

# Topic: Modern Astronomy

## Aim:

**Astronomical Unit (A.U.) -** unit used to measure distances in our Solar System  
1 A.U. = average distance between Earth and Sun (149.6 million km)

Examples: 1. Express the Jupiter to Sun distance in A.U. : \_\_\_\_\_  
2. Express the Mercury to Sun distance in A.U. : \_\_\_\_\_



**Light Year -** the distance that light travels in one year (9.5 trillion km)  
a light year is used to measure **large distances** between stars and galaxies

Speed of light = 300,000 km/sec

186,000 mi/sec

EXAMPLE: The Sun is the closest star to the Earth. The next closest star is Proxima Centauri.  
Proxima Centauri is 4.2 light years away from the Earth. What does that really mean?