier for a few reasons. Some families are looking for a nonsectarian math program that thoroughly implements the new math standards and is more similar to what is used in "regular" schools than are some of the most popular programs among homeschoolers. Sadlier has always published solid academic materials since their primary market has been parochial schools. Thus, basic computation skills receive plenty of attention along with coverage of all the other topics in the standards. (They supply the math program for William Bennett's *K12* program.) In addition, Sadlier is one of the few publishers of such programs interested enough in the homeschool market to create homeschool "packages" of their program.

Primary components for each level are a teacher's edition, a student textbook, and a student workbook, although the workbooks might be optional. (Packages for all levels except kindergarten include these three components plus others described below.) Student textbooks for grades K through 2 are soft-cover, while third grade and up are hardcover. Workbooks are softcover.

Teacher's editions for the textbook are hefty, spiral-bound volumes that include detailed lesson plans with smaller-sized copies of student pages surrounded by instructional information. Answers are overprinted in red on student pages. They also have reproducible tests and blackline masters for both essential and extended activities. These manuals are loaded with information, even though some of it is targeted at larger classes. There are valuable helps here for teaching to different learning styles, addressing difficulties, and assessing progress. These manuals also indicate when you might use pages from the other program components.

It might be possible for parents to use the kindergarten through second grade student books without the pricey teacher manuals, ordering books individually rather than purchasing the

package. You will be missing mental math exercises and some reproducible masters from the teacher's manual as well as the very detailed lesson plans, answer keys, and extra helps. However, many parents should be able to figure out how to use the student books for K-2 without missing essentials.

Student textbooks are beautifully printed in full color. Books for grades K through 2 include punch-out pages of heavy card stock to use as manipulatives. These substitute for coins, a ruler, geometric shapes, and manipulative blocks. Classroom-sized sets of manipulatives are also available, but they are prohibitively expensive for most families. Of course, you can purchase other manipulatives on your own to use with this program if you decide you need more than the punch-out pages.

The student textbooks provide adequate practice problems, including computation and word problems. Each lesson covers a single topic rather than using a spiral approach such as Saxon's. This is true for both the student textbook and student workbook.

The student workbooks mirror the lesson content, often with a brief explanation at the top of the page and problems similar to those done in the textbook. Think of the workbook pages as homework pages (one single-sided page per day) that students complete outside school time. While the workbooks provide additional practice and reinforcement, use your own judgment as to how much each child should complete. Separate teacher's editions for workbooks serve as answer keys.

The supplemental *Spiral Review Practice Books* that come with all but kindergarten level provide continual review of this sort that helps keep students up to speed on previously taught concepts. However, in the first few levels, the *Spiral Review* books tend to stick with the lesson topic rather than reviewing. The *Spiral Review Practice Books* have only half a page of problems per day, so these might be used as warm-up exercises before beginning a new math lesson.

In addition, packages for grades 1 through 6 include a *Skills Update Practice Book* that reviews concepts and skills taught the previous year. However, this is a fairly thin workbook. Using both the *Spiral Review* and *Skills Update* books will help students retain what they have learned. Both *Skills Update* and *Spiral Review* workbooks have separate, relatively small teacher editions that serve as answer keys, also included in each package.

Grades 4 through 6 packages add one more component, an *Intervention Workshop* student workbook and teacher's edition. The substantial teacher's edition targets key concepts with scripted step-by-step lessons to use when children need remediation on particular topics. I suspect that most students will not need this component.

While there is more in these packages than most students will need, the complete program provides everything that you might need to help children of different abilities and learning styles.



Saxon Math 54 through Calculus

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Orlando, FL 32887
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e-mail: info@saxonhomeschool.com
www.saxonhomeschool.com

The *Saxon* math program for upper elementary grades through high school has retained high popularity among homeschoolers year after year because of its comprehensive content, reasonable price, and its instructional methodology that allows for and encourages independent study.

Homeschool kits for each level include everything most students need. In 2004, Saxon introduced an updated version of its *Math 54* through *Math 87* homeschool kits, developed to meet the educational needs of fourth- to seventh-grade students. These programs feature new content and components especially designed for homeschoolers. Each of the kits includes a nonconsumable, softbound student edition textbook, a solutions manual, and a consumable test and worksheets workbook. Homeschool kits for *Algebra 1/2* and above include hardcover student textbooks, tests, and answer keys. Solutions manuals are purchased separately at these upper levels.

There are no teacher editions for the *Saxon* program since each lesson in the student text provides the explanation of the concept to be learned. Each lesson includes an introduction and explanation of the new concept, examples and practice problems, then a set of problems that not only reinforces the new lesson content but also reviews previously learned concepts. Parents might help students work through the beginning of the lesson, but most students will be able to work through lessons independently. Parents need to check daily assignments and tests, ensuring that students are understanding what they are learning. The program requires virtually no preparation time.

While most parents appreciate not having to directly teach this program, the newest editions of *Math 54* through *Math 87* have added a valuable feature that does require some interaction. The “warm-up” box at the beginning of each lesson should be used orally. In that box typically are math-fact drills, mental math problems, and a thought-provoking problem to solve. This interactive time should also give parents an informal tool for assessing student performance and understanding of concepts.

One significant feature of the *Saxon* series that sets it apart from many other math programs is the incremental method in which concepts are taught. Once a concept is introduced, it is not dropped but is incorporated into the mixed practice that students encounter every day. In later lessons, the concept is developed more fully. Over time and through repeated exposure to a developing concept in a spiral process, students gain understanding and mastery. Unlike traditional chapter books where one content strand is taught and fully explained over a few consecutive lessons, *Saxon* has students work with a concept many times over the course of study. (Note that some students prefer this approach while others would rather have the entire concept fully explained all at once.)

Although this “incremental” methodology is used in *Saxon's* program for all grade levels, the rest of the methodology for this series for the upper grade levels is very different from that of the program for the primary grades.

At levels *54* and above, *Saxon Math* has a “rules” orientation in its presentation, more like *A Beka's*, rather than a hands-on conceptual orientation like *Math-U-See* and *Moving with Math*. Saxon's own primary grades program is more conceptually oriented than these upper levels. In a very simplified nutshell, that means that younger *Saxon* students use manipulatives

to see what actually happens when they multiply, while older students memorize the rules and facts for multiplication.

Even though the program is not strong on teaching concepts, thinking skills get a good workout. This means that the program works best for students who do not need manipulatives and who tend to figure out mathematical concepts without a great deal of explanation. It is also good for those who like “brain teasers” like those troublesome time/rate/distance problems.

The latest editions of *Saxon Math 54* through *87* correlate well with the new math standards, having incorporated more on topics like statistics and probability, additional word problems to develop mathematical thinking skills, and twelve topical investigations in every book. However, *Saxon* does not teach the use of calculators until *Algebra 2*—a move I applaud even though calculator instruction is called for by the standards.

Another helpful addition to these revised editions is reference numbers in the mixed problems sets. If a student misses a problem, the reference number next to the problem provides the number(s) of the lesson(s) where the concept was taught. Reference numbers are also included on the assessments. The new editions have also added a second color to the black-and-white presentation, but the *Saxon* books still lack visual pizzazz.

