## ACID + BASE $\rightarrow$ SALT + WATER

Examples - complete and balance the following neutralization reactions

$$
\text { 1. } \quad \mathrm{HCl}+\ldots \quad \mathrm{Mg}(\mathrm{OH})_{2} \rightarrow
$$

$$
\text { 2. } \mathrm{H}_{2} \mathrm{CO}_{3}+\ldots \ldots \mathrm{KOH} \rightarrow
$$

3. $\mathrm{HNO}_{3}+\ldots \mathrm{Ca}(\mathrm{OH})_{2} \rightarrow$
*4. $\ldots \mathrm{HCl}+\ldots \mathrm{NaHCO}_{3} \rightarrow$

## *special reaction

- an acid can be neutralized by a carbonate, products include $\mathrm{CO}_{2(g)}$
- this is stomach acid and Alka Seltzer, why does it makes you burp
- similarly a carbonate can be dissolved by an acid (marble statues dissolved by acid rain, egg shell in vinegar)


## Write balanced equations for these neutralization reactions:

5. hydrochloric acid (hydrogen chloride) and sodium hydroxide
6. sulfuric acid (hydrogen sulfate) and potassium hydroxide
