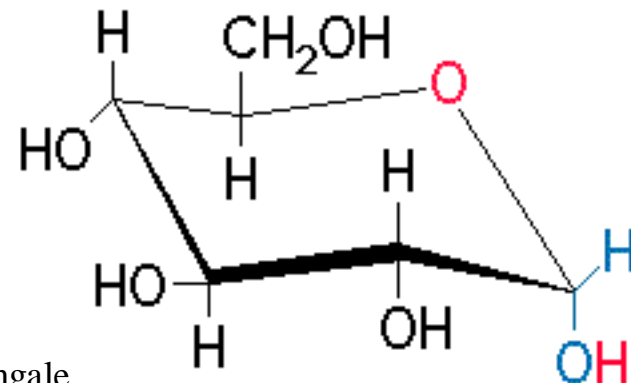
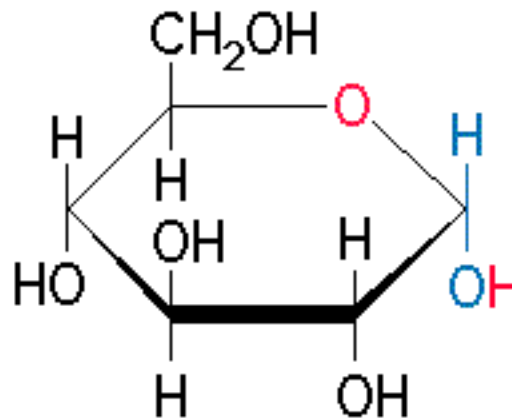
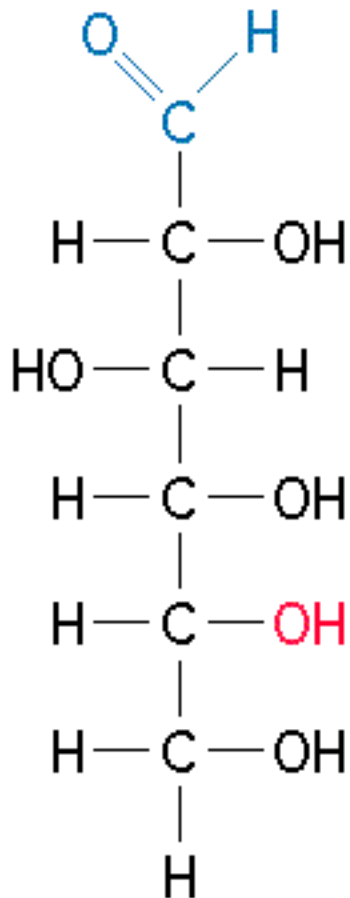


CARBOHYDRATES

Characteristics of Carbohydrates

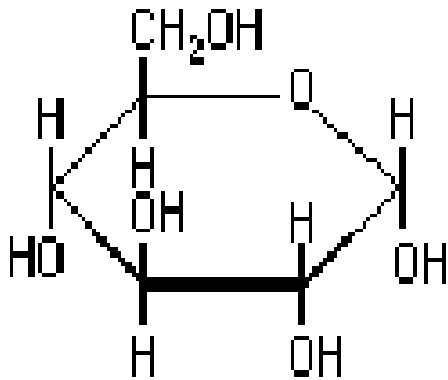
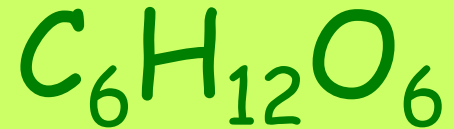
- Consist of carbon, hydrogen, & oxygen
- Energy containing molecules
- Some provide structure
- Basic building block is a monosaccharide $(CH_2O)_n$; $n = 3,5,6$
- Two monosaccharides form a disaccharide

Different Forms of Glucose

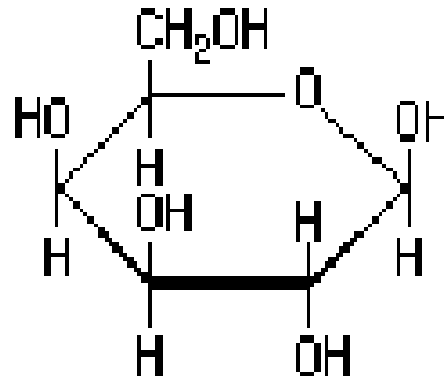


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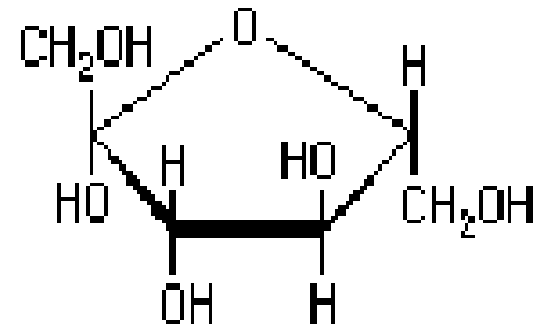
Three Monosaccharides



