Name _____

Star Light Star Bright

Activity 1 - The Insight Provided by Starlight

How do scientists know the composition of stars? It's actually quite easy. Use the following directions to complete this activity, and then answer the questions that follow.

Materials - spectroscope, colored pencils

Procedure:

1. Hold the spectroscope so the slit is on the right, and the numbers are on the left.
2. Focus your scope on the light sources provided, draw and color the lines you see on the spectrum. Pay attention to how thin and thick each color is. Also pay attention to gaps in color where there are bands of black. The need to be included.

Sunlight Spectral Emission

Classroom Lights Spectral Emission

Chrome Book Spectral Emission

Element 1 Spectral Emission

Element 2 Spectral Emission

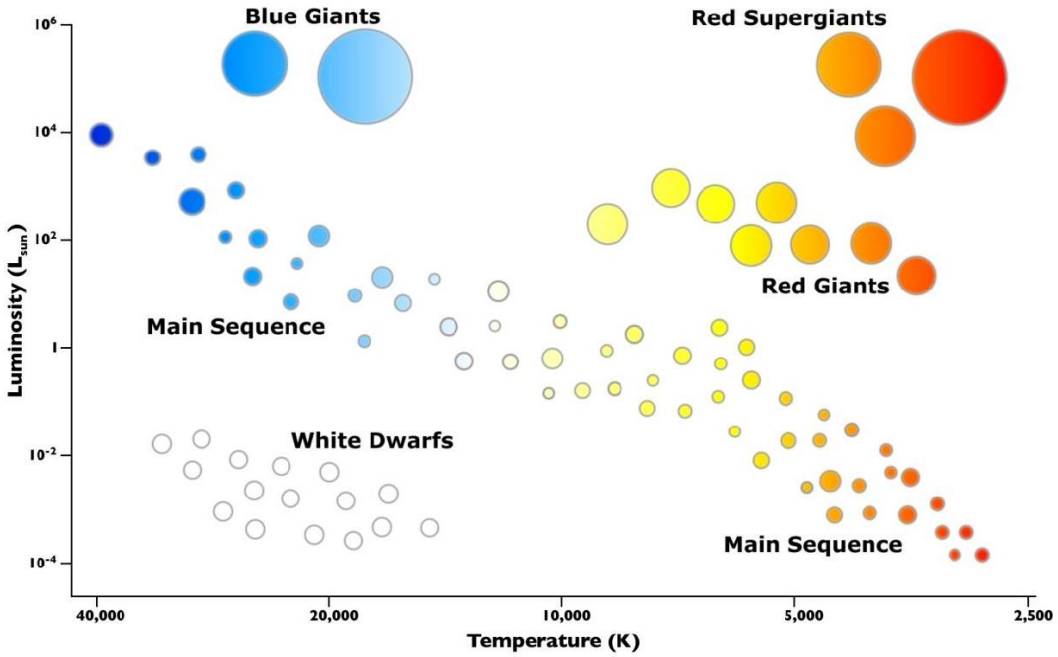
3. How are the spectrums of each light source different?

4. Why do you think each light has a different spectral pattern?

5. How could a spectroscope inform an astronomer of what elements are in a star?

Activity 2 - H-R Diagram

Use the diagram to complete this activity



1. Use the colored pencils to accurately show the color of stars
    a. Shade the stars that are from 2000 K to 3500 K red.
    b. Shade the stars that are from 3500 K to 5000 K orange.
    c. Shade the stars that are from 5000 K to 6000 K yellow.
    d. Shade the stars that are from 6000 K to 7500 K light blue
    e. Shade the stars that are from 7500 K to 40,000 K dark blue
2. What two things can the H-R diagram tell us about stars?

3. What do you notice about the temperature on the x-axis of the H-R diagram?

4. Where are most stars found in the H-R diagram?

5. A star located in the upper right corner of the diagram would be?

6. Describe the temperature and brightness for supergiants and white dwarfs.