

### LIFE SCIENCE 7



#### The Pattern of Life

Definition of science, science and worldview, biblical vs. naturalistic worldviews, science and biblical ethics, characteristics of life, homeostasis, design of life, modeling, thinking scientifically, limitations of science, classification of life; cell theory, cell structure and function, cellular respiration, photosynthesis; genes, DNA replication, RNA transcription, protein synthesis, cell division, mitosis and meiosis; Mendelian genetics, genetic crosses, variations on simple genetics, population genetics; biblical creationism vs. evolutionism, change in nature, worldview and change.

#### Microorganisms and Plants

Archaeobacterial vs. eubacteria, bacterial structure, reproduction, and importance; antibiotic resistance in bacteria; viruses; protist movement, nutrition, classification, and reproduction; structure, nutrition, and importance of fungi; plant structure and classification; plant hormones, tropisms, and photoperiodism, plant reproduction and life cycles.

#### The Animal Kingdom

Characteristics of animals, characteristics and classifications of invertebrates; sponges, cnidarians, worms, mollusks, echinoderms, arthropods; characteristics and classifications of vertebrates; endotherms vs. ectotherms; fish, amphibians, reptiles, birds, and mammals; nutrition, transport, support, movement, and control systems of animals; animals reproduction and behavior, external and internal fertilization, egg structure and development, and placental reproduction; innate and learned behavior.

#### The Human Body

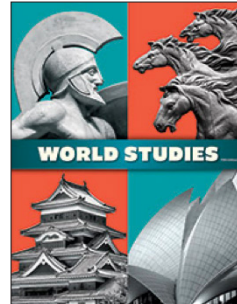
Structure and function of skin, bones, joints, and muscles; types of muscles; digestive system structure and function; food and nutrition; chemical vs. mechanical digestion; alimentary canal organs; accessory organs; urinary system structure and function; respiratory system structure and function; connection between the respiratory and circulatory systems; circulatory system structure and function; heart, blood cells and plasma; blood vessels; flow of blood through the heart and lungs; connection between the circulatory and lymphatic systems; lymphatic system and immunity; lymph vessels and nodes; components of the immune system; nonspecific vs. specific immunity; vaccines; active vs. passive immunity; parts of the nervous system; central nervous system vs. peripheral nervous system; nerves, reflex arc, and nerve impulses; sense organs structure and function; eyes, ears, touch, smell, and taste; hormones and endocrine glands; puberty; human reproduction and biblical sexuality; human growth and development.

#### Interacting with the Biosphere

Ecology; abiotic vs. biotic factors; ecosystems and biomes; cycles of matter; water cycle, oxygen and carbon cycles, and nitrogen

cycle; food chains, energy pyramids, and food webs; relationships between organisms; symbiosis; succession; managing and protecting the environment; pollution classification and solutions; substance vs. energy pollution; using natural resources; renewable vs. nonrenewable resources; management philosophy; conservation vs. preservation; management principles.

### WORLD STUDIES 7



#### Topic

World cultures (1000 AD to the present).

#### Geography

Influence of geography on the development of civilizations.

#### History

Chronological and cultural approach to world studies.

#### Government

Comparative world governments in history.

#### Economics

Comparative economics historically and geographically.

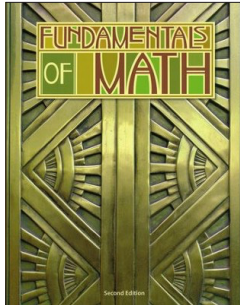
#### Religion

Impact of religion on culture and historical events.

#### Culture

Arts; sciences; ways of life in the past and present.

### FUNDAMENTALS OF MATH 7



**Whole numbers and decimals:** ordering, rounding and comparing; operations and estimating; exponents; roots of perfect squares; approximating square roots; order of operations.

**Integers:** numbers sets and subsets; opposite numbers and absolute value; ordering and rounding; operations; order of operations involving integers.

**Numerical and Algebraic Expressions:** variables and expressions; properties of addition and multiplication; factoring common factors; combining like terms; adding linear expressions; properties of exponents; scientific notation.

**Fraction theory:** divisibility; factors; prime and composite numbers; GCF and LCM; renaming fractions; rational numbers; comparing and ordering rational numbers.

**Fractions:** operations; order of operations involving rational numbers; evaluating algebraic expressions involving rational numbers.

**Algebra:** Writing equations; solving one- and two-step equations; solving equations with grouping symbols; solving one- and twostep inequalities.

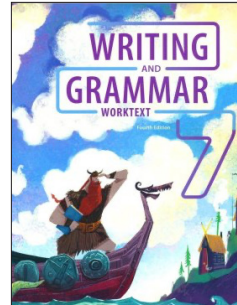
**Ratios and proportion:** ratios and rates; simplifying complex ratios; solving proportions; scale models; proportional relationships  
**Percents:** proportions and percent; percent equations; enlargements and reductions; percent change; sales tax; discounts; sale price; simple interest.

