Separating and Purifying

The key areas of study in this topic are:

- Experimental techniques used to separate mixtures and purify substances
- Application of the techniques to the purification of water for drinking

By the end of this topic I should be able to:	Start	End
2.5 Explain the difference between the use of 'pure' in chemistry compared with its everyday use and the differences in chemistry between a pure substance and a mixture		
2.6 Interpret melting point data to distinguish between pure substances which have a sharp melting point and mixtures which melt over a range of temperatures		
2.7 Explain the experimental techniques for separation of mixtures by: • a simple distillation • fractional distillation • filtration • crystallisation • paper chromatography		
2.8 Describe an appropriate experimental technique to separate a mixture, knowing the properties of the components of the mixture		
2.9 Describe paper chromatography as the separation of mixtures of soluble substances by running a solvent (mobile phase) through the mixture on the paper (the paper contains the stationary phase), which causes the substances to move at different rates over the paper		
2.10 Interpret a paper chromatogram: • to distinguish between pure and impure substances • to identify substances by comparison with known substances • to identify substances by calculation and use of Rf values		
2.11 Core Practical: Investigate the composition of inks using simple distillation and paper chromatography		
2.12 Describe how: • waste and ground water can be made potable, including the need for sedimentation, filtration and chlorination • sea water can be made potable by using distillation • water used in analysis must not contain any dissolved salts