## **DETERMINING MOLECULAR POLARITY**

- 1. Molecules are *non-polar* or *polar*
- Non-polar molecules have an even (symmetrical) distribution of charge (+ or – )

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➢ If all atoms are the same (non-polar bonds)
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(H_2, N_2, Br_2)
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If there are <u>no lone pairs</u> on the central atom and <u>the attached atoms are all the same</u>

 $(CO_2, BCl_3, CH_4)$ 

3. *Polar* molecules have an uneven (assymetrical) distribution of charge. The molecule has a dipole (+ side and a – side, *like a bar magnet*)

If the atoms are different from each other

 $(HC1, H_2CO, CH_3F)$ 

If there are <u>lone pairs</u> on the central atom and the attached atoms are different from the central atom

 $(H_2O, NH_3, SO_2)$ 

## Steps for determining molecular polarity in simple covalent compounds:

