

The Life Cycles of Stars: Using the Hertzsprung-Russell (H-R) Diagram
Earth Science Mr. Traeger

Period: _____

Date: _____

Purpose

The purpose of this activity is to become more familiar with the life cycles of stars and how the Hertzsprung-Russell (H-R) diagram is used to plot their life cycles.

Materials

- Pencil
- Textbook pages 781-788
- Ruler

Procedure

1. Plot the following 25 stars on the H-R diagram on the back. Label each star with a number.
2. Color your plot according to the diagram on page 781 in your book.
3. Label each section on your graph as blue giant, blue supergiant, red giant, red supergiant, main sequence, red dwarf, or white dwarf.

Questions

1. How can you use this diagram to plot the life cycle of a star?

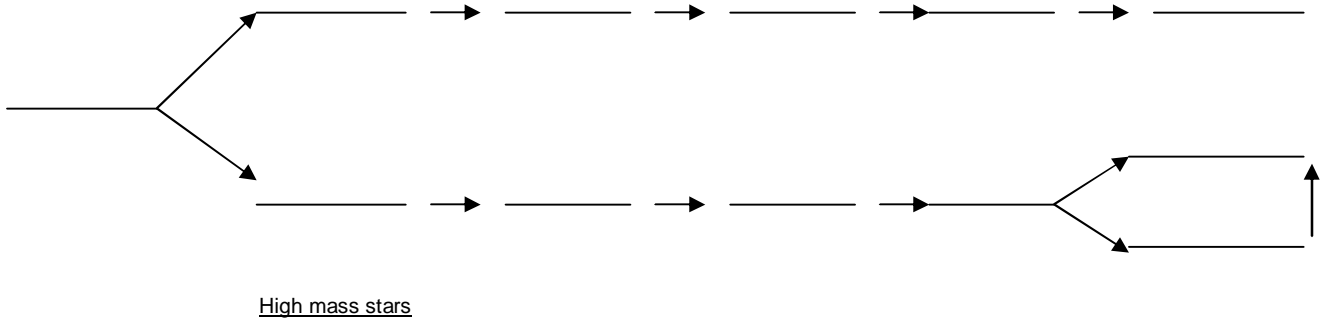
2. How does temperature affect what class a star falls in to?

3. How does luminosity affect what class a star falls in to?

4. Use the tuning fork diagram below to label and define the life cycle of a star

Low mass stars

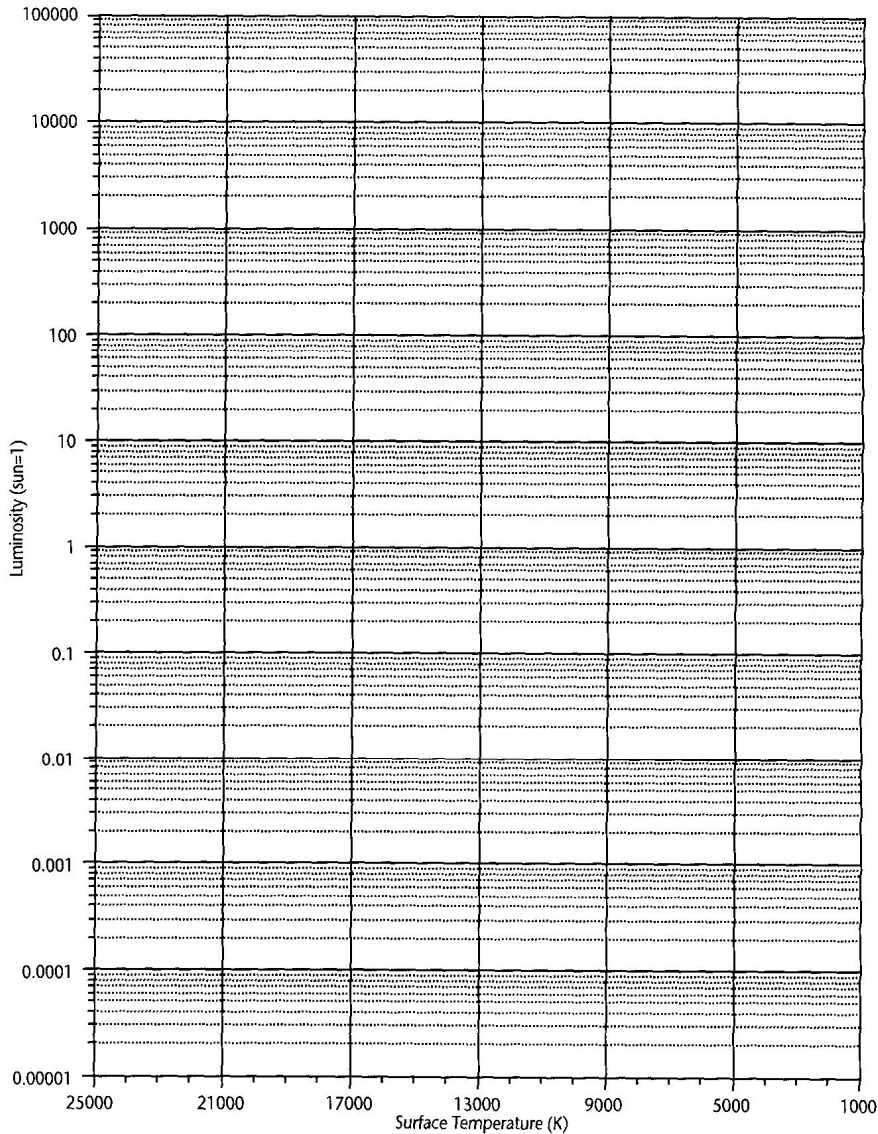
(If fresh supply
of Hydrogen
becomes
available)



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Graph Template



I. Properties of Selected Stars

Number	Star Name	Visual Luminosity	Surface Temperature (K)
1	Sun	1.0	5800
2	Luyten 726-8A	0.00006	2600
3	Epsilon Eridani	0.30	4600
4	Aldebaran	690	3800
5	Eta Aurigae	580	16,000
6	Rigel	89,000	12,000
7	Betelgeuse	20,000	3300
8	Mu Camelopardalis	150	3000
9	Canopus	9100	7400
10	Sirius A	23	10,000
11	Sirius B	0.003	10,000
12	BD +5° 1668	0.0015	3000
13	Procyon A	7.6	6500
14	Iota Ursae Majoris	11	7800
15	Zeta Leonis	50	8800
16	Wolf 359	0.00002	2600
17	Lalande 21185	0.0055	3300
18	Ross 128	0.00036	2800
19	Spica	1900	20,000
20	Arcturus	76	3900
21	Alpha Centauri A	1.3	5800
22	Beta Canis Minoris	240	12,000
23	Antares	3600	3000
24	Zeta Ophiuchi	4500	23,000
25	Vega	52	11,000