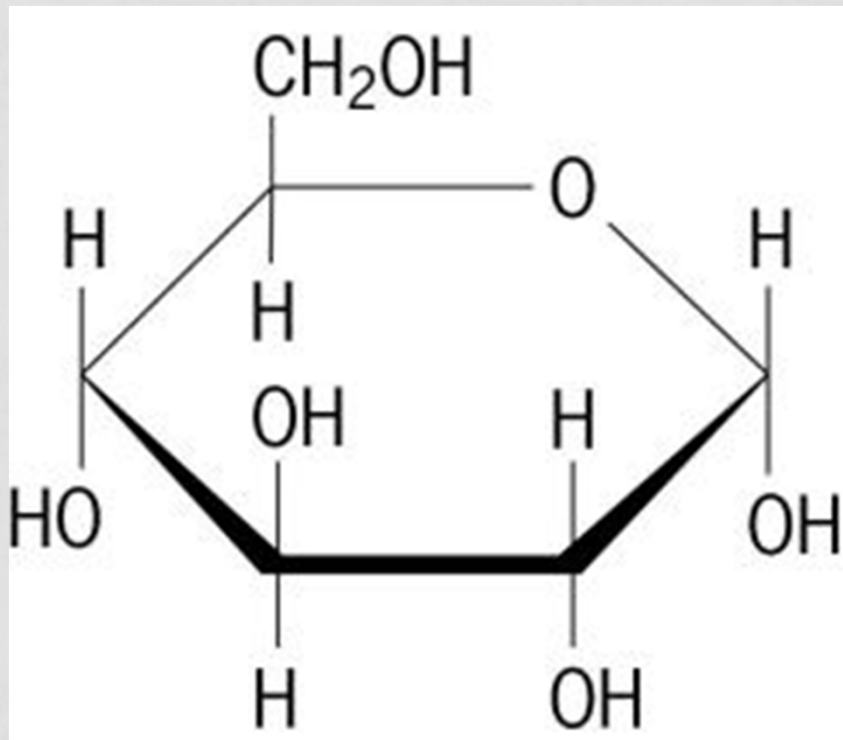


CARBOHYDRATES

- Compounds made of C, H, O
 - Ratio of 1 C: 2 H: 1 O
 - Example: $C_6H_{12}O_6$
- C,H,O can connect over and over to make a long chain
- Smallest unit (monomer) = **monosaccharide**
 - Can also be called *simple sugars*
 - Usually have 3 to 7 units in the compound
 - Example: Glucose

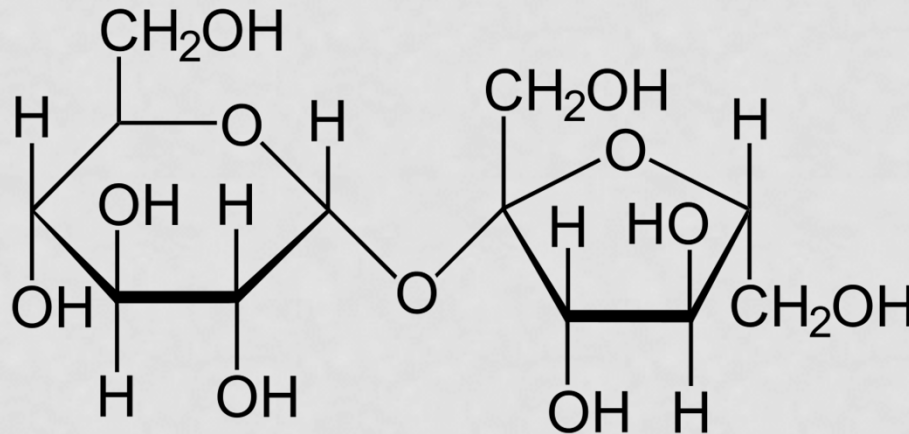
CARBOHYDRATES



- How many
 - C
 - H
 - O
- What type of structure?
- Glucose – energy source for organisms

