

# GENERAL STUDIES

## 5<sup>th</sup> GRADE

### MATH

#### Numerical Operations

The students will:

- Apply strategies for multiplying multi-digit whole numbers.
- Identify the factors of a number.
- Apply divisibility rules to determine whether a number is prime, composite, even or odd.
- Use exponential notation: convert between exponential, expanded, scientific and standard notation.
- Identify place value to thousandths and billionths.
- Find equivalent fractions.
- Apply strategies for adding, subtracting, multiplying and dividing fractions and mixed numbers.
- Apply strategies for adding, subtracting, multiplying and dividing with decimals.
- Rename common fractions as decimals, percents and ratios.
- Use estimation strategies to write whole numbers, fractions and decimals.
- Use rounding strategies to write whole numbers, fractions and decimals.
- Identify mathematical properties including, Commutative Property, Associative Property and Distributive Property.
- Write numerical notations through one million (i.e. writing checks).

#### Measurement and Geometry

The students will:

- Name, draw and label line segments, lines, rays, planes and angles.
- Name and draw angles, triangles and quadrangles.
- Identify a triangle by its properties.
- Identify and describe right angles, parallel lines and perpendicular lines.
- Explain the properties of a triangle, square, rectangle, rhombus, trapezoid and parallelogram.
- Use a map scale to estimate distances.
- Identify polyhedrons by their properties including: cube, rectangular prism, triangular prisms and a sphere.
- Identify lines of symmetry.
- Plot ordered pairs on a grid.
- Draw reflections.
- Show customary and metric units in linear measurement.
- Find area and perimeter of squares, rectangles, and triangles.
- Use flips, slides, and rotations.

- Use a protractor to measure and draw simple angles.
- Find volume.
- Find capacity and mass in standard and metric systems.
- Calculate with money.

### **Probability, Statistics (Data, Graphs)**

The students will:

- Generate, collect, organize and analyze data.
- Represent data in tables, charts and graphs.
- Make inferences, formulate and evaluate outcomes based on data analysis and data displays.
- Display data using: stem and leaf graph, line graph, bar, double bar, line plot, pictograph and circle graph.
- Use appropriate vocabulary to describe the probability of chance events.
- Use models of probability to make predictions.
- Interpret probability as ratios and percents.

### **Algebra**

The students will:

- Use parenthesis in number sentences.
- Apply order of operations.
- Use formulas for: area, perimeter and volume.
- Use variables to describe a mathematical operation.

### **Ratios, Proportions and Percents**

The students will:

- Show ratio as a comparison of 2 quantities.
- Demonstrate the uses of percent.
- Compare percent to equivalent fractions and decimals.

## **LANGUAGE ARTS/READING**

### **Reading**

The students will:

- Use reading for information: declarative, interrogative and narrative.
- Use reading for: main idea, supporting details and continuing sequence.
- Use summarizing skills.
- Use paraphrasing skills.
- Reference skills.
- Integrate at least three reading strategies to interpret text and give strategies.

- Explain parts of a book.
- Interpret diagrams, charts, etc.
- Understand and explain critical reading (author's point of view, objective view, subjective point of view).
- Use figurative language.
- Uses and applies knowledge of previous text to understand new text.
- Orally defend a point of view from text.
- Appreciate reading as pleasure activity.

### **Writing**

The students will:

- Apply the elements of writing genres: poetry, informative, fiction, biography and autobiography.
- Evaluate and select information relevant to the assigned writing.
- Choose writing strategies that clarify communication.
- Apply grammatical, spelling and organizational writing skills.
- Demonstrate independence in writing.
- Organize related information in writing using appropriate spelling, sentence structure and grammar.
- Expand personal goals for writing: more complex ideas, greater details and description, drawing conclusions.
- Show different kinds of writing: strategies to answer questions, letters, prose and poetry.
- Independently choose to use writing for rethinking and expression.
- Evaluate a variety of strategies and tools to generate, explore, and develop writing: spelling, grammar and mechanics.
- Evaluate personal writing in order to set goals.
- Analyze literature as a model for own writing purposes.
- Generate ideas for writing.

