# Regents Earth Science
## Classification Systems

Name_____

Period _____

INTRODUCTION:

Think for a moment about all the stars you can see in the nighttime sky.

About how many can you see on a dark, clear night?_____

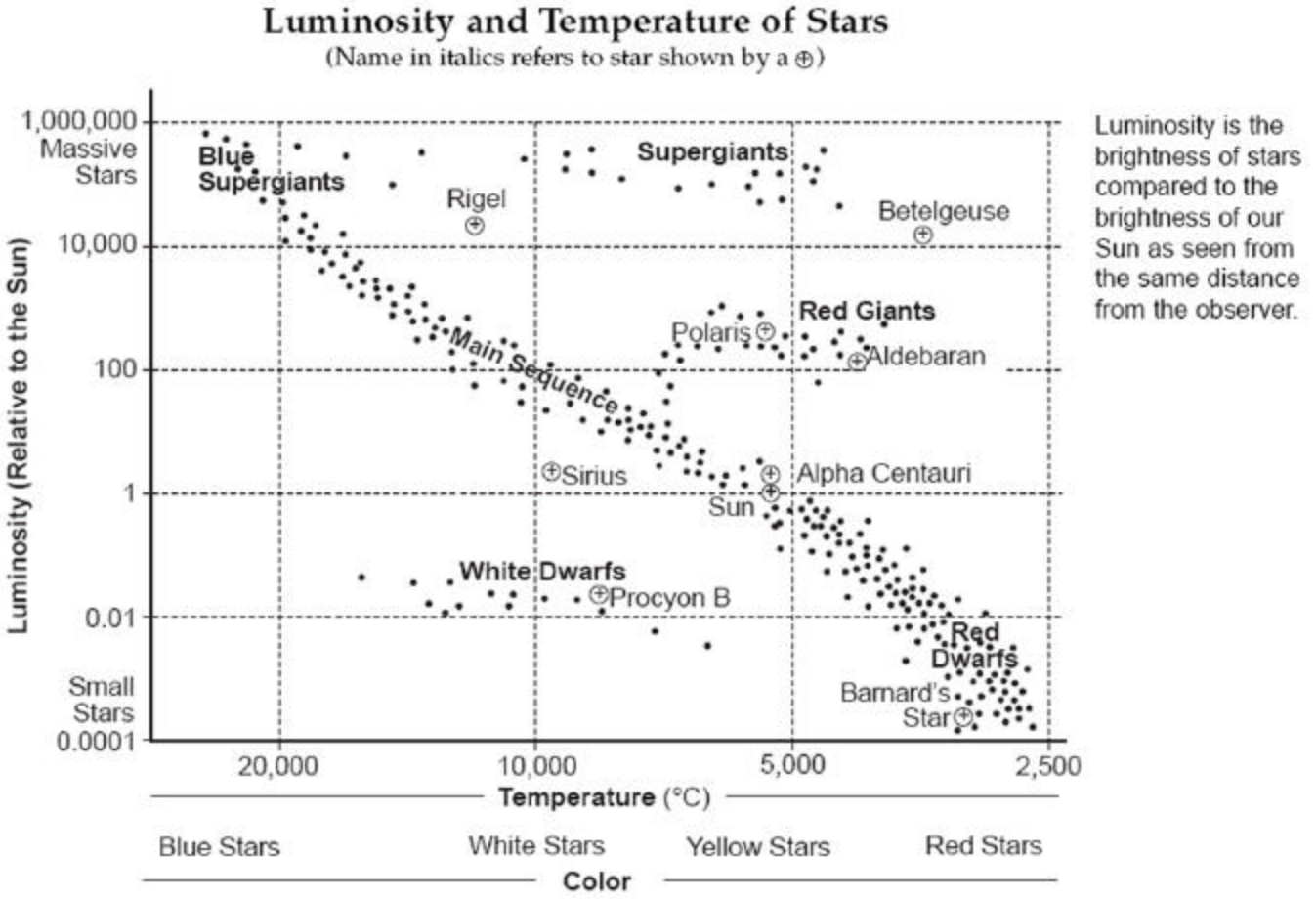
Do they all appear the same?_____

What are some of the differences among stars that you have noticed?

_____

_____

To deal with the vast number and variety of stars, astronomers have developed a system of star *classification*. Every single star in our sky can be fit somewhere onto the chart below, and classification systems have been developed for many other, different kinds of things (try to think of some!)




On the chart above, place a dot that represents a blue star that is about the same luminosity(brightness) as the Sun, and label it with the letter "A"

How does Polaris differ from the Sun?_____

What do Polaris and the Sun have in common? _____

MATERIALS:

A big Pile 'O' Rocks, some paper, something to write with, and your wits!

PROCEDURE:

!. Working in a group, sit down in front of a Pile 'O' Rocks. Look at each rock carefully, and then discuss and agree upon a classification criterion (a characteristic), that will allow you to sort the rocks into 2 groups. Write down the 2 criteria in the space below:

Pile 'O' Rocks _____ Classification Criteria _____

…….and write the classification criteria on the blank card at the lab station.

Sort the rocks at your station into two piles according to your Classification Criteria.

2. When given the signal, mix your rocks back into a single Pile 'O' Rocks, and move to another station.

Look at the Classification Criteria written on the card at the station, and try to sort the rocks into 2 piles according to that classification system.

Can you do it? Describe any difficulties you have sorting the rocks:_____

_____

3. Now try to sort the Pile 'O' Rocks according to the Classification Criteria you used at the first station.

Can you do it? Describe any difficulties you have sorting the rocks:_____

_____

4. If time allows, switch stations again, and repeat steps 2 and 3 above.

5. Think about and answer the following questions:

A. Are classification systems man-made, or natural? _____

B. Can a single group of objects be classified in more than one way?_____ Give an example from this lab that illustrates your answer.

_____

_____

C. Describe 2 possible classification systems that would allow you to place the people in this room into 2 groups

System 1 _____

_____

System 2 _____

_____

D. Suppose I was interested in using some of the rocks used in this lab to build the foundation of my new home. Describe one possible Classification Criteria I might use to decide which rocks to build with, and explain why I'd use it.

_____

_____