

## Four principal classes of organic compounds.

Carbohydrates

Lipids

Proteins

Nucleic acids

Sep 12 - 1:42 PM

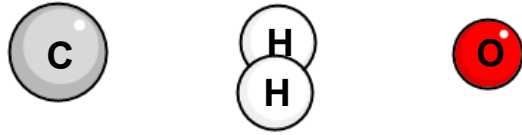
Where can you find carbohydrates?

rice  
potatoes  
pasta  
flour  
fruit  
bread  
corn

f.v.g

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What is this ratio?



1 : 2 : 1

Sugar

Sep 12 - 3:40 PM

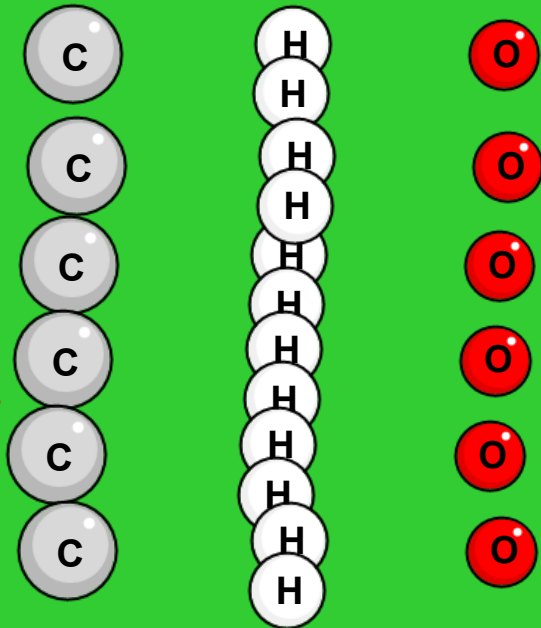
Single sugars are the building block of carbohydrates.

6 : 12 : 6

Examples:

Glucose

Fructose - fruit

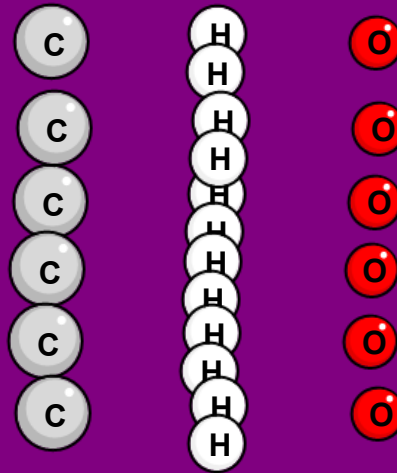


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Single sugars are also known as monosaccharides.

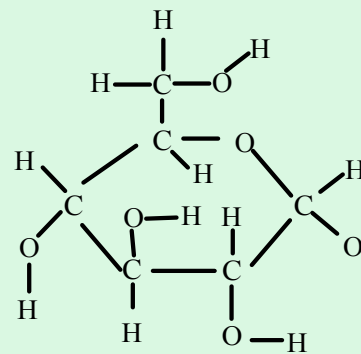
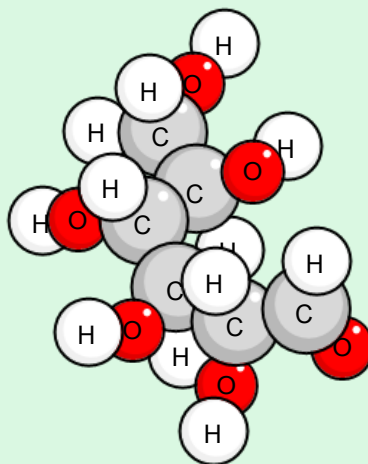
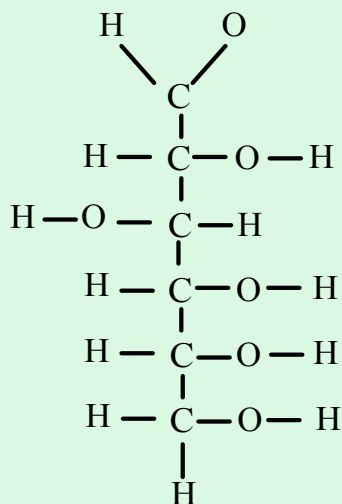


sugar



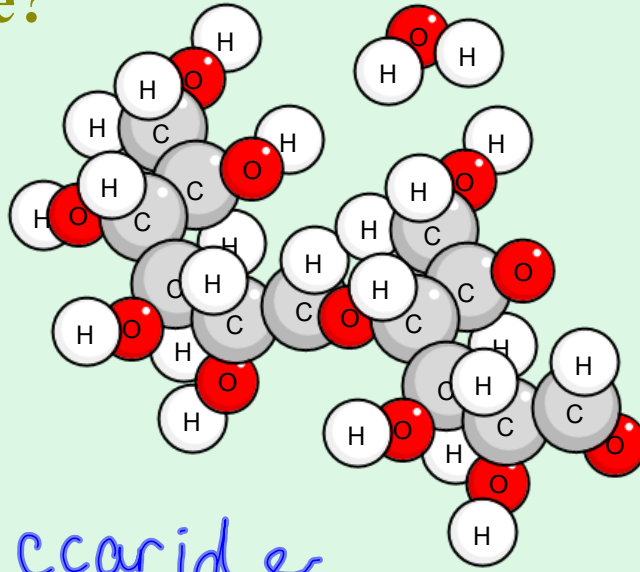
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## Glucose



Sep 13-1:24 PM

What do you notice about this picture?

