4ᵗʰ Grade AIMS

Math

Number Sense and Operations - 40%
- **Number Sense** Understand and apply numbers, ways of representing numbers, and the relationships among numbers and different number systems.
- **Numerical Operations** Understand and apply numerical operations and their relationship to one another.
- **Estimation** Use estimation strategies reasonably and fluently while integrating content from each of the other strands.

Data Analysis, Probability, and Discrete Mathematics - 12%
- **Data Analysis (Statistics)** Understand and apply data collection, organization, and representation to analyze and sort data.
- **Probability** Understand and apply the basic concepts of probability.
- **Systematic Listing and Counting** Understand and demonstrate the systematic listing and counting of possible outcomes.
- **Vertex-Edge Graphs** Understand and apply vertex-edge graphs.

Patterns, Algebra, and Functions - 18%
- **Patterns** Identify patterns and apply pattern recognition to reason mathematically while integrating content from each of the other strands
- **Algebraic Representations** Represent and analyze mathematical situations and structures using algebraic representations
- **Analysis of Change** Analyze how changing the values of one quantity corresponds to change in the values of another quantity.

Geometry and Measurement - 19%
- **Geometric Properties** Analyze the attributes and properties of 2- and 3- dimensional figures and develop mathematical arguments about their relationships.
- **Coordinate Geometry** Specify and describe spatial relationships using rectangular and other coordinate systems while integrating content from each of the other strands.
- **Measurement** Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.

Structure and Logic - 12%
- **Algorithms and Algorithmic Thinking** Use reasoning to solve mathematical problems.
- **Logic, Reasoning, Problem Solving, and Proof** Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions, and recognize their applications.

Reading

Reading Process - 22%
- **Vocabulary:** Acquire and use new vocabulary in relevant contexts.
- **Comprehension Strategies:** Employ strategies to comprehend text.

Comprehending Literary Text - 31%
- **Elements of Literature:** Identify, analyze, and apply knowledge of the structures and elements of literature.

Comprehending Informational Text - 46%
- **Expository Text (text to inform – nonfiction text):** Identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text.
- **Functional Text (text for Everyday Information):** Identify, analyze, and apply knowledge of the purpose, structures, clarity, and relevancy of functional text.
- **Persuasive Text (text to motivate or sway an opinion or rally):** Explain basic elements of argument in text and their relationship to the author's purpose and use of persuasive strategies.

Science

Inquiry Process - 33%
- **Observations, Questions, and Hypotheses:** Observe, ask questions, and make predictions.
- **Scientific Testing (Investigating and Modeling):** Participate in planning and conducting investigations, and recording data.
- **Analysis and Conclusions:** Organize and analyze data; compare to predictions.
- **Communication:** Communicate results of investigations.

History and Nature of Science - 11.1%
- **History of Science as a Human Endeavor:** Identify individual and cultural contributions to scientific knowledge.
- **Nature of Scientific Knowledge:** Understand how science is a process for generating knowledge.

Science in Personal and Social Perspectives - 11.1%
- **Changes in Environments:** Describe the interactions between human populations, natural hazards, and the environment.
- **Science and Technology in Society:** Understand the impact of technology.

Life Science - 11.1%
- **Characteristics of Organisms:** Understand that basic structures in plants and animals serve a function.
- **Organisms and Environments:** Understand the relationships among various organisms and their environment.
- **Diversity, Adaptation, and Behavior:** Identify plant and animal adaptations.

Physical Science - 11.1%
- **Energy and Magnetism:** Investigate different forms of energy.

Earth and Space Science - 22.2%
- **Earth's Processes and Systems:** Understand the processes acting on the Earth and their interaction with the Earth systems.
- **Changes in the Earth and Sky:** Understand characteristics of weather conditions and climate.