

Name: \_\_\_\_\_

## HR Diagram – Student Guide

Pretest Score: \_\_\_\_\_

### Background Information

Work through the background sections on Spectral Classification, Luminosity, and the Hertzsprung-Russell Diagram. Then complete the following questions related to the background information.

Question 1: The table below summarizes the relationship between spectral type, temperature, and color for stars. Note that the surface temperature of the stars in the table increases.

Star	Surface Temperature K	Spectral Type	Color
Betelgeuse		M2	
Arcturus	4,300		
		G2	Yellow
Procyon A		F5	Yellow-White
Sirius A		A1	White
Rigel A	11,000		
Delta Orionis		O9	

Question 2: Complete the following table related to stellar luminosities in solar units using the equation  $L \propto R^2 T^4$ .

Radius ( $R_{\odot}$ )	Temperature ( $T_{\odot}$ )	Luminosity ( $L_{\odot}$ )
	1	1
1	2	
	1	9
1	1/2	