

# HYBRIDISATION

sp<sup>3</sup>

## ANALOGY FOR HYBRIDISATION



Combines



Four different sized mud balls combine to form equal shaped balls.



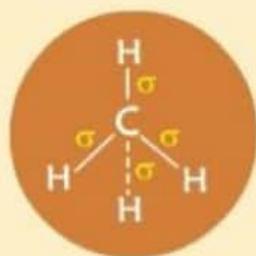
Combines



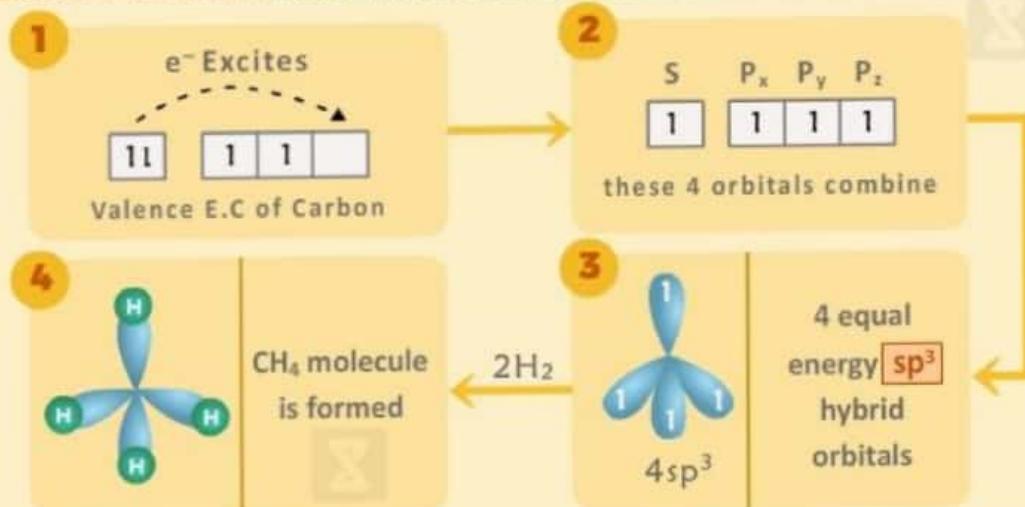
Similarly, orbitals of different energy combine to form equal energy orbitals.

## HYBRID ORBITALS ARE USED IN FORMING SIGMA BONDS

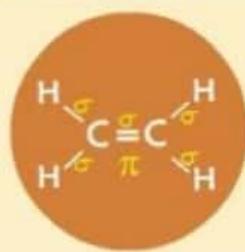
### Formation of CH<sub>4</sub>



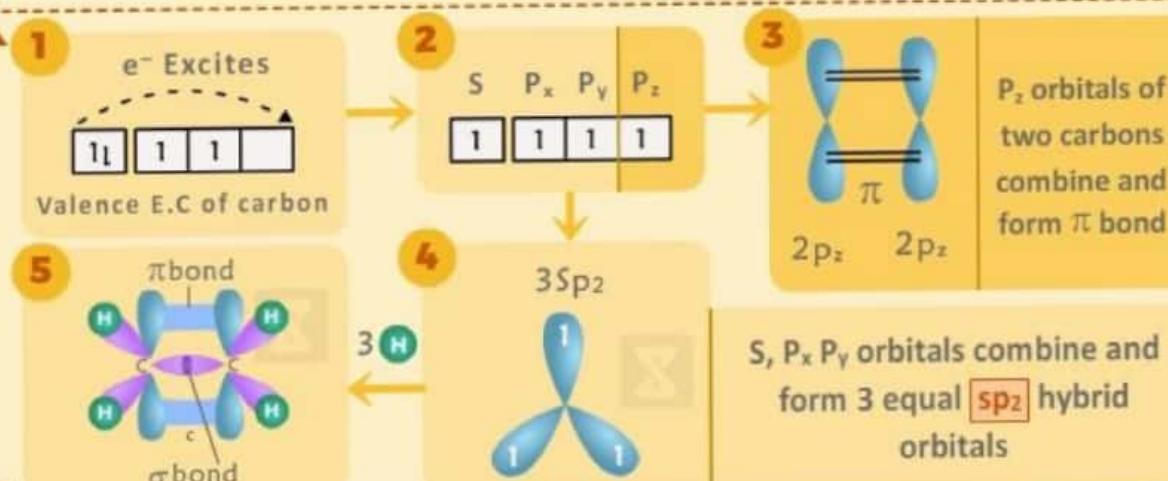
Here carbon needs to form 4 sigma Bonds.



### Formation of C<sub>2</sub>H<sub>4</sub>



Here each carbon needs to form 3 sigma and 1 pi Bonds.



### Formation of C<sub>2</sub>H<sub>2</sub>



Each carbon needs to form 2 sigma and 2pi Bonds.