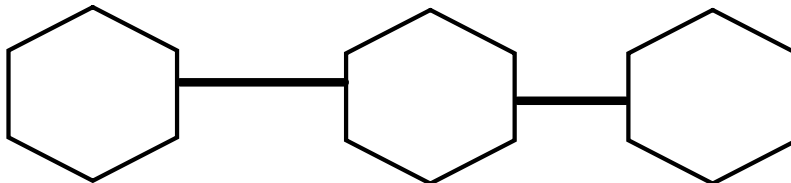
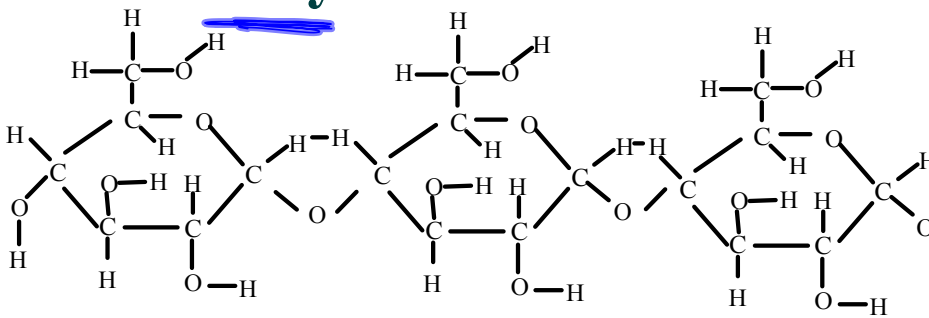


Disaccharide

Maltose

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## Polysaccharide



<http://www.mansfield.ohio-state.edu/~sabedon/biol1025.htm>



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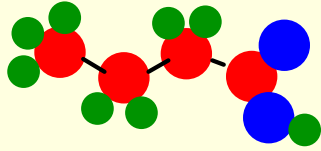
**Lipids are non-polar molecules that are not soluble in water.**

**Examples:  
Fats  
Phospholipids  
Cholesterol  
Chlorophyll**

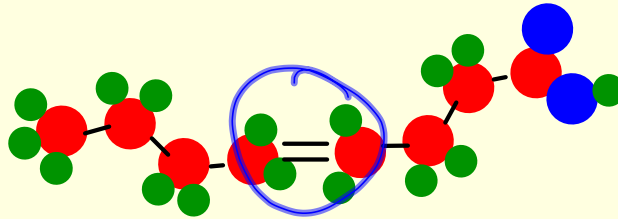
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**Fats- lipids  
that store  
energy**

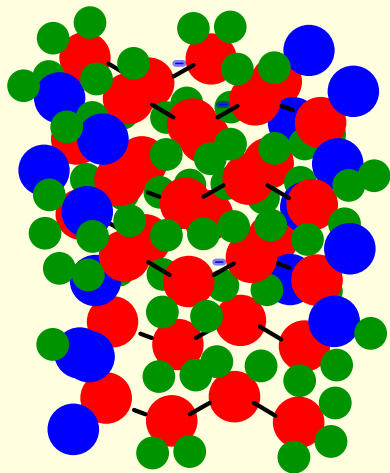
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**What is the difference?**



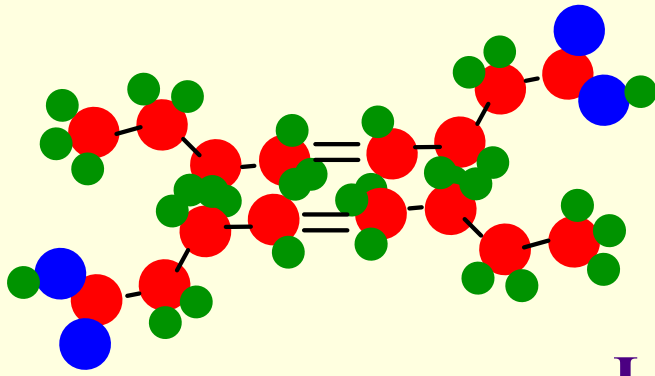
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*Saturated*

