



## NOSD Fifth Grade Science Standards

### **Physical Science-Matter and its Interactions:**

- Develop a model to describe that matter is made of particles too small to be seen
- Structure and properties of matter- matter of any type can be subdivided into particles too small to see, however matter exists and can be identified using other means
- Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved
- Understand chemical reactions and scale proportion and quantity as it is used to measure and describe physical quantities such as weight, time, temperature and volume

### **Life Science- Ecosystems: Interactions, Energy and Dynamics:**

- Develop a model to describe the movement of matter among plants, animals, decomposers and the environment
- Interdependent relationships in ecosystems, food webs, decomposers, ecosystem balance
- Cycles of matter and energy in ecosystems, organisms obtain gases and water from the environment and release waste matter (gas, liquid, solid) back into the environment
- A system can be described in terms of its components and interactions

### **Earth Science- Earth's Place in the Universe:**

- Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky
- Analyze and interpret data
- Earth and the Solar System- and of the moon around the earth, the orbits of Earth around the sun, rotation, axis, and different positions of the sun, moon, and stars at different time of the day, month, year
- Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere and atmosphere interact
- Describe and graph amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth

### **Engineering Technology Science- Engineering Design (STEAM):**

- Define a simple design problem reflecting a need or 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

