

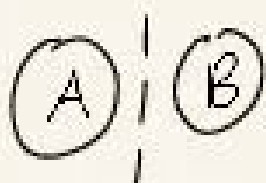
# MO theory:

doesn't correspond to Lewis structure (necessarity)

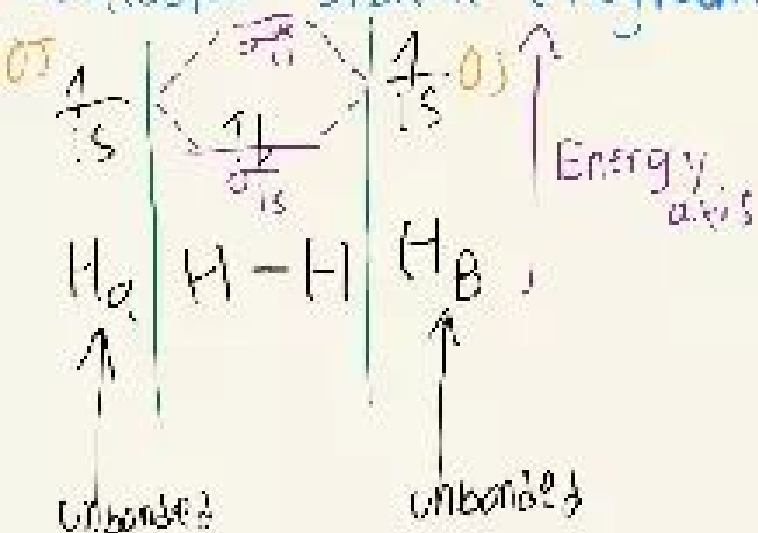
antibonding: orbital/state that destabilizes a molecule by increasing the energy

$\sigma^*$  orbital  
antibonding

destructive increase energy



## molecular orbital diagram



bond order = net # of  $e^-$  in bonding orbitals

$$\text{bond order} = \frac{1}{2} (\# e^- \text{ in bonding orbitals} - \# e^- \text{ in antibonding orbitals})$$

row 2 elements: Li & Be are analogous to H & He