**FLAMES AWAY!**

**Accurately color your observations using the spectroscope. Label each element, and the high and low energy ends of the white light spectrum**.

Wavelength

4

5

6

7

Wavelength

4

5

6

7

###### Spectrum of white light Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wavelength

4

5

6

7

Wavelength

4

5

6

7

###### Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4

5

6

7

4

5

6

7

###### Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wavelength

4

5

6

7

Wavelength

4

5

6

7

###### Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wavelength

4

5

6

7

Wavelength

4

5

6

7

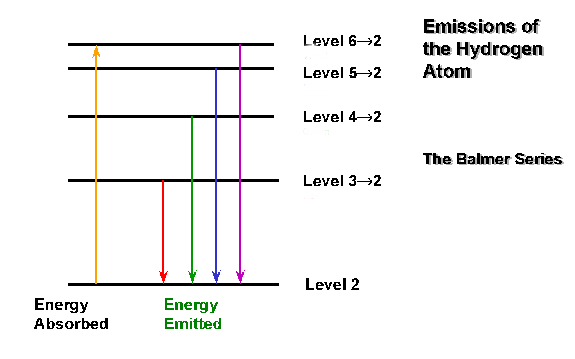
Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Element Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Questions:** Answer the following questions using your results from the lab, reference page, and the following website.

**Website:**

[**http://www.behsscience.com/flamelab**](http://www.behsscience.com/flamelab)

1. Why is there no light in certain regions of the atomic spectra of elements?
2. Color each emission arrow a different color on the following diagram for the hydrogen atom (using only the colors: red, purple, blue, and green). Account for your coloring.



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Identify the two unknowns and explain how you came to this conclusion.
2. A certain Noble gas spectral tube has been left in the lab without a label. How could you identify what Noble gas it is? Go and look at the spectral tube. What is the Noble Gas?
3. Based on your observations what is the relationship between wavelength and energy? Justify your answer with evidence from this lab.