Describe the relationship between genes, nucleic acids, amino acids, and proteins.

DNA is a specific nucleic acid that directs protein making in all living things

Proteins function in a variety of critical ways in living things not the least of which is to serve as enzymes that catalyze numerous and necessary chemical reactions that involve very stable molecules.

DNA's structure is critical to its function. It is organized in a manner that there are 30,000 different locations along the length of the molecule that specifically direct the production of specific proteins.

Within DNA's structure is a code that consists of a unique sequence of nitrogen bases that will in turn sequence amino acids to form proteins.

The problem is that DNA is found inside the nucleus of cells and cannot leave the nucleus whereas the site of protein assembly is outside the nucleus at sites called ribosomes.

A solution to this issue is that DNA's code is converted to a similar nucleic acid called RNA that can carry DNA's message to the ribosome.

It is at the ribosome that the code is translated to a specific sequencing of amino acids to make any given protein at any given time.