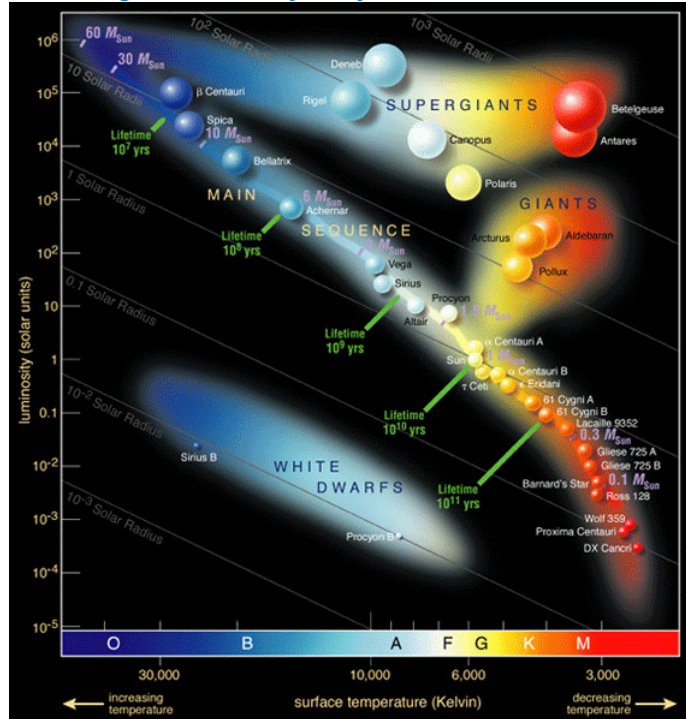


11.3: H-R Diagram for Milky Way Stars

H-R Diagram for Milky Way Stars



Another H-R diagram showing a number of specific stars, as well as representative star sizes. The star sizes are somewhat to scale. Hertzprung-Russel StarData™ by ESO is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)

The H-R diagram shown in illustration above provides stellar data in a different way. The four main groups of stars are clearly identified:

1. **Main Sequence:** most stars, like our Sun; this is the area on the H-R diagram where most stars will spend their stellar lives.
2. **Supergiants:** cool stars which are very large and very bright. These stars generally end with a supernova event and many collapse to become neutron stars and even further collapse to a black hole.
3. **Giants:** cool stars which are a little smaller and dimmer than the Supergiants. The Giants have a different stellar ending than the Supergiants.
4. **White Dwarfs:** very, very hot stars which are very small in size.

This particular H-R diagram is very informative in that it graphically shows relative sizes, (though not to scale), colors (thus temperatures), and in some cases masses when compared to the Sun (for example in the upper left-hand corner: $60 M_{\odot}$, which means a star 60 times the mass of the Sun). There are also a number of representative stars shown; for example:

- Betelgeuse in the constellation Orion — X-axis: 3000K, Y-axis $10^5 M_{\odot}$
- Polaris, the north pole star — X-axis: 6000K, Y-axis between 10^3 and $10^4 M_{\odot}$
- Sirius, the brightest star visible from Earth after the Sun — X-axis: 9000K, Y-axis 10 and $10^2 M_{\odot}$
- Sirius B, the white dwarf companion of Sirius — X-axis: ~25000K, Y-axis 0.1 and $10^{-2} M_{\odot}$
- The Sun — X-axis: 6000K, Y-axis $1 M_{\odot}$

This page titled [11.3: H-R Diagram for Milky Way Stars](#) is shared under a [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license and was authored, remixed, and/or curated by [Lumen Learning](#).