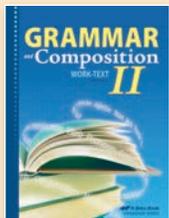


ENGLISH: Grammar & Composition



Two vital abilities, the ability to express one's ideas creatively as well as correctly and the ability to comprehend and interpret the written word skillfully, are built upon the elements which are included in English 8. *Grammar and Composition II* builds upon the skills learned in earlier grammar studies providing foundational practice of proper grammar and developing the basic composition skills used in outlining, summarizing, describing, researching, and letter-writing. Students will also be introduced to new grammar rules and new editing techniques that will allow them to expand their writing skills.

Added Enrichment

- English teaching transparencies
- Review games
- Grammar Court procedures explained

Evaluation

- Grammar quizzes (22)
- Tests (8), 9-weeks exam (2)
- Semester exam, final exam
- Compositions:
 - Book reports: full (2), oral (1)
 - Paragraphs (2), description (1)
 - Research paper (1)
- Optional (graded at teacher discretion):
 - Comparison, descriptions
 - Narratives (true, descriptive)
 - Newspaper articles, original poems
 - Paragraph, limerick, missionary letter
 - Short book reports, characteristic essay
 - Character sketches, journal entries
 - Essay answer

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Grammar

- Capitalization:
 - Proper nouns and words formed from proper nouns:
 - Particular persons, places, things:
 - Political and economic organizations and alliances
 - Words referring to Deity and Holy Scripture
 - Words from proper nouns
 - Common noun or adjective when part of proper name
 - Titles of persons, titles of works
 - First word of every sentence
 - Pronoun I and interjection O
 - First word of every line of poetry
- Punctuation:
 - End marks:
 - Period for declarative sentences and abbreviations
 - Question mark for interrogative sentences
 - Exclamation point for exclamatory sentences
 - Commas:
 - Before a coordinating conjunction joining two independent clauses
 - To indicate:
 - Omissions or avoid possible misreading
 - Nonessential elements in a sentence:
 - Appositive and appositive phrase
 - Participial phrase
 - Adjective and adverb clauses
 - Direct address
 - Well, yes, no, or why
 - Parenthetical expressions
 - To set off introductory phrases or clauses
 - In dates and addresses
 - After salutations and closings of letters
 - Semicolons:
 - Between independent clauses:
 - If not using coordinating conjunction
 - Joined by:
 - Transitional words
 - Coordinating conjunction if clauses already contain commas
 - Between items in a series if the items contain commas
 - Colons:
 - Before a list of items
 - To introduce a formally announced statement or quotation
 - Between:
 - Chapter and verse of Bible reference
 - Hour and minute of time reference
 - After salutation of a business letter
 - Italics:
 - For titles of books, magazines, newspapers, plays, works of art, ships, trains, aircraft, and spacecraft
 - For words, letters, numbers referred to as such
 - For foreign words or phrases
 - Hyphens:
 - To divide a word at the end of line
 - In compound numbers
 - In fractions used as adjectives
 - In prefixes before a proper noun or adjective
 - In compound adjectives before a noun
 - Quotation Marks:
 - In a direct quotation
 - To enclose:
 - Titles of short poems, songs, chapters, articles, and other parts of books or magazines
 - A quoted passage of more than one paragraph: at the beginning of each paragraph and at the end of the last paragraph
 - Apostrophes:
 - To form:
 - Possessive case of nouns
 - Individual possession within a group
 - Possessive case of indefinite pronouns
 - To show omissions from words
 - With s to form plurals of letters, numbers, signs, and words used as words
 - Dashes:
 - After a series of words or phrases giving details about a statement that follows
 - To indicate an abrupt change or break in a sentence
 - To set off parenthetical elements or confidential comments
 - Parentheses: to enclose parenthetical elements

ENGLISH: Grammar & Composition *cont.*Grammar *cont.*

- The sentence:
 - Definition of sentence
 - Kinds of sentences classified by purpose: declarative, imperative, interrogative, exclamatory
 - Recognizing subjects and verbs: complete subject, simple subject, complete predicate, simple predicate, and verb phrase
 - Overcoming problems locating subjects and verbs:
 - Finding:
 - Subject in an inverted sentence: interrogative sentence, sentence beginning with *there* or *here*
 - Subject of an imperative sentence
 - Verb phrase that is interrupted by other words
 - Diagraming subjects and verbs
 - Recognizing and diagraming compound subjects and verbs
 - Recognizing complements
 - Correcting fragments and run-on sentences
 - Sentence structure:
 - Defining dependent and independent clauses
 - Recognizing and diagraming simple, compound, complex, and compound-complex sentences
 - Recognizing noun clauses used as subjects of independent clauses
- Parts of speech:
 - Recognizing eight parts of speech
 - Verbs:
 - Recognizing action, linking, and helping verbs:
 - Action: transitive and intransitive verbs
 - Distinguishing verbs from verbals:
 - Participles
 - Gerunds and infinitives
 - Using:
 - Principal parts of verbs
 - Regular verb endings, irregular verbs
 - Correct principal parts
 - Verb tenses:
 - Using progressive and emphatic forms
 - Using consistent verb tense
 - Using active and passive voice
 - Avoid incorrect verb forms
 - Use troublesome verbs correctly and avoid verb usage errors
 - Use exact and vivid verbs:
 - Choosing exact verbs instead of verb-adverb combinations
 - Nouns:
 - Recognizing nouns: compound, common, proper, and collective
 - Gerunds
 - Keeping agreement of subject and verb:
 - Words ending in *-ics* as subjects may be singular or plural
 - Recognizing nouns as predicate nominatives, direct objects, indirect objects, objects of prepositions, direct address, and appositives
 - Gerund phrases
 - Diagraming nouns as predicate nominatives, direct objects, indirect objects, objects of prepositions, and appositives:
 - Diagraming:
 - Compound verb with separate direct objects
 - Compound verb with same direct object
 - Nouns as direct address
 - Gerund phrases
 - Using exact and vivid nouns
 - Pronouns:
 - Antecedents
 - Recognizing personal, interrogative, demonstrative, indefinite, compound, relative
 - Keeping agreement of verbs and indefinite pronoun subjects
 - Making pronouns agree with their antecedents in number and in gender
 - Nominative case:
 - For subjects, predicate nominatives, appositives of subjects, and appositives of predicate nominatives
 - For appositives to subjects and appositives to predicate nominatives
 - Objective case:
 - For direct objects, indirect objects, and objects of prepositions and for appositives of direct objects, indirect objects, objects of prepositions
 - For appositives to direct objects, indirect objects, objects of prepositions
 - Possessive case
 - Using correct case for *who*, *whom*, *whoever*, and *whomever* and in incomplete clauses beginning with *than* or *as*
 - Avoid pronoun usage problems: double subject, possessive case before a gerund
 - Adjectives:
 - Recognizing and diagraming adjectives:
 - Participles and proper adjectives
 - Infinitives as adjectives
 - Distinguishing adjectives from nouns and pronouns
 - Recognizing and diagraming predicate adjectives:
 - Diagraming compound verbs with one predicate adjective and separate predicate adjectives
 - Using and diagraming:
 - Prepositional and participial phrases as adjectives
 - Infinitive phrases as adjectives
 - Adjective clauses
 - Placing and punctuating adjective modifiers
 - Using adjectives in comparison
 - Avoiding double comparison and double negatives:
 - Supplying necessary words in comparison
 - Using exact and vivid adjectives
 - Adverbs:
 - Recognizing and diagraming adverbs
 - Infinitives as adverbs
 - Distinguishing adverbs from adjectives
 - Using and diagraming:
 - Prepositional phrases as adverbs
 - Infinitive phrases as adverbs
 - Adverb clauses:
 - Elliptical clauses
 - Correct placement of adverb modifiers
 - Distinguishing dependent clauses
 - Using adverbs in comparison
 - Using exact and vivid adverbs
 - Prepositions:
 - Recognizing prepositions, prepositional phrases, and objects of prepositions
 - Distinguishing between prepositions and adverbs
 - Using prepositions correctly
 - Conjunctions: recognizing coordinating, correlative, and subordinating conjunctions
 - Interjections

