SCIENCE

Strand A: The Nature of Matter

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

Benchmark
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).

Strand D: Processes that Shape the Earth

Standard 2: The student understands the need for protection of the natural systems on Earth.

Benchmark
SC.D.2.3.1 The student understands that quality of life is relevant to personal experience.

Strand F: Processes of Life

Standard 1: The student describes the patterns of structure and function in living things.

Benchmarks
SC.F.1.3.1 The student understands that living things are composed of major systems that function in reproduction, growth, maintenance, and regulation.
SC.F.1.3.2 The student knows that the structural basis of most organisms is the cell and most organisms are single cells, while some, including humans, are multicellular.
SC.F.1.3.4 The student knows that the levels of structural organization for function in living things include cells, tissues, organs, systems, and organisms.
SC.F.1.3.6 The student knows that the cells with similar functions have similar structures, whereas those with different structures have different functions.
SC.F.1.3.7 The student knows that behavior is a response to the environment and influences growth, development, maintenance, and reproduction.
Strand G: How Living Things Interact with Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

Benchmark
SC.G.1.3.2 The student knows that biological adaptations include changes in structures, behaviors, or physiology that enhance reproductive success in a particular environment.

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.
SC.H.1.3.3 The student knows that science disciplines differ from one another in topic, techniques, and outcomes, but that they share a common purpose, philosophy, and enterprise.
SC.H.1.3.4 The student knows that accurate record keeping, openness, and replication are essential to maintaining an investigator’s credibility with other scientists and society.
SC.H.1.3.5 The student knows that a change in one or more variables may alter the outcome of an investigation.
SC.H.1.3.7 The student knows that when similar investigations give different results, the scientific challenge is to verify whether the differences are significant by further study.

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.

Standard 3: The student understands that science, technology, and society are interwoven and interdependent.

Benchmarks
SC.H.3.3.1 The student knows that science ethics demand that scientists must not knowingly subject coworkers, students, the neighborhood, or the community to health or property risks.
SC.H.3.3.2 The student knows that special care must be taken in using animals in scientific research.
SC.H.3.3.3 The student knows that in research involving human subjects, the ethics of science require that potential subjects be fully informed about the risks and benefits associated with the research and of their right to refuse to participate.
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 1:** The student understands and uses the tools of data analysis for managing information.

**Benchmark**

MA.E.1.3.1 The student collects, organizes, and displays data in a variety of forms, including tables, line graphs, charts, bar graphs, to determine how different ways of presenting data can lead to different interpretations.

**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.**

**Benchmarks**

LA.A.1.3.2 The student uses a variety of strategies to analyze words and text, draw conclusions, use context and word structure clues, and recognize organizational patterns.

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.**

**Benchmarks**

LA.A.2.3.1 The student determines the main idea or essential message in a text and identifies relevant details and facts and patterns of organization.

LA.A.2.3.2 The student identifies the author’s purpose and/or point of view in a variety of texts and uses the information to construct meaning.

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 2: The student uses viewing strategies effectively.**

**Benchmark**

LA.C.2.3.2 The student uses movement, placement, juxtaposition, gestures, silent periods, facial expressions, and other nonverbal cues to convey meaning to an audience.
Standard 3: The student uses speaking strategies effectively.

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