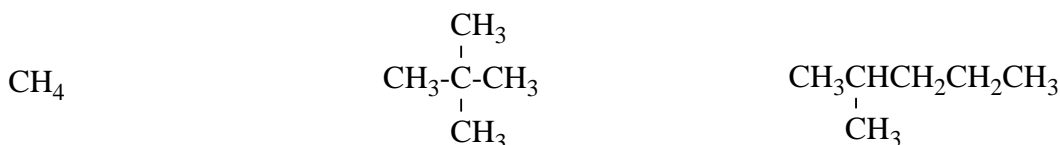


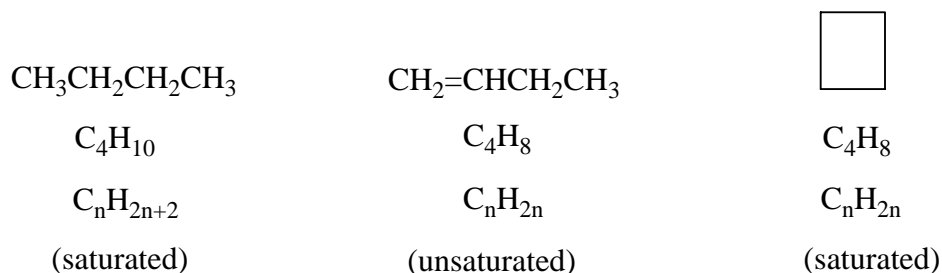
Unsaturation or Rings?

If we are given the molecular formula for a hydrocarbon, we can deduce a reasonable amount of information about its structure.

All acyclic (non-cyclic) alkanes have the general formula C_nH_{2n+2} where n = number of carbon atoms in the molecule and $2n+2$ = the number of hydrogen atoms in the molecule. Try the formula on the following **alkanes**:



The presence of a ring or double bond reduces the number of hydrogens in the molecule by **two** for each ring *or* double bond; therefore, a compound with the general formula C_nH_{2n} contains *either* **one ring** *or* **one double bond**.



By now you should know what will happen if we were to remove **two more** hydrogen atoms!! A compound with the general formula C_nH_{2n-2} might have **one triple bond**, **two double bonds**, **two rings** *or* **one ring plus one double bond**.

