



# Stars of the Universe

## Suggested Responses

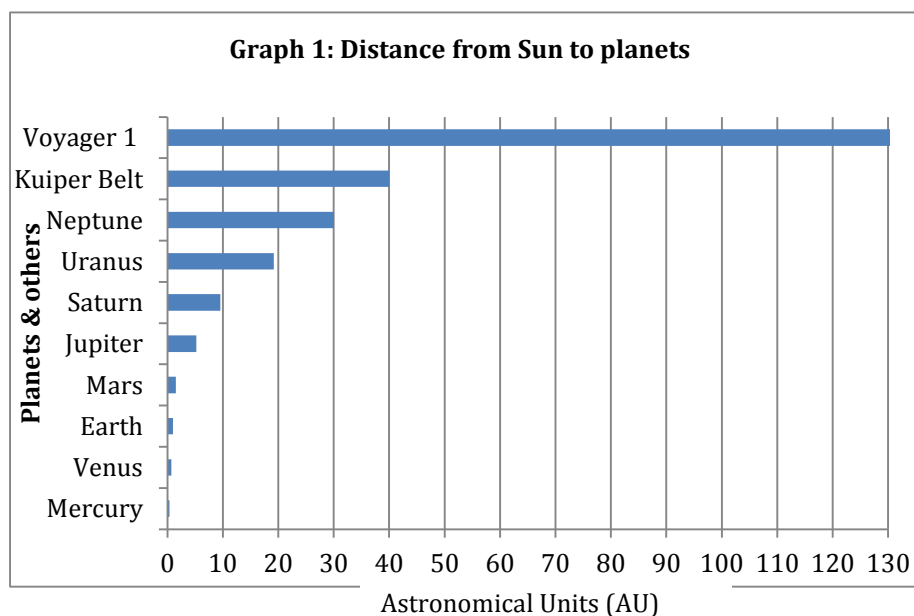
### Comprehension Questions

1. Alpha Centauri
2. 4 light years
3. c) Milky Way, Local Group, Supercluster
4. True
5. 15 billion years ago
6. b) The Big Bang explosion left behind millions of protostars (False)
- e) The outer, gas giants (Jupiter, Saturn, Uranus and Neptune) would have become stars had they not been so large (False)
7. Red dwarf, the Sun, massive blue star
8. Massive blue stars are hottest
9. No. The Sun is a low-mass star that will evolve to become a red giant and will end its life as a white dwarf. The Sun does not have a high enough mass to ever become a supernova.
10. Helium, red supergiant, neutron, subatomic particles, radio waves, and black holes

### Measuring Space

Table 1: Distance from Sun to the planets and other space objects

Planets & other objects	Astronomical Unit (AU)
Mercury	0.387
Venus	0.723
Earth	1.00 (equal to 8 light minutes)
Mars	1.524
Jupiter	5.203
Saturn	9.529
Uranus	19.19
Neptune	30.06
Kuiper Belt	30-55
Voyager 1 – farthest spacecraft	133



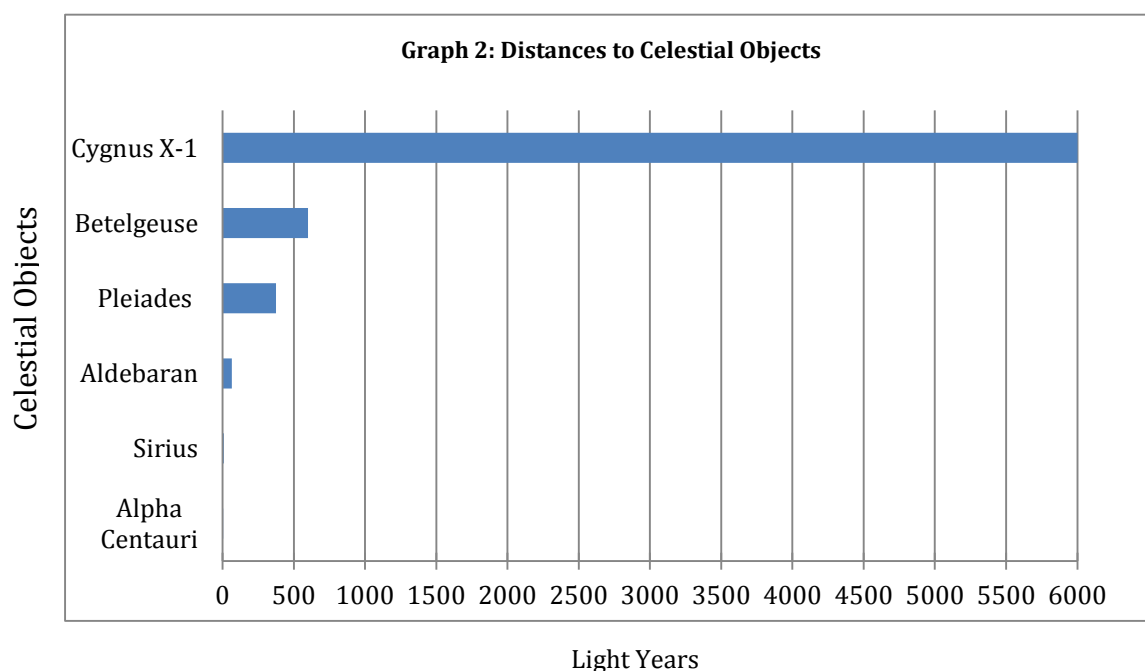


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Table 2: Distance from us to celestial objects outside our solar system

Celestial objects	Light years
Alpha Centauri	4.35
Sirius	9
Aldebaran	65
Pleiades star cluster	375
Betelgeuse	600
Cygnus X-1	6000
Omega Centauri	16 000
Andromeda Galaxy	2 million



**A Presentation with a Big Bang** – answers will vary

**Research Space Technologies** – answers will vary

**Transcript** – for teacher and student use