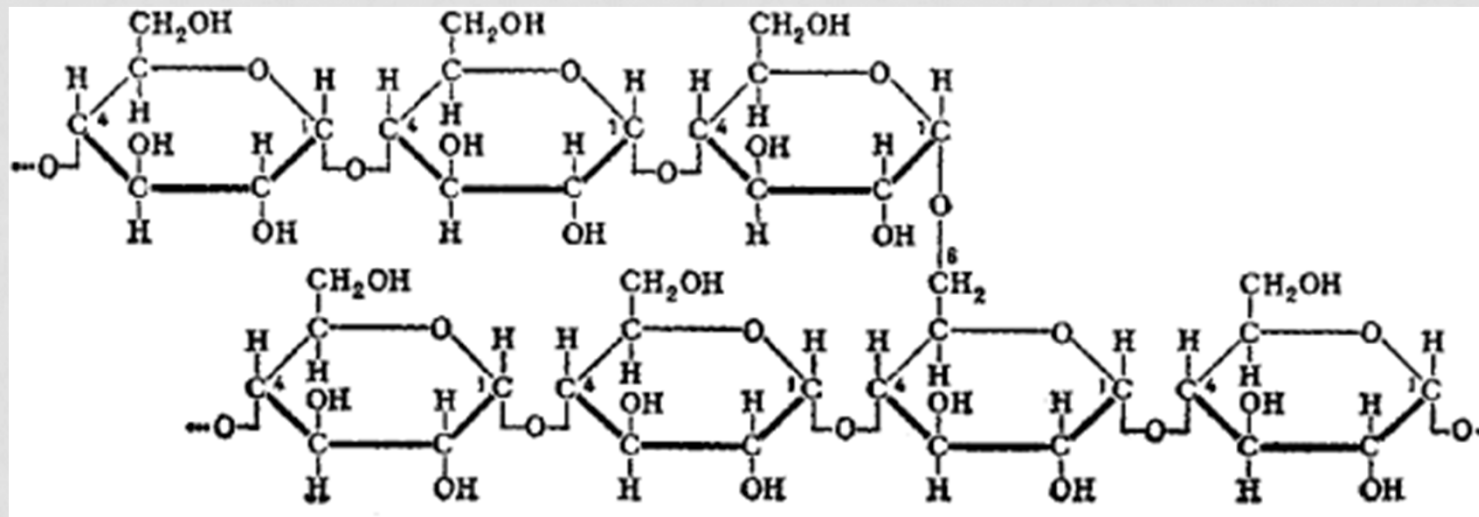
CARBOHYDRATES

- Monosaccharides combine to make other compounds
 - **Disaccharide** – 2 monosaccharides linked together to form energy sources
 - Example: Sucrose (table sugar)