In the past, *Math 87* was optional within the sequence. Originally, students often skipped *87*, completed *Algebra 1/2* in seventh grade and *Algebra 1* in eighth grade. However, some students were not ready for this rapid progression into advanced mathematical thinking. The introduction of *Math 87* provided an option for students who need the extra time and practice. *Saxon* encourages students to take both *Math 87* and *Algebra 1/2*, but since the new edition of *Math 87* has substantially more content, including prealgebra instruction, *Saxon* now recommends that a student who has completed it successfully skip *Algebra 1/2* and move directly to *Algebra 1* in the eighth grade.

From *Algebra 1/2* and up, each textbook has answers to odd-numbered problems at the back. Answer keys have answers to all problems in each textbook plus tests and test answer keys. Most parents will want to also purchase the optional solutions manuals in case neither they nor their students can figure out how to solve a problem.

Saxon has placement tests (free downloads from their Web site) to help you determine which book is the correct starting place for each student. Placement tests can be accessed at www.saxonhomeschool.com/pg/index.jsp. The Web site also has additional helpful information on their program, including a FAQ (Frequently Asked Questions) section.

Math 54, third edition

Homeschool kit—\$64.50

This textbook should be appropriate for most fourth graders and those fifth graders who lag slightly behind grade level. Among topics covered in *Math 54* are addition (review), subtraction, multiplication (up to multiplying a three-digit number by a two-digit number), division (up through dividing by two-digit numbers), time, measurement, money, area, perimeter, fractions, mixed numbers, arithmetic algorithms, geometry and measurement, negative numbers, powers and roots, two-step word problems, decimals, averaging, estimation, patterns and sequences, statistics and probability, and Roman numerals. *Saxon* also sells Basic Fact Cards (\$5.50), an optional set of flash cards for working on addition, subtraction, multiplication, and division, which might be useful at this level.

Math 65, third edition

Homeschool kit—\$69.50

This text is appropriate for the average fifth grader. Students who need extra time at this level might spend more time in this text, perhaps skipping the *Algebra 1/2* book later on.

It continues developing arithmetic skills through multiplication and division of fractions and decimals while reviewing and expanding concepts of place value, addition and subtraction, geometry, measurement, and probability. Powers and roots, prime and composite numbers, ratios, and order of operations are also taught. Extra math drills for each lesson are at the back of the book. A few students might have difficulty with this text because it requires them to work in more abstract ways than for which they might be ready.

Math 76, fourth edition

Homeschool kit—\$74.50

Math 76 is for average sixth graders or slower seventh graders. This text is especially good at providing a cumulative review and expansion upon topics covered through earlier grade levels. Among topics covered at this level are fractions, mixed numbers, decimals, percents, ratios, rounding, estimating, exponents, working with signed numbers, square roots, beginning algebraic expressions, surface area, volume, angles, circles, prime factorization, ratios and proportions, and statistics and probability. Especially notable are word problems that cause children to think of math concepts in a number of different ways to ensure understanding. These features make this a great choice for many students at this level.

Math 87, third edition

Homeschool kit—\$79.50

Math 87 reviews material introduced in the prior texts, especially *Math 76*, and provides prealgebra instruction. The new edition covers word problems, scientific notation, statistics and probability, ratios and proportions, simplifying and balancing equations, factoring algebraic expressions, slope-intercept form, graphing linear inequalities, arcs and sectors and the Pythagorean theorem.

Algebra 1/2, third edition

Homeschool kit—\$63.50, solutions manual—\$31.50

This prealgebra text can be used after completing *Math 87*. Plenty of review, a spiral learning process, thought-provoking word problems, and clear instruction that works for independent study make this one of the top choices among other options available for this level. As is typical of the upper level *Saxon* books, the level of difficulty rises sharply toward the end of the text. If your student starts to have more difficulty toward the end of the book, consider doing only half a lesson each day.

Among topics covered are fraction, decimal, and mixed number operations; scientific notation; exponents; radicals; algebraic expressions and solving equations with one variable; working with signed numbers; order of operations; ratios; geometry fundamentals; and graphing. Saxon has resisted the inclusion of calculator instruction even though most other texts for this level include it. While students can use calculators to solve problems when it is appropriate, they are not instructed to do so.

Algebra 1 and Algebra 2

Homeschool kits—\$64.50 each, solutions manuals for either text—\$31.50 each

Saxon's Algebra 1 is probably the most widely used algebra text among home educators. *Algebra 1* coverage is comparable to that in other first-year algebra texts, although *Saxon* has chosen not to include calculator instruction or use. The spiraling method of presentation and constant review help students work fairly independently, a major advantage for parents who lack time and expertise.

Saxon seems to work fine for students who grasp math fairly easily, but not so well for those who struggle with the abstract thinking required. Overall, the book is fairly easy for students to work through on their own. Interestingly, I have yet to find a text that does a better job with distance/rate/time problems than does this one, even though I know that students still struggle with them in *Saxon*.

If students have used *Math 76* and *Math 87*, they might be ready for this book in eighth grade. Although many eighth graders will have no problem with this book, there are many who will not be developmentally mature enough to begin algebra for another year or two. If you feel that your child is not ready for *Algebra 1* at eighth grade level, either academically or developmentally, alternatives might be to use *Saxon's Algebra 1/2*, a consumer math program such as *A Beka's Business Mathematics* or *Barron's Essential Math*, or a specialized topic study such as one or more of the *Key to ...* series (Key Curriculum Press) before continuing with algebra. Or you might have your child begin *Algebra 1* in eighth grade, but move at a slower pace, taking a year and a half or two to complete it.

It is important to consider the design of the entire *Saxon* lineup of high school math courses before starting *Algebra 1*. *Saxon* takes an approach that, while common to other countries, is uncommon in the United States. They have integrated algebra, geometry, and trigonometry into three textbooks, titled *Algebra 1*, *Algebra 2*, and *Advanced Mathematics*. Most high schools teach one course in algebra, then geometry, then return to algebra.

While *Saxon* does an excellent job with algebra, the geometry is weak. Originally, very little geometry was found in the first two books. *Advanced Mathematics* provided the bulk of the coverage, which was insufficient. More geometry was then added to *Algebra 1* and *2*, but it is scattered and presented very briefly in both books. By the time students have completed both books, they will have studied about one semester's worth of geometry. They complete their geometry requirement with the *Advanced Mathematics* book. Explanation of geometry topics is fairly brief, and does not begin to compare with the quality of presentation in such texts as *Discovering Geometry*.

A student planning to take only one year each of algebra and geometry (not recommended for college bound students!) could use *Saxon's Algebra 1*, possibly skipping over geometry instruction and problems, then switch to another publisher for geometry.

Students who complete both *Algebra 1* and *Algebra 2*, but who do not intend to continue through *Advanced Mathematics*, need to use another resource to complete geometry requirements. They too might skip geometry activities within *Saxon's* first two books.

However, if a student is going to go through *Advanced Mathematics*, tackling a separate geometry course is likely to be redundant and overwhelming.

Algebra 2 covers standard second-year algebra topics, although its inclusion of a significant amount of trigonometry is not a standard feature of all second-year courses.

Students will need a scientific calculator for this course. You might want to invest in a graphing calculator while you are at it so it will be useful for future math courses.

Saxon's program is generally strong on skill development but weak on conceptual explanation and application. The inclusion of the “investigations” in the revised middle-school-level books reflects *Saxon's* awareness of this problem. They will likely include such investigations in the next editions of upper level books. For now, other publishers’ texts do better on the “How do we use this?” question.