### **Communication**

The students will:

- Demonstrate ability to communicate orally.
- Be able to articulate more complex directions orally.
- Respond successfully to more complex or multi-aural and written directions.
- Begin to synthesize aural information in written form (outlining, note taking).

## **SCIENCE**

### **Ecosystems (FOSS)**

The students will:

- Explain and find out about the parts of an ecosystem.

- Explain how habitats and niches are related.
- Describe how populations and communities are related.
- Identify the role of producers.
- Describe how consumers get the energy and nutrients they need.
- Describe food chains and energy pyramids.
- Show energy flow.
- Describe how energy moves through an ecosystem.
- Identify some natural cycles in an ecosystem.
- Observe and compare a variety of organisms.
- Plant seeds of different kinds.
- Identify factors that make up a terrestrial environment.
- Organize information using a key and a map.
- Observe a terrarium environment over time.
- Record changes in a journal.
- Use scientific thinking processes to conduct investigations and build explanations.
- Investigate how moisture and light affects isopod and beetle behavior.
- Organize and analyze data from animal investigations.
- Conduct experiments with four kinds of plants to discover their range of tolerance for water.
- Observe and compare the hatching of brine shrimp eggs in four salt concentrations.
- Organize data for the experiment.
- Determine the range of salt tolerance for brine shrimp hatching.
- Draw conclusions about the optimum conditions for brine shrimp hatching.

### **Electricity and Magnetism**

The students will:

- Demonstrate how a simple circuit is arranged.
- Define and design closed and open circuits.
- Define and illustrate symbols used to represent the parts of a circuit.
- Compare and contrast ways in which bulbs are connected in series, and circuits in which bulbs are connected in parallel.
- Compare open and closed circuits.
- Compare and contrast conductors versus non-conductors.
- Explain how the light bulb works.
- State the use of the circuit fuse and define how it is applied in everyday life.
- Explore how a generator works.

### **Rocks and Minerals**

The students will:

- Explain the processes of rock formation.
- Identify minerals by their luster, relative hardness and color.
- Explain the origins of rocks.

- Define the properties of rock specimens.
- Compare and contrast how rocks and minerals were used in the past and used today.

## **SOCIAL STUDIES**

### **A Land of Great Variety**

The students will:

- Identify the characteristics of the different regions of the US.
- Explain the difference between renewable and nonrenewable resources.
- Demonstrate an understanding of the need to conserve natural resources.
- Examine the uses of a temperature map.
- Understand why learning geography helps us learn history.
- Practice tracing routes on a map.

### **Exploration**

The students will:

- Explain how 4<sup>th</sup> and 5<sup>th</sup> century technology made long sea voyages and exploration possible.
- Identify and describe the contributions of the explorers of this time.
- Understand the motivations for European exploration.
- Summarize the Columbian Exchange.
- Identify some of the important European explorers who traveled between 1492-1673.

### **Early European Settlement**

The students will:

- Describe the settling of America by Europeans.
- Describe the adjustments of the Spanish settlers.
- Describe the life of the Plains Indians.
- Describe the European settlements in Manhattan, Detroit, San Diego, and San Francisco and the people who founded them.
- Understand a timeline.
- Summarize how Spanish settlers tried to recreate their culture in America.
- Analyze ways which the Spanish settlers adapted to life in America.
- List ways in which the mission system affected Native Americans.
- Summarize the lifestyle of the Plains Indians before the arrival of the Europeans.
- Analyze how the horse changed the lives of the Plains Indians.

### **The New England Colonies**

The students will:

- Describe the New England Colonies.

