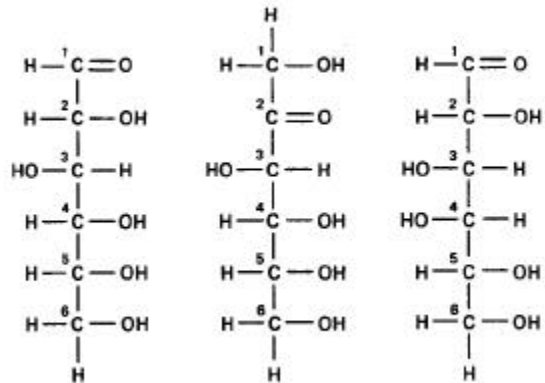
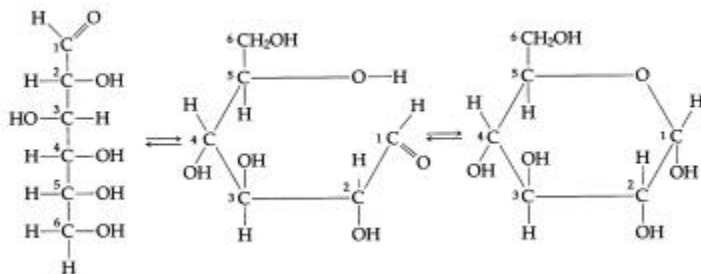


CARBOHYDRATES

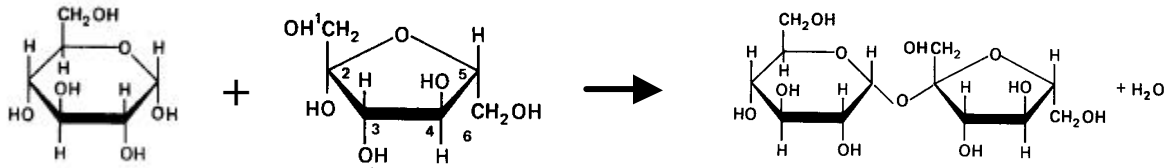
GENERAL CHARACTERISTICS:



MONOSACCHARIDES:



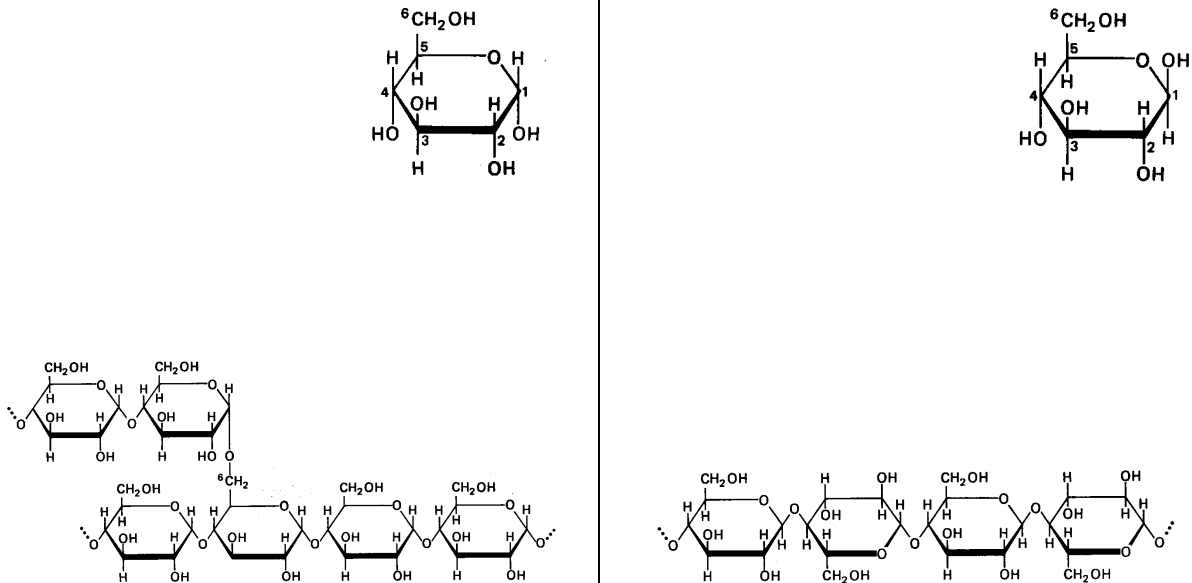
DISACCHARIDES:



POLYSACCHARIDES:

FUNCTIONS:

STARCH VS CELLULOSE



QUESTIONS:

1. Match the definition with the correct term.

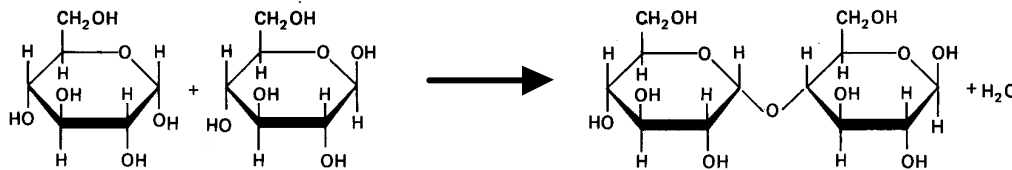
- A. Condensation Synthesis
- B. Hydrolysis
- C. Monomer

- D. Polymer
- E. Polymerization

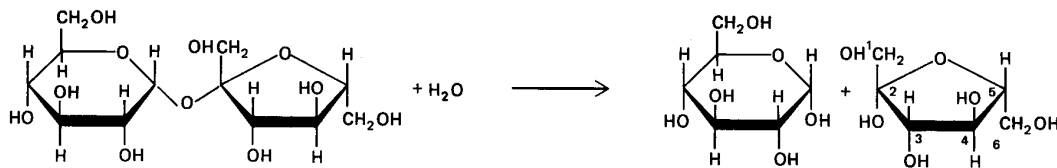
- _____ Large molecule that consists of many subunits called monomers
- _____ Identical or similar subunits of a polymer
- _____ Process of linking monomers to form a polymer
- _____ Loss of a water molecule between two monomers to form a covalent bond between the monomers
- _____ Breaking the covalent bond between monomers by adding a water molecule
- _____ AKA dehydration synthesis

2. Indicate if each of the following is an example of condensation synthesis or hydrolysis.

Reaction #1: _____



Reaction #2: _____



Reaction #3: _____
Protein, carbohydrate, or lipid synthesis

Reaction #4: _____
Digestion of proteins, carbohydrate, or lipids

3. How can you tell if a chemical equation represents :
- a. condensation synthesis? _____
- b. hydrolysis? _____
4. How are carbohydrates classified? _____
- _____
5. Match the description with the correct term.
- | | |
|------------------|--------------------|
| A. Disaccharides | D. Monosaccharides |
| B. Lactose | E. Polysaccharides |
| C. Maltose | F. Sucrose |
- _____ Simple sugar
- _____ General term used to describe a molecule that consists of 2 simple sugars covalently bonded
- _____ General term used to describe a molecule that consists of 100s or 1000s of simple sugars covalently bonded
- _____ Molecule that consists of 2 glucose molecules covalently bonded
- _____ Molecule that consists of a glucose and a galactose covalently bonded
- _____ Molecule that consists of a glucose and a fructose covalently bonded
6. Identify each of the following as a **M**onosaccharide, a **D**isaccharide, or a **P**olysaccharide.
- | | |
|-----------------|-------------------|
| _____ Sucrose | _____ Maltose |
| _____ Glucose | _____ Galactose |
| _____ Ribose | _____ Lactose |
| _____ Chitin | _____ Deoxyribose |
| _____ Starch | |
| _____ Glycogen | |
| _____ Cellulose | |
| _____ Fructose | |

8. Listed below are characteristics of four biologically important polysaccharides. Use the key below to indicate the polysaccharide described in each characteristic.

A. Cellulose
B. Chitin

C. Glycogen
D. Starch

_____ Polymer of α -glucose

_____ Polymer of β -glucose

_____ Polymer of an amino sugar

_____ α 1-4 glycosidic linkages

_____ β 1-4 glycosidic linkages

_____ Linear and unbranched

_____ Branched

_____ Storage polysaccharide in animals

_____ Storage polysaccharide in plants

_____ Component of plant cell walls

_____ Forms the exoskeleton in arthropods; building material of cell walls in some fungi

10. Why can't the human digestive system break down cellulose?