Advanced Mathematics, second edition

Homeschool kit—\$67.50, solutions manual—\$31.50

This highly recommended text is one of the easiest for most homeschoolers to work with to cover advanced algebra, geometry, and trigonometry. Originally designed to be a one-year course, Saxon now recommends that students take at least a year and a half to complete the course unless they are very bright.

It includes the equivalent of the second half of geometry, plus advanced algebra, precalculus, and trigonometry. In the revised second edition, much of the geometry was moved to the front of the book rather than being spread out. This should make it easier for students who need to get through the geometry in preparation for PSAT tests in their junior year. In addition, geometric proofs are taught early on, then used throughout the first half of the book.

Students will need a graphing calculator to use with this text, although the calculator is not used as much as in other texts for this level. Parents might decide to allow students to use a calculator more than is required.

Among other topics covered are logarithms, conic sections, functions, matrices, and statistics. This text moves even more into the theoretical math realm than do earlier *Saxon* texts.

By the time students complete *Saxon's Advanced Mathematics*, they should be on par with students who have completed a precalculus course. This course is particularly good for preparing students to do well on college entrance exams.

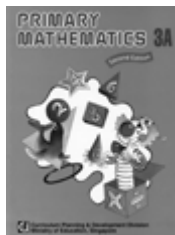
Saxon also has a text titled *Calculus with Trigonometry and Analytic Geometry*. Since few students seem to be tackling calculus on their own, I will simply mention that the text is available. The review of that text is posted at www.CathyDuffyReviews.com.

For extra help:

D.I.V.E. Into Math (Genesis Science, Inc.) offers instruction for each *Saxon* text, from *Math 54* up through *Calculus*, on CDs that play on your computer (discs for either Windows or Mac systems available). D.I.V.E. stands for Digital Interactive Video Education, a technique that uses a computer “whiteboard” (which is blue on your computer screen) so that it looks and sounds like a class lecture. However, there is the added advantage that students can rewind, pause, and fast forward whenever they need to. On each CD, Dr. David Shormann explains the topic of each lesson and works through practice problems on the whiteboard. Students see only the computer whiteboard on their screen while listening to the audio explanation. Although there's nothing glitzy about it, this type of instruction might be just the thing for students who need more multisensory input to be able to work through the *Saxon* lessons. Genesis Science sells CDs for \$50.00 per course and also offers packages of the *Saxon* homeschool kits plus the CD, discounting the CD price by 10 percent. These packages also include solutions manuals

when they are available. While Genesis Science has CDs for all current *Saxon* textbooks, they also have CDs for some earlier editions. Check their Web site for full information and to order. *Note:* Dr. Shormann teaches from a Christian worldview, including a Christian philosophy of mathematics, Christian testimony, and Bible verses on each CD.

D.I.V.E. is not affiliated with Saxon Publishers. (Contact Genesis Science at www.diveintomath.com or call 936-372-9216.)



Singapore Math/Primary Mathematics

SingaporeMath.com, Inc.

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Oregon City, OR 97045

(503) 557-8100

e-mail: customerservice@singaporemath.com

www.singaporemath.com

Everyone has heard how well Asian students do in math compared to U.S. students, but few people understand why this is so. You will have a better idea of why Asian students excel if you check out this math program. Also called *Singapore Math*, *Primary Mathematics* is published (in English) by Times Publishing Group and approved by the Curriculum Planning and Development Division of the Ministry of Education in Singapore.

One of the strongest features of this program is that it teaches children to really think mathematically rather than just having them memorize algorithms (the mechanics of problem solving).

There is a huge difference in the scope and sequence between this and all other programs I have reviewed. *Primary Mathematics* is far more advanced. The program uses a three-step process, taking children from concrete, to pictorial, then to abstract approaches to learning. The scope and sequence does not align with state or national standards, but I see that as a positive feature. For example, it leaves coordinate graphs, statistics, and probability for upper levels rather than teaching these concepts in elementary grades. Instead it focuses on laying a solid foundation in basic mathematical concepts and processes.

Because the books were originally written for students in Singapore, the third editions use the metric system and bills and coins from Singapore (which are actually similar in denominations to ours for the most part). The few other cultural differences such as names of fruits and people's names are relatively insignificant. Note also that some of the spellings and vocabulary are British (e.g., *metre* instead of *meter*, *colour* instead of *color*, *petrol* rather than *gasoline*, and, probably most important, the word *brackets* instead of *parentheses*). A few other typographical conventions are unfamiliar: decimals are placed at the mid-height of numbers rather than at the base, and commas are omitted from large numbers.

However, *Primary Mathematics* has proven so popular in the United States, the publishers have come out with U.S. editions that include extra chapters for U.S. measurement (retaining metric system instruction) and replacement of British spellings and Asian typographical preferences with those more familiar to Americans. All levels of the textbooks and workbooks are available in U.S. editions. Teacher's guides and home instructor's guides are being produced for each level of the U.S. edition.

Both teacher's guides and home instructor's guides include answers to all problems, and the home instructor's guides also have complete solutions to many problems.

There are also answer key booklets available for Levels 1–3 and for Levels 4–6 (\$6.80 each), with only the answers if you do not want to purchase guides. You will not need teacher's guides if you purchase the home instructor's guides.

The program requires one-to-one teaching throughout most lessons for the younger grades. This is always true for activities directed from guides (if you choose to use them), and almost always true for coursework lessons.

Many of the concrete activities are presented in the teacher's guides, but I suspect that most homeschoolers will rely on the pictorial lessons and oral activity for most lesson presentations. You might want to purchase at least one teacher's guide or home instructor's guide so you understand what they offer. Check their Web site for more information.

Placement tests are available at their Web site as well as at www.sonlight.com/singapore-placement-tests.html.

Each level has two textbooks (A and B) that are the heart of each lesson. There is a student workbook for each textbook (two workbooks per textbook for the third edition up through Level 4). This is not as overwhelming as it sounds since these books range in size from only 90 to 170 pages each. In addition, textbooks and workbooks are about 7 inches by 10 inches, with uncrowded, large, black-and-white print. The amount of written work required of children is very reasonable.

The textbooks present pictorial lessons to introduce new concepts. Parents do these orally with children. Textbook lessons provide little assistance for the teacher in how to talk about each lesson. I think that parents who have a strong foundation in mathematical thinking and confidence in their teaching ability will be able to use these books without much difficulty, but those who want teaching guidance and those unfamiliar with the concrete and pictorial teaching methods might find it difficult to figure out how to teach the lessons. If you are in the latter category, you will certainly want to get the home instructor's guides.

Correlated workbook exercises are indicated at the end of each textbook presentation. The textbooks (full color for Levels 1 and 2) are not consumable and are not intended to be written in, although they are inexpensive enough that you might choose to have your children sometimes write in them. Children should be able to work through workbook exercises independently once they can read directions without difficulty.

Primary Mathematics 1A and 1B

1A and 1B sets—\$15.60 each, teacher's guides—\$20.00 each.

The Level 1 course begins with an assumption that children already have a basic sense and recognition of numbers. It begins with counting to 10, but by the fourth lesson, students are learning addition. Subtraction is introduced on page 38 of the 88-page 1A textbook. Single-digit multiplication is introduced about halfway through 1B, with division introduced immediately after. (Students are not expected to memorize multiplication facts yet.)