Glucose

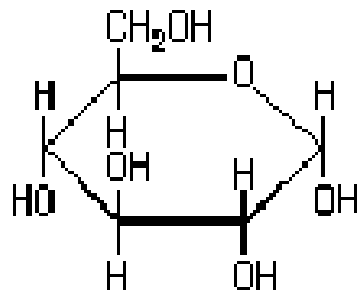


Galactose

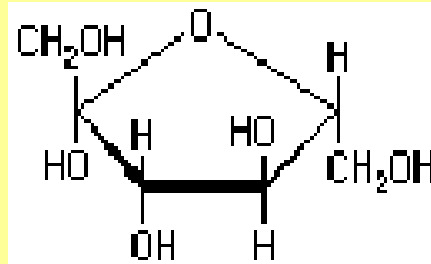
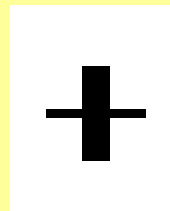


Fructose

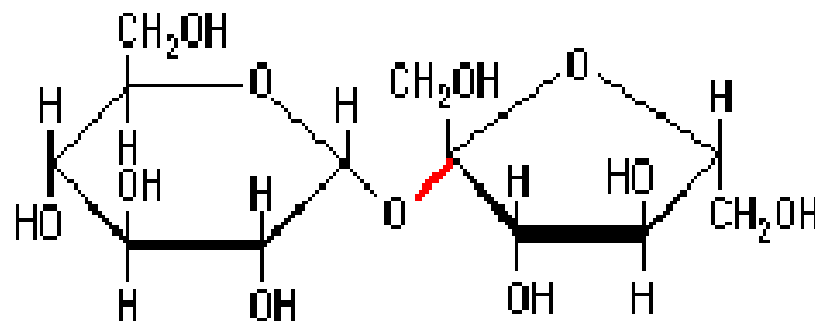
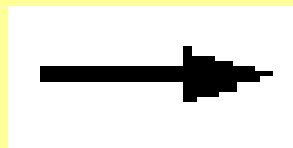
Dehydration Synthesis of a Disaccharide



Glucose



Fructose



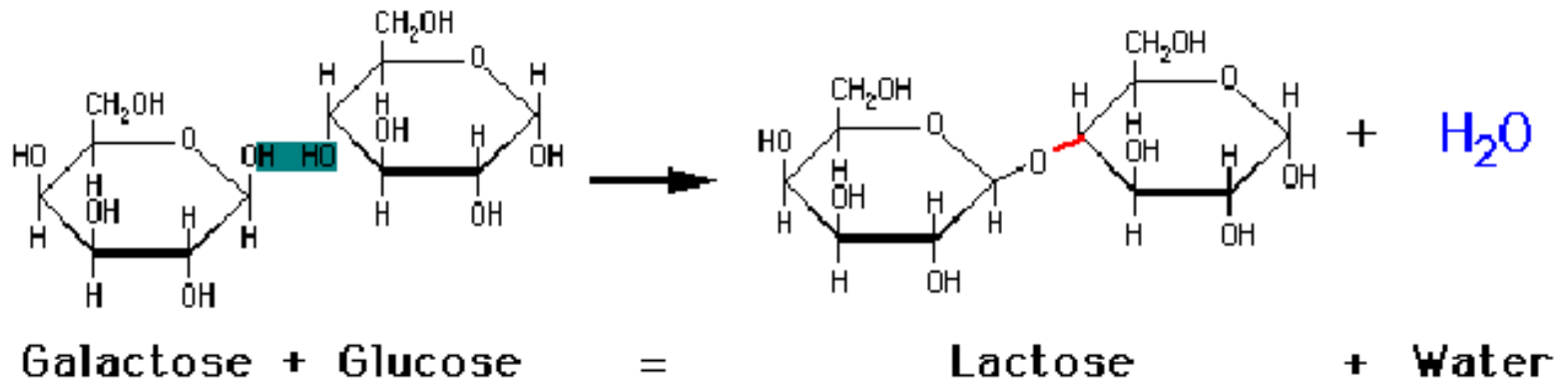
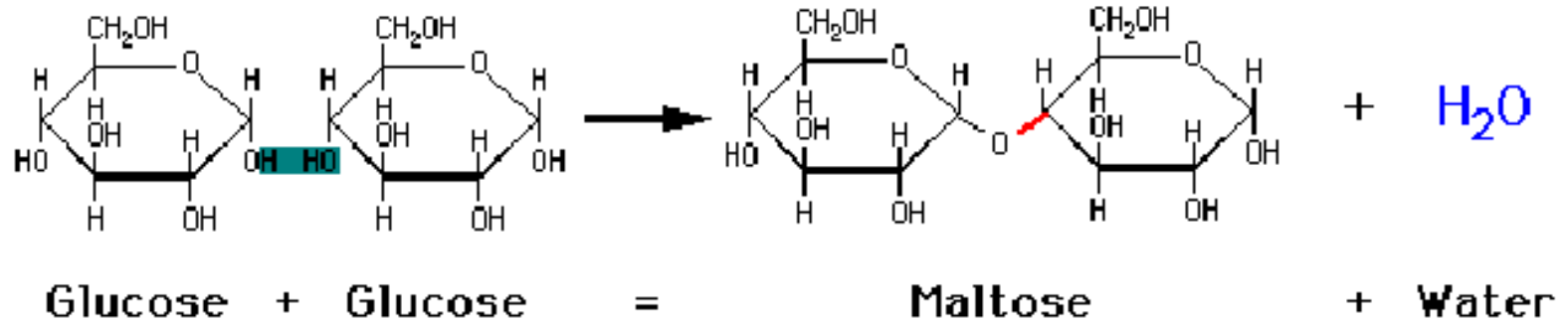
SUCROSE

