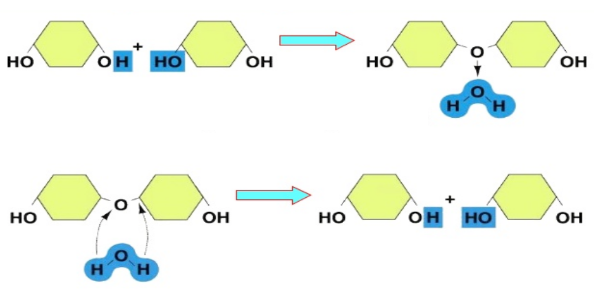
Macromolecules: Carbohydrates, Lipids and Nucleic Acids



Identify each image as dehydration synthesis or hydrolysis.

Which process connects monomers together to build polymers? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

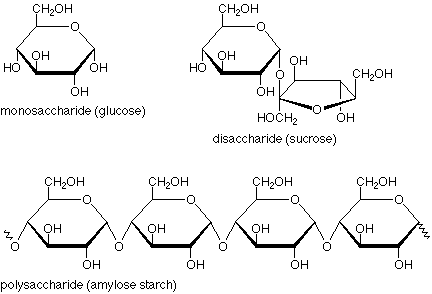
Which process is used during digestion to break polymers down to their monomers?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In which process is water removed from the molecules?

In which process is water used?

Carbohydrates



Atoms:

Monomer name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examples:

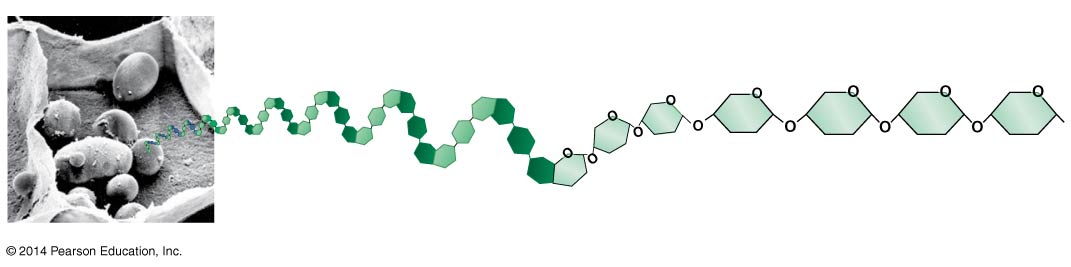
Polymer name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Examples

Functions of Carbs:

Name of bond formed between two monosaccharides during dehydration synthesis:

What is a disaccharide?

Starch

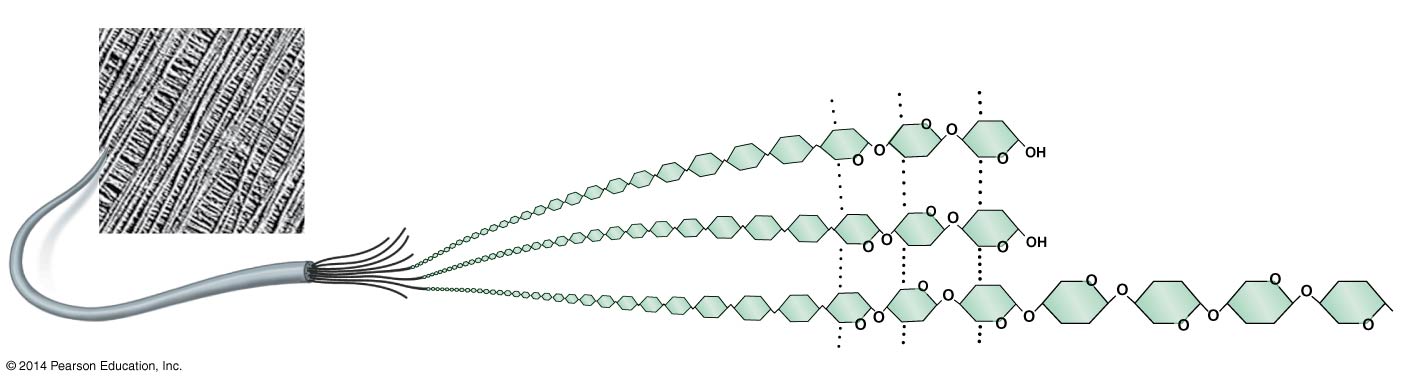
Identify the function of each of these polysaccharides.

