

Basic Chemistry Objectives

Define these key terms:

element compound molecule hydrogen bond covalent bond ionic bond
suspension mixture solution solute solvent polar (polarity) adhesion
cohesion capillary action surface tension inorganic compounds organic
compounds ion synthesis reaction decomposition reaction carbohydrates lipids
(fats) proteins nucleic acids starch glycogen dehydration synthesis
hydrolysis soluble insoluble

- Identify the 5 properties of water.
- Describe the covalent bond that attracts hydrogen atoms to the oxygen atom in a water molecule. Explain the hydrogen bond that attracts 1 H₂O molecule with another H₂O molecule.
- Compare and contrast the difference between a covalent bond and an ionic bond.
- State the type of bond for sodium chloride (Na⁺Cl⁻), which is table salt.
- Explain an ion.
- List 4 examples of inorganic compounds.
- State the most abundant inorganic compound found in all living organisms.
- Describe the difference between a synthesis and decomposition reaction for biological processes.
- Name a physical property for acids and bases.
- Compare & contrast the chemical properties of water, acids, & bases in terms of hydrogen ions and hydroxide ions.
- Read the pH scale correctly determining weak versus strong acids/bases.
- Provide examples for acids, bases, and neutral household substances.
- List 4 major organic compounds (macromolecules or biomolecules) found in all living cells.
- State the element **ALWAYS** present in organic compounds.
- State the chemical make-up (elements) for carbohydrates, lipids, proteins, and nucleic acids.
- Recognize the structural formulas for carbohydrates, lipids, proteins, and nucleic acids.
- State the functions for carbohydrates, lipids, proteins, and nucleic acids.
- Identify the building blocks (monomers or subunits) for carbohydrates, lipids, proteins, and nucleic acids.
- Categorize and classify different types of carbohydrates.
- Examine the presence of starch in a food item using a chemical indicator.
- Compare & contrast the difference between dehydration synthesis and hydrolysis.
- Compare & contrast between DNA and RNA molecules.