Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_

**What Types of Stars are in Our Universe?**

1. Examine the star circles your teacher gives you. Each circle has the following information.

* star name – the common or catalog name of the star
* temperature – the temperature of the surface of the star
* brightness – the number of times brighter the star is than our sun (a fraction means it is dimmer than our sun)
* expected lifetime – the number of years stars of this type are expected to exist at this color and brightness

1. When your teacher indicates, use a meter stick to draw the graph you see up on the active board. Watch your increments and spacing.
2. Correctly position and attach your circles on your groups’ temperature and brightness axes.
3. Once all the star circles are in place, **analyze the trends on your graph and answer the following questions. Use complete sentences!**

* Describe the general trend between temperature and brightness.
* What is the color and brightness of the most abundant stars?
* What are the characteristics of the stars that do not conform to the graph’s trend?
* In terms of the graph’s trend, is our sun typical or exceptional?
* If you replaced the temperature scale on the graph’s x-axis with a color scale, which color would be closest to the graph’s origin and which would be the farthest away?
* In the stars that fit the general trend (these are often called main sequence stars), what relationship do you notice between color and expected lifetime?

**In conclusion, answer the following questions.**

* Why might stars of one color be much more abundant than stars of another color?
* Which type(s) of star should we consider first when looking for stars that might have life-supporting worlds around them? Why?