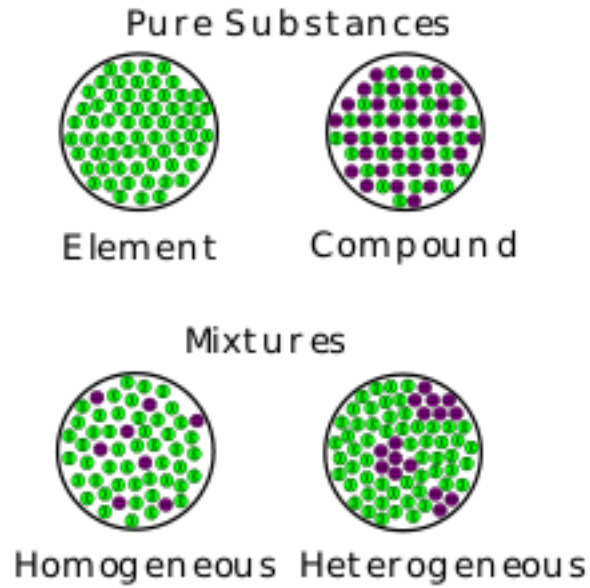
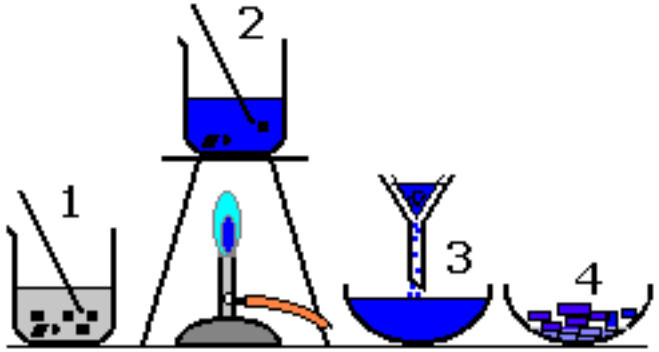
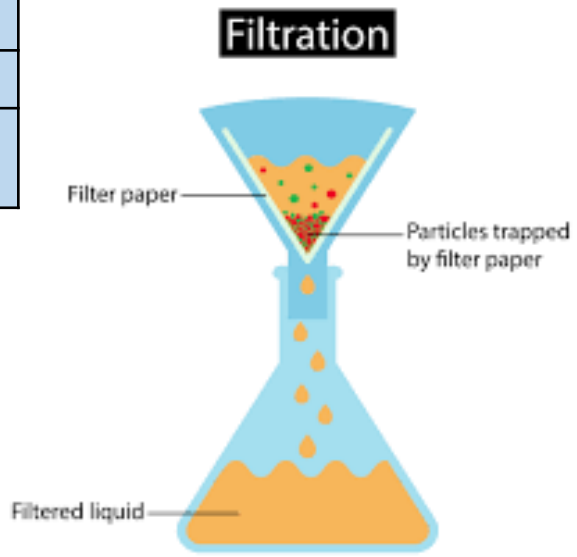
Chemistry 7E Mixtures and Separation

1	A mixture contains different elements and/or compounds.
2	A suspension is a mixture of two substances that separate if the mixture is not stirred. Suspensions are often a solid and a liquid.
3	A colloid is a mixture that has one substance dispersed into another substance and they will not separate easily. A colloid is cloudy or opaque so it is easy to see that it is a mixture.
4	A solution is a mixture where the solid dissolves in the liquid. This makes the mixture clear or transparent.
5	The liquid in a solution is called the solvent and the substance that is dissolved is called a solute
6	A substance that will dissolve in a solvent is described as being soluble. Some substances will not be soluble in water but will be soluble in other solvents such as alcohols.
7	When no more solute will dissolve in the solvent the solution is described as saturated.
8	Filters can be used to separate solid particles from a liquid. The liquid particles are small enough to pass through the microscopic holes in the filter but the solid particles are too large.
9	Evaporation is the process by which a liquid becomes a gas or vapour.
10	The temperature at which evaporation happens is different for different substances but it is know as its boiling point.







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11	Paper chromatography is used to separate mixtures based on their solubility
12	A chromatogram is the name given to a completed chromatography experiment that shows separation of inks or dyes
13	To calculate an RF value = distance travelled by spot ÷ distance travelled by solvent front
14	Distillation separates mixtures based on their different boiling points
15	Distillation can be used to separate salt from sea water
16	Filters can be used to make water safer to drink, removing harmful substances that could make us sick.
17	When carrying out chemical analysis it is important to use pure water so that there are no other chemicals present that could affect the results of your investigation.

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$