Starch:

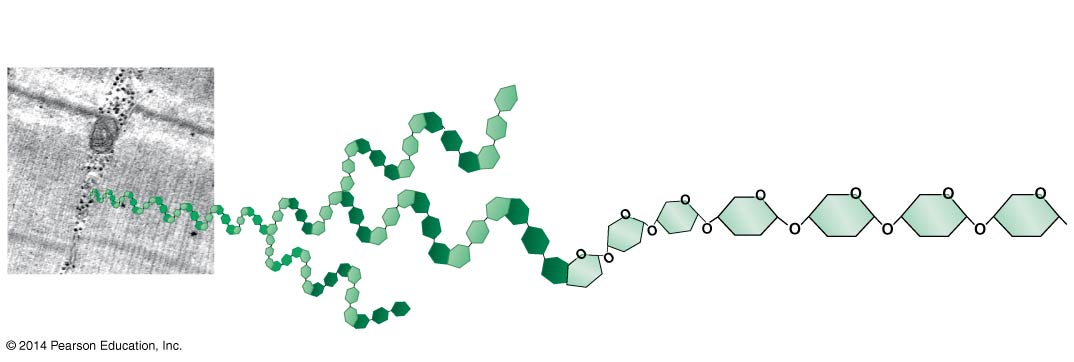
Cellulose:

Glycogen:

All 3 of these polysaccharides are made by chaining glucose together. If this is the case, why do they each have a different structure and function?

Cellulose

Glycogen



A picture containing food

Description automatically generatedLipids

Atoms:

What are the 3 main categories of lipids?

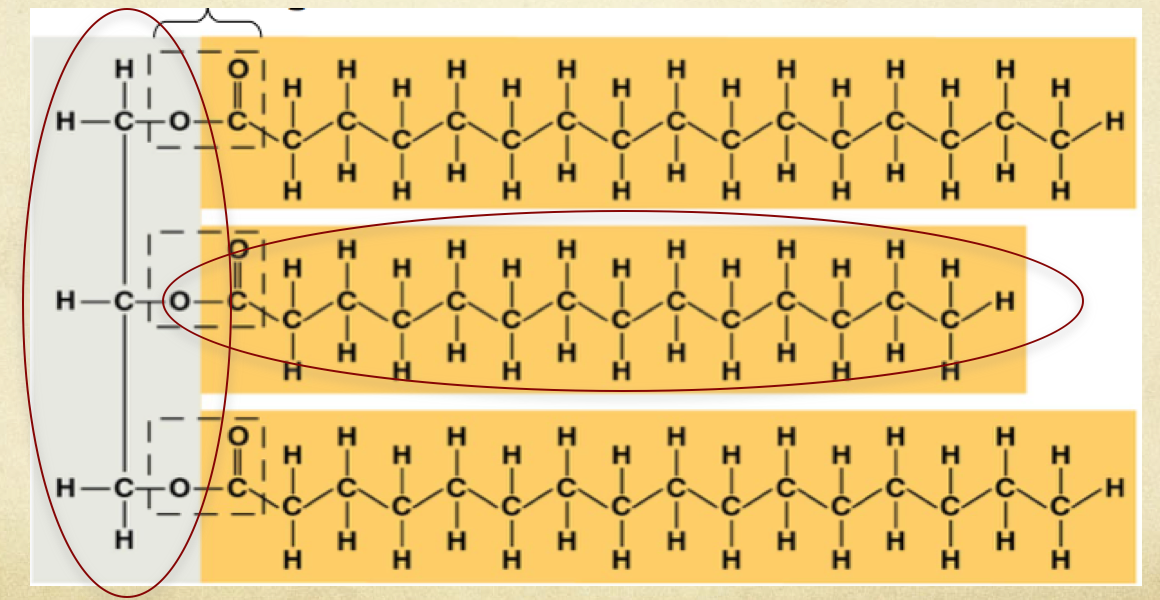
2 main parts (of most lipids):

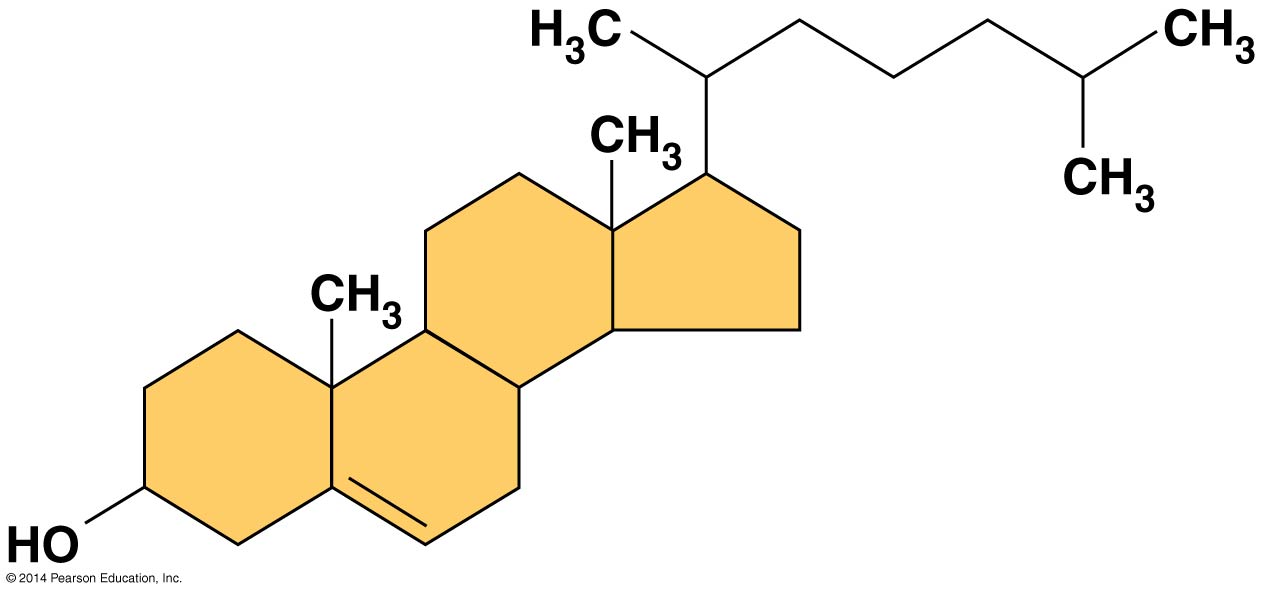
Function of lipids?

