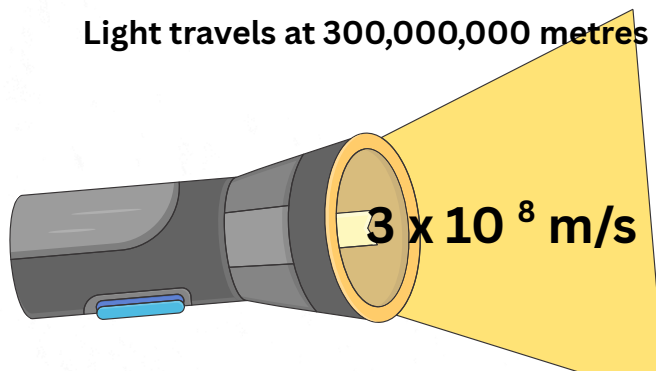


Measuring large distances using light speed

The distances in space are far, far too big to use kilometers. Instead astronomers use how far light travels in a certain time

Light travels at 300,000,000 metres per second..



a light second

$3 \times 10^8 \text{ m}$

a light minute

$1.8 \times 10^{10} \text{ m}$

a light hour

$1.1 \times 10^{12} \text{ m}$

a light day

$2.6 \times 10^{13} \text{ m}$

a light year

$9.5 \times 10^{15} \text{ m}$

Give the distances to these astronomical bodies in the the given light times.



Earth to sun is 1.5×10^{11} m
into light minutes



Earth to moon is 3.8×10^8 m
in light minutes



Sirius A is 8.1×10^{16} m away from Earth
into light years



The Orion nebula is 1.2×10^{19} m
from Earth into light years

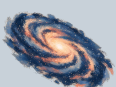
Now change these light times into distances



Pluto is 5.5 light hours from Earth
.....



Proxima Centauri, our neares star is
4.24 light years from us



Andromeda Galaxy, our nearest
galaxy is 2.2 million light years from
us.

