Next Generation Science Standards
Topics by Grade Level
Grade 5

Structure and Properties of Matter

- Matter is made of particles too small to be seen.
- Regardless of the type of change that occurs when heating, cooling or mixing substances, the total weight of matter is conserved.
- Identify materials based on their properties.
- Whether the mixing of two or more substances results in new substances.

Matter and Energy in Organisms and Ecosystems

- That energy in animals' food (used for body repair, growth, motion and to maintain body warmth) was once energy from the sun.
- Plants get the materials they need for growth chiefly from air and water.
- The movement of matter among plants, animals, decomposers and the environment.

Space Systems: Stars and the Solar System

- The gravitational force exerted by Earth on objects is directed down.
- Differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.
- Patterns of daily changes in length and direction of shadows, day and night and the seasonal appearance of some stars in the night sky.

Earth's Systems

- Ways the geosphere, biosphere, hydrosphere and/or atmosphere interact.
- Water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.
- Ways individual communities use science ideas to protect the Earth's resources and environment.

Engineering Design

- Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time or cost.
- Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

**Go to www.nextgenscience.org for Clarification Statements, Science and Engineering Practices, Disciplinary Core Ideas and Cross Cutting Concepts for each topic listed above. You will also find all of the connections to the Common Core for both ELA/Literacy and Mathematics.