

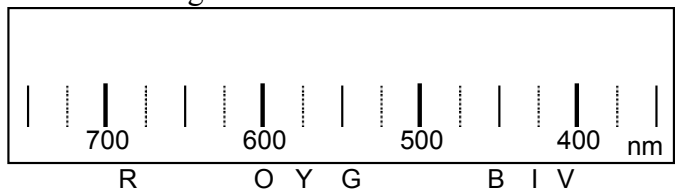
WKS - Honors
Emission Spectra and The Bohr Atom

Name _____
 Period _____ Date _____

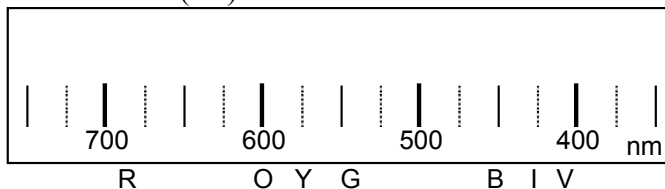
Emission Spectra:

- Describe what you see when you look at sunlight or other white light source through a spectroscope:
- For the following light sources, draw in the approximate spectra that you observe. (Draw vertical lines at the approximate wavelength and in the correct color.)

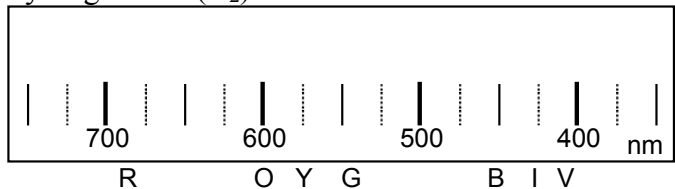
Fluorescent Light



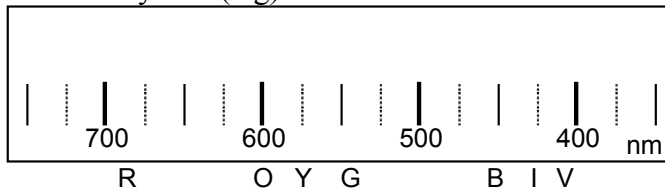
Neon Gas (Ne)



Hydrogen Gas (H₂)



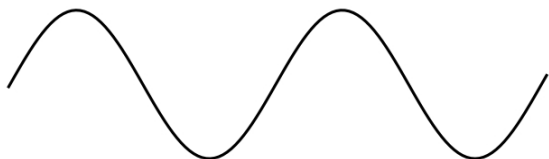
Mercury Gas (Hg)



- Based on the above spectra, what gas must be inside a fluorescent light bulb? *Why?*

Light as energy and waves:

- Below are diagrams of two different waves of light. Compare the two light waves by circling the correct words.



(long, short) wavelength
 (low, high) frequency
 (low, high) energy



(long, short) wavelength
 (low, high) frequency
 (low, high) energy

- Answer the following general questions about spectroscopy and light:

- Which has a shorter wavelength — red light or violet light? _____
- As the wavelength gets longer, does the frequency get higher or lower? _____
- Which has a higher frequency— red light or violet light? _____
- As the frequency increases, does the energy increase or decrease? _____
- Which is more energetic— red light or violet light? _____

