Name: _____ Date: _____

# MACROMOLECULES WORKSHEET

1. Name four important roles of carbohydrates.
   i. ii.
   iii. _____ iv. _____

2. What is the most common monosaccharide? Why is this monosaccharide so important to our daily functioning?

3. What is the name of the process resulting in disaccharide formation? What specifically happens in this reaction?

4. What is the name of the reaction when you split a disaccharide? What products do you gain?

5. What are the names of the four polysaccharides? What are the respective roles of energy storage?

6. What is fundamental to protein structure and function?

7. Draw the molecular structure of amino acids. Label the different functional groups.

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# MACROMOLECULES WORKSHEET

Answers

1. Name four important roles of carbohydrates.
   i. Energy production and storage ii. Structure (cell walls)
   iii. Supply carbon for synthesis iv. Cell identification

2. What is the most common monosaccharide? Why is this monosaccharide so important to our daily functioning?
   Glucose. It is needed for cellular respiration to make ATP's.

3. What is the name of the process resulting in disaccharide formation? What specifically happens in this reaction?
   Dehydration synthesis. Two monomers are joined by removing $OH^-$ from one and $H^+$ from the other to produce $H_2O$.

4. What is the name of the reaction when you split a disaccharide? What products do you gain?
   Hydrolysis. Two monosaccharides.

5. What are the names of the four polysaccharides? What are the respective roles of energy storage?
   Starch: A highly compact polymer that stores glucose in plants
   Glycogen: A highly compact polymer that stores glucose in animals
   Cellulose: A linear polymer that provides structure and support in plants
   Chitin: A linear polymer that provides structure and support in animals

6. What is fundamental to protein structure and function?
   The primary structure of a protein is the sequence of amino acids that form a polypeptide chain. The amino acid sequence determines the protein's three-dimensional shape and function.

7. Draw the molecular structure of amino acids. Label the different functional groups.