8th Grade – Trimester 3 Science Standards

Code	Description
6a	Students know that carbon, because of its ability to combine in many ways with itself and other elements, has a central role in the chemistry of living organisms.
6b	Students know that living organisms are made of molecules consisting largely of carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur
6c	Students know that living organisms have many different kinds of molecules, including small ones, such as water and salt, and very large ones, such as carbohydrates, fats, proteins, and DNA.
7a	Students know how to identify regions corresponding to metals, nonmetals, and inert gases
7b	Students know each element has a specific number of protons in the nucleus (the atomic number) and each isotope of the element has a different but specific number of neutrons in the nucleus.
7c	Students know substances can be classified by their properties, including their melting temperature, density, hardness, and thermal and electrical conductivity.
3a	Students know the structure of the atom and know it is composed of protons, neutrons, and electrons
3b	Students know that compounds are formed by combining two or more different elements and that compounds have properties that are different from their constituent elements.
3c	Students know atoms and molecules form solids by building up repeating patterns, such as the crystal structure of NaCl or long-chain polymers.
3d	Students know the states of matter (solid, liquid, gas) depend on molecular motion.
3e	Students know that in solids the atoms are closely locked in position and can only vibrate; in liquids the atoms and molecules are more loosely connected and can collide with and move past one another; and in gases the atoms and molecules are free to move independently, colliding frequently.
3f	Students know how to use the periodic table to identify elements in simple compounds.
5a	Students know reactant atoms and molecules interact to form products with different chemical properties.
5b	Students know the idea of atoms explains the conservation of matter: In chemical reactions the number of atoms stays the same no matter how they are arranged, so their total mass stays the same.
5c	Students know chemical reactions usually liberate heat or absorb heat.
5d	Students know physical processes include freezing and boiling, in which a material changes form with no chemical reaction.
9a	Plan and conduct a scientific investigation to test a hypothesis
9b	Evaluate the accuracy and reproducibility of data.
9c	Distinguish between variable and controlled parameters in a test.