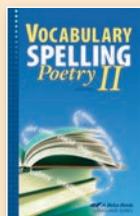
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ENGLISH: Grammar & Composition *cont.*

Composition

- Manuscript form: abbreviations, numbers, titles
- The library: Dewey Decimal System, Library of Congress Classification System, using the catalog and reference section
- Summaries (3)
- Book reports:
 - Preparing:
 - Written book reports including introduction, body, conclusion
 - Oral book reports: written preparation and oral presentation
- Outline (5):
 - Topical and sentence outlines
 - Format of outline
 - Parallelism in an outline
 - Steps to preparing an outline
- Introducing paragraphs (11):
 - Topic sentence
 - Summarizing sentence
 - Paragraph development:
 - Development by examples, incidents, and reasons
 - Paragraph unity
 - Paragraph coherence: chronological order, order of importance, transitional expressions, space order, pronoun reference, and repetition
- Writing descriptions about persons, places, and things (14):
 - Steps: point of view, careful selection of details, arrangement of details, use of exact nouns and verbs
- The Writing Process: plan, write, rewrite, edit
- Research paper:
 - Planning the paper: selecting subject, finding sources, writing bibliography cards, making a preliminary outline, taking notes, writing note cards, avoiding plagiarism
 - Writing the paper: introduction, body
 - Using parenthetical citations
 - Rewriting the paper: check organization, introduction, conclusion, unity, coherence, and citations
 - Editing the paper: check each paragraph, sentence, word; capitalization and punctuation
 - Preparing works cited page
 - Typing the paper
 - Documentation for research paper
- Improving writing style
 - Correct a choppy or monotonous style:
 - Begin sentence with an adverb, adverb phrase, adverb clause, or participial phrase
 - Begin sentence with an adjective, participle, prepositional phrase, or infinitive phrase

ENGLISH: Vocabulary, Spelling, Poetry



Vocabulary, Spelling, Poetry II emphasizes using an expanded vocabulary and applying spelling rules when analyzing challenging words. The goals of poetry memorization and recitation are an enjoyment and appreciation of poetic beauty and excellence.

Added Enrichment

- Spelling and vocabulary:
 - Spelling and vocabulary lists (32) including review list at end of each 9 weeks:
 - Spelling words (560)
 - Vocabulary words (280)
 - Organized by spelling rules, suffixes, homonyms, compound words, and commonly misspelled words
 - Practice exercises (68) including crossword puzzles
- Review games
- Each vocabulary word includes:
 - Pronunciation, part of speech
 - Definition, sample sentence
- Pronunciation key
- CD includes a reading of the vocabulary words and definitions and sample sentences
- Teacher resource: vocabulary mastery sentences
- Poetry: CD included to help with interpretation

Evaluation

- Spelling and vocabulary quizzes:
 - Weekly (24)
 - Quarterly review (1 each 9 weeks; each counts as 2 quiz grades)
- Poetry quizzes: written (7), oral (2)

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Spelling & Vocabulary Skills Development

- Master spelling and vocabulary lists including:
 - Vocabulary words and definitions
 - Words that follow the spelling rules
 - Commonly misspelled words
 - Homonyms
- Use vocabulary words in sentences and in proper context
- Memorize vocabulary definitions
- Be able to identify commonly misspelled words
- Apply spelling and phonics concepts through daily teacher-directed oral practice and independent written practice
- Learn:
 - Antonyms and synonyms of vocabulary words
 - To distinguish between homophones
 - Practical spelling tips and suggestions by studying Keys to Good Spelling
- Spelling rules:
 - Use *i* before *e*, except after *c*, or when sounded like long *a*

ENGLISH: Vocabulary, Spelling, Poetry *cont.*

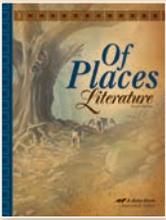
Spelling & Vocabulary Skills Development *cont.*

- Double a final consonant before adding a suffix beginning with a vowel
- Change *y* to *i* when adding suffixes
- Drop the silent *e* before adding a suffix beginning with a vowel
- Learn exceptions to the spelling rules
- Creating a compound word doesn't change the spelling of the two parts
- Adding a prefix to a word doesn't change the word's spelling

Poetry Skills Development

- Memorize 9 lyrical poems
- Develop appreciation of poetry
- Lay foundation for future literature study
- Perform in front of an audience
- Recite in unison
- Use appropriate expression and volume
- Increase vocabulary
- Demonstrate comprehension of emotion and content
- Develop a mental visualization of the poem
- Discuss meaning and purpose of poems
- Use proper observation of punctuation

ENGLISH: Literature



Of Places uses young people's interest in other places to teach Christian character traits such as compassion, courage, and understanding. Not only will students gain exposure to people of different ages, nationalities, races, cultures, and economic levels through a variety of literary selections, but they will also learn to enjoy reading wholesome literature. Many of the selections in *Of Places* were written by famous authors and are well-known classics that are an important part of a student's education. *Of Places* features excerpts from classics such as *Up from Slavery*, *The Jungle Book*, *Ben Hur*, and *The Legend of Sleepy Hollow*.

Literary Value

- 83 authors, including well-known writers such as Emily Dickinson, L. M. Montgomery, Carl Sandburg, and Booker T. Washington
- Prose selections (46), poems (48), and play (1)
- Character-building themes such as personal sacrifice, importance of family, admitting one's mistakes, and hard-work ethics

Added Enrichment

- Footnotes define and explain unfamiliar words
- Comprehension and discussion questions after selections
- Character-building quotations and verses
- Introductory paragraphs for interest and background information
- Review games

Evaluation

- Speed and comprehension quizzes (19)
- Homework reading quizzes (13)
- Tests (8), 9-weeks exam (2)
- Semester exam, final exam

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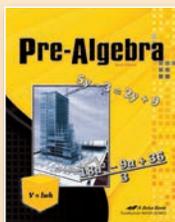
Reading Skills Development

- Develop skills in reading speed and comprehension
- Further develop oral reading skills
- Be able to identify significant quotations and the selections in which they are featured
- Increase vocabulary
- Recognize the different settings in the selections

Comprehension, Discussion & Analysis Skills Development

- Develop proper discernment according to the truths of Scripture
- Answer factual, interpretive, and inferential comprehension and discussion questions
- Improve ability to use deductive reasoning, understand cause and effect, and draw conclusions
- Build appreciation for good literature and a love of reading

MATHEMATICS: *Pre-Algebra*



Pre-Algebra completes the span of study between elementary arithmetic and the more advanced study of mathematics at the high school level. It not only provides mathematical tools for daily practical use, such as banking, graphs, statistics, and measurements, but is an excellent introduction to algebra, geometry, and trigonometry. Many links from arithmetic to algebra are highlighted throughout the book.

