

Britestar Grade 6 Scope and Sequence

This document outlines the comprehensive curriculum for Britestar Grade 6 courses, including detailed unit breakdowns, learning objectives, and pacing guides for Math 6, English 6, Science 6, and Middle School World History courses.

Math 6 - Course Summary

Math 6 introduces students to a variety of real-world mathematical concepts. Semester A builds foundational skills in ratios, number operations, and coordinate graphing. Semester B focuses on algebraic reasoning, geometry, and statistical analysis. Students develop problem-solving strategies through practical applications and hands-on exploration across both semester.

Semester A Overview

Students build a strong foundation in ratios, number operations, and rational numbers. Through hands-on practice and problem solving, they explore relationships between numbers and develop fluency with fractions, decimals, and coordinate graphing.

Recommended Pacing

- UNIT 1: RATIOS AND PROPORTIONAL RELATIONSHIPS (DAYS 1–30)
- UNIT 2: THE NUMBER SYSTEM (DAYS 31–55)
- UNIT 3: VISUALIZING NUMBERS (DAYS 56–90)

Math 6 - Semester A Units

Unit 1: Ratios and Proportional Relationships

This unit introduces ratios, rates, and proportional reasoning in real-world contexts.

- Define and describe ratios using real-life examples
- Understand and calculate unit rates
- Create and analyze tables of equivalent ratios
- Solve problems involving rate comparisons
- Convert between measurements using ratios
- Explore percentages as ratios per 100
- Solve percent problems to find parts or totals
- Apply ratio reasoning in everyday scenarios

Unit 3: Visualizing Numbers

This unit focuses on the coordinate plane, inequalities, and absolute value.

- Represent rational numbers on number lines
- Plot and identify coordinates in four quadrants
- Graph and interpret inequalities on number lines
- Compare rational numbers in real-life contexts
- Define and apply absolute value as distance from zero
- Compare numbers using absolute value reasoning
- Solve real-world problems on the coordinate plane
- Analyze visual data to reinforce number concepts

Unit 2: The Number System

Students build fluency with fractions, decimals, and rational numbers.

- Divide fractions in mathematical and real-life contexts
- Perform multi-digit division using standard algorithms
- Add, subtract, multiply, and divide decimals
- Find and apply common factors and multiples
- Use positive and negative numbers to represent quantities
- Understand the placement and meaning of rational numbers
- Practice operations with different number forms

Math 6 - Semester B Units

Semester B Overview

Students deepen their mathematical understanding by working with expressions, equations, geometry, and basic statistics. They apply algebraic thinking and data analysis to solve real-world problems with precision and logic.

Recommended Pacing

- UNIT 1: EXPRESSIONS AND EQUATIONS (DAYS 1–42)
- UNIT 2: GEOMETRY (DAYS 43–63)
- UNIT 3: STATISTICS AND PROBABILITY (DAYS 64–90)

Unit 1: Expressions and Equations

Students explore algebraic expressions, equations, and real-world problem solving.

- Evaluate expressions with whole-number exponents
- Write and interpret algebraic expressions with variables
- Apply properties of operations to simplify expressions
- Solve simple one-variable equations
- Solve and graph inequalities
- Model real-world problems with algebraic expressions
- Write equations and inequalities from word problems
- Analyze relationships between two variables
- Complete a unit activity with real-life applications

Unit 2: Geometry

This unit develops spatial reasoning through area, volume, and surface area concepts.

- Find areas of triangles, quadrilaterals, and polygons
- Compose and decompose shapes to find area
- Apply volume formulas to right rectangular prisms
- Solve real-world volume problems
- Use coordinates to determine side lengths of polygons
- Explore nets of three-dimensional figures
- Calculate surface area from visual representations
- Connect geometric measurement to practical use

Unit 3: Statistics and Probability

Students learn to collect, analyze, and interpret data using statistical tools.

