

Explain why we are carbon-based organisms

Explain and diagram a dehydration synthesis (condensation) reaction. Give an example of a macromolecule made by this reaction.

Explain and diagram a hydrolysis reaction. Give an example of a macromolecule made by this reaction.

Describe the structure of a monosaccharide

Describe the structure of a disaccharide

Describe the structure of a polysaccharide

Identify a monosaccharide, disaccharide and 3 polysaccharides. Identify the function of each.

What characteristic is universal of all lipids?

List 7 functions of proteins

Describe the 4 levels of protein structure

Identify 3 factors that can affect the shape of a protein

Identify the monomer of a nucleic acid

Diagram the structure of a nucleotide

Describe the structure of a nucleic acid

Compare DNA to RNA (cite 3 differences)

Identify the function of both DNA and RNA

Identify 3 groups of lipids

Describe the structure and function of fats or oils (triglycerides)

Compare a saturated fatty acid to an unsaturated fatty acid

Compare an oil to a fat

Describe the structure and function of a phospholipid

Describe the structure and function(s) of steroids

Identify the monomer of a protein

Diagram the general structure of an amino acid

Identify the function of an enzyme

Diagram an enzyme and label the active site

What is the energy of activation?

Describe HOW an enzyme speeds up a chemical reaction

Explain how changes in temperature, pH and concentration can affect the rate of an enzyme reaction

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Diagram the structure of a water molecule

Explain how water molecules form hydrogen bonds

Define a polar molecule...Explain how water fits this definition

Explain the properties of water: cohesion, surface tension and adhesion...How do they relate to life?

Describe water's ability to moderate temperature...How does this pertain to freezing point and evaporation?

Explain how evaporative cooling moderates an organism's temperature

Compare the density of ice to water

Diagram the types of structures that carbon molecules can form