Frequent word problems and the Problem Solving Strategies feature ensure that students can apply their mathematical skills to real-life situations. The problems and strategies also encourage them to connect varying types of mathematical knowledge.

For this grade level, see also Algebra I on p. 133.

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Evaluation

- Written quizzes (34)
- Skills development exercises (57)
- Tests (8)
- 9-weeks exam (2)
- Semester exam
- Final exam

Numbers

- Place value
- Terms: notation, numeration, whole numbers, prime, composite, natural (counting) numbers, integers, rational and irrational numbers
- Order of operations
- Rounding: whole numbers, decimals
- Roman numerals:
 - Value of I, V, X, L, C, D, M
 - Rules for forming Roman numerals
- Number sentences:
 - Greater than and less than
 - Order of operations (with and without parenthesis)
- Signed numbers
- Scientific notation

Addition

- Terms: addend, sum
- Whole numbers, fractions, decimals, compound measures, signed numbers with and without a number line
- Principles:
 - Commutative, associative, identity
 - Distributive
- Timed mastery
- Mental arithmetic
- Word problems

Subtraction

- Terms: minuend, subtrahend, difference
- Whole numbers, fractions, decimals, compound measures, signed numbers with and without a number line
- Timed mastery
- Mental arithmetic
- Word problems

Multiplication

- Terms: factors, product
- Recognize symbols: \times (multiplication sign); \bullet (raised dot)
- Whole numbers, fractions, decimals, by powers of ten, compound measures, signed numbers including two or more factors
- Principles:
 - Commutative, associative, identity
 - Distributive
- Factors:
 - Common and greatest common factor
 - Prime factoring: division by primes
 - Common and least common multiple
- Timed mastery
- Mental arithmetic
- Word problems

Division

- Terms: dividend, divisor, quotient
- Steps of division
- Whole numbers, fractions, decimals, by powers of ten, compound measures, signed numbers
- Timed mastery
- Mental arithmetic
- Word problems

Fractions

- Terms: numerator, denominator
- Types: mixed number, proper, improper, complex
- Equivalent
- Reducing
- Addition, subtraction, multiplication, division
- Simplifying complex fractions
- Changing fractions to decimals and decimals to fractions
- Word problems

Decimals

- Reading and writing
- Place value to the ten millionths' place
- Types: mixed, terminating, repeating, nonterminating, nonrepeating
- Comparing, rounding
- Addition, subtraction, multiplication, division
- Changing decimals to fractions, fractions to decimals
- Scientific notation
- Timed mastery
- Word problems

Ratios & Proportions

- Ratios:
 - Terms: antecedent, consequent
 - Reading and writing
 - Reducing and equivalents
 - Word problems
- Proportions:
 - Terms: means, extremes
 - Finding missing terms by cross multiplication
 - Word problems

Percents

- Recognize symbol: % (percent)
- Writing decimals as percents
- Percents less than 1% and more than 100%
- Percent given as more or less than

MATHEMATICS: *Pre-Algebra* cont.

Percents cont.

- Finding:
 - The percentage, percent, and base using decimal methods
 - The percentage, percent, and base using ratio methods
- Percent of increase and decrease
- Discount, rate of discount, sale price, commission, rate of commission
- Percent of profit and loss based on cost and on selling price

Measures

- Linear:
 - English: inch, foot, yard, mile
 - Metric: millimeter, centimeter, decimeter, meter, decameter, hectometer, kilometer
 - Biblical: reed, cubit, span, finger
- Capacity:
 - English: teaspoon, tablespoon, fluid ounce, cup, pint, quart, gallon, peck, bushel
 - Metric: milliliter, centiliter, deciliter, liter, decaliter, hectoliter, kiloliter
 - Biblical: homer, ephah, cor, bath, hin, log
- Weight:
 - English: ounce, pound, ton
 - Metric: milligram, centigram, decigram, gram, decagram, hectogram, kilogram
 - Biblical: talent, menah, shekel, dram
- Time:
 - Second, minute, hour, day, week, month, year, leap year, decade, century, millennium
 - Time zones
- Speed: formula to compute speed, distance, and time
- Money:
 - Biblical: talent of pure gold, talent, menah, shekel, pence, farthing, mite
- Square measures:
 - English: square inches, square feet, square yards, square miles, acres
 - Metric: square centimeters, square meters, hectares, square kilometers
- Cubic measures:
 - English: cubic inches, cubic feet, cubic yards
 - Metric: cubic centimeters, cubic meters
- Temperature:
 - Degree
 - Fahrenheit and Celsius: freezing and boiling points of water and normal body temperature
 - Converting Celsius to Fahrenheit and Fahrenheit to Celsius
 - Temperature zones
- Compound measures: adding, subtraction, multiplying, dividing
- Converting measures within the same system and from metric to English and English to metric
- Metric-English approximate equivalents

Algebra

- Terms:
 - Variables
 - Numerical and literal coefficients
- Terms, polynomial, monomial, binomial, trinomial, base, exponent
- Surd
 - Like and unlike terms
- Reading and writing algebraic expressions
- Adding and subtracting like terms
- Order of operations

- Evaluating algebraic expressions
- Multiplying monomials, polynomials by monomials, polynomials by polynomials
- Dividing monomials, polynomials by monomials
- Equations:
 - Addition, subtraction, multiplication, division axioms
 - Eliminating fractions
 - Eliminating decimals
- Using algebra to solve word problems
- Formulas expressed by tables and graphs
- Signed numbers:
 - Zero used as reference point
 - Signs of operation and direction
 - Absolute value
 - Comparing, adding and subtracting with and without the number line, multiplying, and dividing
 - Evaluating algebraic expressions with signed numbers
 - Combining like terms with signed numbers
- Square root:
 - Terms: radical sign, radicand, index, principal square root, perfect square
 - Extracting the square root
- Simplifying irrationals
- Word problems

Graphing, Statistics, Probability

- Terms: data, statistics, rank, range, graph
- Graphs:
 - Pictograph, bar, line, circle, rectangle, histogram
 - Scale drawing and finding distance on maps
- Statistics: mean, median, mode
- Probability:
 - Formula
 - Probability of independent data

Business Mathematics

- Terms: employers, employees
- Income: salary, hourly, piecework wages, commission, tips, gross pay, net pay
- Taxes:
 - Income
- Property
 - Sales
- Budget
- Banking:
 - Check, deposit slip, balancing checkbook
 - Reconciling monthly statements
- Borrowing money:
 - Simple interest, installment buying
 - Constant ratio formula
 - Compound interest formula
 - Buying bonds and stocks
- Insurance: life, health, fire, automobile

Geometry

- Models and symbols:
 - Point, line, line segment, ray, angle, parallel lines, perpendicular, right angle
 - Similar to, congruent to, arc
 - Triangle
- Plane geometric figures:
 - Curve, closed curve, simple closed curve, polygon, triangle

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MATHEMATICS: *Pre-Algebra* cont.

Geometry cont.

