Relevant standards that this presentation may touch on:

**8th Grade**
6. Principles of chemistry underlie the functioning of biological systems. As a basis for understanding this concept:
   c. *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.

**High school Chemistry**
10. The bonding characteristics of carbon allow the formation of many different organic molecules of varied sizes, shapes, and chemical properties and provide the biochemical basis of life. As a basis for understanding this concept:
   a. Students know large molecules (polymers), such as proteins, nucleic acids, and starch, are formed by repetitive combinations of simple subunits.
   b. Students know the bonding characteristics of carbon that result in the formation of a large variety of structures ranging from simple hydrocarbons to complex polymers and biological molecules.
   c. Students know amino acids are the building blocks of proteins.

**High School Biology**
1. The fundamental life processes of plants and animals depend on a variety of chemical reactions that occur in specialized areas of the organism’s cells. As a basis for understanding this concept:
   h. Students know most macromolecules (polysaccharides, nucleic acids, proteins, lipids) in cells and organisms are synthesized from a small collection of simple precursors.

4. Genes are a set of instructions encoded in the DNA sequence of each organism that specify the sequence of amino acids in proteins characteristic of that organism. As a basis for understanding this concept:
   e. Students know proteins can differ from one another in the number and sequence of amino acids.

The genetic composition of cells can be altered by incorporation of exogenous DNA into the cells. As a basis for understanding this concept: 4 items a. Students know the general structures and functions of DNA, RNA, and protein.