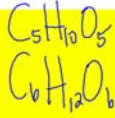


Carbohydrates

-Made up of C, H, O

-Ratio 1:2:1



-**Monomers** = monosaccharides ("one sugar")



Simple vs. Complex

■ MONOMER=

Monosaccharide ("1 sugar")

mono-saccharide

3 TYPES:

Glucose (plants) $C_6H_{12}O_6$

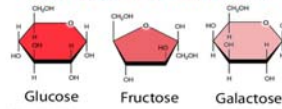


Galactose (dairy)

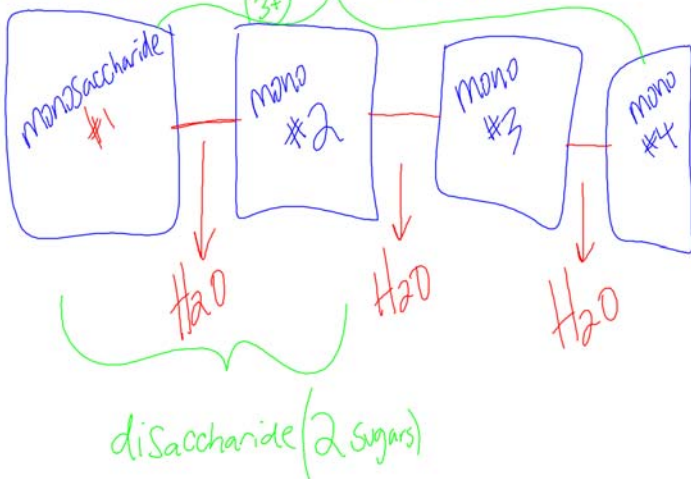
Fructose (fruits)



Monosaccharides

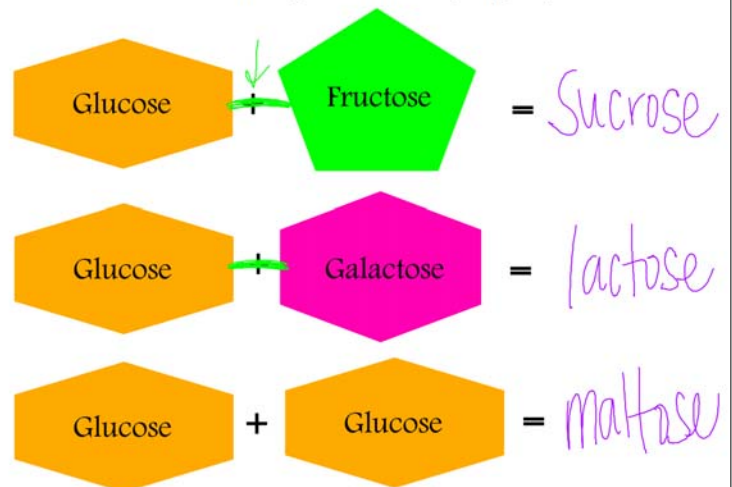


MONOMER: polysaccharide POLYMER:



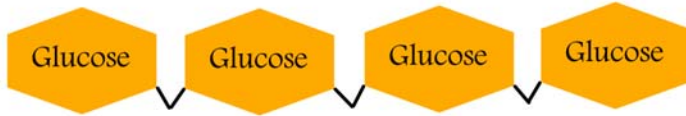
Making a Disaccharide:

combining 2 saccharides (2 sugars)

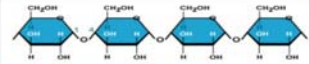


Making a Polysaccharide:

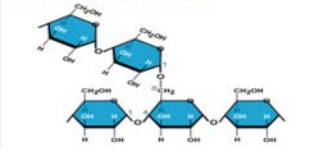
combining 3 or more saccharides (3+ sugars)



α -glucose subunits

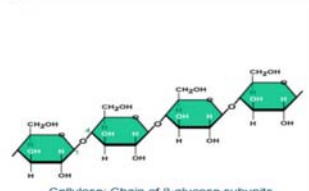


Starch: Chain of α -glucose subunits



Glycogen: Branched chain of α -glucose subunits

β -glucose subunits



Cellulose: Chain of β -glucose subunits

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Carbohydrates: FUNCTIONS

- Living things use Carbs as main source of Energy
- Short term Energy

FOOD EXAMPLES:



Polysaccharides: Examples

■ Structural Molecules

- In Plants: Cellulose (for support)
- In Animals: Chitin (exoskeleton)



■ Storage Molecules

- In Plants: Starch
- In Animals: Glycogen

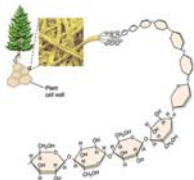
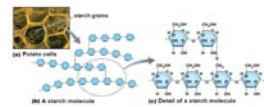


Figure 3.13 Starch: Molecular organization



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