The text stresses conceptual understanding over math-fact drill at this level. (Drill suggestions are given in the guides, but you might want to provide opportunity for more practice with math facts using other resources.) Practical applications are used in lesson

presentation and word problems. In addition to the four arithmetic operations, Level 1 teaches ordinal numbers, shapes, measurement, weight, time telling, money, and graphs.

Primary Mathematics 2A and 2B

2A and 2B sets—\$15.60 each, home instructor's guides—\$14.95 each

Level 2 covers addition and subtraction with renaming, multiplication and division (focusing on the math facts for numbers 2 through 5), measurement, money, introduction of fractions, time telling, graphs, and very introductory geometric shapes and area.

Primary Mathematics 3A and 3B

3A and 3B sets—\$15.60 each, home instructor's guides—\$14.95 each

This level covers further work on addition, subtraction, multiplication, and division (focusing on math facts for numbers 6 through 9), long division, fractions (equivalent fractions plus adding and subtracting), measurement, graphs, time, and geometry. It also teaches two-step word problems and mental calculation. It will be challenging for most students to begin this program at Level 3 if they have been using a different math program. However, the pictorial lessons do help students pick up concepts they might have not been taught yet. Make sure that if you are just starting this program, you watch for this problem, and provide the necessary teaching before expecting your child to do the lessons.

Primary Mathematics 4A and 4B

4A and 4B sets—\$15.60 each, home instructor's guides—\$14.95 each

By this level, the advanced scope and sequence of the entire program has created a significant gap between what *Primary Mathematics* covers and the content of most other programs. At fourth level, students learn all four functions with both fractions and decimals. Geometry coverage is also very advanced as students compute the degrees in angles and complex area and perimeter questions. Students also work with advanced whole-number concepts (e.g., factors, multiples, rounding off), money, other geometric concepts, graphs, and averages.

In contrast to most other programs, *Primary Mathematics* introduces two-digit multipliers at this level, but doesn't really work on two-digit multipliers and divisors until the fifth level. While students complete quite a few computation problems, the number of word problems seems to gradually increase at this level. Students who want to begin work in this program will not be able to go from most third grade programs directly into this level but will need to first work through at least the third level of *Primary Mathematics*. There is still quite a bit of pictorial lesson presentation, but not as much as in earlier levels.

Primary Mathematics 5A and 5B

5A and 5B sets—\$14.60 each, home instructor's guides—\$14.95 each

The scope and sequence continues to be quite advanced beyond other programs. At the fifth level, students do advanced work with decimals plus multiplication and division with two-digit multipliers and divisors. They learn to work with percentages and continue with advanced work on fractions, geometry, and graphs. Rate and speed word problems, as well as other types of word problems, are given a great deal of attention. At the end of the course, students are working on beginning algebra concepts.

Some of the geometry taught at this level is rarely introduced before high school level. For example, a workbook problem asks students to find the ratio of the area of one triangle to another, with only dimensions for the triangles given. The rate and distance problems are not quite as complex as the time/rate/ distance problems of high school texts, but they get close.

There are many time-consuming word problems and fewer drill-type problems at this level, which accounts for the reduced number of workbook pages.

Students who want to begin work in this program will not be able to go from most fourth grade programs into this level but will need to first work through at least the fourth level, and maybe also the third. Pictorial lesson presentations continue to decrease.

Primary Mathematics 6A and 6B

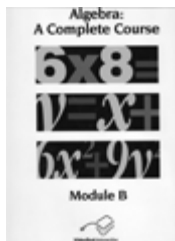
6A and 6B sets—\$14.60 each, home instructor's guides—\$14.95 each

Because of this series' advanced scope and sequence, at the sixth level much of the work is more typical of other publishers' high-school-level texts. Students work with fractions, but a typical problem requires students to perform three different operations on four different fractions within a single problem, much like an advanced Algebra 1 type problem, although without variables.

Common geometry problems are set up in proof-style format, although you need not require students to present their solutions in that format.

Among other concepts covered at this level are graphs, algebraic expressions, geometry (e.g., volume of solids and radius, diameter, and circumference of circles), advanced fractions, ratio, percentage, tessellations, and lots of word problems including time/rate/distance problems. It might be challenging for parents with weak math backgrounds to use this level without some assistance.

Students who want to begin work in this program will not be able to go from most fifth grade programs into this level, but they will need to first work through at least the fourth and fifth levels of *Primary Mathematics*.



Videotext Algebra: A Complete Course

VideoText Interactive

P.O. Box 19761

Indianapolis, IN 46219

(800) 254-3272

e-mail: customercare@videotext.com

www.videotext.com

\$99.95 per module, three modules—\$269.00, six

modules—\$519.00

This unusual course actually combines prealgebra through Algebra 2 concepts (including serious work with functions) in a single course. If you are considering starting this at the prealgebra level, you should know that most prealgebra courses now include geometry, measurement, and other topics that are beyond the scope of this course. This course focuses on number concepts that are foundational for algebra: fractions, decimals, operations, prime numbers, signed numbers, etc. It continues from there to teach algebraic concepts in a different sequence from what is common to most other programs. Equations and inequalities are taught together, concepts are developed in order of degrees (e.g., first degree equations, then second

degree equations), and it strives to follow a logical continuity from lesson to lesson as much as possible.

The course is divided into six modules, which should take one to three months each to complete. Consider the entire program equivalent to two years of high school algebra and a supplement to a pre-algebra course, even though it should take less than 2½ years to complete.

Five- to ten-minute lessons are presented on the videos—about thirty lessons per module, with about ten lessons per tape. These should be paused frequently for students to consider their own answers to questions posed by the video teacher. Parents should watch the video and discuss concepts with students, but I suspect most parents will prefer that their teens work independently.

A booklet of course notes covering all key concepts and examples comes with each module, so students need not take their own notes as they watch videos. Each module has a nonconsumable student worktext that presents concepts again, using additional examples, then providing practice exercises. A solution manual provides step-by-step solutions for every problem in the worktext. A progress test booklet contains quizzes, tests, and cumulative reviews. Two versions of each test allow for retesting when necessary. Finally, instructor's guides included in each module offer step-by-step solutions to all quizzes, tests, and reviews plus cross references for test problems to the appropriate lessons.

A number of different teachers present the lessons, but because all the lessons were written by a single author, they all use a consistent style that works very well. Presentations are methodical and clear. Videos use animated graphics to illustrate lessons. Emphasis is upon conceptual understanding rather than the memorization of processes.

This is solid algebra instruction that should work well for independent learners. The multimedia presentation is likely to be especially helpful for students who struggle with math. If students need assistance, a toll-free help line is available for them to ask questions. If it does not pose problems for SAT or ACT testing, I recommend completing all six modules before tackling a geometry course.

9

Language Arts

Language arts is a broad term that encompasses all areas of English communication. Thus, reading and phonics, composition, handwriting, spelling, vocabulary, and speech are all part of language arts. However, in the world of curriculum, we often separate these subjects into separate areas, generally so they each get enough attention.

I've already covered reading and phonics in [chapter 7](#). In this chapter I'll begin with composition and grammar resources since sometimes they are combined within "language" courses. Reviews of my top picks are in alphabetical order, but you will notice that some resources are just for grammar, some just for composition, and some for both.

