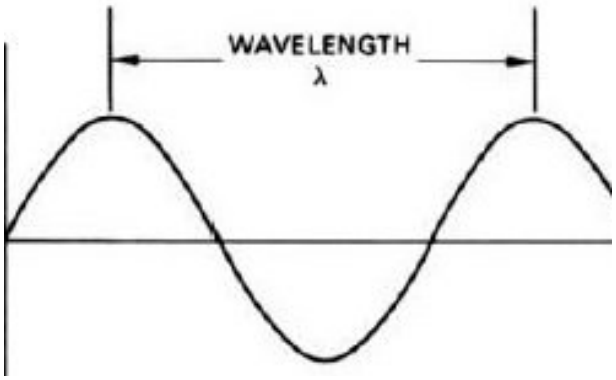
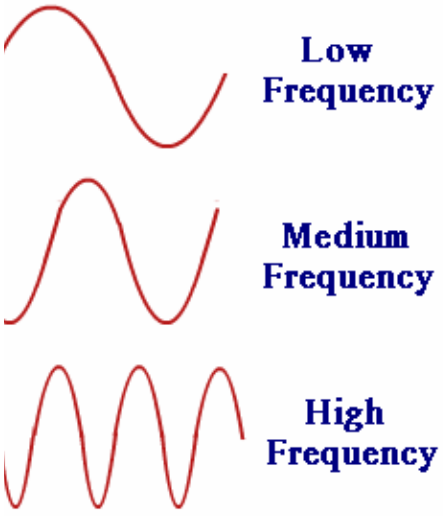
Atomic Spectra Worksheet

1) Describe Bohr's planetary model.
2) In what form of energy, do the electrons gain energy to move between energy levels?
3) List the seven colors of the visible spectrum in order of increasing energy.
4) How do atomic spectrums tell us what distant stars are made of?
5) Draw the waves of photons of light corresponding to the seven colors of the rainbow.
6) In number 3, label which color will have high energy and which will have low energy.
7) Wavelength is the distance from the top to top of a wave, as shown in the picture to the right. Based on this information, which color of the rainbow would have the shortest wavelength and which would have the longest?



8) Frequency is how often a wave passes a certain point, as shown in the picture to the right. Based on this information, which color of the rainbow would have the highest frequency and which would have the lowest frequency?
9) When an electron falls from a higher level to a lower level, how is energy released?
10) Which electron has more energy: an electron in the ground state or one in an excited state? Explain.
11) What is the energy difference between a photon of yellow light and a photon of purple light?



12) Similar to your lab, draw an atom's electron movements that has the corresponding spectra in a spectroscope: