Biology

Chapter 2 Objectives: Chemistry of Life

- Nature of matter: atoms and chemical bonding
- Water in living things
- Chemistry of cells: Carbon compounds
- Energy and chemical reactions: energy for life processes, enzymes

Vocabulary	***At the end of this unit, you should be able to:***
atom element compound molecule ion cohesion adhesion solution acid base carbohydrate monosaccharide lipid protein amino acid nucleic acid nucleotide DNA RNA ATP energy activation energy enzyme substrate active site	• Differentiate between atoms and elements. • Describe how an atom differs from a molecule. • Distinguish between covalent bonds and ionic bonds. • Identify the type of weak bond that forms between water molecules. • Distinguish between adhesion and cohesion. • Identify a substance that would not dissolve well in water. Explain why. • Differentiate between acids and bases. • When salt is added to water, the freezing point of water decreases. Explain why this occurs. • Identify what all organic compounds have in common, and list the four principal classes of organic compounds. • Compare the structures of saturated and unsaturated lipids. • Describe three parts of a nucleotide and how they are attached to one another. • List the ways that organisms use energy. • Summarize how energy is made available by chemical reactions, and describe what happens to usable energy. • Explain how enzymes increase the speed of chemical reactions. • Describe how the enzyme amylase affects starch.