14–16 years

# Quantitative chemistry

## Unscrambling definitions

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# Unscrambled definitions

A **limiting reactant** is completely used up in a chemical reaction, which therefore limits the amount of products that can be formed.

**Excess reactant** is not used up in a chemical reaction because another reactant has run out first.

**Atom economy** is the mass of the desired product given as a percentage of the total mass of the reactants, in a balanced symbol equation.

**Percentage composition** is the relative mass of the atom(s) of one element in a compound, given as a percentage of the relative formula mass.

A **mole (mol)** is the unit of amount of substance, where one mole is the amount containing $6.02 \times 10^{23}$ (Avogadro's number) atoms, molecules or formula units.

**Avogadro's number** is the number $6.02 \times 10^{23}$, which is the number of atoms, molecules or formula units in one mole of the substance.

The **end point** in a titration is the exact volume added when the indicator changes colour.

The **titre** is the volume of solution added from the burette that is needed to reach the end point.

# Connection completion

In a titration, a neutralisation reaction occurs, and the end point is determined _____ a colour change in the indicator. The titre allows us to calculate the number of moles of the chemical in the burette which _____ enables us to calculate the number of moles in the solution of unknown concentration. If, _____, the end point is overshot, there will excess reactant remaining and the titre reading will be incorrect.

| A | despite | thus | additionally |
|---|---|---|---|
| B | through | additionally | therefore |
| C | by | furthermore | despite this |
| D | as a result of | consequently | however |

# Completed sentences

In a titration, a neutralisation reaction occurs, and the end point is determined **as a result of** a colour change in the indicator. The titre allows us to calculate the number of moles of the chemical in the burette which **consequently** enables us to calculate the number of moles in the solution of unknown concentration. If, **however**, the end point is overshot, there will excess reactant remaining and the titre reading will be incorrect.