- Recognize and generate statistical questions
- Understand and calculate measures of center (mean, median, mode)
- Analyze measures of variation (range, interquartile range)
- Create and interpret dot plots, histograms, and box plots
- Describe data sets using context and units
- Evaluate distribution shapes and outliers
- Match statistical measures to appropriate situations
- Communicate findings with clarity and visuals

English 6 - Course Summary

English 6 Course Summary

English 6 helps students explore literature, nonfiction, poetry, and media while developing skills in reading comprehension, writing, and research. In Semester A, students examine identity, character, and social change through fiction, memoirs, and persuasive texts. Semester B focuses on conflict in literature, elements of poetry, multimedia presentations, and academic research writing.

Semester A Overview

Students explore identity, character, and social change through a variety of texts including fiction, memoirs, and speeches. They strengthen their reading comprehension and narrative writing skills while examining how individuals and societies evolve.

Recommended Pacing

- UNIT 1: HOW DO WE DECIDE WHO WE ARE? (DAYS 1–24)
- UNIT 2: HOW DOES SOCIETY SHAPE WHO WE ARE? (DAYS 25–45)
- UNIT 3: HOW DOES A PERSON CHANGE OVER TIME? (DAYS 46–68)
- UNIT 4: HOW DOES A SOCIETY CHANGE OVER TIME? (DAYS 69–90)

English 6 - Semester A Units

Unit 1: How Do We Decide Who We Are?

This unit explores identity through fairy tales, informational texts, and personal narratives.

- Identify main ideas in nonfiction texts about identity
- Analyze plot structure in fairy tales from the Brothers Grimm
- Describe characters and settings in classic stories
- Explore narrative point of view and its effects
- Compare perspectives across texts
- Study the structure and purpose of personal narratives
- Write and revise a personal story
- Share and discuss identity in literature

Unit 2: How Does Society Shape Who We Are?

Students read memoirs and novels to analyze point of view, character, and conflict.

- Explore societal influences in memoirs (*America and I*, etc.)
- Practice writing a short memoir
- Analyze character and setting in a novel of choice
- Examine how word choice and point of view shape conflict
- Study theme development over the course of a novel
- Identify literary elements in long-form texts
- Make personal connections to novel themes

Unit 3: How Does a Person Change over Time?

This unit examines how characters grow and change across genres.

- Identify character types in short fiction
- Define and analyze methods of characterization
- Study character development in plays and scripts
- Analyze how plot influences character change
- Compare character growth in multiple genres
- Discuss how people evolve through conflict
- Write responses analyzing character arcs

Unit 4: How Does a Society Change over Time?

Focuses on nonfiction texts and persuasive writing that reflect social change.

- Study autobiographies to understand personal and societal change
- Analyze speeches such as Malala's Nobel Prize address
- Evaluate arguments and claims in persuasive texts
- Identify techniques used in effective persuasive writing
- Plan and write a persuasive essay
- Edit and revise writing using feedback
- Discuss the role of writing in societal change

English 6 - Semester B Units

Semester B Overview

Semester B builds on historical thinking to examine major world religions, medieval empires, trade, and cross-cultural connections from the Middle Ages through the postclassical period.

Recommended Pacing

- UNIT 1: SOCIAL STUDIES SKILLS AND BIG IDEAS (DAYS 1–8)
- UNIT 2: ABRAHAMIC RELIGIONS (DAYS 9–37)
- UNIT 3: THE MIDDLE EAST AND EUROPE IN THE MIDDLE AGES (DAYS 38–56)
- UNIT 4: CIVILIZATIONS IN AFRICA AND THE AMERICAS (DAYS 57–75)
- UNIT 5: POSTCLASSICAL CIVILIZATIONS IN ASIA (DAYS 76–90)

Unit 1: Social Studies Skills And Big Ideas

Students practice evaluating historical sources, context, and bias.

- Identify primary and secondary sources
- Analyze historical evidence
- Evaluate author bias and point of view
- Practice interpreting historical context
- Explore causation and historical argumentation
- Study global trade networks and their effects
- Reflect in journals on trade and exchange

Unit 2: How Does Society Create Conflict?

Students examine how conflict is portrayed across fiction, poetry, and informational texts.