- Quadrilateral, parallelogram, rectangle, rhombus, square, trapezoid
- Pentagon, hexagon, heptagon, octagon, circle
- Lines:
 - Line, line segment, ray, intersecting, perpendicular
 - **Skew**
- Angles:
 - Terms: sides, vertex, degree
 - Types:
 - Right, acute, obtuse, straight
 - **Reflex, central**
 - **Adjacent**
 - Congruent
 - **Vertical, complementary, supplementary**
 - In a circle
 - Measuring, constructing
- Using a compass and protractor
- Circle:
 - Terms:
 - Center, radius, diameter, arc, semicircle
 - **Chord**
- Triangles:
 - Types:
 - **Acute, obtuse**
 - Right, equiangular, equilateral, isosceles
 - **Scalene**
 - Similar, congruent
- Constructions:
 - Angles, bisecting angles
 - **Line segments, congruent angles**
 - **Line perpendicular to a given line segment, parallel lines**
 - **Triangles when given length of three sides, given two angles and included side and, given two sides and the included angle**

- Perimeter: polygon, rectangle, square, triangle
- Circumference: formulas when given diameter or radius
- Area: rectangle, square, parallelogram, triangle, trapezoid, circle
- Geometric solid shapes:
 - Prism, rectangular prism, cube, triangular prism, pyramid, square pyramid, cylinder, cone, sphere
 - Surface area: rectangular prism, cube, square pyramid, cylinder
 - Volume: rectangular prism, cube, square pyramid, cylinder, cone

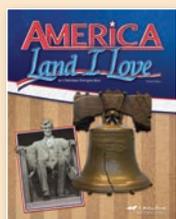
Trigonometry

- Terms: hypotenuse, legs, sine, cosine, tangent
- Pythagorean formula: to find length of hypotenuse and legs
- Finding sine, cosine, tangent using formulas and trigonometric table

Problem Solving & Applications

- Word problems:
 - Addition, subtraction, multiplication, division, rounding, fractions
 - Decimals, ratios, proportions, measures, percent, time, graphs
 - Statistics, probability, maps, commission, gross pay
 - Net pay, taxes, budget, interest
 - **Buying stocks and bonds**
 - Insurance, geometry, trigonometry
 - **Scientific notation**
 - One-, two-, and three-step problems
- Applications:
 - Making change, unit pricing, percent of discount, commission
 - **Profit, loss**
 - Measures, time zones
 - **Wind chill factor**
 - Banking:
 - Writing checks, filling out deposit slips, balancing a checkbook
 - **Reconciling monthly statements, buying stocks and bonds**
 - Insurance, taxes
 - Mental arithmetic: problems combining addition, subtraction, multiplication, and division with up to 18 numbers
 - 13 Multi-step Problem Solving Strategies

HISTORY & GEOGRAPHY: *U.S. History*



America: Land I Love presents American history from a conservative, biblical perspective: God exalts nations and determines their course in human history. The text promotes the Bible as the center of God’s plan. History is the story of individuals to whom God has given the responsibility to make choices.

Unlike secular history textbooks which suggest that material things—economic conditions, geography, political circumstances, or genetics—are the main causes in history, *America: Land I Love* uses biographical accounts to illustrate that history traces God’s working through people to accomplish His will. Students will also be studying the geography of the Western Hemisphere and federal, state, and local government as part of this course. Knowledge of and familiarity with local offices and officials will encourage students to use the gift of political expression which is so easily taken for granted in America.

Added Enrichment

- Special feature boxes (52):
 - Give in-depth study of people and events of history that have shaped the U.S.
 - Promote better understanding of U.S. history
 - Help students see lessons to be learned from history and grasp key concepts of U.S. history
- Lists: states and capitals, the U.S. Presidents
- Maps correlating to text (30)

Evaluation

- Review quizzes (35) (18; each counts as quiz grade)
- Document memorization quizzes (2)
- U.S. President quizzes (3)
- States and capitals quizzes (5)
- Reading quizzes (31)
- Current event reports (31; each presentation counts as quiz grade)
- Geography projects (18; each counts as quiz grade)
- Tests (8), 9-weeks exam (2)
- Semester exam, final exam
- *Civics Activity Book*:
 - Study of national, state, and local government as information is gathered to complete activities
 - Includes history, geography, and an overview of the Constitution

HISTORY & GEOGRAPHY: U.S. History *cont.*

Exploration & Settlement in a New World

- New World to explore
 - God's timing in discovery of America
 - Native American heritage
 - Christopher Columbus
 - Defeat of Spanish Armada
 - Spanish and French exploration:
 - Robert Cavalier de la Salle
 - Spanish and French legacy
- First English colonies
 - English exploration and settlement
 - Jamestown
 - House of Burgesses
 - Failure of socialism and benefits of free enterprise
 - Scrooby Congregation in Leyden
 - Pilgrims and Plymouth
 - Representative government:
 - General Court
 - Religious freedom
- New colonies
 - Advance of learning: Harvard College, Ole' Deluder Satan Act
 - Missionary efforts:
 - Algonquin Bible
 - Mayhews
 - New England Confederation
 - King Philip's War
- Life in Colonial America
 - Land of diversity in immigration, churches, and social classes
 - Advance of learning: schools, apprentices, and universities
 - Agriculture, landholdings, and slavery in the colonies
 - Contributions to science
 - Government in the colonies
- Preparation for independence
 - Great Awakening:
 - Half-way Covenant
 - Results of Great Awakening
 - French and Indian War:
 - Seven Years' War
 - Fundamental differences between the colonists and the English
 - British regulations on the colonists:
 - Quartering Act, Declaratory Act

Birth of the United States

- Home of the brave
 - Conflict with England:
 - Townshend Acts
 - Committee of Correspondence
 - Intolerable Acts
 - Continental Congress:
 - Olive Branch Petition
 - Declaration of Independence:
 - Richard Henry Lee
 - War for Independence:
 - Help from Europe
 - Haym Solomon, Molly Pitcher, Benedict Arnold, James Armistead
 - Battle of King's Mountain
 - Treaty of Paris

- Land of the free
 - Articles of Confederation and land expansion
 - Constitutional Convention:
 - Virginia and New Jersey Plan, Connecticut Compromise
 - Structure and basis of American government:
 - Balancing of powers
 - Bill of Rights
 - Presidencies of George Washington and John Adams:
 - Cabinet
 - Rise of political parties
 - Jay Treaty and Pickney Treaty
 - Foreign affairs
 - Federalist Era
 - Constitution of the United States

Building an American Character

- From the Appalachians to the Rockies
 - Daniel Boone
 - Northwest Territory:
 - Treaty of Greenville
 - Louisiana Purchase:
 - Zebulon Pike
 - War of 1812:
 - Impressment and Embargo Act
 - Battles: Tippecanoe, Lake Erie, Thames River, Horseshoe Bend
 - Treaty of Ghent
 - Acquisition of Florida
 - Missouri Compromise
 - Monroe Doctrine
- Jacksonian Era
 - States' rights
 - President Andrew Jackson: Trail of Tears, suffrage, and abolition
 - National Bank
 - Whig Party
 - Relations with Britain
- Blessings of technology
 - Improved transportation and communication
 - Agricultural and industrial advancements
 - Christian influence on industry
 - Medicine
- Second Great Awakening and its impact
 - Circuit riders and camp meetings
 - Charles Finney: Second Great Awakening
 - Evangelism on the home front
 - Reform movements
 - Beginnings of American foreign missions movement
 - False religions and philosophies
- Education and culture
 - American textbooks: *Blue-Backed Speller* and *McGuffey's Reader*
 - Traditional education
 - Public education: Horace Mann's normal schools
 - Lewis Agassiz
 - Romantic Era: schoolroom poets
 - Songwriters and artists
 - John James Audubon
 - Life in the 19th century