- Compare and contrast the goals of the Puritans and the Pilgrims.
- Describe how Puritan religious beliefs and values affected family and community.
- Describe the health issues for both settlers and Native Americans and their impact on both groups.
- Analyze how the impact of Puritan beliefs on the community changed over time.
- Identify *Squanto*, *Roger Williams*, *Ann Hutchinson*, and *King Philip*.
- Evaluate the New England Town Meeting.
- Explain how the Southern colonies grew.
- Describe the origins of African slavery in the Southern colonies.
- Recognize the importance of the Mayflower Compact.
- Explain how relations changed with Native Americans over time.
- Explain why New Englanders experienced good health.
- Analyze how the impact of Puritan beliefs on the community changed over time.
- Identify the origin of self-government in New England.
- Explain the popularity of town meetings.

### **The Southern Colonies**

The students will:

- Explain the methods used by each colony to recruit settlers.
- Describe the African's pioneer skills.
- Explain how African skills and cultural contributions became part of American culture: art, music, storytelling, dance, food, etc.
- Analyze the significance of the House of Burgesses in American History.
- Demonstrate the skill of outlining.
- Explain how the Southern Colonies grew.
- Understand the origins of African slavery in the South.
- Identify the contributions of European settlers and African slaves to the success of the Southern Colonies.

### **The Middle Colonies**

The students will:

- Explain the exchanges in ideas among Middle Colony settlers.
- Evaluate why people came to the Middle Colonies, and identify some of the leaders and important places.
- Assess the affects of the growth on the Middle Colonies on the Native Americans living there.
- Describe life in the Middle Colonies.
- Analyze the ways the geography of the Delaware River Valley affect the way people live there.
- Recognize what a primary source is.
- Explain why William Penn is considered a significant leader.
- Explain how the Middle Colonies grew.

- Describe the effect of population growth of the Middle Colonies on the Native Americans living there.

### **The War for Independence**

The students will:

- Evaluate why the Constitution is an important document.
- Evaluate the weaknesses of the Articles of Confederation.
- Identify key people, documents and events during this period.
- Describe major foreign policy involving France, Britain and Spain.
- Analyze how American independence affected the Native Americans.
- Evaluate the importance of acquiring New Orleans.
- Describe the Three-Fifths Compromise.
- Explain the purpose of each branch of government.
- Explain how checks and balances work.
- Compare Martha Washington and Abigail Adams as First Ladies.
- Analyze opposing views on taxation of the colonies.
- Compare the advantages and disadvantages each side had during the war.

### **The New Nation**

The students will:

- Evaluate why the constitution is important.
- Analyze why a new constitution stronger than the Articles of Confederation was important.
- Understand why the Bill of Rights was added.
- Explain why the access to New Orleans was important.
- Summarize the Great Compromise and the Three-Fifths Compromise.
- Identify the purpose of each of the three branches of government.
- Explain how the system of checks and balances works.
- Summarize how a bill becomes a law.

### **Growth and Conflict**

The students will:

- Evaluate the importance of the Louisiana Purchase.
- Analyze trace the route of Lewis and Clark.
- Explain the discoveries and obstacles in this expedition.
- Contrast ways in which Native Americans responded to the expansion of the US.
- Assess the treatment of American Indians by the government of the US.
- Analyze how improved transportation and communication systems helped to link the nation.
- Identify key inventors of the time.
- Summarize how transportation and industrialization contributed to the growth and expansion of the US.

- Evaluate the importance of Americans' interest in innovation and inventions.
- Cite the advantages available in the Lowell mills in the 1830's.
- Contrast conditions in the Lowell mills in the 1830's and the 1840's and 1850's.

### **Sectionalism and Expansion**

The students will:

- Demonstrate an understanding of a political cartoon.
- Summarize how Texas and Oregon became part of America.
- Cite examples of the connection between expansion and slavery.
- Understand the conditions of the Compromise of 1850 and the Kansas-Nebraska Act.
- Describe the terrain along the Oregon Trail.
- Identify some of the challenges of the Oregon Trail.
- Assess the results of the Mexican War.
- List the major reform movements of this period.
- Describe the growth of the abolitionist movement.
- Assess the role of women in the reform movements.
- Compare and contrast the lives of slaves and free black Americans.
- Identify how free black people were discriminated against.
- Describe ways in which slaves fought back.
- Assess the importance of the Underground Railroad.