Spelling and vocabulary resources are separated into their own section later on in this same chapter. I lump them together because many spelling courses actually serve more as vocabulary courses as students move to upper grade levels. Also, if you have a child who is born with the "perfect-spelling gene" or a child who masters phonic/spelling rules in the early grades, it makes more sense to work on vocabulary than to waste time in a spelling program.

Reference work is an important part of language arts education, so you should certainly be using a dictionary and thesaurus (at the appropriate levels). I'll let you choose your own basic reference works, although I could not resist adding my own recommendation for the *Write Source* handbooks at the end of this chapter.

Composition and Grammar



A Beka Book Language series

A Beka Book

P.O. Box 19100

Pensacola, FL 32523-9100

(877) 223-5226

www.abeka.com

I include *A Beka's Language* series in my Top Picks with some hesitation. I know that many homeschoolers have strong negative feelings about these books. However, I think they are very useful when used with discretion. That means parents pick and choose how much of which activities to use within each book. It also means that you should not do every book in the series or you might give your children good cause to hate grammar forevermore.

On the plus side, *A Beka Language* does a really thorough job with grammar instruction. I've yet to find anything I like better, especially at upper grade levels.

Over the years, as *A Beka* has published new editions of these worktexts, they have beefed up instruction in composition skills. However, composition instruction remains pedestrian in comparison to other available options, so you might want to use other resources for developing composition skills.

Grammar and broader language instruction is *A Beka's* forte, and their approach will be especially appealing to parents who want their children to know all the ins and outs of grammar, including sentence diagramming.

As good as the grammar coverage is, it does repeat much of the same material from year to year. So you might use *A Beka* for alternating years. For example, use *A Beka* one year, then the next year focus on composition with one of the other great resources available while using *Daily Grams*, *You Are the Editor*, or another such tool to review grammar skills.

While *A Beka* has books for first and second grade, I begin my review with the third grade book. The first and second grade books are closely integrated with the rest of the language arts curriculum for teaching phonics, reading, spelling, and handwriting as well as grammar and composition. It is possible to use only the *Language* books (especially *Language 2*) apart from the rest of the curriculum, but there are better resources to use that easily stand alone.

A Beka is well known for strong Christian and patriotic content in their books. They incorporate these topics throughout their exercises. For example, in *Language 3*, a lesson about capitalizing first words of sentences has five practice sentences that, taken together, read as a paragraph about the American flag. In a lesson on quotation marks, one child asks his friend, "Have you accepted Jesus as your Savior?" A punctuation exercise uses the sentence "D. L. Moody was a great preacher." Bible stories are frequently used in this same manner.

All books except those for grades 11 and 12 are in worktext format; instruction and exercises are in a single, consumable student book. This makes it easy for students to complete most of their work independently.

A teacher edition for each book has answers overprinted on student pages. Books for grades 1 through 6 are printed in full color with appealing illustrations. Upper level books are very businesslike in appearance, printed in two colors with no illustrations.

Separate student test books and answer keys are available for every level. *A Beka* also has *Curriculum* books for each course with detailed lesson plans and extra teaching ideas. Homeschool editions of these books for each level coordinate spelling, handwriting, reading, and language lessons from *A Beka* books for those subjects—not just language. These *Curriculum* books are not essential, and I suspect most homeschoolers will be able to function well without them.

The book titles in the series are a little confusing. *Language 1*, *2*, and *3* are for grades 1, 2, and 3 respectively. Then *Language A*, *B*, and *C* are for grades 4, 5, and 6. *Grammar and Composition I* through *IV* are for grades 7 through 10.

For grades 11 and 12, *A Beka* provides a single *Handbook of Grammar and Composition* and companion workbooks for each year. Instruction is in the handbook, while practice activity is done in the workbooks and separate writing assignments.

Language 3

Student Worktext—\$12.15, Teacher's Edition—\$23.00, Curriculum—\$25.00, Test Book—\$4.50, Test Key—\$9.15

Language 3 reviews beginning grammar skills like punctuation, capitalization, suffixes, and proper word usage that would typically be introduced in resources for earlier grades. It also introduces parts of speech (nouns, verbs, adjectives), simple diagramming, and beginning composition skills.

It is possible to work only from the student worktext, but you should probably also purchase the teacher's edition. The teacher's edition has student pages overprinted with correct answers, explains how the program is to be used, and provides the first ten daily lesson plans from the *Language Arts 3 Curriculum*. This gives you the opportunity to see how useful the *Curriculum* book might be to you before purchasing it.

The *Curriculum* book adds suggestions for developing composition skills not found in the worktext, so if you are relying on this course for composition as well as grammar coverage, you might want to purchase the *Curriculum* book. However, instruction and assignments are in the student worktext, and blank templates for creative writing and journal pages are at the end of that book, so there is some composition coverage without the *Curriculum* book.

A "Handbook of Rules and Definitions" toward the end of the student book is handy for reference. Periodic review quiz pages are in the worktext, but a separate student test booklet and answer key are available.

God's Gift of Language A

Student Worktext—\$12.55, Teacher's Edition—\$23.00, Test Book—\$4.50, Test Key—\$9.15, Curriculum—\$35.00

A Beka's improved composition coverage is readily apparent in this worktext. The first third of the book focuses on the writing process, although it includes mechanics such as punctuation, abbreviations, capitalization, and possessives in this section. The second section teaches all eight parts of speech along with traditional diagramming. The third section concentrates on word usage and dictionary skills. Review exercises or quizzes (depending upon how you choose to use them) are at the end of each section. One quibble: When they teach letter writing and addressing envelopes, they spell out state names in addresses, which is unacceptable to the post office.

A set of *Language Charts* (\$8.95) is also available. These are small posters with the steps of the writing process, state-of-being verbs, and other helps that you might post in your "classroom" area. The same charts are used for grades 4 through 6.

God's Gift of Language B

Student Worktext—\$12.55, Teacher's Edition—\$23.00, Test Book—\$4.50, Test Key—\$9.15, Curriculum—\$35.00

Both writing and grammar skills receive comprehensive coverage in this edition. Writing instruction covers topic sentences, paragraphs, and transitions. Outlining, taking notes, and preparing bibliographies are also taught in the context of report writing. Students complete a library research report, including use of note cards and creation of a bibliography.

Capitalization, punctuation, word usage, dictionary skills, and parts of speech are reviewed extensively, with more complex concepts added to those taught last year. The text also introduces complements and use of a thesaurus.

God's Gift of Language C

Student Worktext—\$12.55, Teacher's Edition—\$23.00, Test Book—\$4.50, Test Key—\$9.15, Curriculum—\$35.00

Language C covers most of the same material we find in *Language B* but at more challenging levels. Grammar, composition, and mechanics are thoroughly reviewed. If your child has studied grammar in a “hit or miss” fashion up to this point, this is a good book for reviewing and making sure that everything has been covered. However, it will probably be overwhelming for a child who has studied little to no grammar. The “C” designation allows you to use it for an older child if need be.

The writing process is taught with explanations and examples. However, instruction moves quickly from composing a paragraph to writing a research paper using note cards and including a bibliography. As with grammar instruction, there is some review, but it is likely to be too challenging for the student who has not already done a significant amount of writing. “The Student Writer's Handbook” is a helpful reference tool at the end of the text, with an assortment of tools such as proofreading marks, a checklist for book reports, the Dewey Decimal System, and sample letter formats.

