

## Dehydration Synthesis vs Hydrolysis :

\* All of the organic compounds we will study are examples of *polymers*.

A polymer is a large chemical compound composed of smaller repeating units --- over & over & over again. Like a chain is a repeating pattern of interlocking chain links.



Dehydration synthesis is the chemical process that connects the smaller subunits to form large organic compounds. This process requires the removal of 1 water molecule from the combination of each "link".

\* Synthesis means to build.

\* Dehydration refers to the fact that water is lost during the chemical process that bonds the subunits together. We will "see" this in a minute when we get more specific.

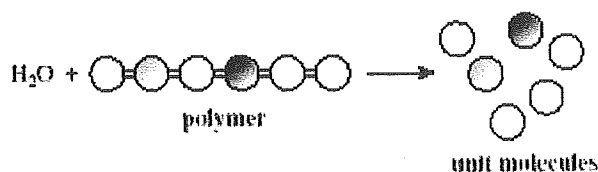


Hydrolysis is the process that breaks large organic compounds into their smaller subunits. It is the opposite of dehydration synthesis.

\* Hydro = water added

\* lysis = to be split

In Hydrolysis, water is added and the large compounds are split. The process of hydrolysis is involved in digestion --- when food is broken down into nutrients.

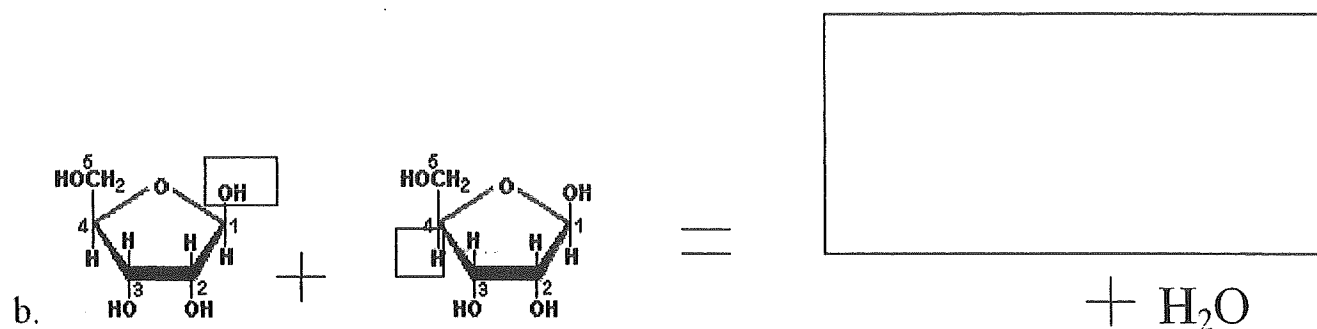
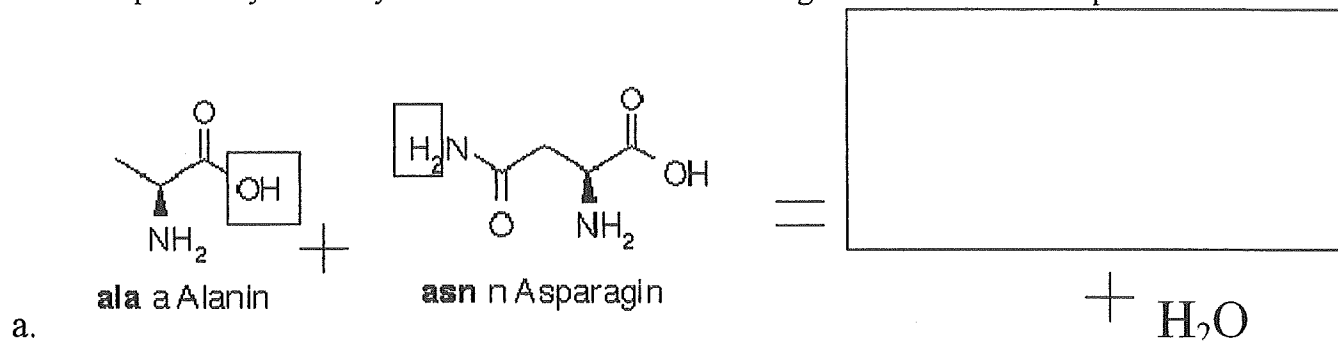


So, to summarize :

PROCESS	STARTS WITH ...	ENDS WITH ...	EXAMPLE
dehydration synthesis	small molecules (subunits)	large molecules & water	
hydrolysis	water & large molecules	small molecules (subunits)	digestion

## Hydrolysis and Dehydration Synthesis Review

1. What does dehydration synthesis mean?
2. What does Hydrolysis mean?
3. Use the concept of dehydration synthesis to assemble the following molecules into a compound.



4. Use the concept of hydrolysis to break down the following compounds into monomers.

