Smit 2010 Name: _____ # _____

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.

1. 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°C and an absolute magnitude of 0.1 Based on your diagram, what type of star do you think it is?

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