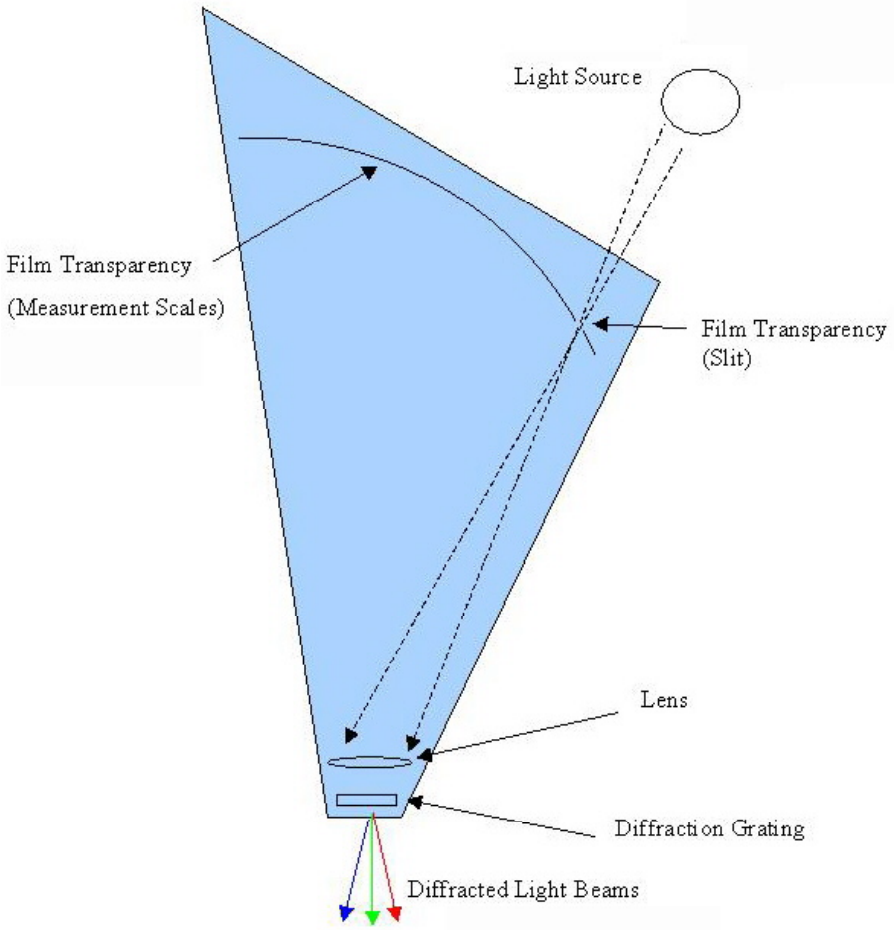
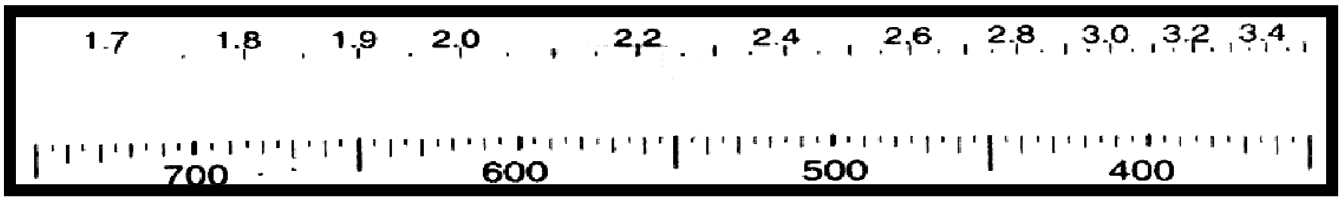
What is a Spectrometer?

The spectrometer is a very simple yet useful device containing a diffraction grating, scale and a lens. In the spectrometer you will use, the light enters from a clear slit in the transparency. The thin beam of light travels the length of the housing until it reaches a lens, which collimates the beam (focuses it to infinity). The diffraction grating is located just after the lens, and you place your eye up close to the grating as you look through it. The grating disperses the different wavelengths (colors) of light, because the diffraction angle is a function of wavelength*. The resulting rainbow image appears to be located at optical infinity, superimposed on the scales. The markings on the scales are actually transparent too, so that rear illumination allows you to see them clearly.

You can use the scales on this page to record your observations using the spectrometer. Then you can identify each light source by referring to the colored charts in the classroom or other references.