Grammar and Composition, Books I - IV

Student Books—\$13.15 each, Teacher's Keys—\$17.50 each, Quiz/Test Books—\$5.50, Answer Keys—\$9.15 each, Curriculum Books—\$22.00 each

Suggested for grades 7 through 10, these worktexts offer thorough review of grammar with fairly comprehensive coverage of writing skills. A significant handbook (more than seventy-five pages in *Book IV*) is at the back of each book for handy reference.

Instruction is presented in a rules/explanation format in boxes at the beginning of each lesson. In the composition lessons, the explanation sometimes extends to a few pages. This is followed by practice and application exercises.

Students who have been studying grammar every year will find these repetitious, but those who have neglected grammar for a few years will find them comprehensive enough to catch up on missed concepts since they review parts of speech, punctuation, capitalization, types of sentences, diagramming, library skills, and other concepts students need to know.

Composition skills begin with paragraph structure, outlines, improving style, writing summaries, book reports, and research papers in the first two books. They continue through writing projects—such as critical book reviews, character sketches, and research papers—in the fourth book. The fourth level adds an unusual but helpful section on diction.

Research-paper lessons include footnoting from the first book on. However, explanation and examples are very limited in some of the books, and footnoting information is outdated in texts that have not been recently updated. For example, students are instructed to precount lines of footnotes as if they were using a typewriter, and there is no mention of Internet research or creation of Internet citations. This problem has been addressed in *Grammar and Composition IV*, third edition, published in 2002, and will be fixed as each new edition is released. Meanwhile, you will need to use other resources, such as *A Beka's Handbook of Grammar and Composition* or a *Write Source* handbook for creation of a research paper.

If you purchase only the student text and teacher's edition, you might have difficulty figuring out how to use the writing instruction and assignments. If this is the case, you might want the *Curriculum* book covering that grade level, even if you are not using literature or

spelling/vocabulary books from A Beka. At ninth grade level, A Beka has a *Parent Guide/Student Daily Lessons* book (\$17.00) rather than a curriculum book, but it serves the same purpose. Separate test and test key booklets are available.

Handbook of Grammar and Composition plus Workbooks V and VI

Handbook—\$13.50, workbooks—\$6.30 each, answer keys—\$10.00 each, test/quiz booklet—\$5.50 each, answer key to tests/quizzes—\$9.15 each

Workbook V is for eleventh grade and *Workbook VI* is for twelfth, while the *Handbook* is the primary instructional resource used for both. The handbook presents numbered rules with examples in a more comprehensive fashion than many other handbooks since most (other than *Write Source* handbooks) do not include examples. This is an excellent handbook with thorough coverage of both grammar and composition, including research papers. The fourth edition (2003) has up-to-date information on footnotes and citations. Grammar coverage, which includes sentence diagramming, is more extensive than *Write Source* books, although *A Beka's* format lacks the visual appeal of *Write Source*. The companion workbooks direct students to study particular sections in the handbook, then apply what they have learned in exercises or writing activities.

You will want the answer keys to the student workbooks, but the test books and their answer keys are optional.



Building Christian English series

Rod and Staff Publishers

P.O. Box 3

14193 Highway 172

Crockett, KY 41413-0003

(606) 522-4348

This series is excellent for those who prefer a formal academic approach and don't need any "fluff." Comprehensive coverage, clear explanations, examples, and plenty of practice provide a solid, if unexciting, foundation in the language arts. A great deal of scriptural content as well as frequent references to farm life also serve to differentiate this program's content from most others. Some of the examples and writing assignments reflect Mennonite life so strongly that non-Mennonite children might have trouble relating to them. Despite these possible drawbacks, instruction in grammar and other language arts is better than in most other programs.

Books are all hardbound, printed in black-and-white with minimal illustrations. Children do not write in the textbooks, so they can be reused. The teacher's manual includes teaching instructions plus answers to student exercises. Lessons require teacher involvement and allow for some independent work, increasing the latter as children move to higher grade levels.

Like other classroom-designed texts, these books include extra busywork for classroom purposes, so it is not necessary for children to do all exercises. Both oral and written exercises are included within each lesson. The amount of writing might be too much for some students, especially at the younger levels. If this is the case, more exercises can be done orally or skipped altogether.

Original composition work is included, but there is a minimal amount in comparison to other written exercises until students reach ninth and tenth grades. Students should complete textbook exercises in a separate notebook. Answers, oral reviews, and written quizzes are in the teacher's manuals. For grades 3 through 8 there is a set of extra worksheets (\$2.95 each level). Grades 2 through 8 have test booklets (\$1.95 each). Tests are combined with editing worksheets for assessment for grades 9 and 10. Worksheet sets are for additional work rather than the primary source of student exercises, except for levels 9 and 10 where they are essential.

Building Christian English 2, Preparing to Build

Student book—\$12.90, teacher's manual—\$15.25

In keeping with its subtitle, this book lays groundwork by providing substantial work in both composition and grammar. Coverage is very broad and comprehensive for a second grade text. Composition work includes basic sentence structure up through paragraph development and writing poetry. Grammar includes parts of speech (nouns, verbs, pronouns, and adjectives) and usage. Other chapters work on alphabetical order, dictionary use, synonyms, antonyms, and homonyms. Diagramming is not introduced until the third grade.

Building Christian English 3, Beginning Wisely

Student book—\$12.00, teacher's manual—\$15.25

This level introduces nouns, pronouns, verbs, adjectives, and adverbs as well as noun usage as subject or direct object. Diagramming is taught along with each part of speech. Dictionary work, capitalization, punctuation, and oral communication are also taught. At this level, the teacher's manual states that the worksheets, oral reviews, and written quizzes are not required for the course.

Building Christian English 4, Building with Diligence

Student book—\$14.90, teacher's manual—\$20.20

The grade 4 text includes all basic parts of speech except interjections, along with diagramming. Original composition writing is included, but it teaches within limited patterns reflecting *Rod and Staff's* educational philosophy. Emphasis is on organization and clear writing rather than upon creativity. There are many student exercises in the textbook, so it is unnecessary to purchase the extra worksheets with even more exercises.

Building Christian English 5, Following the Plan

Student book—\$15.30, teacher's manual—\$21.90

This comprehensive text covers the eight basic parts of speech, writing skills, speaking, and listening.

Building Christian English 6, Progressing with Courage

Student book—\$17.35, teacher's manual—\$23.95

This text reviews and expands upon previous levels. There is heavy emphasis upon grammar. It might be too detailed for some students, but *Rod and Staff's* comprehensive grammar coverage in elementary grades allows students to concentrate on other language skills in high school. Composition, listening, reading, and speaking skills are also taught.

Building Christian English 7, Building Securely

Student book—\$17.45, teacher's manual—\$23.95

Rod and Staff covers grammatical concepts by eighth grade that other publishers spread out through high school, so this text is more difficult than others for seventh grade. It is too detailed for the needs of some students and has extra busywork that should be used only as needed. Using the exercises selectively helps overcome any problems this presents.

Building Christian English 8, Preparing for Usefulness

Student book—\$18.05, teacher's manual—\$23.95

This book reflects the shift from grammar to application at this level. Remaining elements of grammar are covered, but, more importantly, students work with many forms of written communication.