HISTORY & GEOGRAPHY: U.S. History *cont.*

Building an American Character *cont.*

- Promise of the West
 - The Republic of Texas
 - Exploration of the West:
 - Jedediah Smith and James Beckworth
 - Evangelism and settlement in the Pacific Northwest
 - Marcus Whitman and the Oregon Trail
 - The Mexican War:
 - Treaty of Guadalupe Hidalgo
 - Mexican Cession
 - California and the gold rush:
 - Bear Flag Revolt
 - William Taylor

Times of Testing & Triumph

- Civil War and Reconstruction
 - States' rights
 - Slavery:
 - Dred Scott Decision
 - Abraham Lincoln
 - Civil War:
 - North and South differences
 - Anaconda Plan
 - Battles: Shiloh, Antietam, Fredericksburg, Chancellorsville, Chickamauga, Chattanooga
 - Important people: Farragut, McClellan, Stuart, Pickett, Meade
 - Financing the war
 - Reconstruction Era
 - Tuskegee Institute:
 - Booker T. Washington
 - Samuel C. Armstrong
- Age of Industry
 - Inventors: Bell, Edison, Carver
 - Wonders of technology: Brooklyn Bridge, Statue of Liberty, skyscrapers
 - Capitalism in medicine
 - Entrepreneurs:
 - Carnegie, Rockefeller
 - Lyman Stewart
- Gilded Age
 - Immigration
 - Settlement of the Great Plains:
 - Dawes Act, Homestead Act
 - Populist Movement
 - Presidencies of Garfield, Cleveland, Harrison, and McKinley
 - Evangelism and social reform
 - Art of the Gilded Age
- Growing into greatness
 - Spanish-American War:
 - Venezuelan Boundary Dispute, De Lôme letter
 - Platt Amendment
 - U.S. territorial acquisitions
 - Teddy Roosevelt and the Progressive Movement

Times of Challenge & Promise

- Into the Twentieth Century
 - World War I:
 - Selective Service Act

- Battles: Cantigny, Marne, Belleau Wood, St. Mihiel, Argonne Forest
- People: Pershing, Rickenbacker, York
- Fourteen Points
- Roaring Twenties:
 - Sports and literature
- Billy Sunday and Prohibition
- Evolution: Scopes trial
- Presidents Harding and Coolidge:
 - Foreign affairs
 - Charles Lindbergh
- Rise of big government
 - Cause of the Great Depression: government intervention
 - President Herbert Hoover
 - Success of private relief
 - President Franklin D. Roosevelt
 - New Deal and rise of socialism in America
- A world at war
 - Steps to World War II
 - Results of socialism and evolutionary thought
 - World War II in Europe and Asia:
 - Lend-Lease Act
 - War efforts
 - Doolittle Raid
 - Fighting Red Tails
 - Spread of Communism in Eastern Europe
 - Cold War against Communism begins:
 - Taft-Hartley Act
 - Korean War:
 - Pusan Perimeter
- Time for freedom and responsibility
 - Progress and prosperity in the 1950s
 - President Dwight D. Eisenhower:
 - McCarthy Era
 - President John F. Kennedy and the New Frontier
 - Civil rights movement
- Troubled times for America
 - Rebellion in the 1960s
 - President L. B. Johnson and the Great Society:
 - Civil Rights Act
 - Vietnam War:
 - Tet Offensive
 - America's decline in the 1970s
 - Presidents Nixon, Ford, and Carter
 - SALT talks
- Reagan Era and the '90s
 - President Ronald Reagan:
 - Conservative movement of the 1980s:
 - Thomas Sowell
 - Iran-Contra hearings
 - End of Cold War
 - President George Bush:
 - Persian Gulf War
 - Growing national debt
 - President Bill Clinton:
 - Liberal agenda
 - Terrorism threatens America:

HISTORY & GEOGRAPHY: U.S. History *cont.*

Times of Challenge & Promise *cont.*

- Atlanta's Centennial Park
- Columbine High School
- Last acts of the Clinton Administration
- A new millennium
 - President George W. Bush
 - "9/11" and the War on Terror:
 - Department of Homeland Security
 - Operation Iraqi Freedom: Saddam Hussein
 - President Barack Obama
 - Affordable Care Act
 - New Start
 - Information Age
 - Land of Opportunity

Geography

- Western Hemisphere
- North America
- The 13 Original Colonies
- Canada
- The War for Independence
- United States: physical
- Washington, D.C.
- Eastern United States
- Central United States
- Westward expansion

- Western United States
- Civil War
- Pacific United States
- Mexico
- Central America
- West Indies
- South America
- United States: political

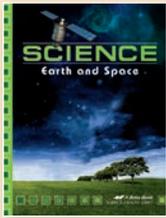
Civics

- A study of national, state, and local government:
 - Symbols
 - Flag etiquette
 - Symbolism of the flag-folding ceremony
 - Patriotic documents
 - The Constitution at a glance
 - Location of states
 - Geography
 - History
 - Government
 - County
 - City/Town
 - State Profiles (for use with State Studies)

Prayer Time

- Learn to pray for our nation and for government officials

SCIENCE: Science: Earth & Space



Science: Earth and Space lays a foundation for future study of the nonliving world. The text begins "from the ground up," starting with soil science and geology. Students learn how geology and the fossil record support the biblical record of a worldwide Flood—not the hypotheses of evolution.

The exploration of the seas includes studying currents, tides, and ocean floor. An investigation of the atmosphere and processes that cause weather includes overviews of several weather phenomena and of measuring and forecasting the weather.

The solar system, stars, and galaxies are examined as the creation of God; evolutionary hypotheses of solar-system formation are briefly discussed and shown to be scientifically unsound. Students learn about man's study and use of astronomy, including an overview of manned and unmanned spaceflight.

The text concludes with a study of environmental issues, thus teaching students to be good stewards of the natural resources God has provided.

Added Enrichment

- Feature boxes with activities, extra information, hands-on investigations for the classroom and at home
- Short articles highlighting God's design in creation (5)

- Challenging homework questions designed to provoke thinking more deeply about concepts taught (53)
- Thought-provoking review exercises (53)
- Highlighted fun facts (142)
- Review activities to prepare for tests (28)

Evaluation

- Reading quizzes (23)
- Review quizzes (36)
- Science project with background paper, investigation plan, experimentation, and oral presentation (counts as 2 quiz grades and 2 test grades)
- Tests (8), 9-weeks exam (2)
- Semester exam, final exam

► RED indicates first introduction of content.

