

- **Denaturation:** polypeptide chain unravels, loses its shape, therefore its function
 - Proteins can be denatured by changes in salt concentration, pH, or by high heat
- 3.14 DNA and RNA are the two types of nucleic acids
 - The amino acid sequence of polypeptides is programmed by unit of inheritance: **gene**
 - **DNA (DeoxyriboNucleic Acid), a nucleic acid**
 - Inherited
 - Directions for its own replication
 - Programs cell's activities by directing protein synthesis
 - DNA does not build proteins directly
 - DNA works through an intermediary, **RiboNucleic Acid (RNA)**
 - DNA is transcribed into RNA
 - RNA is translated in proteins
 - **Where is this information?**
 - DNA actually carries the information and is located in the nuclei
- 3.15 Nucleic acids are polymers of nucleotides
 - **DNA and RNA (ribonucleic acid) monomers are nucleotides**
 - 5-carbon sugar:
 - (ribose) RNA
 - Deoxyribose DNA,
 - Phosphate group
 - Nitrogenous (nitrogen-containing) base
- 3.16 EVOLUTION CONNECTION: Lactose tolerance is a recent event in human evolution
 - Lactose tolerance is abnormal, normal would be lactose intolerance because gene to not deal with milk comes about later in adulthood, but mutation occurred preventing that gene from preventing from being able to use milk in adulthood
- **Cells**
 - Objectives:
 - 4.1 Microscopes reveal the cell
 - Microscopes led, in the 1800s, to the **cell theory**
 - All living things are composed of cells
 - Tricky statement, because viruses aren't, they are simply an exception to the rule
 - All cells come from other cells (Biogenesis)
 - Tricky as well, because first cell couldn't have come from another cell
 - 4.2 The cells need to exchange materials across plasma membrane
 - Cell size must
 - Be large enough to hold organelles, stuff inside to support life
 - Be small enough to