

BTEC Medical Science

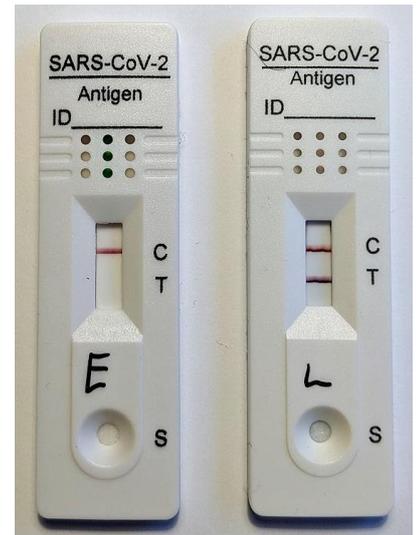
Y11- Y12

Transition task

Chromatography is a separation technique used by scientist to separate solutions.

You will be very familiar with this process, the images to the right show COVID-19 rapid lateral flow tests which use this process to give results.

Scientists use this in many other ways; one of which is to test unknown solutions against a known solution, and then compare results to state what is present. For this reason, a large proportion of your first term will be undertaking this practical. To help you get a head start please work through the sections outlined below and complete any tasks set.



Task 1:

Using the internet to help you in the space provided below construct a method of conducting chromatography on a set of unknow ink samples. Please feel free to use images/ drawings to help you explain the steps needed to be carried out.

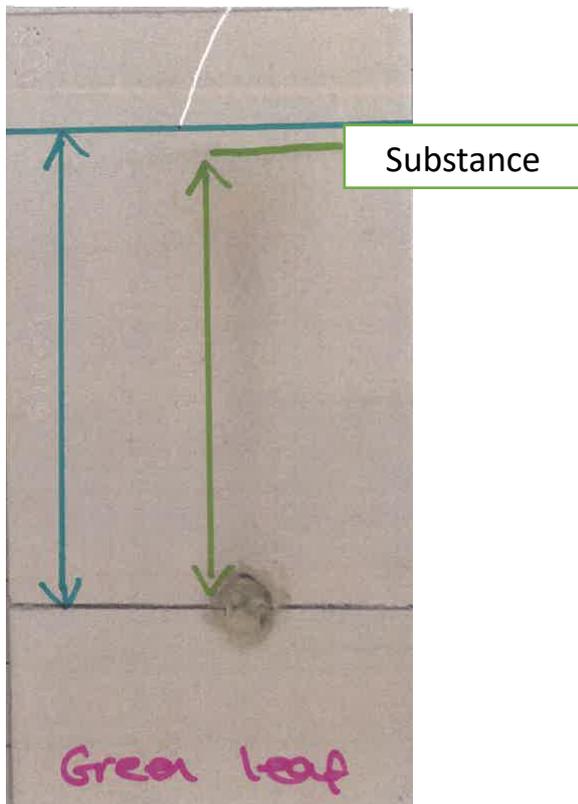
Task 2:

State the equation for “retention factor” and explain how this is vital in determining what is present in a solution.

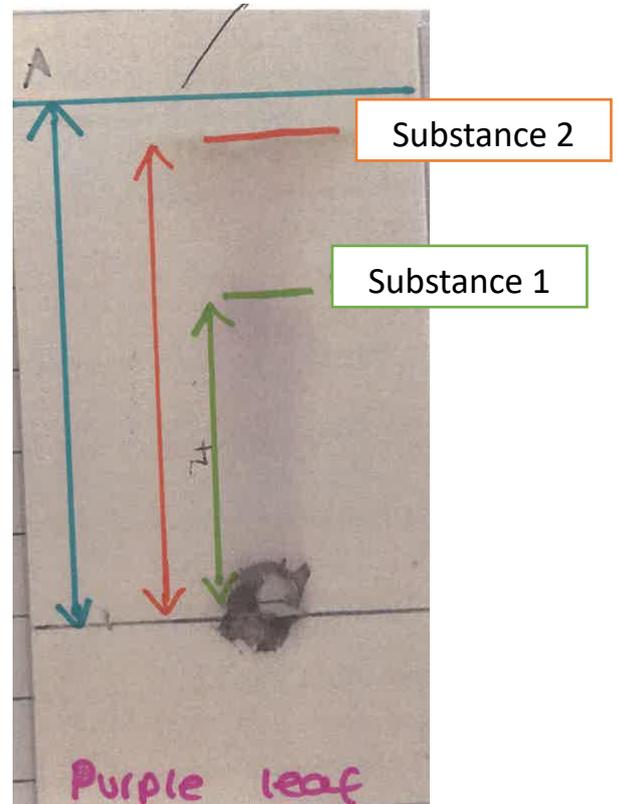
Task 3:

Using the equation, you have stated in task 2, practice calculating so Rf values for some chromatography samples carried out.

