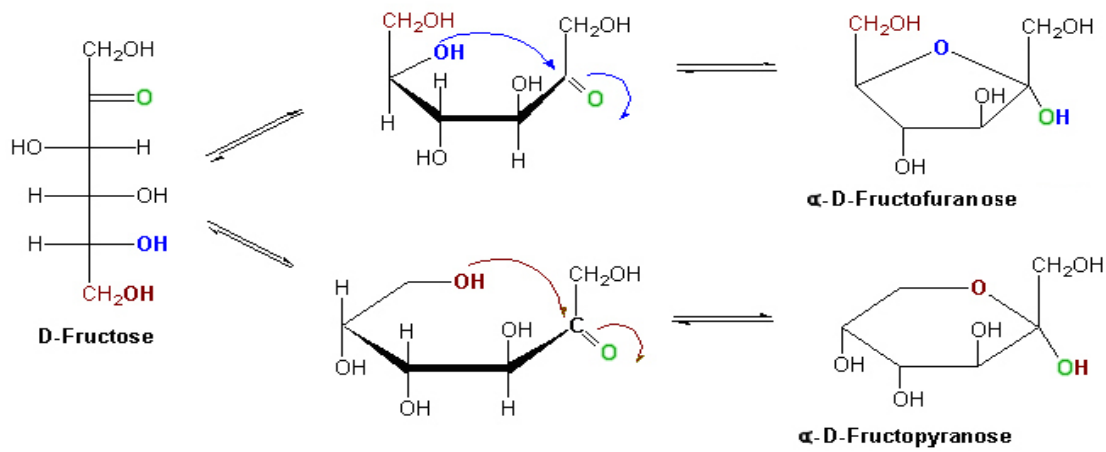




Glycosidic bonds: protect the anomeric carbon from oxidation

Can be alpha or beta bonds

Alpha = U shape

Beta = S shape

Energy storage

Starch

Glucose storage in plants

Composed of 2 types of glucose homopolymers

- Amylose: unbranched polysaccharide formed exclusively of D-glucose. Alpha 1-4 linkages, forms a helix
- Amylopectin: branched homopolysaccharide. Branches every 25-30 monomers with alpha 1-5 linkages
 - o The more branches = less soluble

Animals

Glycogen – alpha 1-4 links between glucose monomers. Branches.

Glucose = fuel – a series of oxidative reactions

Releases energy (ATP), and “reducing power” (NADH)

Structure

Plants

Cellulose beta 1-4 links between glucose monomers

Linear – no branching

Lots of hydrogen bonding

Animals

Chitin in insects