

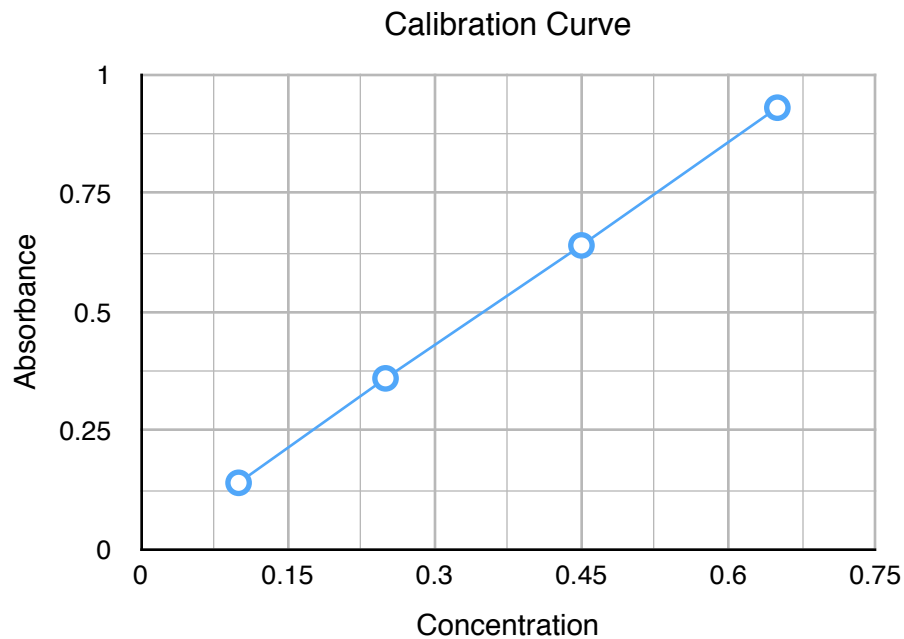
Students will be able to: Measure the absorbance of a solution. Create a absorbance calibration curve. Determine the concentration from absorbance data using a calibration curve. Define each variable in the Beer-Lambert law.

Beer-Lambert Law

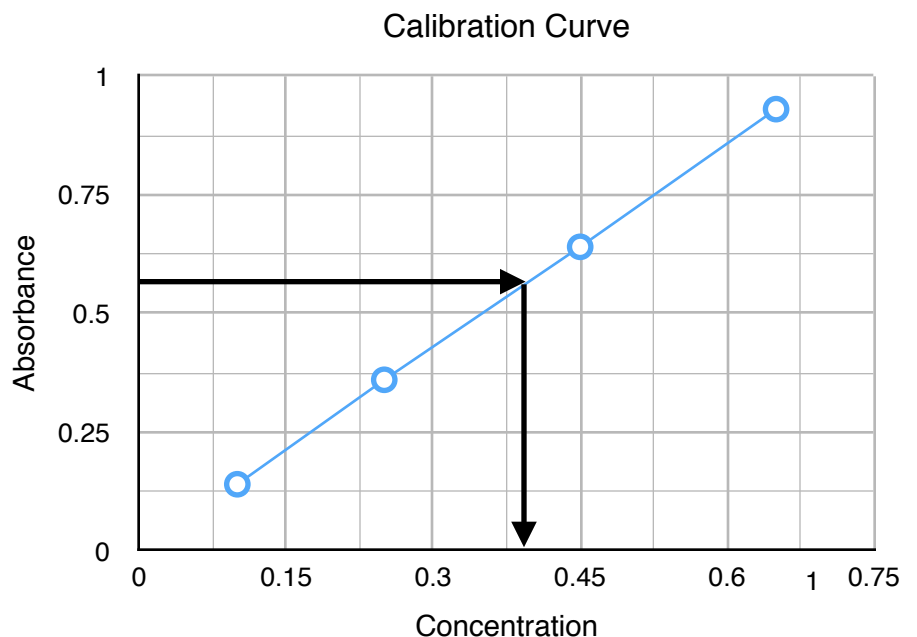
When a solution absorbs light we can use the Beer-Lambert law to relate the absorbance(A) to the concentration(c) according to this equation:

$$A=abc$$

To use the Beer-Lambert law we need to generate a calibration curve by measuring the absorbance of solutions of known concentration.

