

What to Know: Biochemistry Test – Chapter 2

- Acid/Base
 - Chemical definition of acid and base
 - pH scale
 - pH range of acid, base & neutral
 - Logarithmic scale – how does the concentration of H⁺ change as pH changes?
 - Buffers
- Properties of water
 - Identify and define the type of bond *within* water molecule
 - Polar molecule
 - Define
 - Why is water a polar molecule?
 - Properties of water related to polarity of molecule
 - Hydrogen bonding *between* molecules
 - Cohesion
 - Surface tension
 - Adhesion
 - Universal solvent
 - Hydrophilic/hydrophobic
 - What type of molecules are hydrophilic?
 - What type of molecules are hydrophobic?
 - Be able to use models of water molecules to answer questions.
- Biological molecules
 - Macromolecules
 - Polymers, monomers
 - 4 types of macromolecules, structure & function of each
 - Carbohydrates
 - Why can carbs store energy that's quick to metabolize compared to lipids?
 - Lipids
 - Hydrophobic – why?
 - Why can lipids store large amounts of energy compared to carbs, but is slower to metabolize?
 - Nucleic acids
 - Proteins
 - Be able to decode and use models of biological macromolecules to answer questions
- Enzymes
 - Structure
 - Type of macromolecule
 - Name of monomer that makes up the polymer
 - Function
 - Active site
 - Substrates
 - Enzyme/substrate specificity
 - Affect on enzyme effectiveness:
 - Temperature – high and low
 - Substrate concentration
 - pH