

Balancing Equations

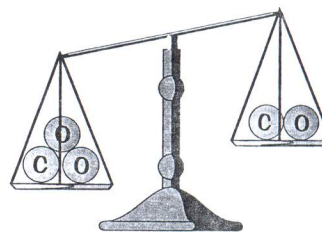
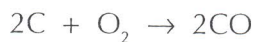
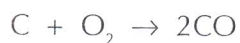
Q1 Which of the following equations are **balanced** correctly? Tick the correct boxes.

	Correctly balanced	Incorrectly balanced
a) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$	<input type="checkbox"/>	<input type="checkbox"/>
b) $\text{CuO} + \text{HCl} \rightarrow \text{CuCl}_2 + \text{H}_2\text{O}$	<input type="checkbox"/>	<input type="checkbox"/>
c) $\text{N}_2 + \text{H}_2 \rightarrow \text{NH}_3$	<input type="checkbox"/>	<input type="checkbox"/>
d) $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$	<input type="checkbox"/>	<input type="checkbox"/>
e) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$	<input type="checkbox"/>	<input type="checkbox"/>

Q2 Here is the equation for the formation of carbon **monoxide** in a poorly ventilated gas fire. It is **not** balanced correctly.



Circle the **correctly balanced** version of this equation.



Q3 In a book, this is the description of a reaction: "**methane** (CH_4) can be burnt in **oxygen** (O_2) to make **carbon dioxide** (CO_2) and **water** (H_2O)".

a) What are the **reactants** and the **products** in this reaction?

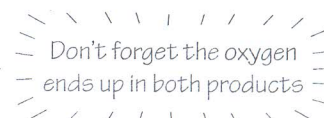
Reactants: Products:

b) Write the **word equation** for this reaction.

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c) Write the **balanced symbol equation** for the reaction.

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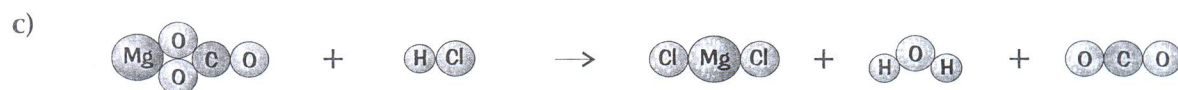
Top Tips: The most important thing to remember with balancing equations is that you can't change the **little numbers** — if you do that then you'll change the substance into something completely different. Right, now that I've given you that little gem of knowledge, you can carry on with the rest.

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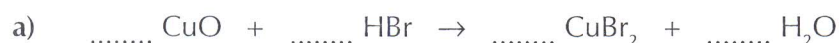
Q4 Write out the balanced **symbol** equations for the picture equations below (some of which are unbalanced).



You can draw more pictures to help you balance the unbalanced ones.



Q5 Add **one** number to each of these equations so that they are **correctly balanced**.



You need to have 2 bromines and 2 hydrogens on the left-hand side.

Q6 **Balance** these equations by adding in numbers.

