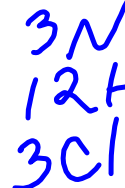
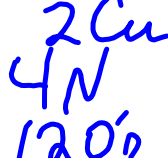
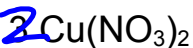
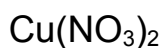
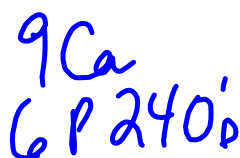
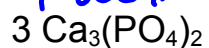
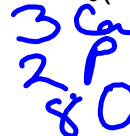
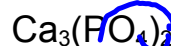
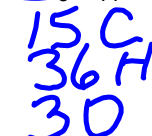
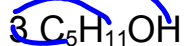
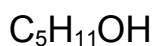
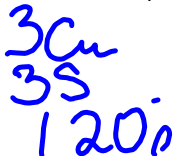
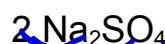
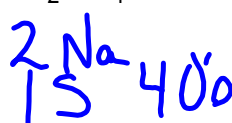


## Particle model and Balancing Equation Notes

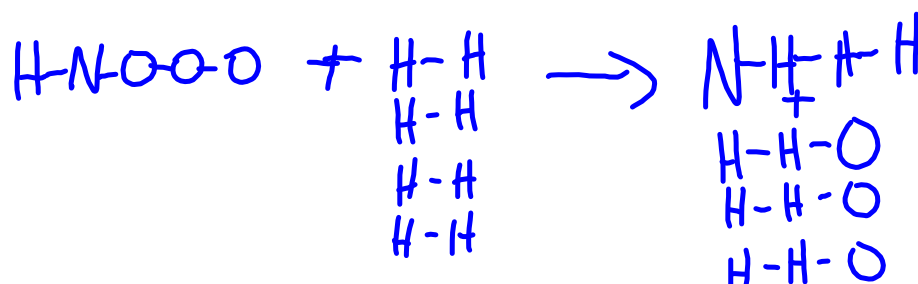
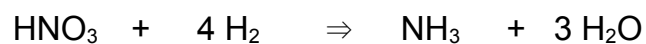
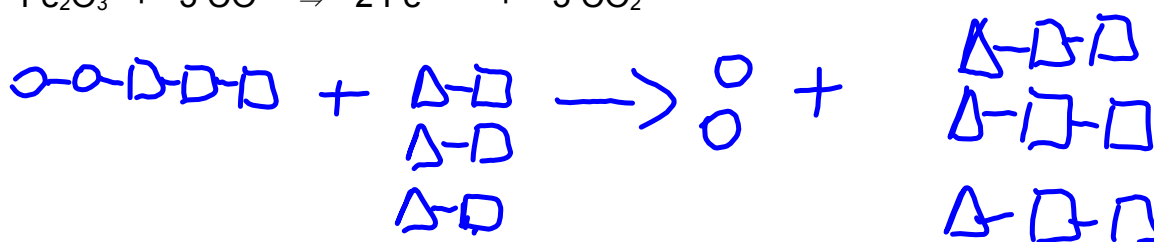
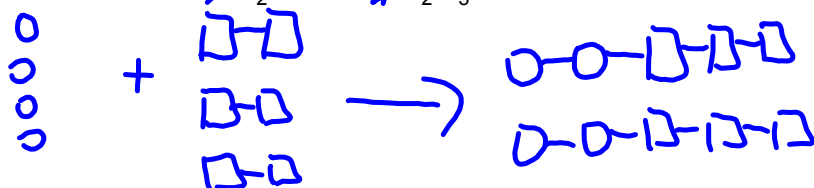
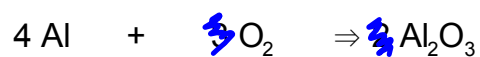
Is used to show chemical reactions.

### Counting atoms in a molecule



Various symbols are used to show the molecules.

Na	2 Na	2 H <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>
Cu(NO <sub>3</sub> ) <sub>2</sub>	2 Cu(NO <sub>3</sub> ) <sub>2</sub>	Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	
			→ 3x



# Conservation of Matter

Matter is never created or destroyed, it is just changed.

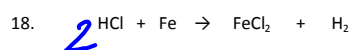
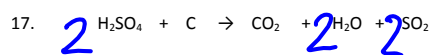
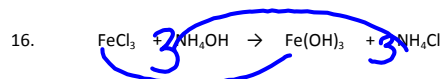
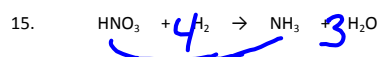
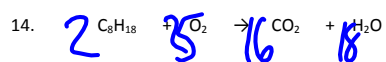
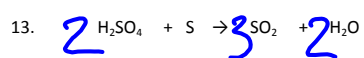
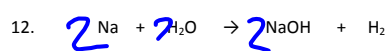
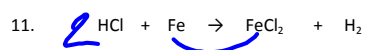
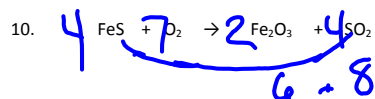
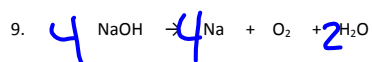
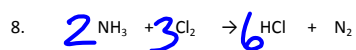
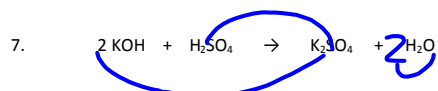
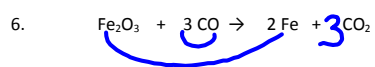
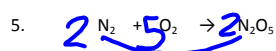
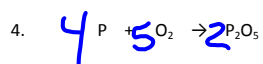
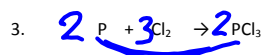
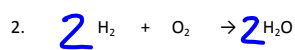
## Rules:

- 1- The type of atoms stay constant before and after the reaction.
- 2- The number of atoms stay constant before and after the reaction.
- 3- The mass of the atoms stays the same before and after the reaction.

What is incorrect with the following equation?

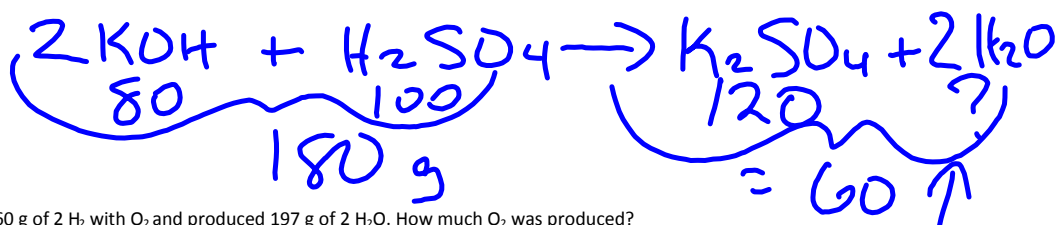


## Balancing equations

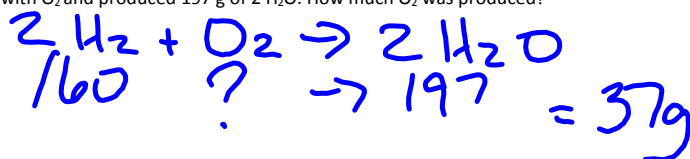


### Mass of Equations

1. You combined 80 g of 2 KOH with 100 g of  $\text{H}_2\text{SO}_4$  to produce 120 g of  $\text{K}_2\text{SO}_4$  and 2  $\text{H}_2\text{O}$ . How much water was produced?



2. You combined 160 g of 2  $\text{H}_2$  with  $\text{O}_2$  and produced 197 g of 2  $\text{H}_2\text{O}$ . How much  $\text{O}_2$  was produced?



3. You combined 25 g of  $\text{C}_3\text{H}_8$  with 5  $\text{O}_2$  to produce 37 g of 3  $\text{CO}_2$  and 30 g of 4  $\text{H}_2\text{O}$ . How much  $\text{O}_2$  was produced?

$$= 42$$