English 9 and 10, Communicating Effectively, Books 1 and 2

Student books—\$14.95 each, teacher's manual—\$18.95 each, tests and editing sheets—\$2.55 each

By high school, students have thoroughly studied grammar, so the emphasis shifts toward composition and speech. For the most part grammar and mechanics are reviewed, although a few more complex grammatical concepts are taught. Chapters alternate between grammar and composition/speech. Even then, grammar chapters all have subsections on “Improving Your Writing Style,” “Improving Your Editing Skills,” or “Improving Your Speaking Style,” so students are continually working to improve writing and speaking skills.

These two books were also written so that either can be used first. They have much in common, but the first book also covers outlining, arguments, writing book reports, character sketches, letter writing, and poetry while the second covers parliamentary procedure, descriptive essays, expository essays, bibliographies and footnotes, and story writing.

I appreciate the fact that *Rod and Staff* is one of the rare publishers who recognize that grammar skills can be mastered in fewer than twelve years.



Create-A-Story

Create! Press

P.O. Box 2785

Carlsbad, CA 92018-2785

(760) 730-9550

www.createpress.com

Create-A-Story game—\$44.95, workbooks—\$21.95 each, *Writing Adventures Game Pack*—\$24.95

The folks who came up with this board game deserve high praise for incorporating some of the best story-writing strategies into a game format.

The game actually has two parts: the first, moving around the game board and collecting cards that will become components of your story; and the second, putting the pieces together into an actual story, writing, and scoring the story according to how many of your game cards were incorporated into it.

Part of the difficulty for young writers is figuring out what to write about. It is difficult for them to come up with characters, plot, theme, setting, conflict, climax, and resolution, all while using elements of style, such as description and dialogue. This game makes the process much easier by providing a number of these elements for the writer.

There are decks of cards that have topic sentences, settings, characters, plot elements, resolutions (as in how the story turns out), lessons (the moral of the story is ...), descriptions (e.g., hairy, cold and rainy, majestic), and dialogue (words like “laughed,” “questioned,” and “roared” that are to be used after direct quotes). Some blank cards are included so you can add story elements of your own.

Every player selects a topic sentence card before play begins, then as they move around the board, they land on other story elements and draw a card each time from the dialogue deck if the space says “Dialogue,” from the description deck if the space says “Description,” etc. There are some “Free Choice” spaces so players can select a story element they are lacking.

When they reach the end of the game board path, they are ready to put their story together. They need not use all story element cards they’ve drawn, but they get points for those they do use. They will generally have some cards that just won’t fit with the others, but they should still have plenty with which to work.

Each player takes an Outline Sheet from the pad provided with the game and begins to write down story elements he or she plans to use. Players decide which characters will be good guys or bad guys. They choose which plot to use, then write down the key plot elements—what is the conflict, then four steps for what happens first, second, etc. All of this has to lead up to the resolution shown on one of the cards they have drawn.

After they’ve written down these story elements, they actually write their story. The length of the story should depend upon the age and ability of the child. With a younger child, I might require them to sort through all their cards and limit their selections to fewer than I would allow an older child, just to keep the story brief. Generally, I would expect stories to be anywhere from one to two pages long, but it certainly is possible for students to write much longer stories if time permits.

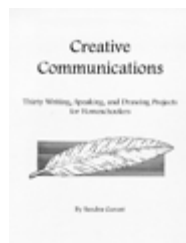
Once stories are complete, you use the score pad that assigns point values for the various story elements that were used in the story. As the teacher, you can also set your own standards for spelling and grammar, perhaps giving extra points in those areas. Note that references to transition words on the score sheet and in the instructions are a bit confusing since no list of transition words is actually included in the game. The publisher tells me they are posting transition words on their Web site to cover this oversight, but a list is also included at the back of the second workbook (see below).

The game requires adult assistance unless you have older students who have become familiar with the game and who are able to select and fashion story elements together without assistance. There are pawns for up to six individuals or groups of players; children can write stories as teams in a cooperative effort. However, the game will actually work with only one child if you think of it as a tool for writing a story rather than a competition. Ultimately, the stories are the goal more than winning the game, even though children might not catch on to that right away. The story elements in the game will frequently require silliness and creativity to fit them together into a cohesive story, so children are likely to have lots of fun figuring out which ones to use and how to put them together.

Create! Press publishes other products that you might find useful for composition and grammar. Their two workbooks, *Writing Adventures, Books 1 and 2*, teach basic grammar, punctuation, and composition skills in a format that seems most suitable for older students needing remedial work. Beginning with identification of subjects and verbs, the first book

presents simplified, condensed coverage that should help a student gain a foundational grasp of grammar. All activities include writing as well as what I would consider optional drawing activities. Composition lessons move quickly from sentence building, through paragraphs, to very short stories (as students might write in the *Create-A-Story* game). The second book adds more challenging grammar lessons and shifts into essay writing. A number of reproducible visual organizers for essay writing are included.

The *Writing Adventures Game Pack* reinforces lesson material in the two workbooks. A double-sided game board comes with sets of cards (that you need to cut out) and playing pieces. You can play numerous variations depending upon which side of the board and which cards you choose to use: identifying parts of speech, punctuation corrections, subject/verb agreement, editing sentences with errors, identifying phrases, constructing sentences from sentence parts collected as they move around the board, constructing compound sentences, and identifying similes. Although designed as a companion for the workbooks, these games work fine on their own.



Creative Communications

by Sandra Garant
Catholic Heritage Curricula
P.O. Box 125
Twain Harte, CA 95383
(800) 490-7713
www.chcweb.com
\$12.95

This is one of the most interesting and practical books I've come across in a long time. The goal is to teach our children to become better communicators. Much of the emphasis is upon written forms of communication, but it includes oral, artistic, and dramatic forms of communication.

The beauty of this book is that Sandra Garant finds ways to easily incorporate communication activities into everyday life so that children learn the value and importance of developing these skills. I love the way she brings creativity to some of the simplest tasks, such as making signs and lists. But this isn't just a creative-writing resource. Garant stresses the importance of purposefulness in encouraging children to write. Consequently, she has her children communicate in writing many times when most of us would settle for oral communication: writing scripts for the answering machine, making a sign to remind family members when it is safe to let the dog out into the backyard, and writing out directions to your home to post near the phone for children to communicate to telephone inquirers. These are actually very practical ideas!

Communication in this book includes learning how to take phone messages, how to call and ask for information, creating cards with written or drawn messages, creating video presentations, and albums.

There are writing ideas for all ages—beginning writers through adults. Examples of ideas for older children are writing their own tests, creating instruction aids, doing community presentations, and writing action letters. Many of Garant's ideas are brilliant for motivating older nonwriters (see pp. 8–9). She also gives suggestions for informally incorporating grammar into writing activities.

While Sandra writes from her Catholic perspective, including some examples that relate to their religious activities, this book would be great for all families. It functions primarily as a resource book for parents, although toward the end many of the chapters are written directly to students. (There's some inconsistency in this.)

I can't imagine any family that can't use at least some of these ideas to make writing more purposeful and fun.