Introduction to Science

- Using the scientific method:
 - Three main components: hypothesizing, observation, experimentation
 - Six steps

Pedology: Soil Science

- Characteristics of soil:
 - Organic and mineral materials, humus
 - Topsoil, subsoil, bedrock

SCIENCE: Science: Earth & Space *cont.*

Pedology: Soil Science *cont.*

- Texture: sand, silt, clay, loam
- Colors: Munsell charts
- Soil pH: pH scale
- Soil nutrients—nutrients and primary plant food elements:
 - Fertilizer composition: phosphates, nitrogen, potassium
 - Nitrogen:
 - Nitrogen cycle, nitrogen compounds
 - Nitrogen-fixing bacteria
 - Nitrifying bacteria, denitrifying bacteria
 - Phosphorus: cell division, growth, plant maturity
 - Potassium: general health of plant and disease resistance
- Air and water in the soil:
 - Ground air: pore spaces
 - Ground water:
 - Saturated, water table, artesian well
 - Aquifer, capillarity

Geology

- Structure of the earth:
 - Introduction to geology: defined
 - Crust—outer layer:
 - Covered with sediment
 - Oxygen, silicon, aluminum, iron
 - Mantle—middle layer:
 - Seismic waves, upper mantle, transition zone, lower mantle
 - Moho
 - Core:
 - Outer and inner core
 - Core-mantle boundary
 - Movements of crust:
 - Plates, plate tectonics
 - Lithosphere
 - Development of plate tectonics theory
 - Relationship of plate tectonics to biblical record
 - Pangaea, types of faults and folds
 - Mountains: volcanic, domed, folded, fault-block
- Earthquakes:
 - Earthquakes and tremors:
 - Tectonic earthquakes, tsunamis, aftershocks
 - Seismology, faulting, elastic rebound theory
 - San Andreas Fault, focus epicenter
 - Earthquake waves: P waves, S waves, surface wave, seismograph, seismogram, locating an earthquake's epicenter
 - Earthquake zones: circum-Pacific belt, Alpide belt
 - Earthquake strength:
 - Modified Mercalli Scale
 - Richter magnitude scale
 - Moment magnitude scale
 - Studying earthquakes:
 - Provide information about earth's interior
 - San Andreas Fault Observatory at Depth
 - Reducing earthquake damage:
 - Fixed-base, base-isolated, and energy-dissipating systems
- Volcanoes:
 - Magma, magma chamber, cone
 - Volcanology
 - Types of volcanoes: cinder-cone, shield, composite, active, dormant, extinct

- Location of volcanoes: Ring of Fire
- Volcanic eruptions and ejecta:
 - Types of lava
 - Pyroclasts:
 - Volcanic ash, lapilli, volcanic blocks, volcanic bombs
 - Difference between volcanic blocks and volcanic bombs, pyroclastic flows
 - Volcanic structures:
 - Calderas
 - Lava tunnels
 - Igneous intrusions: dikes, sills, laccoliths, batholiths
- Introduction to minerals:
 - Study of minerals:
 - Mineralogy, crystals
 - Groups of minerals (halides, sulfides, sulfates, oxides, carbonates, phosphates, silicates); faces
 - Identifying minerals:
 - Surface color, streak color, luster, hardness, Mohs scale
 - Cleavage, acid test
 - Specific gravity, special properties (fluorescence, phosphorescence)
- Notable minerals:
 - Metals:
 - Ore, useful metals
 - Metallurgy, Bayer process, Hall-Héroult process
 - Iron, alloy, precious metals
 - Blast furnace, direct iron reduction
 - Gemstones:
 - Precious stones, diamond pipes, semiprecious stones
 - Simulant and synthetic gemstones
 - Methods of synthesizing: flame fusion process, pulled method, hydrothermal synthesis
- Rocks—petrology:
 - Igneous rocks:
 - Intrusive and extrusive rock
 - Coarse-grained, fine-grained
 - Porphyritic (mixed-textured), amorphous, porous
 - Sedimentary rocks:
 - Concretions, stratum, law of superposition
 - Mechanical sediments:
 - Conglomerate rock
 - Clastic sedimentary rock
 - Chemical sediments:
 - Precipitate, evaporites, salt domes
 - Organic sediments:
 - Fossil fuel, types of coal, bitumen, surface mining
 - Underground mining:
 - Longwall, continuous, and retreat mining
 - Metamorphic rocks:
 - Metamorphism:
 - Contact and regional metamorphism
 - Foliated and nonfoliated rocks
 - Characteristics of metamorphic rocks
- Weathering:
 - Physical weathering:
 - Ice wedging, exfoliation
 - Chemical weathering:
 - Causes, rate

SCIENCE: Science: Earth & Space cont.**Geology** cont.

- Erosion:
 - Erosion by rain:
 - Runoff, sheet erosion
 - Gullying
 - Erosion by rivers:
 - Headwaters, load, river system, drainage basin, drainage divide
 - Tributary, floodplain, levees, meanders, oxbow lake, alluvial fan
 - Erosion by groundwater:
 - Caverns, stalactite, stalagmite, column, sinkhole
 - Dripstone, karst
 - Erosion by the sea:
 - Beaches, sea caves
 - Bars, barrier islands, promontories, sea cliff, sea arches, sea stack
 - Erosion by glaciers:
 - Continental glaciers, ice caps, valley glaciers, crevasses
 - Cirque, arête, horn, fjord, striae, till, moraine, drumlins
 - Outwash, kettles, Ice Age
 - Erosion by wind:
 - Aeolian processes, deflation, sand and dust storms, sand dunes
 - Crescentic, parabolic, and transverse dunes
 - Abrasion
 - Erosion by gravity:
 - Mass wasting, soil creep, mudflows
 - Avalanche, landslides, rockfall
- Preventing erosion:
 - Terracing
 - Strip-cropping, breakwaters

Interpreting the Fossil Record

- Conflicting views of the beginning:
 - Special creation, evolution:
 - Big bang, theistic evolution
 - Limitations of geology: principle of uniformity
 - Geology and the Genesis Flood
 - Uniformitarianism: Charles Lyell, problems with, Charles Darwin
 - Catastrophism: Georges Cuvier
- Paleontology:
 - Fossil formation
 - Geologic column:
 - Eons, eras, periods, epochs, index fossils
 - Imaginary arrangement, circular reasoning, anomalies
 - Radiometric dating: carbon-14 dating
 - Biblical explanation of the fossil record
- Evidence of a flood:
 - Quick deposition: massive "graveyards," polystrate fossils, unconformity
 - Living fossils: coelacanth, stasis
- Evidence against evolution:
 - "Missing links":
 - *Seymouria*, *Archaeopteryx*, *Tiktaalik*
 - Cambrian explosion
 - Impossibility of intermediates
 - Natural selection and intermediates
 - Punctuated equilibrium
- Evolution of man—a mistaken belief:
 - Man vs. ape: body structure, upright posture, cranial capacity

- Questionable intermediates:
 - Ramapithecus, Neanderthal man
 - Australopithecines, Lucy, *Homo habilis*, Skull 1470
 - *Homo erectus*, Java man, Peking man, Cro-Magnon man
- True origin of man: created in God's image