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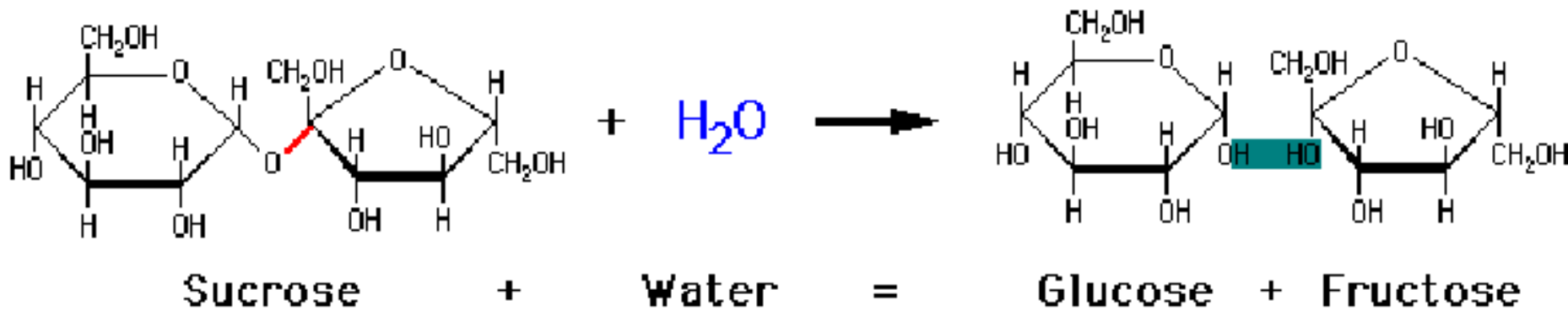


Water

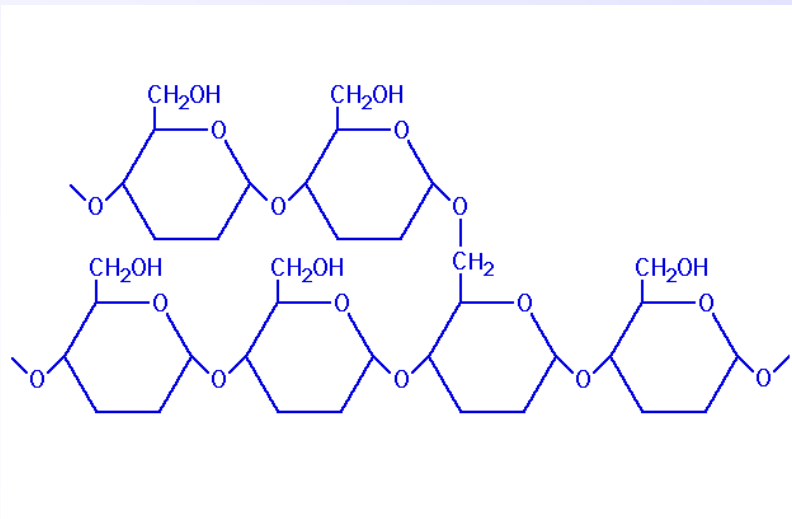
Formation of Disaccharides



Hydrolysis of a Disaccharide

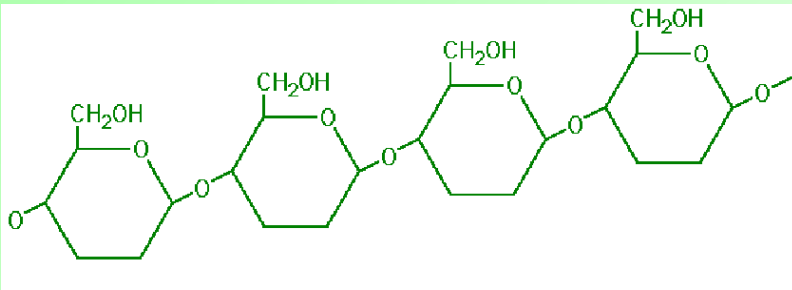


Important Polysaccharides: Starch



- Consists of glucose subunits
- Plant energy storage molecule
- Glycogen is a very similar molecule in animals.
- Starch and glycogen can be digested by animals.

Important Polysaccharides: Cellulose



- Composed of glucose subunits
- Different bond formed than starch
- Structural component in plants
- Cannot be digested by animals

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