

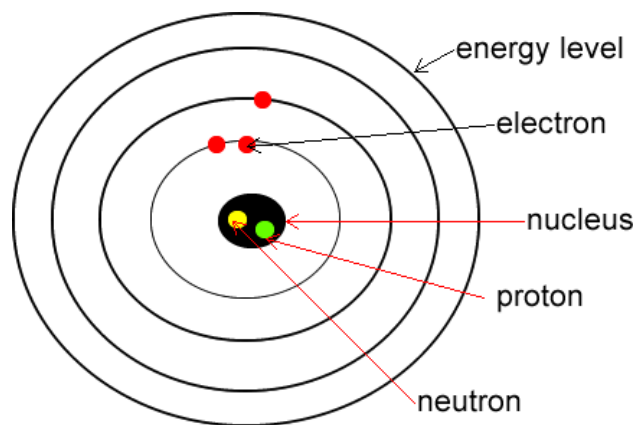
Friday Worksheet
UV-visible and AA Spectroscopy 1

Name:

- 1) A sample of fish, caught from the bay, was to be analysed for mercury content. It is to be analysed by atomic absorption spectroscopy. Place the following in order so as to make a viable analysis procedure. Some steps may not need to be used.
 - a) Prepare standard solution of mercury.
 - b) Filter the sample of crushed, dissolved fish.
 - c) Measure an accurate mass of fish sample.
 - d) Refer the absorbance reading to the calibration curve to obtain the concentration.
 - e) Construct a calibration curve.
 - f) Dilute the filtrate using a volumetric flask.
 - g) Measure the absorbance of the sample using a Hg cathode lamp.
 - h) Titrate with a burette until the end point is reached.
 - i) Dissolve the crushed sample in an appropriate acid solution.
 - j) Take a small sample of the diluted solution and place it in the AAS.
 - k) Wash residue.

- 2) Consider the diagram on the right of an atom.

- a) Indicate which particles take part in forming an:
 - emission spectrum.
 - absorption spectrum



- b) Clearly indicate on the diagram the behaviour of the particle in forming an:
 - emission spectrum
 - absorption spectrum.

- 3) Below is a diagram that loosely fits UV-Visible spectroscopy and atomic absorption spectroscopy.

- a) Indicate on the diagram what difference makes AAS a more sensitive procedure than UV-?
- b) X is common to both procedures. Indicate what it could represent.