Chromatography test 1



Chromatography test 2



Task 4:

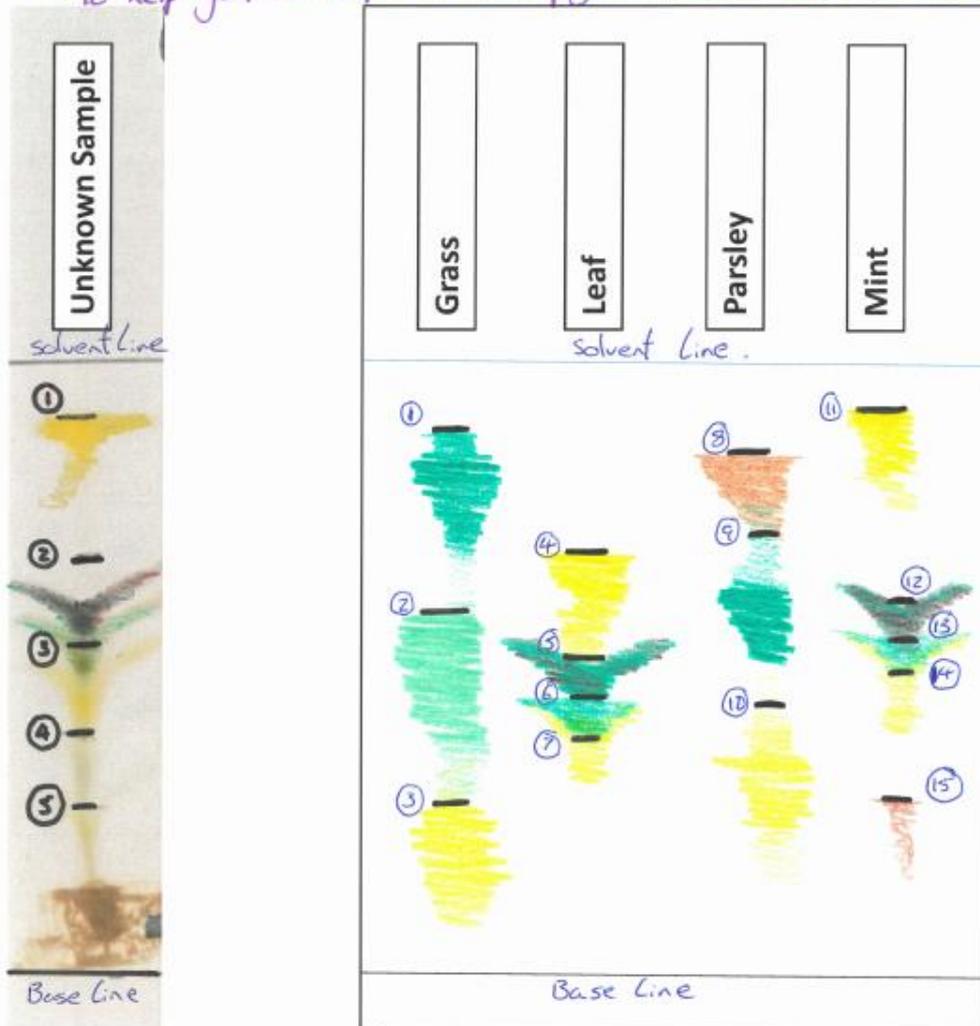
Now you have practiced carrying out Rf calculations, attempt the three questions below.

(Hint: when completing task 3 use values you have calculated to support your answer)

① For the unknown sample work out the Rf value for all 5 pigments.

② For each of the samples work out their Rf values.

To help you; the tops of each pigment have been marked with a line.



③ Looking & comparing both tests; can you explain what the unknown sample is?

Task 5:

Now you have researched and carried out some chromatography calculations yourself, can you state any possible problems or areas where you may have to make alterations to your original method.