Easy Grammar series

by Wanda Phillips

Easy Grammar Systems™

P.O. Box 25970

Scottsdale, AZ 85255

(480) 502-9454

(800) 641-6015

www.easygrammar.com

Easy Grammar teacher's editions: *Grades 3 & 4* and *Grades 4 & 5*—\$24.95 each, *Grades 5 & 6*—\$26.95, *Easy Grammar Plus*—\$28.95, student workbooks—\$13.95 each for all levels

Daily Grams teacher's editions—\$20.50 each, student workbooks—\$12.95 each

There are essentially two strands in the *Easy Grammar* series: teaching books and review books. I will use the term *Easy Grammar* to refer to the teaching books and *Daily Grams* to refer to the review books. But to make things interesting, the first of the *Daily Grams* books is actually a teaching and review book! You might choose to use either teaching or review books or both (except at the second and third grade level where they are combined into one).

Let's start with the teaching series. The *Easy Grammar* books are very similar to one another, using the same approach and repeating much of the same material from book to book, albeit at slightly higher levels of difficulty. For example, the first book teaches a list of twenty-eight prepositions while the two highest level books teach a list of fifty-three prepositions.

Each very large (the smallest volume is almost five hundred pages!) *Easy Grammar* book follows a pattern of brief, straightforward grammar instruction followed by examples, then exercises. Most of the time, younger level books combine instruction and activity so that both together take up just one page per lesson. Upper levels sometimes take a page or two for instruction followed by one page of exercises.

You will need a teacher's edition that includes everything in the student book plus answer keys. Student pages in the teacher's edition are reproducible, but that's a lot of photocopying. Instead of photocopying, you can purchase student workbooks that contain instruction and activity pages.

The layout makes *Easy Grammar* self-instructional for the most part. In the teacher's edition, answers are overprinted on student pages right next to the corresponding reproducible page, which makes these answer keys very easy to use.

This program is unique in presenting prepositions before other parts of speech. By teaching students to identify prepositions and prepositional phrases before other parts of the sentence, it eliminates such problems as confusing the object of a preposition with the subject.

Parts of the sentence are designated by underlining, circling, and making notations rather than by diagramming. In addition, it covers phrases, clauses, punctuation, capitalization, types

of sentences, sentences/fragments/run-ons, and letter writing.

Author Wanda Phillips strongly recommends that we teach grammatical concepts in order since lessons include cumulative review of previously covered topics. The exceptions would be punctuation, capitalization, and letter writing, which can be taught whenever we choose.

Grammar topics are taught one at a time without significant integration of topics. You will find more grammatical detail taught in programs from *Rod and Staff* and *A Beka* than in *Easy Grammar*, but the essentials for the elementary grades are here. In addition, *Easy Grammar* includes reviews, tests, cumulative reviews, and cumulative tests, all of which help students retain previously taught information.

The format is repetitious and might be enhanced by using it with *Grammar Songs* (Audio Memory), *Editor in Chief* workbooks (Critical Thinking Books & Software), or other resources to add variety.

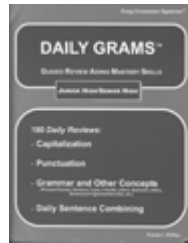
Easy Grammar is especially good for students who struggle with grammar. In contrast to *A Beka's Language* series, sentences are fairly short, which makes identification exercises easier. Once students figure out what is being done in the exercise, they continue the pattern. Also, there are fewer exercises per lesson than we find in *A Beka*. However, in my opinion, college-bound students need more challenging grammar instruction after completing *Easy Grammar Plus*. Using one of the *A Beka* high school grammar courses will take students to a higher skill level.

There are four books in the *Easy Grammar* series: *Grades 3 & 4*, *Grades 4 & 5*, *Grades 5 & 6*, and *Easy Grammar Plus* (for grades 7 and above). These books are not really that specific to grade levels, so, for example, you might use the book *Grades 5 & 6* with a fourth grader and a sixth grader. Also, you do not need to use all of these books since there is so much repetition. You might use one volume, then follow up with *Daily Grams* for a few years before switching back to a teaching volume.

Now, we need to jump back to the combined volume for second and third grade. It is titled *Daily Guided Teaching & Review for 2nd & 3rd Grades*. This is a single volume that contains student pages with an answer key at the back of the book. Thus, you can either have students write in the book or reproduce pages for two or more of your children.

Daily Guided Teaching can be used as the primary teaching tool for the primary grades, although it can also be used as a supplement. Lessons need to be taught rather than used independently, although by third grade students might be doing a good part of the work on their own. Each daily lesson consists of four to five types of exercises that include capitalization, punctuation, alphabetizing, dictionary work, parts of speech, prefixes/roots/suffixes, synonyms, homonyms, antonyms, rhymes, and sentence combining. Rules or explanations and examples are provided within the lessons for each topic that is likely to be new or in need of review. The book has 180 lessons that might be used in one year or spread over two years.

All principal parts of speech through interjections and conjunctions are introduced (only a very brief introduction for each of the more difficult parts of speech). My biggest hesitation with this book is whether or not it is necessary to go that far into parts of speech in the primary grades. You'll have to decide for yourself. Other than that, the coverage of other language skills is great for second and third graders.



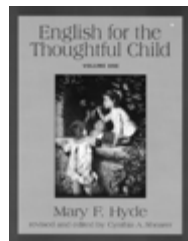
Daily Grams are a marvelous tool for reviewing and practicing grammar skills without boring students with an entire grammar course year after year. These books assume students have already been instructed in the grammar concepts, so *Daily Grams* simply provide reinforcement and practice without instruction. Each grade-level book becomes progressively more difficult, reflecting

what is assumed to have been taught in corresponding *Easy Grammar* books.

I love the easy-to-use, page-a-day format. It should take only about ten minutes per day. Each page has exercises in capitalization, punctuation, general review, and sentence combining. Answers are at the back of the book. You can make photocopies of the work pages or purchase student workbooks.

There are six *Daily Grams* volumes for grades 3, 4, 5, 6, 7 and junior high/high school.

While you might use these alongside an *Easy Grammar* volume, I would recommend using them between *Easy Grammar* volumes. Focus heavily on grammar instruction for a year, then focus more heavily on composition skills the next year, using *Daily Grams* to help keep grammar skills up to snuff. *Daily Grams* might also be used in the same way with other grammar courses since most repeat the same material year after year and *Daily Grams* reflects a scope and sequence similar to most programs.



English for the Thoughtful Child, Volumes One and Two

Greenleaf Press

3761 Highway 109 North, Unit D

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(615) 449-1617

e-mail: orders@greenleafpress.com

www.greenleafpress.com

\$18.95 each

Cyndy Shearer's search for language arts materials based upon Charlotte Mason's ideas led her first to a book written in 1903 by Mary Hyde. Cyndy updated and revised the book, making it available to home educators. Greenleaf Press later added a second similar volume, also revised and edited by Cyndy.

Volume One assumes that a child has developed basic writing (or printing) skills and is ready to compose sentences. Thus, it is most appropriate for about second grade level. *Volume Two* should work for third grade level. However, neither book has an age or grade designation.

Instead of the repetitious workbook pages found in many English language textbooks, there is a mixture of oral composition (or narration), memorization, written composition, and language exercises. Interesting old pictures—likely retained from the original books—are used as prompts for discussion, narration, and writing in some of the lessons.

Charlotte Mason's philosophy is obvious in the methodology I have described; it's also clear as you read through each book and see the emphasis on thinking skills. Charlotte Mason