**SCIENCE**

**Strand A: The Nature of Matter**

**Standard 1:** The student understands that all matter has observable, measurable properties.

**Benchmarks**

SC.A.1.3.1 The student identifies various ways in which substances differ (e.g., mass, volume, shape, density, texture, and reaction to temperature and light).

SC.A.1.3.4 The student knows that atoms in solids are close together and do not move around easily; in liquids, atoms tend to move farther apart; in gas, atoms are quite far apart and move around freely.

SC.A.1.3.5 The student knows the difference between a physical change in a substance (i.e., altering the shape, form, volume, or density) and a chemical change (i.e., producing new substances with different characteristics).

**Standard 2:** The student understands the basic principles of atomic theory.

**Benchmark**

SC.A.2.3.3 The student knows that radiation, light, and heat are forms of energy used to cook food, treat diseases, and provide energy.

**Strand B: Energy**

**Standard 1:** The student recognizes that energy may be changed in form with varying efficiency.

**Benchmark**

SC.B.1.3.5 The student knows the processes by which thermal energy tends to flow from a system of higher temperature to a system of lower temperature.
Strand C: Force and Motion

Standard 1: The student understands that types of motion may be described, measured, and predicted.

Benchmark
SC.C.1.3.2 The student knows that vibrations in materials set up wave disturbances that spread away from the source (e.g., sound and earthquake waves).

Standard 2: The student understands that the types of force that act on an object and the effect of that force can be described, measured, and predicted.

Benchmark
SC.C.2.3.1 The student knows that many forces (e.g., gravitational, electrical, and magnetic) act at a distance (i.e., without contact).

Strand D: Processes that Shape the Earth

Standard 1: The student recognizes that processes in the lithosphere, atmosphere, hydrosphere, and biosphere interact to shape the Earth.

Benchmark
SC.D.1.3.5 The student understands concepts of time and size relating to the interaction of Earth’s processes (e.g., lightning striking in a split second as opposed to the shifting of the Earth’s plates altering the landscape, distance between atoms measured in Angstrom units as opposed to distance between stars measured in light-years).

Strand H: The Nature of Science

Standard 1: The student uses the scientific processes and habits of mind to solve problems.

Benchmarks
SC.H.1.3.1 The student knows that scientific knowledge is subject to modification as new information challenges prevailing theories and as a new theory leads to looking at old observations in a new way.
SC.H.1.3.2 The student knows that the study of the events that led scientists to discoveries can provide information about the inquiry process and its effects.

Standard 2: The student understands that most natural events occur in comprehensible, consistent patterns.

Benchmark
SC.H.2.3.1 The student recognizes that patterns exist within and across systems.
MATH

Strand B: Measurement

Standard 2: The student compares, contrasts, and converts within systems of measurement.

Benchmark
MA.B.2.3.1 The student uses direct (measured) and indirect (nonmeasured) measures to compare a given characteristic in either metric or customary units.

Strand D: Algebraic Thinking

Standard 1: The student describes, analyzes, and generalizes a wide variety of patterns, relations, and functions.

Benchmarks
MA.D.1.3.1 The student describes a wide variety of patterns, relationships, and functions through models, such as manipulatives, tables, graphs, expressions, equations, and inequalities.
MA.D.1.3.2 The student creates and interprets tables, graphs, equations, and verbal descriptions to explain cause-and-effect relationships.

Strand E: Data Analysis and Probability

Standard 3: The student uses statistical methods to make inferences and valid arguments about real-world situations.

Benchmark
MA.E.3.3.1 The student formulates hypotheses, designs experiments, collects and interprets data, and evaluates hypotheses by making inferences and drawing conclusions based on statistics (range, mean, median, mode) and tables, graphs, and charts.
LANGUAGE ARTS

Strand A: Reading

Standard 1: The student uses the reading process effectively.

Benchmark
LA.A.1.3.3 The student demonstrates consistent and effective use of interpersonal and academic vocabularies in reading, writing, listening, and speaking.

Standard 2: The student constructs meaning from a wide range of texts.

Benchmark
LA.A.2.3.5 The student locates, organizes, and interprets written information for a variety of purposes, including classroom research, collaborative decision making, and performing a school or real-world task.

Strand B: Writing

Standard 2: The student writes to communicate ideas and information effectively.

Benchmark
LA.B.2.3.1 The student writes text, notes, outlines, comments and observations that demonstrate comprehension of content and experiences from a variety of media.

Strand C: Listening, Viewing, and Speaking

Standard 1: The student uses listening strategies effectively.

Benchmarks
LA.C.1.3.1 The student listens and uses information gained for a variety of purposes, such as gaining information from interviews, following direction, and pursuing personal interest.
LA.C.1.3.4 The student uses responsive listening skills, including paraphrasing, summarizing, and asking questions for elaboration and clarification.

Standard 3: The student uses speaking strategies effectively.

Benchmarks
LA.C.3.3.2 The student asks questions and makes comments and observations that reflect understanding and application of content, processes, and experiences.
LA.C.3.3.3 The student speaks for various occasions, audiences, and purposes, including conversations, discussions, projects, and informational, persuasive, or technical presentations.
SOCIAL STUDIES

Strand B: People, Places, and Environments [Geography]

Standard 1: The student understands the world in spatial terms.

Benchmark

SS.B.1.3.1 The student uses various map forms (including thematic maps) and other geographic representations, tools, and technologies to acquire, process, and report geographic information including patterns of land use, connections between places, and patterns and processes of migration and diffusion.