



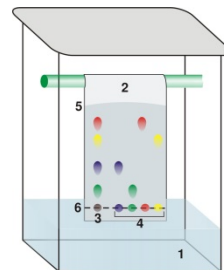
BTEC Applied Science Extended
Certificate (single)
Summer Work



Hand in – First applied science lesson in September

Name:

What's in a Substance?



Identifying unknowns using chromatography

One of the first assignments that you will complete in applied science will be on chromatography.

Chromatography is regularly used in organic chemistry for separating mixtures of compounds for identification. For example, the Centre for Applied Scientific and Technology (CAST) regularly tests substances to find out what compounds are within them – and if they match the ingredients on the label.

One of CAST's main challenges was to identify substances contained within so called "Legal highs", as there had been numerous deaths related to their usage. These "Legal highs" (now illegal) often contained toxic substances not listed on the label.

Check out these articles - <http://www.bbc.co.uk/news/uk-england-essex-28806635>

<https://www.gov.uk/government/news/campaign-launched-to-warn-of-risks-of-legal-highs--2>

Your Task

You should write an article for apprentice technicians at CAST, describing the main types of chromatography and how they can be used to separate substances.

Your report should include the following:

Introduction – a summary of what you will be writing about in this article.

Science –What is chromatography? (a description of what it is and why it is used)

-Where might chromatography be used? (Give some examples of uses)

Types of Chromatography

For the following three types of chromatography, explain–the science of how they separate substances (include diagrams / photos) **and** what specific types of sample they are used for.

1. Thin layer chromatography,
2. Paper Chromatography
3. Gas chromatography

The following links might help you learn about chromatography;

<https://www.youtube.com/watch?v=SnbXQTTHGs4>

<http://www.chemguide.co.uk/analysis/chromatogrmenu.html>

<http://study.com/academy/lesson/what-is-chromatography-definition-types-uses.html#lesson>

You should complete this assignment as a Word document, print it out and hand it in on your first day back in September to your subject teacher.