Carbohydrates

Learning Objectives

- Define the following terms: monosaccharide, disaccharide, polysaccharide, carbohydrate

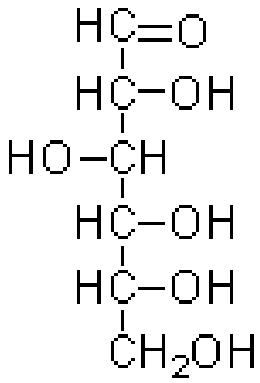
- Describe the relationship between monosaccharide and carbohydrates.

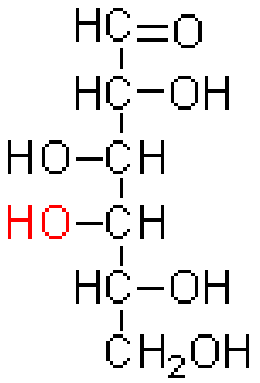
Carbohydrates

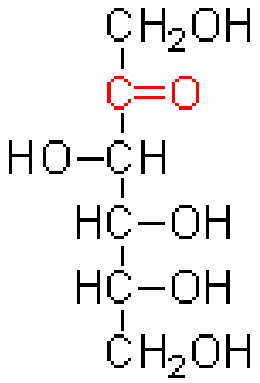
Living things use carbohydrates as their main source of energy.

