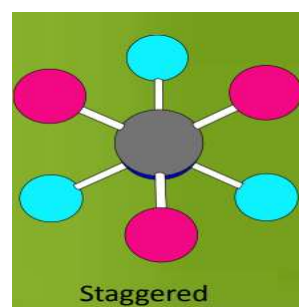
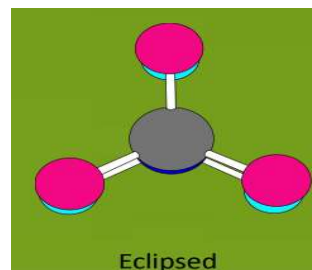
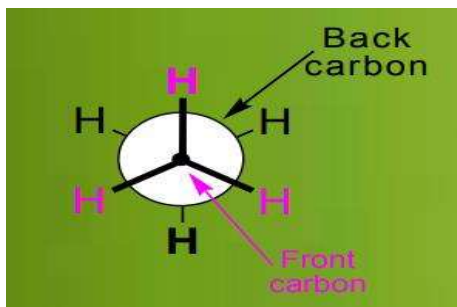


Conformational isomers of alkanes

Conformational Analysis of Ethane



Conformation apart from these are called **skew conformations**

Dihedral angle

Angle between an atom on the front atom of a Newman projection and an atom on the back atom

Stability: staggered > eclipsed

Reason

Steric hindrance (Van der Waals repulsion)- In the eclipsed conformation, the positioning of the atoms forces them closer together, increasing the amount of steric strain in the molecule and strain caused by this effect is called torsional strain.

Bond pair-Bond pair repulsion (torsional repulsion) -The electrons in the bonds repel each other and this is maximum in eclipsed form and strain caused by this effect is called torsional strain.

Potential energy diagram of ethane as a function of dihedral angle

