Foxford Learning Plan

YEAR 12 - Unit 2 Aim C

Undertake chromatographic techniques to identify components in mixtures.

Summer 1

Key Vocabulary

Solvent	The liquid in which a solute is dissolved to form a solution
Paper chromatography	A technique for separating dissolved chemical by observing their different rates of migration across sheets of paper
Thin layer chromatography (TLC)	Chromatography in which compounds are separated on a thin layer of adsorbent material, typically a coating of silica gel on a glass plate or plastic sheet
Stationary phase	The substance fixed in place for the chromatography procedure. Examples include the silica layer in thin-layer chromatography
Mobile phase	The phase that moves in a definite direction. It may be a liquid or a gas. The mobile phase consists of the sample being separated and the solvent that moves the sample through the column
Solubility	The degree to which a substance dissolves in a solvent to make a solution
Rf value	The ratio of the solute's distance travelled to the solvent's distance travelled. A given component will always travel the same distance in a given solvent under the same conditions.
Capillary Tube	A very narrow glass tube, when dipped in a liquid it is observed that liquid in the capillary either rises or falls relative to the surrounding liquid level. This phenomenon is called capillary action.

Over the course of the topic, I will be able to:

Key Skills

Demonstrate safe working practices and a high level of proficiency when using the following chromatography techniques

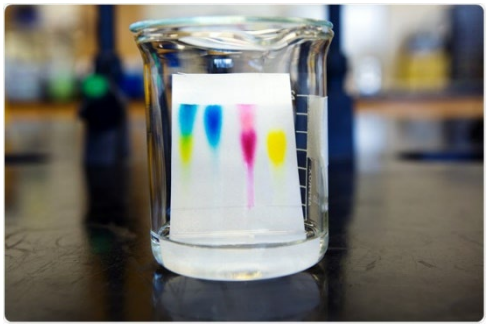
- paper chromatography of plant pigments and amino acids
- Thin layer chromatography of plant pigments

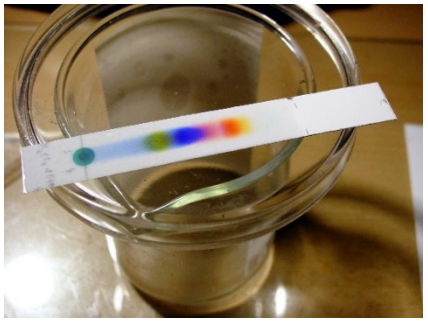
Produce an observational report of my results from the paper chromatography and TLC of extracted plant pigments and from paper chromatography of amino acids

Calculate Rf values and consider factors that influence separation of different molecules

Justify the identification of components in the mixtures by linking to scientific ideas about polarity of solvents and the effect of molecule size on its mobility

Evaluate the accuracy of your practical work in relation to the equipment and methods used





I will understand how to:

Evaluate the chromatographic techniques used in relation to outcomes and suggest improvements.

Analyse own chromatograms and relate the factors that affect the separation of mixtures to the quality of results obtained.

Correctly use chromatographic techniques to produce chromatograms.

Explain the use of chromatographic techniques to separate mixtures.