

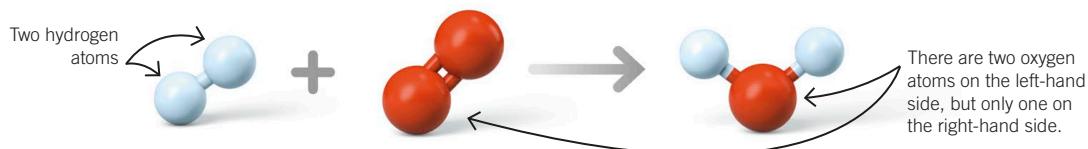
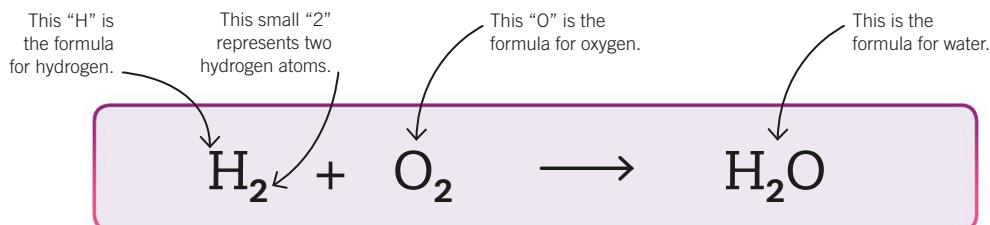


Balancing Equations

During chemical reactions, atoms (see page 26) of different elements (see page 30) rearrange to form new products. To reflect this, the two sides of a chemical equation must be balanced so they both have an equal number of atoms. If an equation is unbalanced, numbers can be added to balance it. Charges must also balance (see page 151).

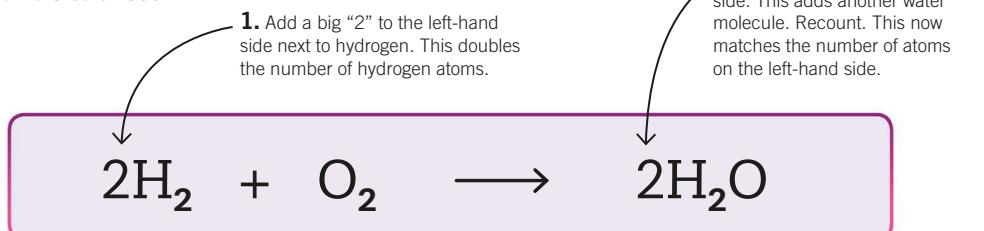
An unbalanced equation

This equation shows the elements hydrogen and oxygen reacting to make water. It is an unbalanced equation, because it has two oxygen atoms on the left but only one on the right.



How to balance an equation

Keep adding numbers to the equation until it is balanced.



Key Facts

- ✓ Equations must be balanced, with the same number of atoms on both sides, because atoms are never lost or gained during reactions.
- ✓ Unbalanced equations can be balanced by adding numbers in front of the formulas, until both sides have the same number of atoms.