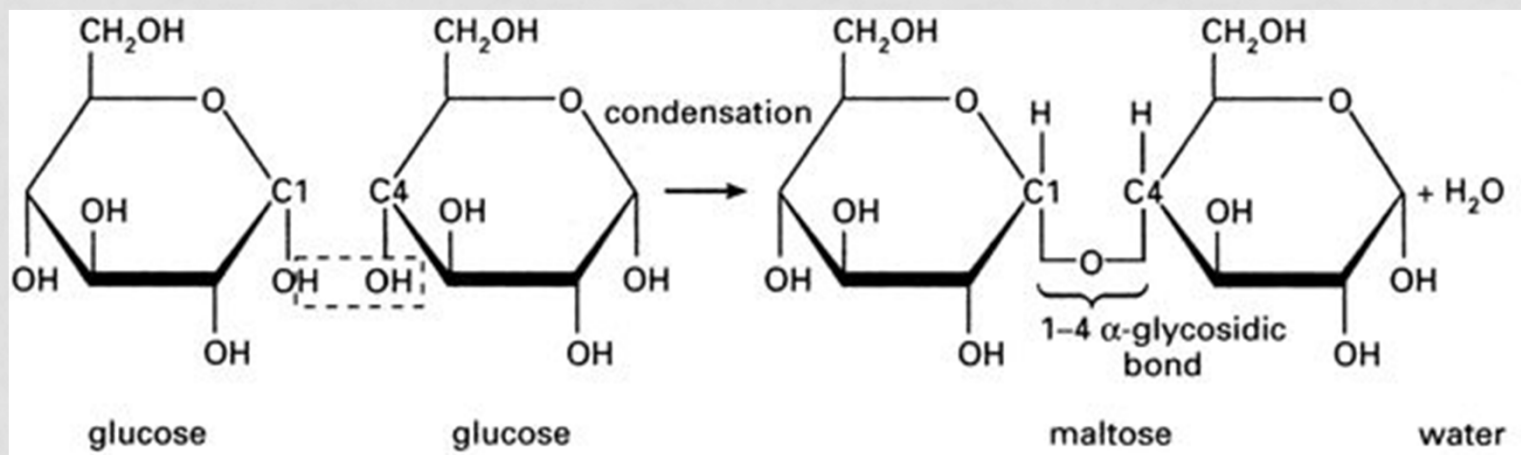
CARBOHYDRATES

- More monosaccharides can make longer compounds
 - **Polysaccharide** – more than one monosaccharide linked together
 - Example: Glycogen (energy source in liver)



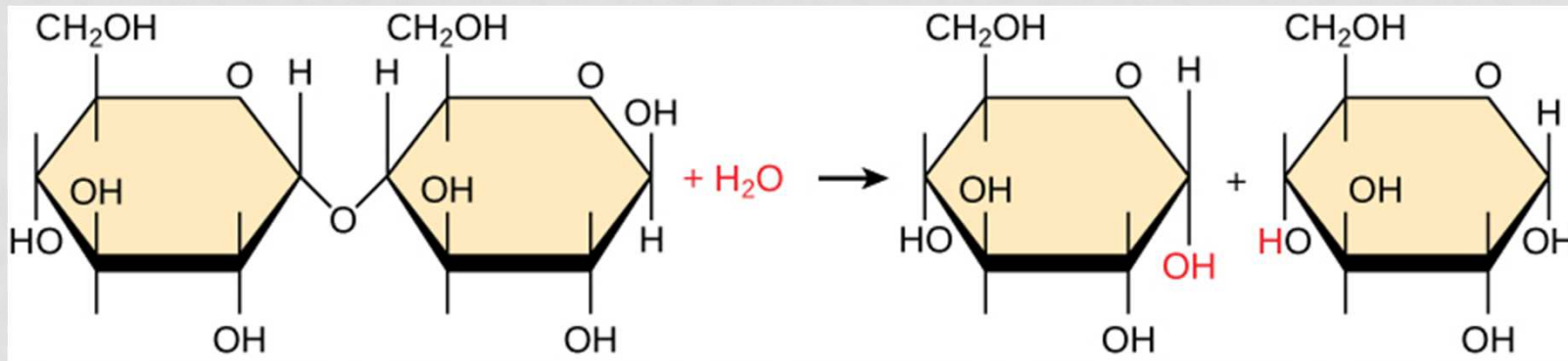
CARBOHYDRATES

- To connect monosaccharides together, a chemical reaction has to take place
- **Condensation** – bonds two monomers together
 - makes water
 - One monomer loses an H, the other loses O and H
 - Together they form H₂O



CARBOHYDRATES

- Your body has to be able to break down carbohydrates as well
- **Hydrolysis** – the addition of water breaks apart a bond
 - add in 2 H, and 1 O to break the bond between monomers
 - “hydro” = water “lysis” = cut

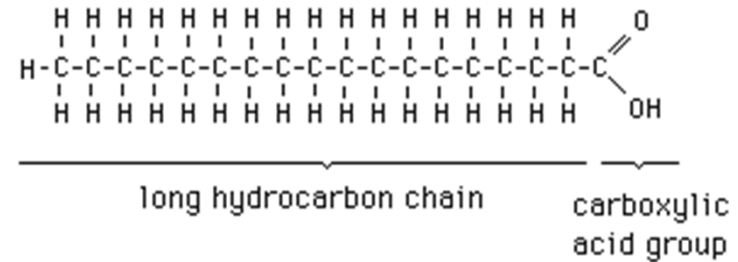


CARBOHYDRATES

- Roles of carbohydrates
 - Short term energy sources
 - Structural support in plant cell walls
 - Hard outer shell of insects, shrimp and lobsters

