## H-R Diagram Worksheet

An H-R diagram shows the relationship between a star's surface temperature and its absolute magnitude.

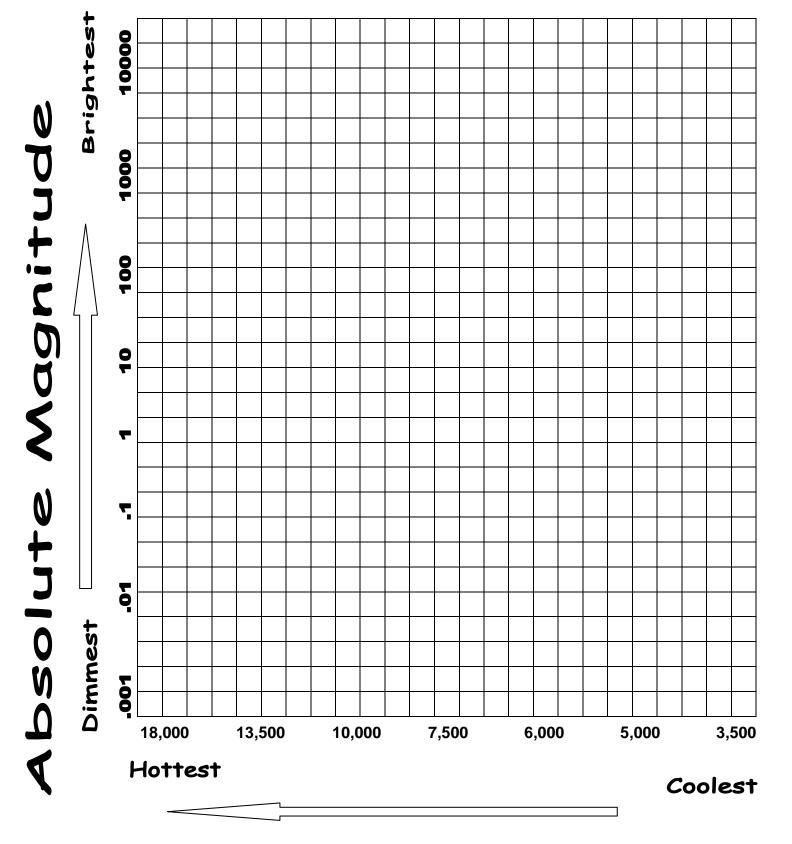
\*You should use colored pencils or crayons for this activity.\*

Remember: a star's brightness increases as you move toward the top of the H-R diagram.

Follow the instructions below to create your own H-R diagram on the next page.

- Our sun is an average star. It should be located at about the center of the diagram.
  Draw and label the sun on the diagram
- 2. Draw and label a red-dwarf star on the diagram. Red dwarf stars are very dim and have a low temperature.
- 3. Draw and label a white-dwarf star on your diagram. White dwarf stars are dim and have a high temperature.
- 4. Draw and label a blue star on the diagram. Blue stars are very hot and bright.
- 5. Draw and label a red giant on the diagram. Red giants are cool and bright.
- 6. Most stars can be plotted along the main sequence of the H-R diagram. These stars range from very bright and very hot stars to very dim and cool stars.
  - a. Draw and label the area where the main sequence would be on the diagram.
- 7. Which of the stars that you have plotted are included in the main sequence? (List the star types below)
- 8. Imagine that you have discovered a new star in the night sky. Your measurements show that it has a surface temperature of  $10,000^{\circ}C$  and an absolute magnitude of 0.1 Based on your diagram, what type of star do you think it is?

## H-R Diagram



## Temperature