**Solid at room temp like butter, lard, grease.**

Saturated fats



*Unsaturated*

**Liquid at room  
temp like oil.**

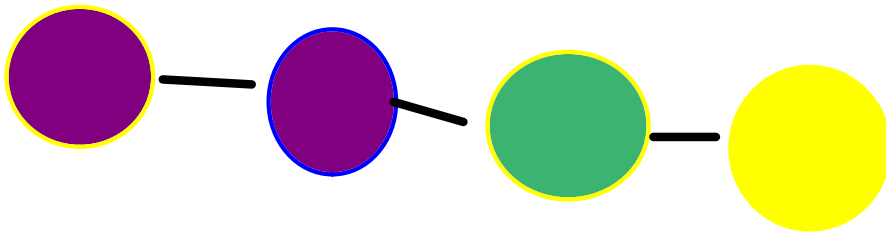
[http://www.supplementquality.com/news/fatty\\_acid\\_structure.html](http://www.supplementquality.com/news/fatty_acid_structure.html)



Unsaturated fats

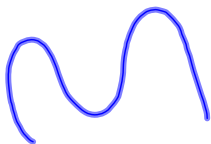
**Proteins- a chain of  
amino acids**

# Amino acids- building blocks of proteins



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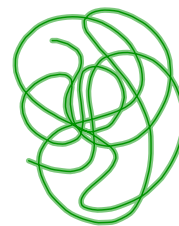
Primary  
Structure



Secondary  
Structure



Tertiary  
Structure



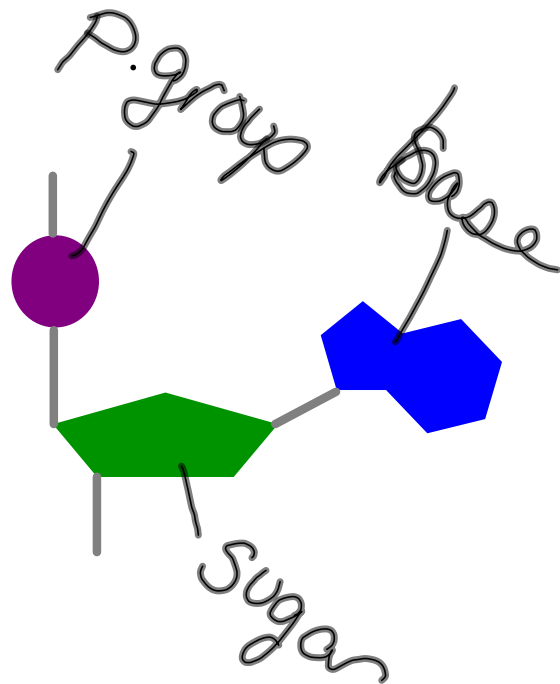
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**Proteins are  
found in  
ligaments,  
tendons, hair,  
bones, muscles.**

beans  
meat  
egg  
nuts

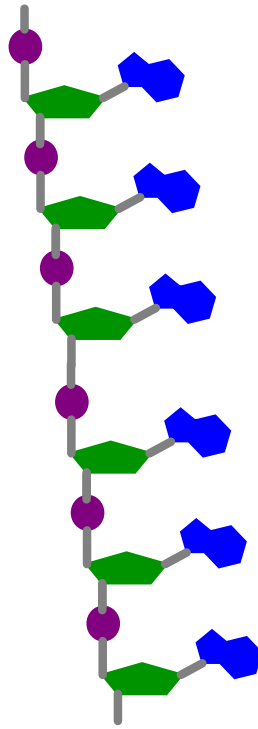
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**Nucleotide-  
three parts a  
sugar, a base,  
and a  
phosphate  
group**



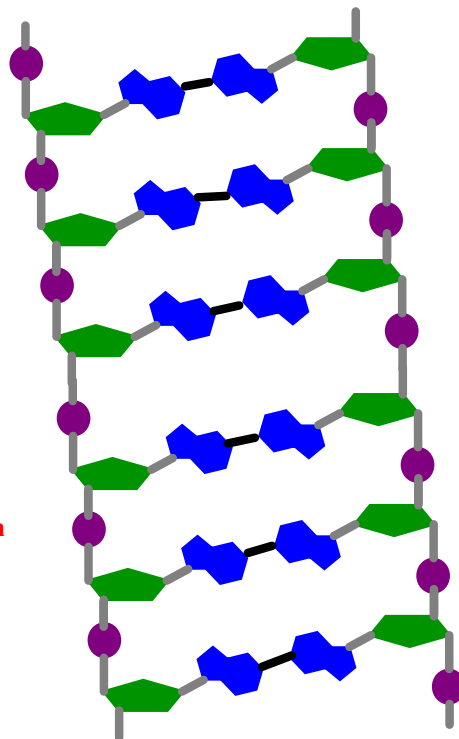
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# Nucleic acid



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# DNA



<http://biology.clc.uc.edu/courses/bio104/dna.htm>

Sep 12 - 4:18 PM

RNA