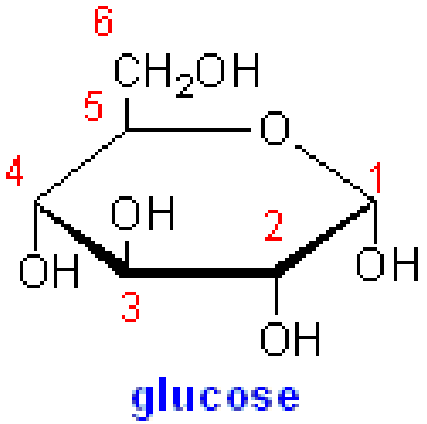
Monosaccharide

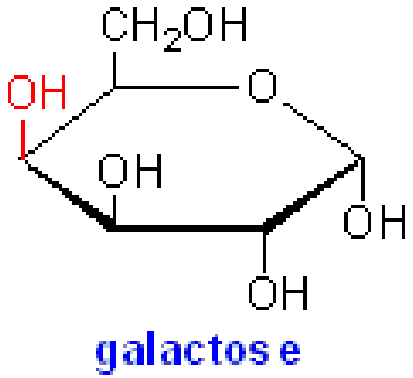
Single Sugar Molecules

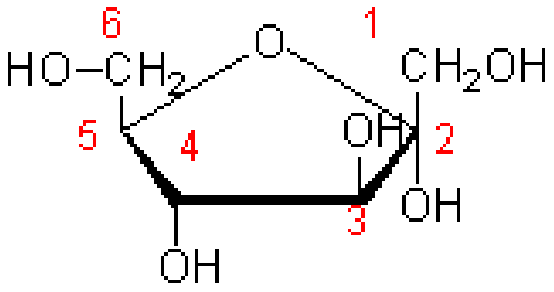












GLUCOSE GALACTOSE FRUCTOSE

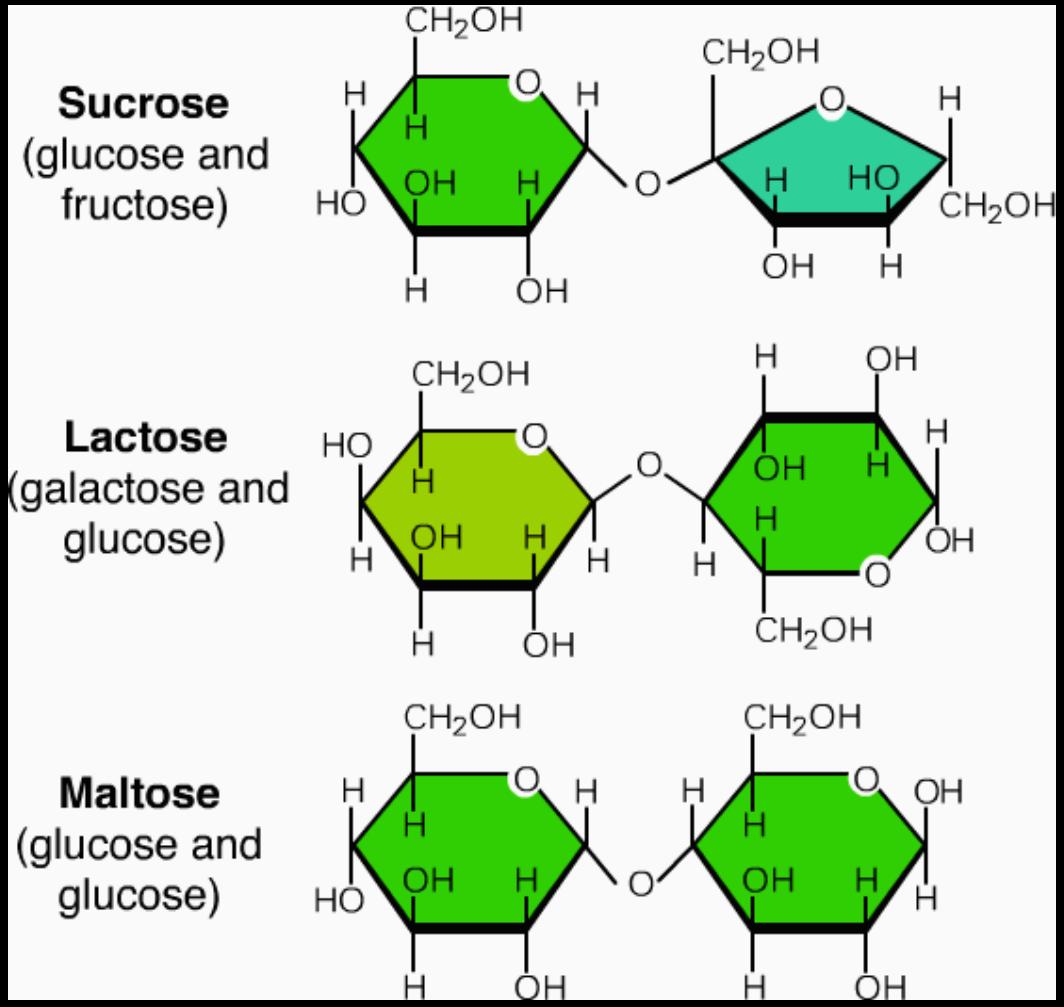
Disaccharide

Two Sugar Molecules

SUCROSE

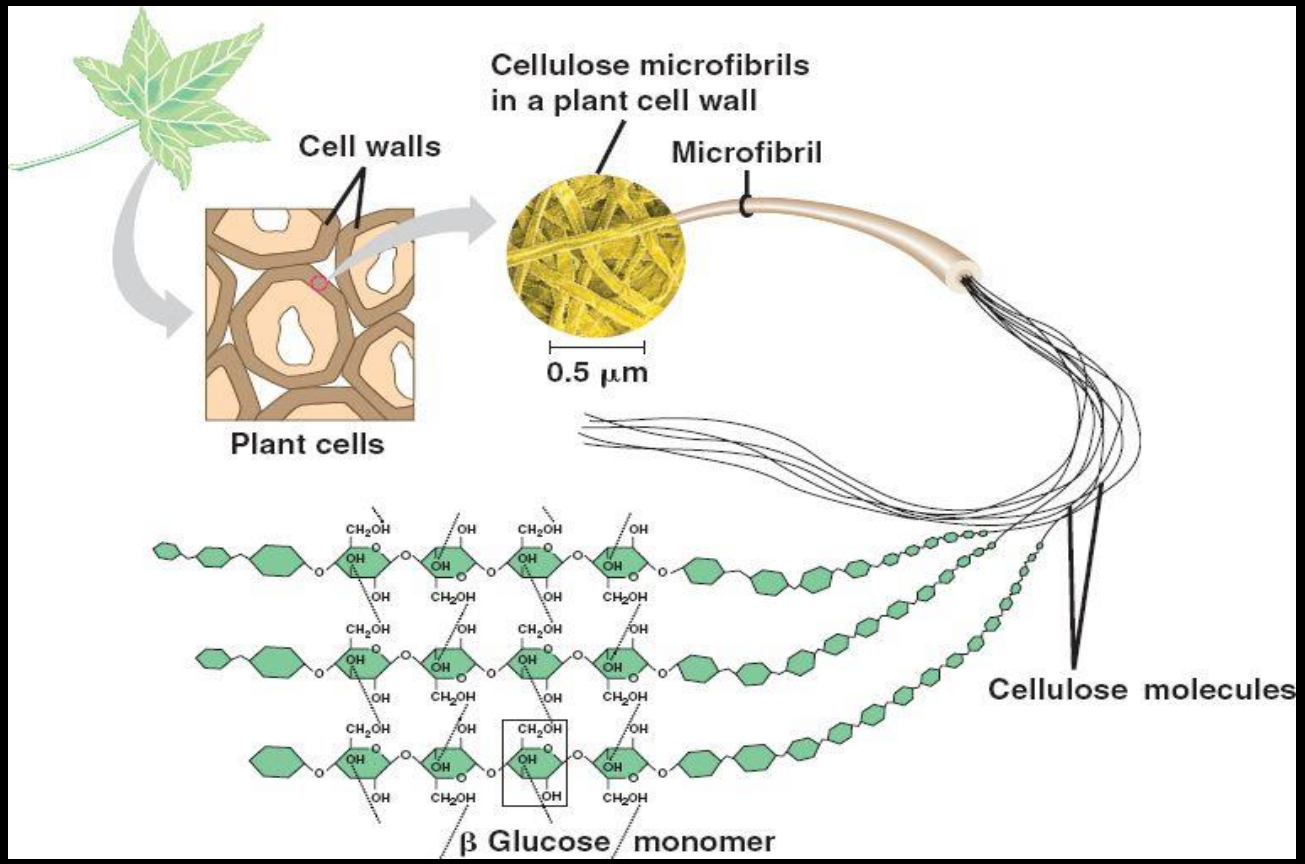
LACTOSE

MALTOSE



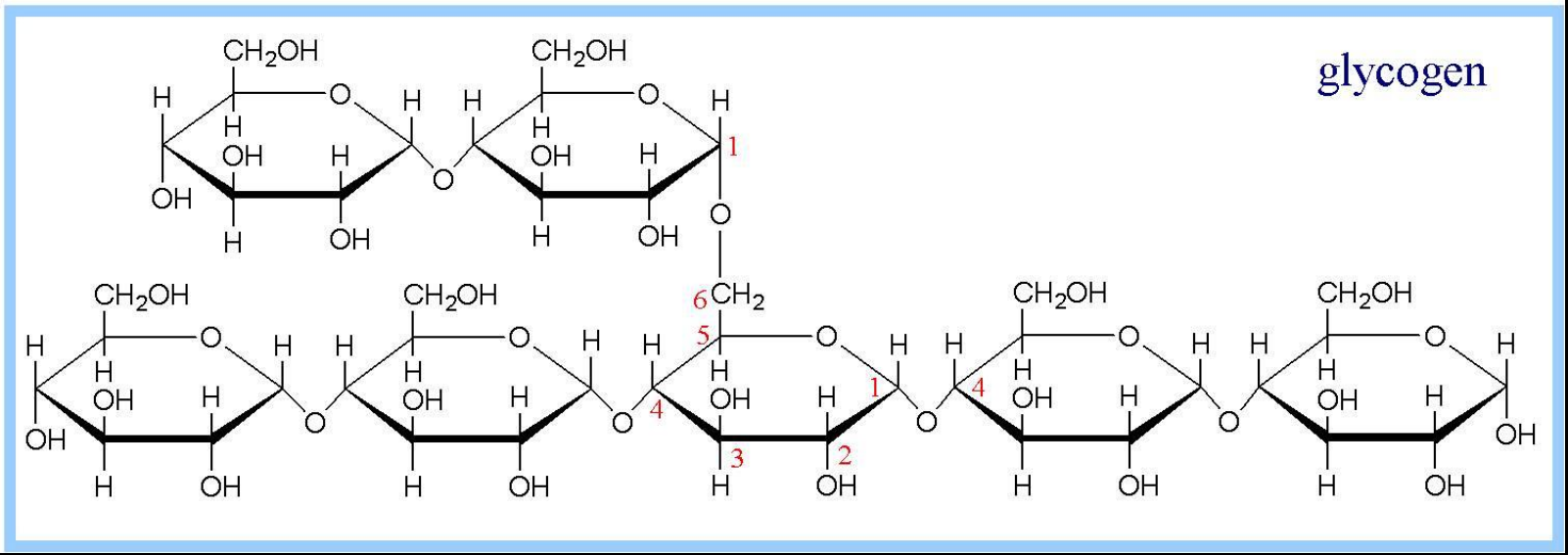
