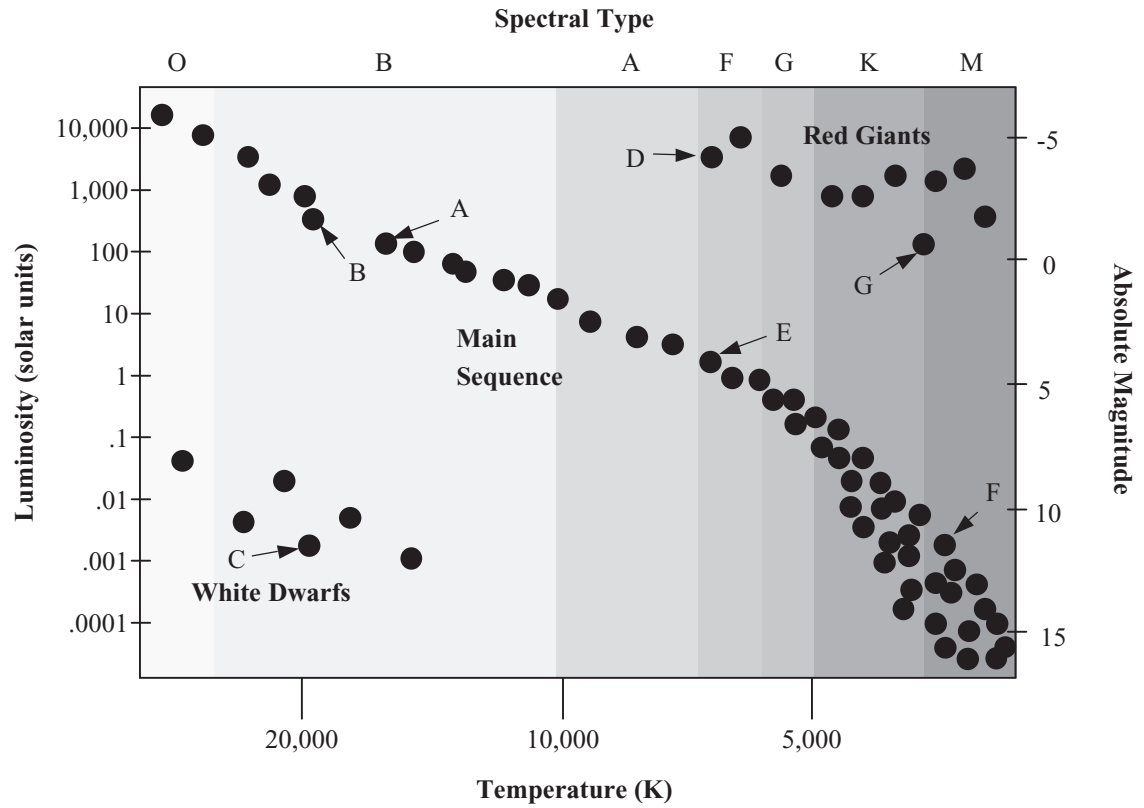


Use the H–R diagram below to answer questions throughout this activity.



- 1) What are the spectral type, temperature, absolute magnitude number, and luminosity of Star A?
 - a) Spectral type:
 - b) Temperature:
 - c) Absolute magnitude:
 - d) Luminosity:

- 2) Which two pairs of labeled stars (A–G) in the diagram have the same temperature?

- 3) Do stars of the same temperature have the same spectral type? Use a pair of stars from your answer to Question 2 to support your answer.

- 4) Which two pairs of labeled stars have the same luminosity?
- 5) Do stars with the same luminosity have the same absolute magnitude number? Use a pair of stars from your answer to Question 4 to support your answer.
- 6) If two stars have the same absolute magnitude number, do they necessarily have the same temperature? Use a pair of stars from the H–R diagram on the previous page to support your answer.
- 7) Stars of the same spectral type have the same (*circle one*):
- absolute magnitude number temperature luminosity
- 8) Stars of the same absolute magnitude number have the same (*circle one*):
- spectral type temperature luminosity
- 9) For each of the following star descriptions, state whether the star would be a red giant, white dwarf, or main sequence star, and provide the letter(s) of a star from the H–R diagram that fits each description.
- a) very bright (high luminosity) and very hot (high temperature)
 - b) very dim and cool
 - c) very dim and very hot
 - d) very bright and cool