Concept 5.4
Proteins perform most functions in cells.

The Functions of Proteins:

Protein - a polymer constructed from a set of 20 kinds of monomers called amino acids.

- form structures
- provide long-term nutrient storage
- defend the body from microorganisms
- convey messages from one cell to another
- control chemical reactions in a cell

Amino Acids - consists of a central carbon atom bonded to four partners. Three of which are the same in in all amino acids. One partner is a hydrogen atom. Two are a carboxyl group and an amino group. And a different side group or "R - Group"

Building a Protein:

Polypeptide - amino acids linked together in a chain. Each link created by a dehydration reaction between the amino group of one amino acid and the carboxyl group of the next amino group. Proteins are composed of one or more polypeptide chains.

Protein Shape:

- a functional protein consists of one or more polypeptides precisely twisted, folded, and coiled into a unique shape.

- **denaturation** - an unfavorable change in temperature, pH, or some other quality of the environment can cause a protein to unravel and lose its normal shape.