**Astronomy brings many questions:**

* How do stars (matter and energy) work?
* What is the universe?
* How do humans fit in?
* How can we study objects in the universe from Earth?

Distance of the earth to the sun is one AU (astronomical unit = 150,000,000 miles)

Light year = the distance light can travel in one year. Light would travel around the Earth in 1/7th of a second. It is the universes greatest speed

* It takes 1.25 seconds to arrive from the moon
* 8.3 minutes to arrive from the sun
* 8.3 hours to cross the solar system
* 4.2 years to get to the nearest star
* 100,000 years to cross the galaxy
* 2.5 million years to get to the nearest big galaxy
* 10 billion years to come from distant galaxies

If you could fit the Solar System into our classroom, where would the closest start be?

* Dallas

Clusters of galaxies are grouped into superclusters

Super clusters form filaments and walls around voids

Earth is a small planet

Orbiting a medium-sized star

In a galaxy of 100 billion stars

Just one of billions of galaxies

In a universe that is 13.7 billion years old