



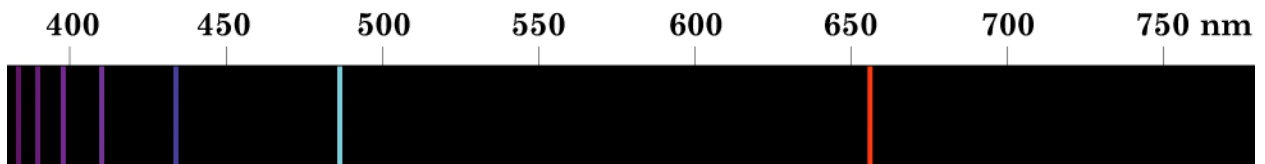
LESSON PLAN: STELLAR FINGERPRINTS: THE SPECTRA OF STARS

Activity Sheet 3

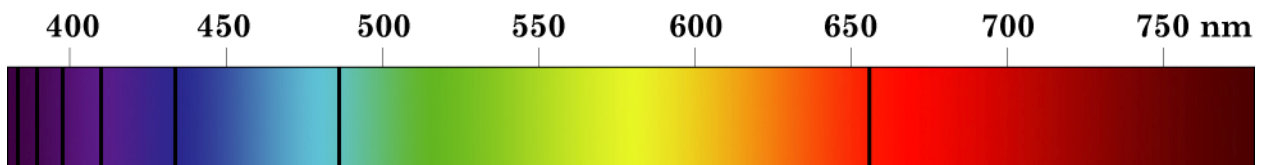
Name _____

Comparing Emission and Absorption Spectra

Hydrogen Emission Spectrum



Hydrogen Absorption Spectrum



Adapted from <http://www.efg2.com/Lab/ScienceAndEngineering/Spectra.htm>

1. After studying the emission and absorption spectra for hydrogen, predict the absorption spectrum for element X given the following emission spectrum. Use the space provided below the emission spectrum to draw your predicted absorption spectrum.

Emission Spectrum for Element X



Predicted Absorption Spectrum for Element X



2. Identify the wavelengths that correspond to each bright (or dark) band for the emission (or absorption) of hydrogen in the visible range of 400 –700 nanometers. Describe the relationship between the wavelength and the color.