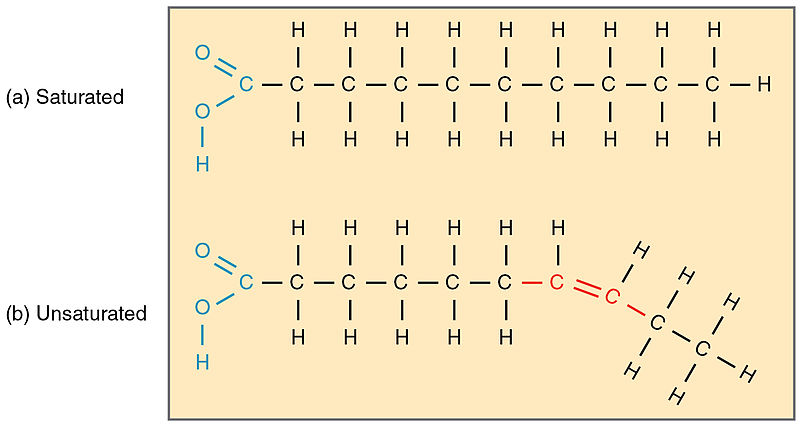
What process connects fatty acids to glycerol? Bond formed?

What is a byproduct of this process?

What is the significance of the head of a phospholipid being hydrophilic, but the fatty acid tails being hydrophobic for a cell membrane?





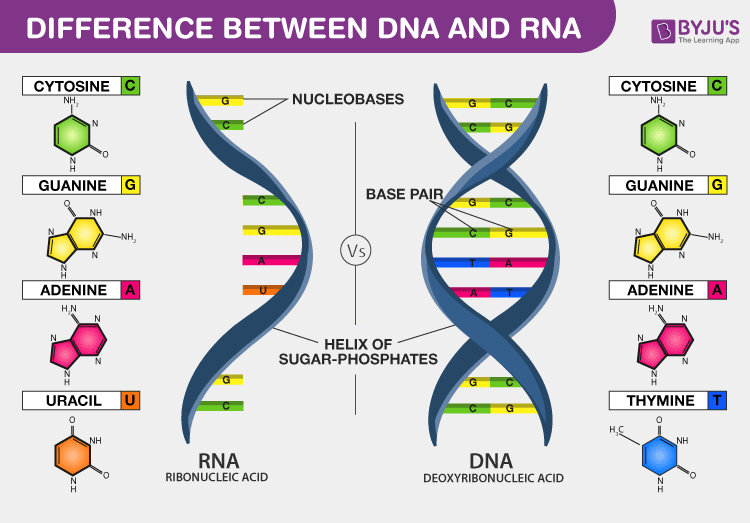


Label the diagram to the right for saturated and unsaturated fatty acids

What makes an unsaturated fatty acid different from a saturated fatty acid?

Which is likely to be liquid at room temperature?

.

Nucleic Acids

Atoms:

Monomer name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name its three parts:

Polymer name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

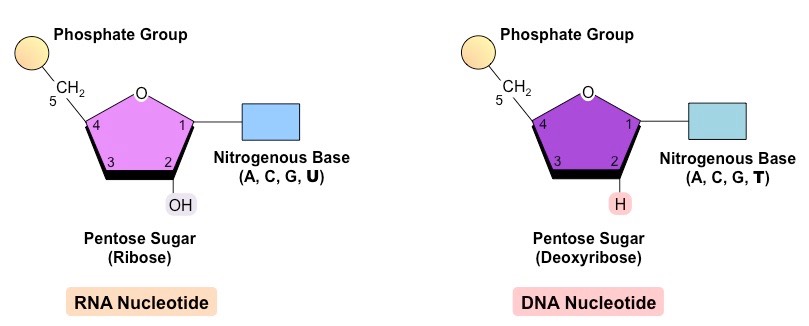
2 Examples

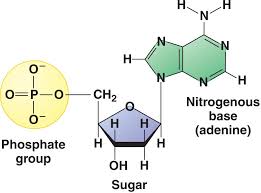
Bond formed after dehydration synthesis between two nucleotides? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Functions of Nucleic Acids:

Identify the 3 main structural differences be DNA and RNA.

Name the 2 types of bonds found in a DNA double helix and where they are found.





Nucleotide Details