- Identify conflict in fiction (*Rikki-Tikki-Tavi*)
- Analyze poetic conflict in *Barbara Frietchie*
- Investigate nonfiction conflict in *Saved by a Seal*
- Compare how different genres express conflict
- Examine the relationship between conflict and theme
- Analyze author choices in portraying characters under pressure
- Practice writing a literary analysis essay

Unit 3: How Do We Communicate with Others?

This unit focuses on understanding and creating poetry.

- Analyze figurative and literal language in poetry
- Explore narrative structure in *Casey at the Bat* and *The Raven*
- Identify types of poems and poetic devices
- Understand rhythm, meter, and sound in verse
- Examine poetic purpose in *The Arrow and the Song, A Poison Tree*
- Study poetic themes, tone, and audience
- Write and revise original poetry
- Reflect on communication through poetic form

Unit 4: How Does a Society Use Communication?

This unit guides students through the full research writing process.

- Analyze how societies share information through various media
- Choose a research topic and create a guiding question
- Evaluate sources for accuracy and credibility
- Take organized notes and plan essay structure
- Create an outline and begin drafting
- Practice correct citation and avoid plagiarism
- Revise and edit the research paper
- Reflect on the role of research in informed communication

MS Physical Science - Course Summary

This course introduces foundational physical science concepts including scientific inquiry, matter, energy, force, and waves. Semester A focuses on the nature and properties of matter, scientific investigation, and chemical processes. Semester B continues with motion, noncontact forces, energy transformations, and wave applications. Students explore both theoretical and practical aspects of physical science through engaging studies and optional hands-on labs.

Semester A Overview

Semester A develops a strong scientific foundation. Students explore the scientific method, the properties and structure of matter, and the physical and chemical changes it undergoes.

Recommended Pacing

- UNIT 1: SCIENCE AND ENGINEERING (DAYS 1–18)
- UNIT 2: TOOLS OF INQUIRY (DAYS 19–37)
- UNIT 3: NATURE OF MATTER (DAYS 38–56)
- UNIT 4: DESCRIBING MATTER (DAYS 57–75)
- UNIT 5: CHANGES IN MATTER (DAYS 76–90)

MS Physical Science - Semester A Units

Unit 1: Science and Engineering

Students learn what science and engineering are, how they differ, and how they both use systematic processes to solve problems.

- Identify the purpose and scope of science
- Explain how scientific knowledge is developed through observation and experimentation
- Compare scientific laws and theories
- Explore the nature of engineering and how it differs from science
- Identify steps in the engineering design process
- Practice scientific investigation and data analysis
- Interpret results and revise designs
- Use vocabulary in context

Unit 2: Tools of Inquiry

This unit emphasizes the tools scientists use and how they display and interpret data.

- Learn about physical and conceptual models
- Explore appropriate tools and units for measurement
- Understand SI units and data collection
- Use graphs to display data and identify trends
- Interpret data to draw conclusions
- Practice using digital and analog tools
- Develop skills in accuracy and precision
- Apply measurement and modeling in scientific contexts

Unit 5: Changes in Matter

Students investigate physical changes, chemical reactions, and the conservation of matter.

- Identify and compare physical vs. chemical changes
- Understand how state changes occur
- Write and interpret simple chemical equations
- Explore the law of conservation of matter
- Observe evidence of chemical reactions
- Use models to represent reactions
- Conduct a lab on chemical reactions and model design

Unit 3: Nature of Matter

Students explore the fundamental nature of matter, atomic structure, and the periodic table.

- Define matter and its properties
- Study atoms, protons, neutrons, and electrons
- Explore the structure of the periodic table
- Identify element groups and periods
- Predict element behavior based on location in the table
- Analyze mass, volume, and density
- Practice using formulas to calculate properties

Unit 4: Describing Matter

This unit explores observable properties and the states of matter.

- Investigate physical and chemical properties
- Describe solids, liquids, and gases
- Understand how matter changes state
- Differentiate between mixtures and pure substances
- Identify homogeneous and heterogeneous mixtures
- Explore concrete as an example of a mixture
- Analyze thermal properties
- Conduct optional activities and checkups

MS Physical Science - Semester B Units

Semester B Overview

Semester B emphasizes the physical interactions of matter through force, energy, heat, and wave phenomena. Students investigate both mechanical and electromagnetic systems and their applications.