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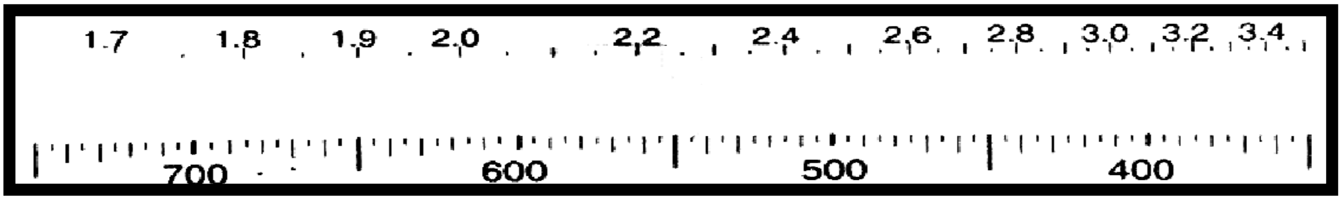

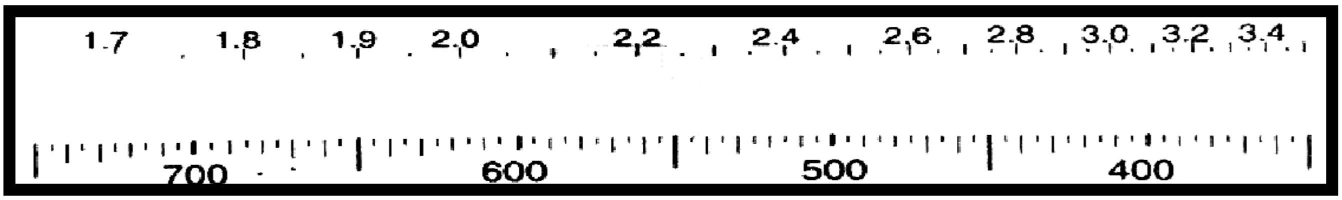

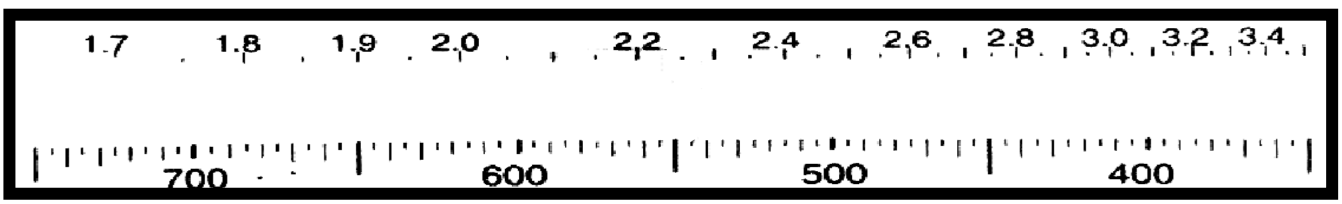

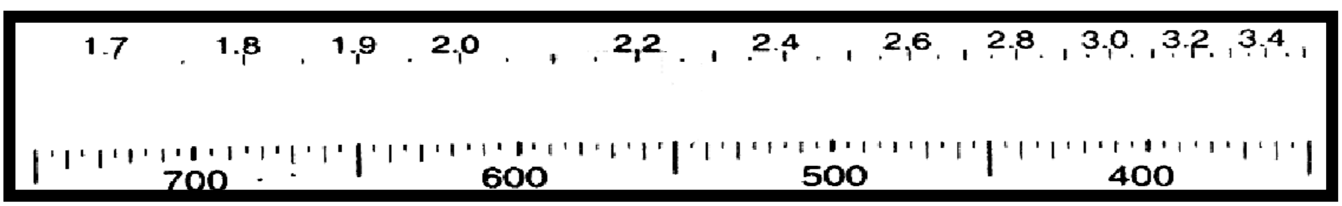

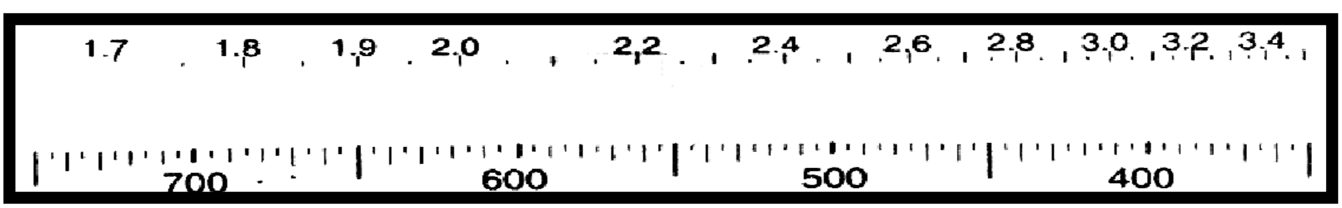

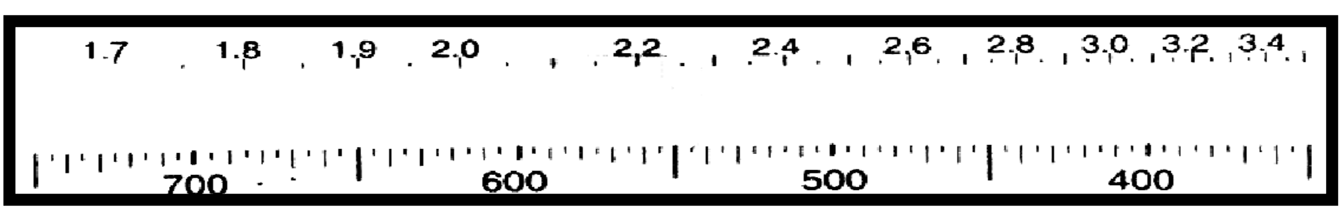

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