

# Writing balanced chemical equations (Jnr Science)

## Video worksheet.

Balance the following equations, on the next page, using smarties or magnetic buttons on a magnetic whiteboard. Here is an example.

eg.  $\text{NaCl} + \text{CaO} \rightarrow \text{Na}_2\text{O} + \text{CaCl}_2$

Construct each substance using a specific coloured Smartie or button for each atom. See figure 1 below, it represents the unbalanced equations showing the reactants on the left and the products on the right.

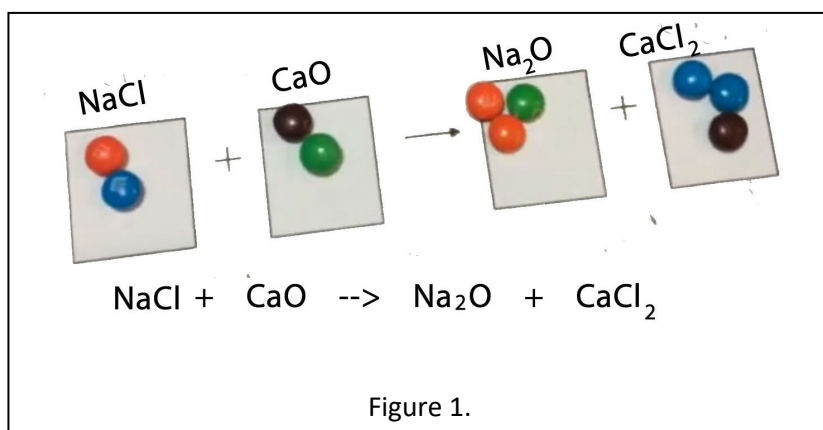
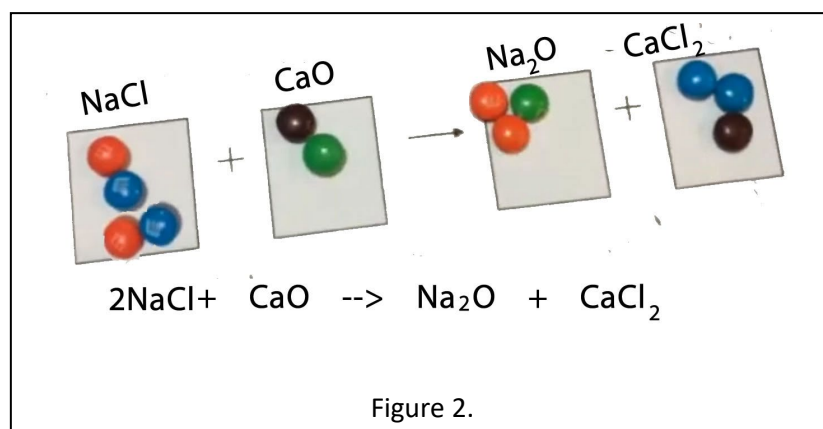
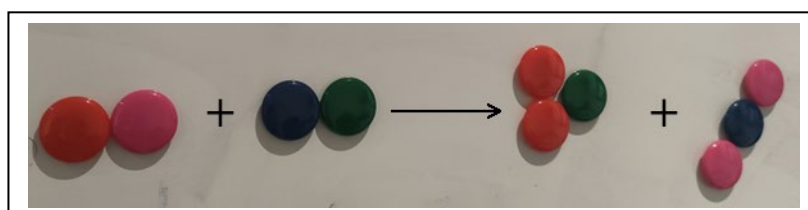


Figure 2 represents the balanced chemical equation. Note how there is the same number of each atom on both sides of the arrow. The balanced equation obeys the law of Conservation Of Mass.



Magnetic buttons can also be used.



1.  $\text{CH}_4(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$
2.  $\text{CaO}(\text{s}) + \text{HCl}(\text{aq}) \rightarrow \text{H}_2\text{O}(\text{l}) + \text{CaCl}_2(\text{aq})$
3.  $\text{H}_2(\text{g}) + \text{N}_2(\text{g}) \rightarrow \text{NH}_3(\text{g})$
4.  $\text{Na}(\text{s}) + \text{Cl}_2(\text{g}) \rightarrow \text{NaCl}(\text{s})$
5.  $\text{Mg}(\text{s}) + \text{HCl}(\text{aq}) \rightarrow \text{MgCl}_2(\text{aq}) + \text{H}_2(\text{g})$
6.  $\text{H}_2\text{O}_2(\text{l}) \rightarrow \text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g})$
7.  $\text{MgCO}_3(\text{s}) + \text{HCl}(\text{aq}) \rightarrow \text{MgCl}_2(\text{aq}) + \text{H}_2\text{O}(\text{l}) + \text{CO}_2(\text{g})$
8.  $\text{Na}_2\text{CO}_3(\text{s}) + \text{HCl}(\text{aq}) \rightarrow \text{NaCl}(\text{aq}) + \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{l})$