Recommended Pacing

- UNIT 1: FORCE AND MOTION (DAYS 1–15)
- UNIT 2: NONCONTACT FORCES (DAYS 16–31)
- UNIT 3: ENERGY (DAYS 32–47)
- UNIT 4: THERMAL ENERGY AND HEAT (DAYS 48–63)
- UNIT 5: WAVES (DAYS 64–79)
- UNIT 6: APPLICATIONS OF WAVES (DAYS 79–90)

Unit 1: Force and Motion

Students study Newton's laws, forces, and how they affect motion.

- Define and describe forces
- Differentiate balanced and unbalanced forces
- Explore motion and calculate speed, velocity, and acceleration
- Understand effects of mass on motion
- Practice graphing motion
- Conduct a lab on motion and mass
- Investigate the relationship between force and acceleration
- Model how forces interact in real-life systems

Unit 2: Noncontact Forces

This unit explores magnetic, electric, and gravitational forces.

- Define noncontact forces
- Identify properties of magnetic and electric fields
- Explore electric field strength
- Study gravitational force and mass relationships
- Apply field line concepts to real-world systems
- Conduct virtual labs on field interactions
- Interpret graphs showing force vs. distance
- Differentiate field types

Unit 5: Waves

Students study mechanical and electromagnetic waves and their properties.

- Define waves and wave properties (wavelength, amplitude, frequency)
- Differentiate between mechanical and electromagnetic waves
- Explore wave speed and behavior
- Study light and sound wave transmission
- Practice measuring and calculating wave data
- Apply wave principles to real-world scenarios

Unit 3: Energy

Students explore different forms of energy and how energy is transferred and transformed.

- Define energy and its different forms
- Describe kinetic, potential, chemical, and light energy
- Explain energy transfer and conservation
- Use diagrams to track energy changes
- Explore real-world examples like pendulums and engines
- Practice with formulas and data sets
- Analyze transformation systems

Unit 4: Thermal Energy And Heat

This unit explores temperature, heat, and energy flow.

- Distinguish between thermal energy and heat
- Explain temperature and particle motion
- Study conduction, convection, and radiation
- Explore real-life examples like hot packs and coffee mugs
- Conduct labs on heat transfer
- Design hot/cold packs and insulation systems
- Calculate heat transfer using data
- Identify sources of thermal energy

Unit 6: Applications Of Waves

This unit explores how waves interact with matter and are used in technology.

- Investigate reflection, refraction, absorption, and diffraction
- Explore how different materials affect wave behavior
- Study wave interference
- Learn how technology uses waves (e.g., MRI, radar)
- Apply understanding to real-world devices
- Conduct simulations or research-based activities

MS World History - Course Summary

This course explores the rise and development of civilizations across the world from ancient times through the postclassical era. Semester A focuses on foundational social studies skills and major civilizations in Asia, Africa, Europe, and the Americas. Semester B deepens understanding of historical thinking, religion, medieval empires, and global interactions across continents.

Semester A Overview

Semester A introduces historical thinking, maps early civilizations, and examines the development of cultures and belief systems in ancient Asia, Africa, and Europe.

Recommended Pacing

- UNIT 1: SOCIAL STUDIES SKILLS AND BIG IDEAS (DAYS 1–18)
- UNIT 2: THE BEGINNING OF CIVILIZATIONS (DAYS 19–37)
- UNIT 3: ANCIENT CIVILIZATIONS (DAYS 38–56)
- UNIT 4: CLASSICAL CIVILIZATIONS (DAYS 57–75)
- UNIT 5: MAJOR RELIGIONS IN ASIA (DAYS 76–90)

MS World History - Semester A Units

Unit 1: Social Studies Skills and Big Ideas

Students develop chronological, geographical, and analytical thinking to understand historical contexts.

