

Star distances

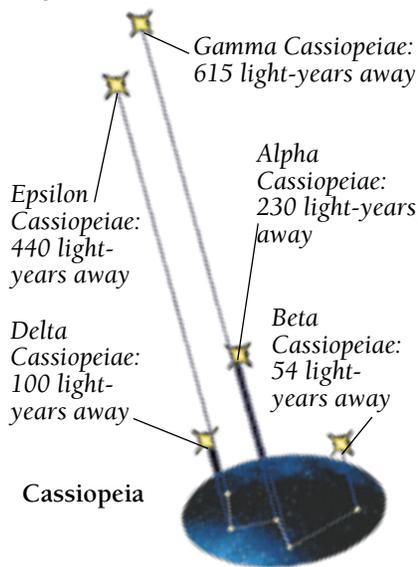
The stars lie so far away from Earth that astronomers cannot measure the distance in miles. They measure distances in light-years. One light-year is how far light travels in one year—a distance of 5.9 trillion miles (9.5 trillion km). Light travels at more than 670 million mph (1 billion kph).

Did you know?

It would take you 40,000 years to reach our nearest star, Alpha Centauri, in the space shuttle. However, if you could travel at the speed of light, the journey would take less than five years.

Vast distances

The stars in a constellation like Cassiopeia are great distances apart. However, they look close together when viewed from Earth.



Light-years away

Draw a line to match each star's distance from Earth in light-years to its distance in miles. Start by working out which is the biggest distance in light-years and match it to the biggest distance in miles, and so on.

Star	Distance in light-years	Distance
1. Sirius A	8.6	1,829 trillion miles (2,945 trillion km)
2. Canopus	310	150 trillion miles (240 trillion km)
3. Arcturus	36.8	51 trillion miles (82 trillion km)
4. Vega	25.3	217 trillion miles (350 trillion km)

Star colors

The color of a star shows the temperature of its surface. Astronomers divide stars into seven types, depending on their temperature. Use the star type table to answer the questions below.

Type	Color	Average temperature
O	Blue 	80,000°F (45,000°C)
B	Bluish-white 	55,000°F (30,000°C)
A	White 	22,000°F (12,000°C)
F	Yellowish-white 	14,000°F (8,000°C)
G	Yellow 	12,000°F (6,500°C)
K	Orange 	9,000°F (5,000°C)
M	Red 	6,500°F (3,500°C)

- Which type of stars are hottest?
.....
- Which color are type G stars, like our Sun?.....
- What is the average temperature of orange stars?.....
- Which four types of stars are hotter than our Sun?.....

Activity Answers

Star distances

Light-years away

- 1 51 trillion miles (82 trillion km)
- 2 1,829 trillion miles (2,945 trillion km)
- 3 217 trillion miles (350 trillion km)
- 4 150 trillion miles (240 trillion km)

Star colors

- 1 O
- 2 yellow
- 3 9,000°F (5,000°C)
- 4 O, B, A, F