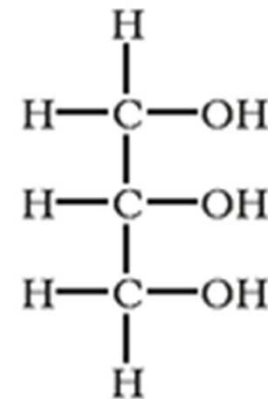
LIPIDS

- Made mostly of C and H
- Purpose – store energy
- Make up fats, oils and waxes
- Made of two parts:
 - Fatty acids
 - Glycerol



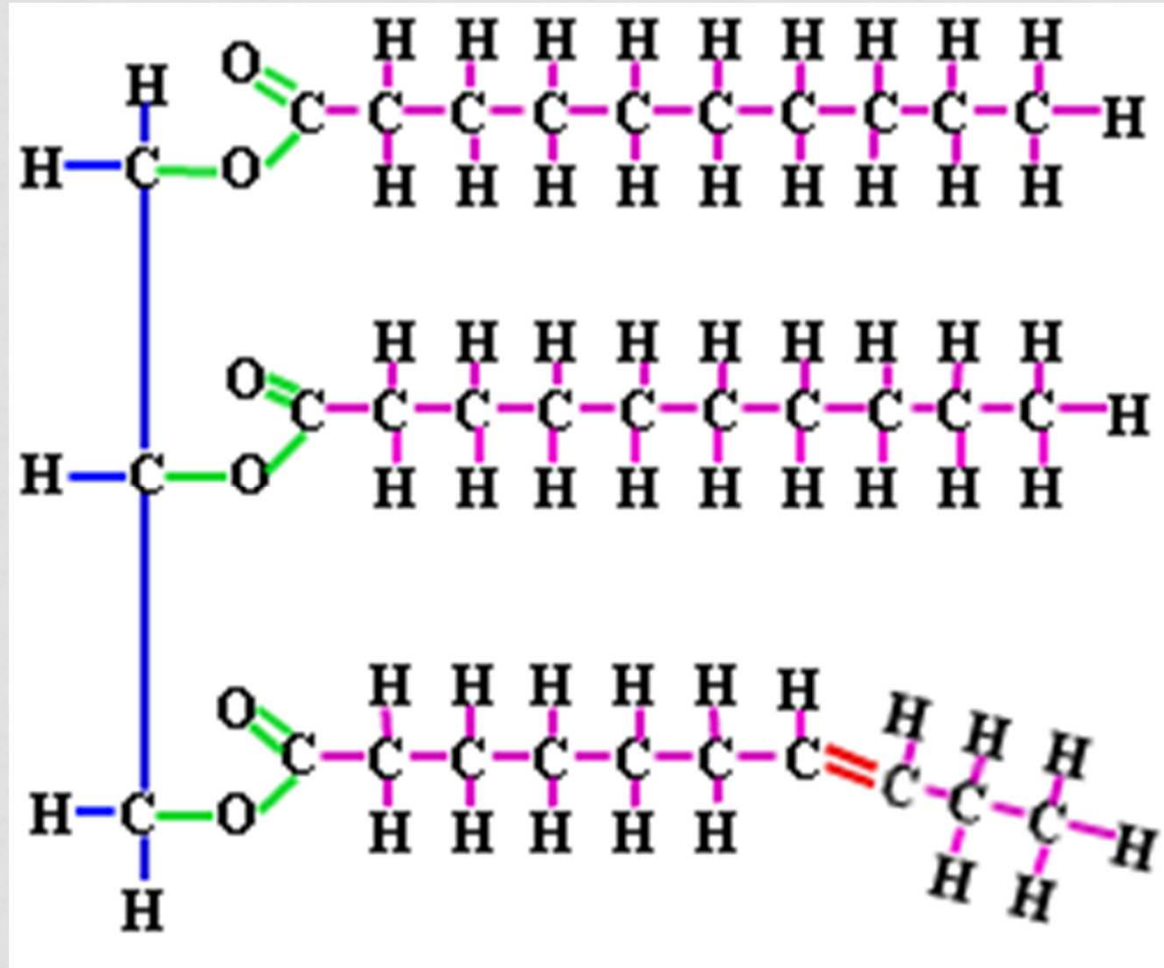
Essential features of a fatty acid

Figure 1. Structure of Glycerol



LIPIDS

Glycerol
→



Fatty acid chain
←