- Practice chronological thinking and timelines
- Explore geographic reasoning and world regions
- Compare government structures in early history
- Understand historical economies and trade
- Learn to analyze cause and effect
- Map ancient locations and apply spatial thinking
- Evaluate primary and secondary sources
- Apply concepts to early civilizations

Unit 2: The Beginning of Civilizations

This unit explores the shift to settled life and the formation of complex societies.

- Study the Neolithic Revolution and farming
- Examine how early civilizations formed
- Discuss the environment's role in shaping civilizations
- Analyze early Mesopotamian societies
- Compare laws such as Hammurabi's Code
- Evaluate social hierarchies and power structures
- Reflect in journal entries on ancient laws and living

Unit 5: Major Religions In Asia

Students explore Hinduism, Buddhism, Confucianism, and Daoism.

- Study the beliefs and practices of Hinduism
- Trace the origins and spread of Buddhism
- Analyze Confucianism's impact on government
- Compare Asian religious philosophies
- Use texts such as the Analects for interpretation
- Reflect in journals on the influence of belief systems
- Map the spread of ideas across Asia

Unit 3: Ancient Civilizations

Students explore major river valley civilizations and their contributions.

- Study Egypt, Nubia, and Kush civilizations
- Examine Indian society and the caste system
- Analyze achievements of the Shang and Zhou dynasties
- Compare ancient river valley civilizations
- Research natural disasters' effects on society
- Identify geographic features that influenced culture
- Use maps and timelines to track development

Unit 4: Classical Civilizations

This unit traces the growth of classical empires and their lasting influence.

- Explore Mauryan and Gupta empires in India
- Study Qin and Han dynasties in China
- Analyze democracy and philosophy in Greece
- Learn about the Roman Republic and Empire
- Evaluate classical achievements in government
- Explore the Silk Road and global trade
- Compare wars and conflict in Greece and Rome
- Review timeline and map resources

MS World History - Semester B Units

Semester B Overview

Semester B builds on historical thinking to examine major world religions, medieval empires, trade, and cross-cultural connections from the Middle Ages through the postclassical period.

Recommended Pacing

- UNIT 1: SOCIAL STUDIES SKILLS AND BIG IDEAS (DAYS 1–8)
- UNIT 2: ABRAHAMIC RELIGIONS (DAYS 19–37)
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- Analyze historical evidence
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- Practice interpreting historical context
- Explore causation and historical argumentation
- Study global trade networks and their effects
- Reflect in journals on trade and exchange

Unit 2: Abrahamic Religions

This unit covers the origins and beliefs of Judaism, Christianity, and Islam.

- Learn about Abrahamic traditions and sacred texts
- Compare religious beliefs and practices
- Explore the global spread of major religions
- Analyze Christianity's changes over time
- Submit reflective journal entries
- Practice with maps and timelines
- Study Islam's historical development
- Review key terms and faith-based influence

Unit 5: Postclassical Civilizations In Asia

Students explore Asia's development between 600–1500 CE.

- Study Tang and Song dynasties in China
- Share what you've learned about the Tang dynasty and ask questions
- Analyze the growth and fall of the Mongol Empire
- Explore Genghis Khan's legacy
- Examine the culture and structure of feudal Japan
- Compare systems of feudalism
- Reflect in journals on societal structure

Unit 3: The Middle East And Europe In The Middle Ages

Students explore medieval civilizations and religious conflicts.

- Learn about Islamic empires and the Golden Age
- Study the Byzantine Empire's growth and fall
- Examine the rise of feudalism in Europe
- Explore the role of the Catholic Church
- Study the causes and effects of the Crusades
- Analyze two perspectives on the Crusades
- Reflect in journals on religious influence
- Submit comparison practice on fallen empires

Unit 4: Civilizations In Africa And The Americas

This unit explores pre-Columbian civilizations and African kingdoms.

- Study sub-Saharan African civilizations (Ghana, Mali)
- Learn about the spread of Islam in Africa
- Analyze civilizations in the Andes (Inca)
- Study Mesoamerican civilizations (Maya, Aztec)
- Explore North American indigenous societies
- Reflect in journals on environment and society
- Compare early civilizations across continents