The Seas

- Water of the seas—oceanography:
 - Characteristics of seawater:
 - Composition, salinity
 - Color, temperature, density, hydrostatic pressure
 - Ice of the seas: sea ice, icebergs, ice shelf
- Movement of the seas:
 - Ocean currents:
 - Surface currents, gyre
 - Gulf Stream, Peru Current
 - Subsurface currents: density current, turbidity current
 - Upwelling, countercurrent
 - Waves and related phenomena:
 - Crest, trough
 - Period, whitecaps, ocean swells, breaker, surf
 - Undertow, longshore current, rip current
 - Tsunami formation, propagation, and warning systems
 - Tides:
 - High, low, spring, neap tides
 - Diurnal, semidiurnal, mixed semidiurnal
- Geography of the seas:
 - Continental margin:
 - Continental shelf, continental slope
 - Shelf break, continental rise, submarine canyons
 - Deep ocean floor:
 - Seamount, atoll, lagoon, mid-ocean ridge
 - Abyssal plain, Mid-Atlantic Ridge, hadal zone
- Study of the seas:
 - Introduction to oceanography:
 - Matthew Maury
 - H.M.S. *Challenger*
 - Vessels of the oceanographer:
 - Submersibles
 - Research vessel, bathyscaphe
 - Deep Submergence Vehicles, remotely operated vehicle
 - Manned undersea laboratories
 - Equipment of the oceanographer:
 - Oceanographic buoys, drift bottles, profiling floats
 - Niskin bottles, rosette, gravity corer, piston corer
 - Sonar, scuba

The Atmosphere

- Introducing the atmosphere:
 - Atmospheric composition:
 - Homosphere, heterosphere
 - Composition of air, water vapor, ozone
 - Layers by temperature:
 - Troposphere:
 - Temperature gradient, tropopause
 - Stratosphere, ozone layer:
 - Types of ultraviolet radiation

SCIENCE: Science: Earth & Space *cont.*

The Atmosphere *cont.*

- Mesosphere, thermosphere, exosphere:
 - Mesopause, thermopause
- Ionosphere:
 - Cosmic rays, plasma
- Magnetosphere:
 - Poles, magnetic field, auroras
 - Van Allen radiation belts
- Atmospheric pressure: weight of air
- Heat and the atmosphere:
 - Balanced system:
 - Radiation, albedo
 - Insolation:
 - Factors affecting insolation
 - Perihelion, aphelion, energy budget
 - Greenhouse effect:
 - Greenhouse gases
 - Heat distribution in the atmosphere:
 - Conduction, convection, convection currents
 - Updrafts, downdrafts
 - Adiabatic heating and cooling
- Patterns of circulation:
 - Circulating currents:
 - Low pressure, high pressure, global winds
 - Convection cell, Hadley cell
 - Coriolis effect:
 - Inertia, cyclone, anticyclone
 - Earth's wind zones:
 - Intertropical Convergence Zone (ITCZ or doldrums), horse latitudes
 - Trade winds, polar easterlies, prevailing westerlies
 - Jet streams, Rossby waves
 - Local winds:
 - Monsoon effect
 - Sea, lake, land, and forest breezes
 - Anabatic, katabatic, fall winds, and the mistral
 - Foehns, chinooks, Santa Ana winds

Weather

- Understanding weather—climate, meteorology:
 - Factors causing weather: heat energy, uneven heat distribution, water vapor
 - Atmospheric water vapor:
 - Melting, freezing, precipitation, condensation
 - Saturated, relative humidity
 - Dew and frost points:
 - Dew, frozen dew, frost
 - Condensation nuclei, frost point, deposition, supercooled, freezing nuclei
- Clouds and fog:
 - Naming clouds:
 - Based on:
 - Shape
 - Height
 - Cumulus, stratus, cirrus, and variations of these three
 - Lenticular, contrails
 - Fog:

- Radiation and steam fog
 - Mist; advection, upslope, and freezing fog
 - Smog, photochemical smog
- Precipitation—water cycle
- Liquid precipitation:
 - Rain, raindrops, snowflakes, drizzle, freezing rain
 - Bergeron process, collision-coalescence process
- Solid precipitation:
 - Sleet, snow, dendrite, hail
 - Flurries, snow squall, blizzard, whiteout, glaze, rime
 - Drought: conditions for; agricultural, hydrological, and socioeconomic droughts
- Air masses:
 - Types of:
 - Maritime tropical, continental tropical
 - Maritime polar, continental polar, Arctic
 - Air-mass weather
 - Fronts and weather:
 - Warm and cold fronts
 - Stationary and occluded fronts
 - Frontal cyclones
- Thunderstorms, lightning, and tornadoes:
 - Thunderstorms:
 - Stable and unstable air, stages of development
 - Downbursts, cells, supercell
 - Squall line
 - Lightning:
 - Formation, stepped leader, thunder
 - Return stroke, dart leader
 - Types:
 - Negative and positive cloud-to-ground, hot lightning, ground-to-cloud, ball lightning
 - Tornadoes:
 - Formation, dangers
 - Mesocyclone, condensation funnel, occurrence
 - Enhanced Fujita scale, waterspout, dust devil
- Hurricanes:
 - Life of a hurricane: tropical cyclone, tropical disturbance
 - Cyclone categories:
 - Tropical depression, tropical storm
 - Saffir-Simpson Hurricane Wind Scale
 - Hurricane structure: eye, eye wall
 - Hurricane dangers:
 - Wind, inland flooding
 - Storm surge
- Measuring and forecasting weather:
 - Measuring basics:
 - Thermometer:
 - Maximum–minimum, bimetallic strip, and electrical thermometers; thermograph
 - Barometer:
 - Bar
 - Aneroid barometer, millibars
 - Hygrometer:
 - Psychrometer
 - Wet-bulb depression, hair hygrometer

SCIENCE: Science: Earth & Space *cont.*

Weather *cont.*

- Weather vane
 - Anemometer
 - Rain gauge, Stevenson Screen
- Modern measurements:
 - Automated instruments, automatic weather stations
 - Transmissometer, visibility
- Weather balloons:
 - Radiosonde
 - Sounding rocket, ceilometers
- Radar, weather satellite
- Summarizing weather conditions: surface weather charts, station model, isobars, isotherms
- Predicting weather conditions: weather forecasts, supercomputers
- Do-it-yourself forecasting: predictable patterns, analyzing clouds

Astronomy

- Solar System:
 - Structure of the solar system:
 - Orbit
 - Geocentric, Aristotle
 - Ptolemy
 - Copernicus, Galileo, Kepler
 - Heliocentric
 - Planetary motions:
 - Elliptical paths, Kepler's three laws of planetary motion
 - Astronomical units
 - Gravity and the solar system:
 - Sir Isaac Newton, law of universal gravitation
 - Origin of the solar system: Creation vs. nebular hypothesis
 - Interplanetary space: vacuum
 - Planets:
 - Mercury: speediest planet
 - Venus:
 - Earth's twin, morning and evening star
 - Retrograde
 - Earth:
 - Life-sustaining planet
 - Moon, satellite, lunar month, maria
 - Terrae, rays
 - Phases of the moon, solar eclipse, lunar eclipse
 - Mars: red planet, Phobos, Deimos, Tharsis Bulge, Olympus Mons
 - Jupiter:
 - Largest planet, Great Red Spot, Galilean satellites
 - Saturn:
 - Second-largest, "shepherd moons," Titan, Iapetus, Mimas, Phoebe
 - Enceladus
 - Uranus:
 - Retrograde rotation
 - Titania, Oberon, Miranda, Cordelia, Ophelia
 - Neptune: discovered mathematically before seen
 - Planets vs. dwarf planets: Pluto and moons, Eris
 - Asteroids: asteroid belt, Ceres, Trojan asteroids, near-earth