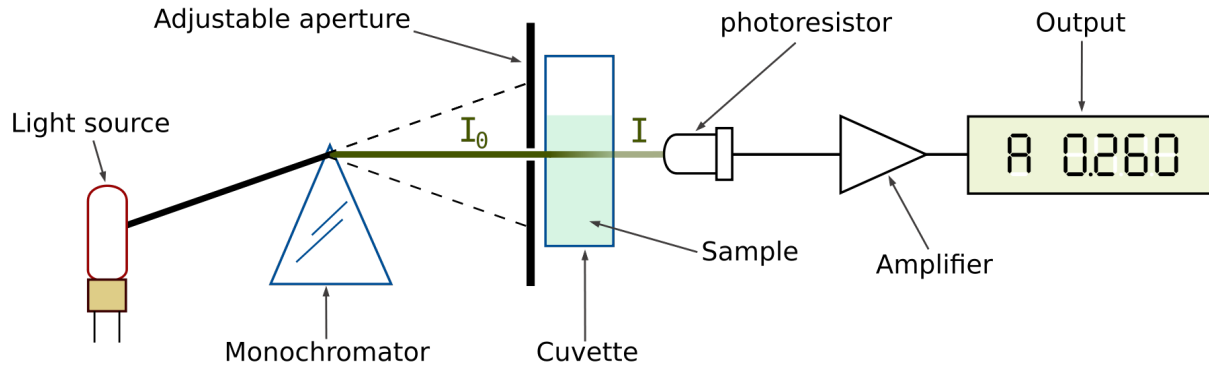


Once we have created a calibration curve we can use it to determine the concentration of a solution where we don't know the concentration. We start by measuring the absorbance of the solution and then using the calibration curve we can find the concentration.

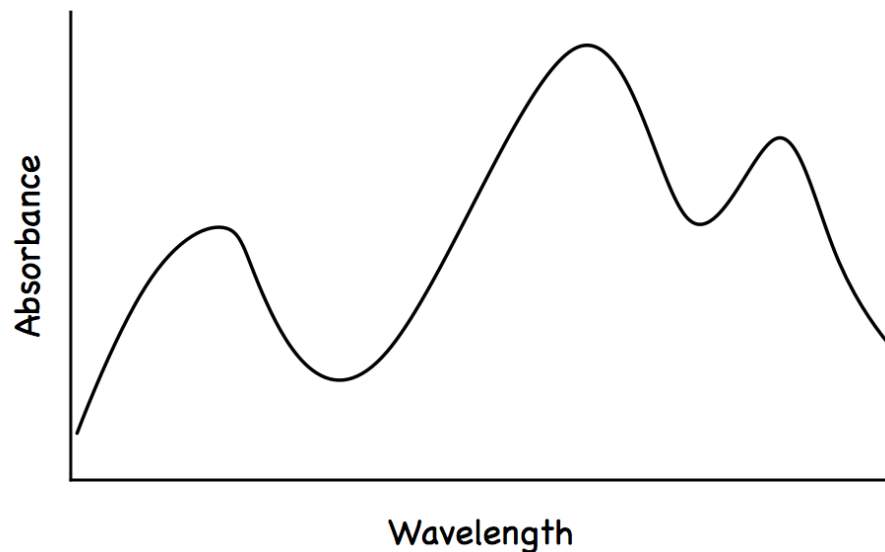


Spectrophotometers

The spectrophotometer is the device we use to measure the amount of light absorbed by the sample. It has a few key components.



One of the first things we'll need to do to use the spectrophotometer is determine the best wave length to use. To do that we'll need to determine the absorbance of the sample at different wavelengths and graph that.



After finding the best wave length we can then proceed to zero the spectrophotometer and measure the absorbance of different concentrations.