Polysaccharide

Many Sugar Molecules



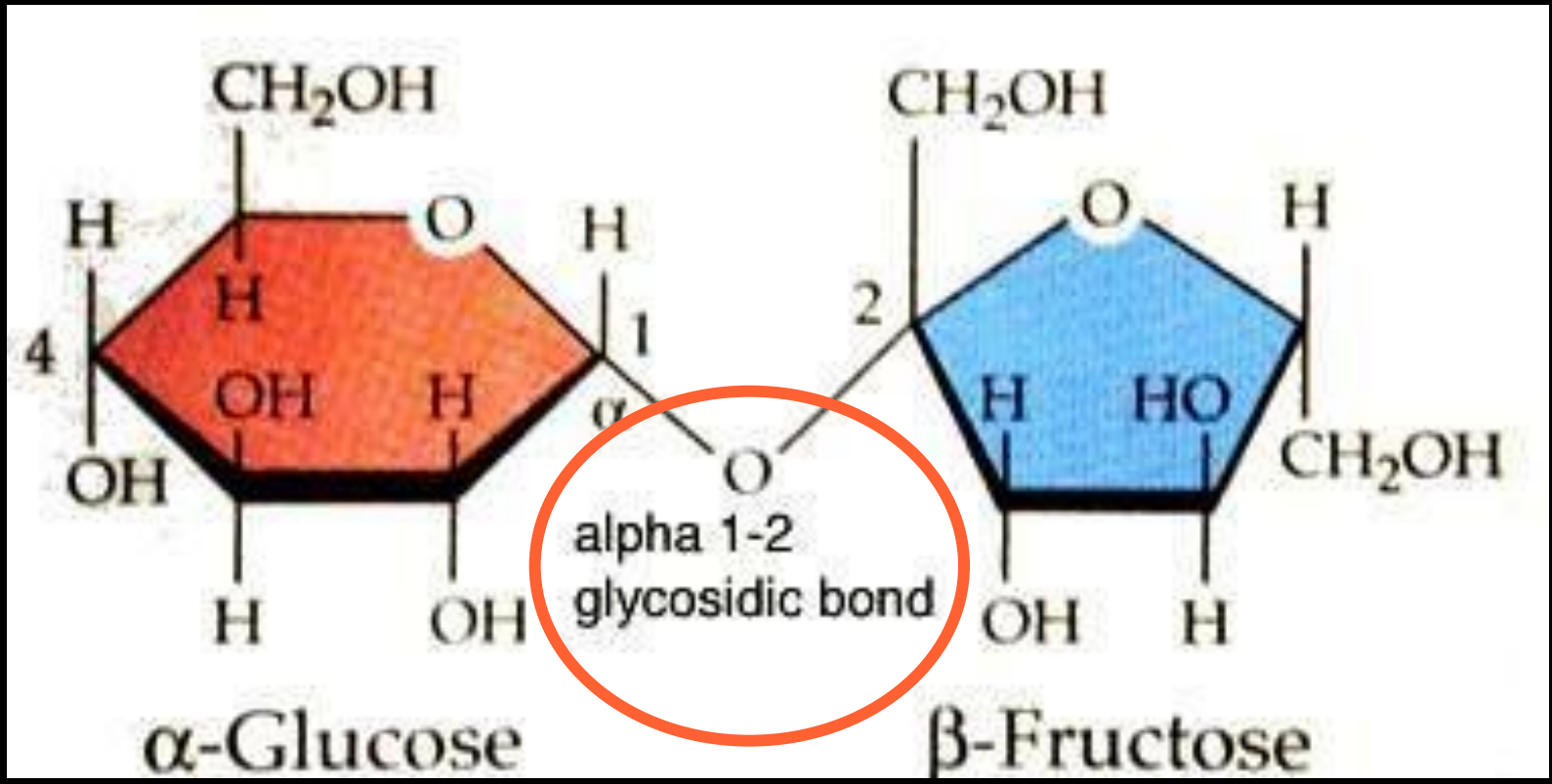
Plants make cellulose, a tough, flexible fiber that gives plants much of their strength and rigidity.

Glycogen



Many animals store excess sugar in a polysaccaride called glycogen (animal starch).

Glycosidic Bond



Carbohydrates are made by linking monosaccharides using a glycosidic bond.

Function of Carbohydrates

Provides Energy:
Carbohydrates are the most important energy source for your body.

Energy Storage:
Plants - store energy in sugars and starch.
Animals - Store energy in glycogen.

Support and Structure:
Plants - cellulose provides support

Why do many athletes “carb-up” before a big event?

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