- asteroids
- Comets:
 - Edmond Halley
 - Halley's comet, nucleus, coma, tail
 - Short-period comet, long-period comet
 - Kuiper belt
 - Meteoroids: meteor, meteor shower, meteorites
- Constellations:
 - Celestial sphere:
 - Horizon, distance between objects, celestial poles
 - Celestial equator, circumpolar
 - Polaris, zodiac
 - Modern definition of constellation, asterisms
 - Seasonal constellations:
 - Spring constellations
 - Summer constellations: Lyra, Vega, Summer Triangle
 - Autumn and winter constellations
 - Great Square
 - Southern constellations: Centaurus and Crux
- Sun, stars, and galaxies:
 - Sun:
 - Core, photosphere, granule, sunspots
 - Supergranules
 - Chromosphere, spicules, solar flares, solar prominence
 - Transition region
 - Corona, solar wind
 - Stellar measurements:
 - Light-year
 - Parallax, stellar parallax, parsec
 - Star magnitude: apparent magnitude, absolute magnitude
 - Star categories:
 - Temperature and color, temperature and magnitude
 - Hertzsprung-Russell diagram
 - Giants, supergiants, main sequence, white dwarfs
 - Red dwarfs
 - Stars in groups:
 - Binary star, optical double
 - Open clusters, globular clusters
 - Stellar explosions:
 - Nova, supernova, pulsar
 - Neutron star
 - Galaxies:
 - Milky Way, clusters, Local Group, Andromeda galaxy
 - Superclusters
 - Spiral, barred, elliptical, and irregular galaxies
 - Lenticular galaxies
 - Quasars
 - Nebulae

Man & the Universe

- Instruments of astronomy:
 - Visible light astronomy:
 - Telescope, refracting telescope, objective
 - Eyepiece, reflecting telescope
 - Resolution

SCIENCE: Science: Earth & Space *cont.*

- Spectroscopy: visible spectrum, spectroscope, spectrogram

Man & the Universe *cont.*

- Radio wave astronomy:
 - Radio telescopes
 - Interferometry
- Astronomy and time:
 - Meridian and transits: zenith, nadir, meridian, transit
 - Day and night:
 - Sidereal day
 - Apparent solar day, mean solar day, equation of time
 - Standard solar time, summer time
 - Longer times: lunar month, solar year, week
 - Calendars:
 - Gregorian
 - Julian, Jewish
 - Ecliptic and climates:
 - Equinox, precession of the equinoxes, solstice
 - Climate zones
 - Seasons:
 - Relationship to equinoxes and solstices; lengths
 - Causes
- History of spaceflight:
 - Rockets: solid-fuel rocket, Robert Goddard, liquid-fuel rocket, Wernher von Braun
 - Race to the moon:
 - *Sputnik 1*, *Explorer 1*
 - Yuri Gagarin, Alan Shepard, John Glenn, Valentina Tereshkova
 - Gemini and Apollo Programs, Saturn V, Neil Armstrong
 - Manned space stations: Salyut program, *Skylab*, *Mir*, International Space Station
 - Space shuttle
 - Spaceflight today:
 - Nations in space
 - Private space flights
- Orbits and satellites:
 - Objects in orbit:
 - Apogee, perigee
 - Geostationary orbit, polar orbit
 - Sun-synchronous orbits, Hohmann transfer orbit
 - Unmanned satellites:
 - Astronomical, communications, weather, navigational
 - Earth observation, military satellites, GPS
 - Unmanned space probes:

- Escape velocity

Environmental Science

- Environment and pollution:
 - Introduction to environmental science:
 - Biotic and abiotic factors, biogeochemical cycles
 - Preservationists, conservationists
 - Pantheism
 - Pollution basics
 - Land pollution: landfill, reclaimed, waste-to-energy incinerator, syngas
 - Air pollution:
 - Primary and secondary pollutants, formation and dangers of temperature inversion
 - Clean Air Acts
 - Water pollution: point and non-point sources, coliform bacteria
- Global change:
 - Acid rain
 - Ozone depletion:
 - Rowland-Molina hypothesis, freons, halons
 - Ozone-depleting substances, Montreal Protocol
 - Hydrochlorofluorocarbons, fluorocarbons
 - Global warming: anthropogenic global warming, Medieval Climate Optimum, Little Ice Age
- Managing our resources:
 - Biblical commands
 - Examining our resources:
 - Non-renewable and renewable resources
 - Sustainable development, environmental technology
 - Water reclamation
 - Recycling programs
- Renewable energy:
 - Solar energy:
 - Active and passive solar power, photovoltaic cells, concentrating solar power
 - Wind power:
 - Wind turbine, wind farm
 - Hydroelectric power
 - Nuclear power:
 - Nuclear chemistry, nuclear fission, nuclear chain reaction
 - Nuclear reactor, breeder reactor

BIBLE: *Book of Acts* (one semester)



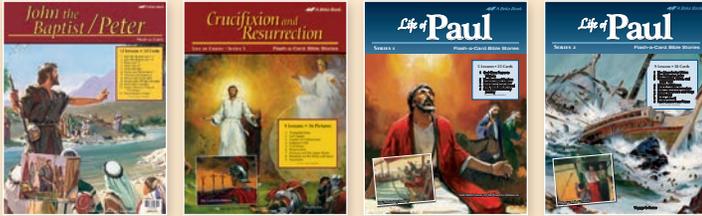
Bible 8 consists of two parts: *Book of Acts* and *Joshua and Judges*.

This first-semester course is designed to give students a basic overview of the life of Peter and Paul, the beginning of the church, and the spread of the gospel to the Gentiles and eventually to the world through Paul's missionary travels.

Through the *Book of Acts*, students may see the power of God at work in His willing servants. His servant Paul is a real person—a person with feelings just like anyone else. Yet Paul's reactions to the trials of life and his indomitable faith in the power of Christ separated him from the nominal Christian life. His life serves as an example for all believers to follow.

Evaluation

- Verses:
 - Verse quizzes (14)
 - 9-weeks verses exam (1)
 - Final verses exam (1)
- Content:
 - 9-weeks content exam (1)
 - Final content exam (1)



Lessons 129 Abeka Flash-a-Cards

- John the Baptist/Peter (19 lessons)
- Crucifixion and Resurrection (16)
- Life of Paul Series 1 (14)
- Life of Paul Series 2 (21)

Music 44 songs

- Hymns of the faith, choruses, holiday songs

Memory Work

- Passages (14 containing 48 verses)

Prayer Time

- Learn to pray for each other, our nation, those in authority over us

BIBLE: *Joshua & Judges* (one semester)



The second-semester course, *Joshua and Judges*, focuses on the nation of Israel after their triumphant exodus from Egypt. The exciting, dramatic account of the conquering of the Promised Land will remind the student of the power of God and the provision for His people. This course begins with the anointing of Joshua and ends with the rule of Israel's judges.

Evaluation

- Verses:
 - Verse quizzes (14)
 - 9-weeks verses exam (1)
 - Final verses exam (1)
- Content:
 - 9-weeks content exam (1)
 - Final content exam (1)



Lessons 154 Abeka Flash-a-Cards

- Joshua (16 lessons)
- Judges (19)
- Ruth (5)
- Life of Samuel (9)
- Esther (8)
- Ezra and Nehemiah (15)

Music 40 songs

- Hymns of the faith, holiday, choruses

Memory Work

- Passages (14 containing 44 total verses)

Sword Drill 85 verses

- Old and New Testament

Prayer Time

- Learn to pray for each other, our nation, those in authority over us