- are the "recipes" in chemistry
- show the substances going into a reaction, substances coming out of the reaction, and give other information about the process

$$\operatorname{MgCl_{2}(aq)} + 2\operatorname{AgNO_{3}(aq)} \xrightarrow{\text{"yields"}} 2\operatorname{Ag(l(s)} + \operatorname{Mg(NO_{3})_{2}(aq)}$$

REACTANTS - materials that are needed fot a reaction

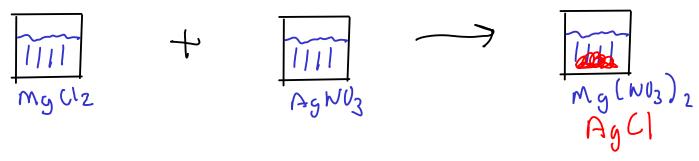
PRODUCTS - materials that are formed in a reaction

COEFFICIENTS - give the ratio of molecules/atoms of one substance to the others

PHASE LABELS - give the physical state of a substance:

- (s) -solid
- (I) liquid
- (g) gas

(aq) - aqueous. In other words, dissolved in water



## CHEMICAL EQUATIONS

$$2 \text{ Mg(s)} + O_2(g) \xrightarrow{\Delta} 2 \text{ MgO(s)}$$

REACTION CONDITIONS - give conditions necessary for chemical reaction to occur. May be:

- $\triangle$  apply heat
- catalysts substances that will help reaction proceed faster
- other conditions, such as required temperatures
- Reaction conditions are usually written above the arrow, but may also be written below if the reaction requires several steps or several different conditions