

Measuring the Universe

OBJECTIVE:

- Identify the metric units used in astronomical measurements;

Think about this...

- Why an explosion of light far out in space may be considered “old news”?

NASA/CXC/A. Hobart

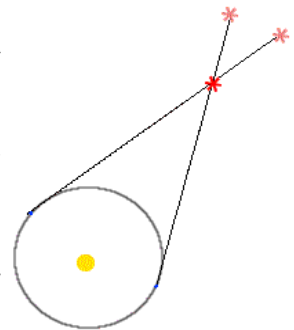
The **universe** is space and all the matter and energy in it.

To travel by car to the sun, a person would need to drive day and night for 200 years.

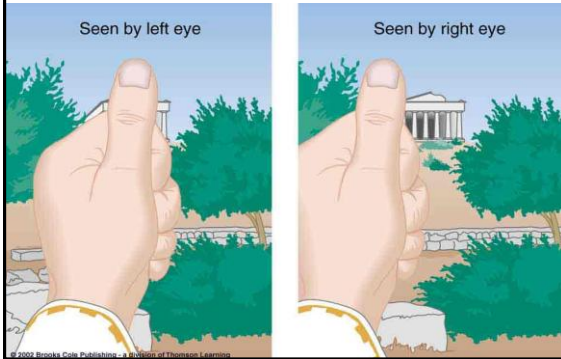
To travel to the next star, it would take over 55 million years.

Parallax

- The apparent motion of a relatively close object compared to a more distant background as the location of the observer changes.



Parallax



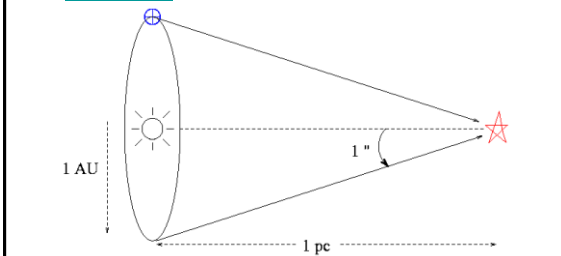
Parallax

- Astronomically, it is half the angle which a star appears to move as the earth moves from one side of the sun to the other.



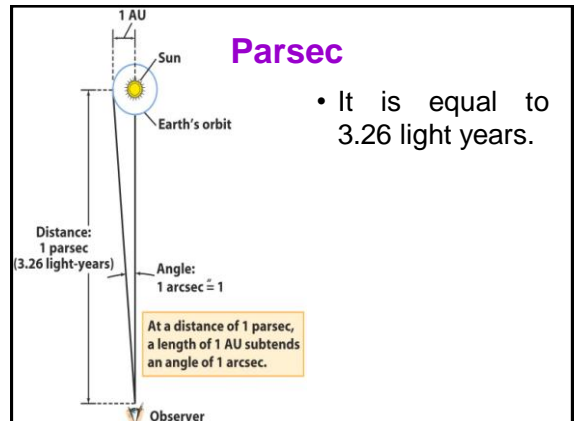
Parsec

- The distance to an object which has a parallax of one arc second.



Parsec

- It is equal to 3.26 light years.



SYNTHESIS:

In a 1/8 sheet of paper answer this question, what other subject area/s you need to learn in measuring the distances in space?

HOMEWORK:

Explore Light Years and discuss the reasons astronomers use this unit of measurement.