**Measures:** customary units of length, capacity, and weight; SI (metric) units of length, capacity, and mass; relating metric and customary units; converting rates.

**Introduction to Geometry:** basic terms; measuring angles; pairs of angles; perpendicular and parallel lines; characteristics and area of triangles and quadrilaterals; exploring triangle theorems  
 Exploring area and volume: circles; areas of similar polygons; surface area of prisms, cylinders, and pyramids; volume of prisms and cylinders.

**Probability:** simple events; theoretical and experimental probabilities; compound events: simulations  
**Statistics:** populations and samples; descriptive measures (mean, median and mode); mean absolute deviation; comparing populations using line graphs, histograms, box-and-whisker plots, stem-and-leaf plot; visualizing data.  
**Relations and functions:** coordinate plane; functions and function rules; graphing linear functions; slope; sequences.

### WRITING AND GRAMMAR 7



#### Parts of Speech (and Verbals)

Noun; pronoun; verb (simple tense and perfect tenses); adjective; adverb; preposition; conjunction (coordinating, correlative, subordinating); interjection; verbals (participle, infinitive, gerund, verbal phrases with modifiers, functions as different parts of speech).

#### Sentence Structure

Sentence patterns (S-InV, S-TrV-DO, S-TrV-IO-DO, S-LV-PN, S-LV-PA); introduction to dependent clauses; sentence types (declarative, interrogative, imperative, exclamatory); clause structure (simple, compound, complex, compound-complex); sentence errors (fragments, comma splices, fused sentences).

#### Mechanics

Capitalization; punctuation; spelling.

#### Usage

Subject-verb agreement; pronoun-antecedent agreement; pronoun reference; troublesome words; misplaced modifier; dangling modifier.

#### Writing Skills

Writing process (planning, drafting, revising, proofreading, publishing); paragraph development (fact, example, statistic, incident/anecdote, sensory detail, reason); paragraph organization (chronological, spatial, order of importance); paragraph unity; style (precise words, showing not telling, effective fragments, strong action verbs, adding details, rhythm, expanding sentences, tightening writing with appositives, combining sentences, figurative and fresh language); voice; point of view.

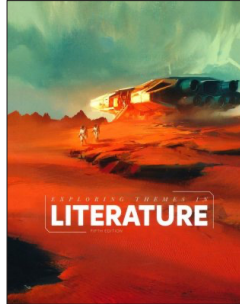
#### Examples of Writing Projects

Argumentative writing, article writing, informative writing, narrative writing.

#### Reference and Study Skills

Parts of a book (title page, copyright page, table of contents, list of illustrations, acknowledgements, introduction/preface, text, bibliography, appendix, glossary, index); scheduling study time; memory techniques; reading comprehension (definitions, restatements, examples, word parts); test-taking strategies (classroom tests, standardized tests).

### EXPLORING THEMES IN LITERATURE 7



#### Approach

Thematic.

#### Organization

Six themes: love, community, transformation, justice, perseverance, purpose.

#### Content

**Genres represented:** autobiography, biblical narrative, biography, comic strip, coming-of-age story, drama, dramatic dialogue, essay (humorous, persuasive), fantasy, folktale (fairy tale, fable, myth, tall tale), historical fiction, hymn, informational text, interview, legend, letter, memoir, narrative nonfiction, nonsense literature, novel excerpt (includes verse novel excerpt), opinion piece, poetry (includes free verse and narrative), science fiction, short story, speech; **Cultures represented:** Caucasian American, Hispanic American, African American, Native American, Chinese, British, Russian, Vietnamese.

#### Features

This book is arranged by thematic units. Each unit opener contains an illustration, a unit theme, and a unit Essential Question. Selections within each unit require reading with discernment, a goal toward which all literature teachers hope to direct their students. Each unit also contains writing opportunities.

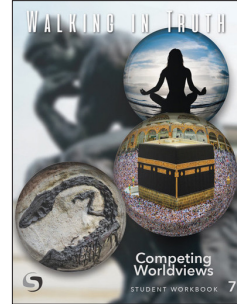
A Before Reading page precedes each selection and introduces students to a Big Question, the genre of the text selection, and two reading tasks: analyzing a work for its technical features (Author's Craft) and employing a reading comprehension strategy (Reader's Craft). The Big Question provides an opportunity for biblical worldview shaping. The two tasks help students develop writing skills and critical-thinking skills.

During Reading questions, which appear throughout each selection in the margin, guide students through the two reading tasks.

On an After Reading page, students answer Think & Discuss questions, many of which require them to demonstrate a high level of understanding of the concepts traced throughout their reading and the lesson. These pages also include short biographical sketches of individual authors.

Unit Review pages ask questions about key terms and concepts.

### WALKING IN TRUTH 7



**Walking in Truth trains students to defend their faith and respond to counterfeit worldviews.**

- Competing Worldviews compares and contrasts the key tenets of Christianity to Islam, naturalism, and new spirituality.