

Summer project for prospective year 12 students of Applied Science

Subject	Level 3 BTEC Applied Science
Member of staff to contact if further information required.	Dr Fellowes
	Skills/knowledge they are expected to gain
Suggested text / book to read & websites	<p>Understanding of</p> <ol style="list-style-type: none"> 1) basic cell structure and 2) organisation of chemical elements in the Periodic table <p>AS level biology textbook or revision guide AS level chemistry textbook or revision guide</p> <p>http://cellsalive.com/ http://www.docbrown.info/ http://www.physicsandmathstutor.com/</p>
Piece of investigative work	<p><u>Structure and function of animal cells</u></p> <ol style="list-style-type: none"> 1. Draw a labelled diagram of a typical animal cell 2. Describe the structure and explain the function of: plasma membrane, nucleus, lysosomes, endoplasmc reticulum, Golgi, ribosomes & mitochondria 3. Explain the fluid mosaic model of cell membranes; include a diagram 4. Explain the differences between diffusion, osmosis, facilitated diffusion and active transport; include diagrams and an example of where in the body each process occurs <p><u>Organisation of chemical elements</u></p> <ol style="list-style-type: none"> 1. Draw a labelled diagram of the atom structure of one of the first 20 elements; describe the properties of the basic sub-atomic particles 2. Describe the shared properties of (i) the Group 1 elements (ii) the Group 7 elements; explain the changing properties going down each group 3. Use diagrams to show the bonding in the compounds lithium fluoride and methane