Chemical Reactions
Grades 6-10

Benchmarks for the Sunshine State Standards
Correlation for Grades 6-8 Only

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.1.3.5 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).

Strand B: Energy

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

Benchmark
SC.B.1.3.1 The student identifies forms of energy and explains that they can be measured and compared.

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

Benchmarks
SC.B.2.3.1 The student describes and compares the properties of particles and waves.
SC.B.2.3.2 The student knows the general properties of the atom (a massive nucleus of neutral neutrons and positive protons surrounded by a cloud of negative electrons) and accepts that single atoms are not visible.
Standard 1: The student uses the scientific processes and habits of mind to solve problems.

**Benchmarks**

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

**Benchmark**

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.
MATH

Strand B: Measurement

Standard 2: The student compares, contrasts, and converts within systems of measurement (both standard/nonstandard and metric/customary).

Benchmark
MA.B.2.3.1 The student uses direct (measured) and indirect (not measured) 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.

**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.