The effect of concentration

- increasing the concentration of reactants increases the reaction rate.
- more particles so it's more likely that the reactant particles will collide
- Increasing the pressure of gas has the same effect.

measured in moles per cubic decemeter (mol/dm^3.)

Catalyst- A substance which increases the rate of reaction but is not chemically affected by the reaction

The properties of simple covalent compounds:

dull solids or colourless liquids/gases. Soft with a low melting point.
Do not conduct electricity and have a low solubility.
simple molecular substances do not conduct electricity, i.e. Hydrogen chloride.

Giant Metallic Structures

- metals are malleable- layers can slide over another allowing them to change shape.
- good conductors of electricity and heat as they have free electrons.

1nm = 1 thousand millionth of a metre. - high surface area to volume ratio, good catalysts.

Mass = Mr x Mole.

You can find out the percentage mass of each element present in a compound if you know its formula.

Example What is the percentage mass of hydrogen and oxygen in water? (H_2O)
(Ar values: H=1, O=16).

Step1 work out the relative or molecular formula mass of H_2O.

$(2 \times H) + (1 \times O) = (2 \times 1) + (1 \times 16) = 18$.

Step2 use the mass of each element present to find its percentage.

$\%$ mass $\div$ Mr $\times 100\%$

$\%$ hydrogen $= 2 \div 18 \times 100 = 11.1\%$

$\%$ oxygen $= 16 \div 18 \times 100 = 88.9\%$