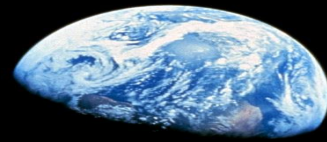
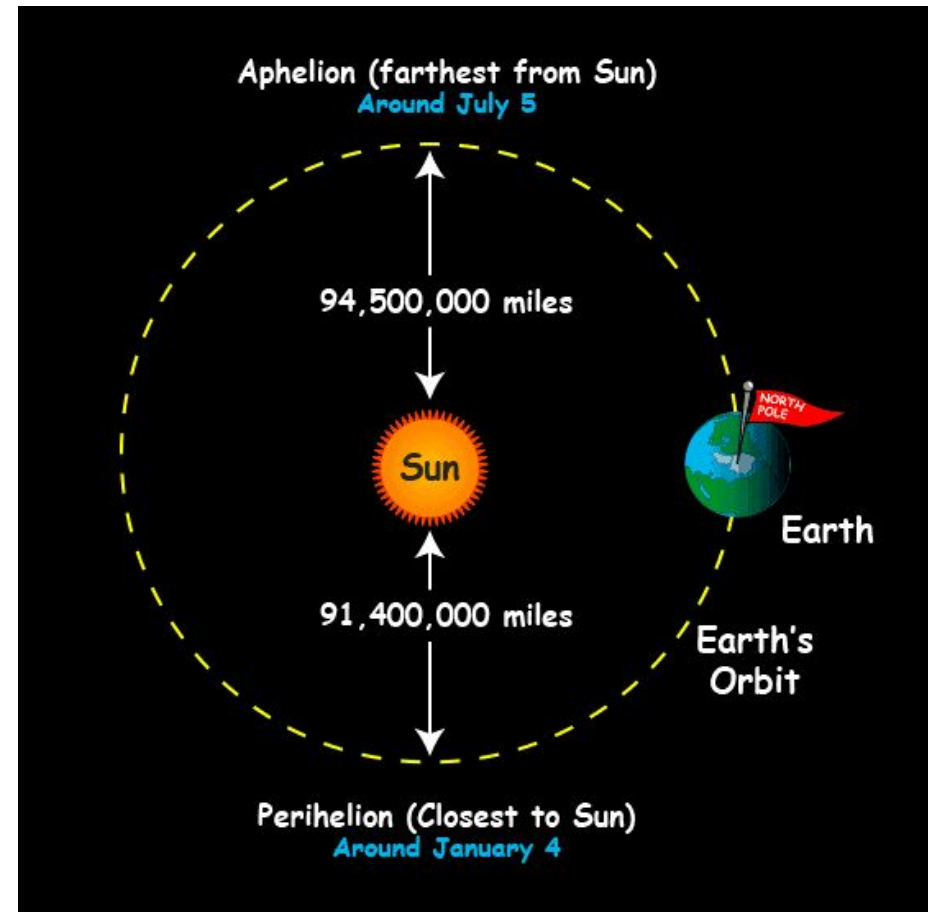


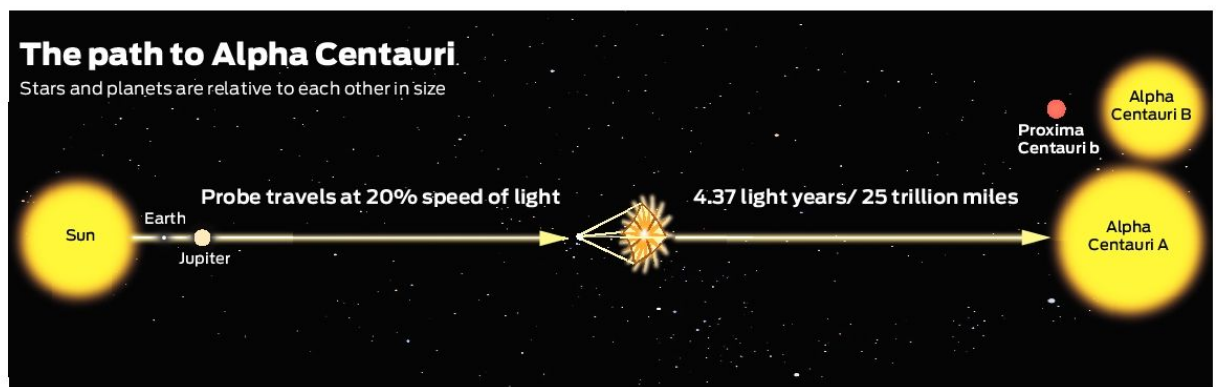
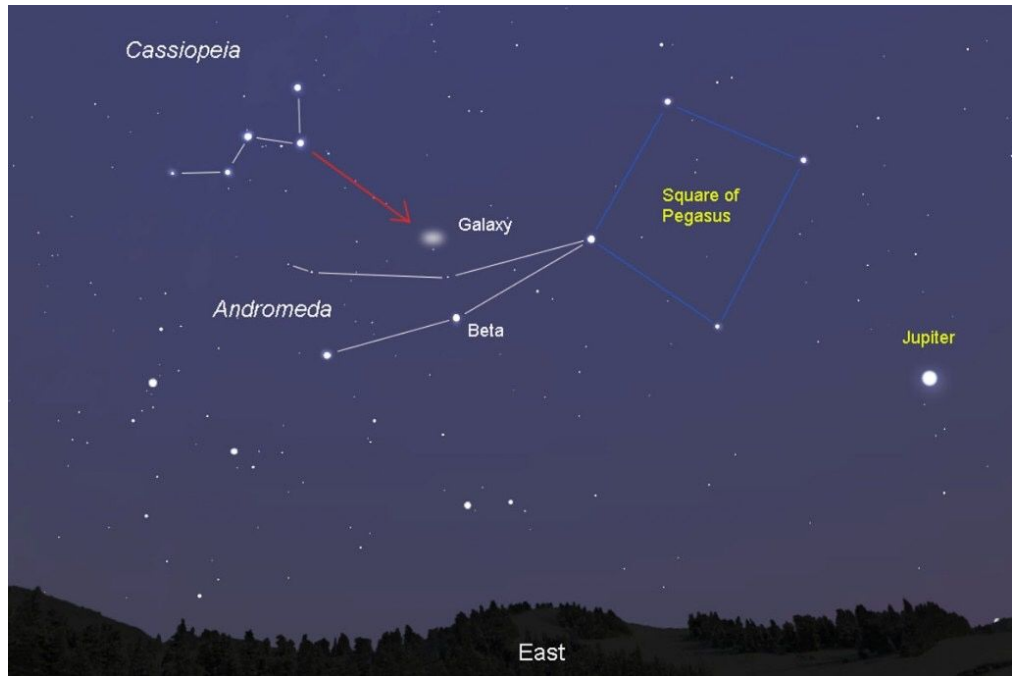
# The Earth's Place in the Solar System



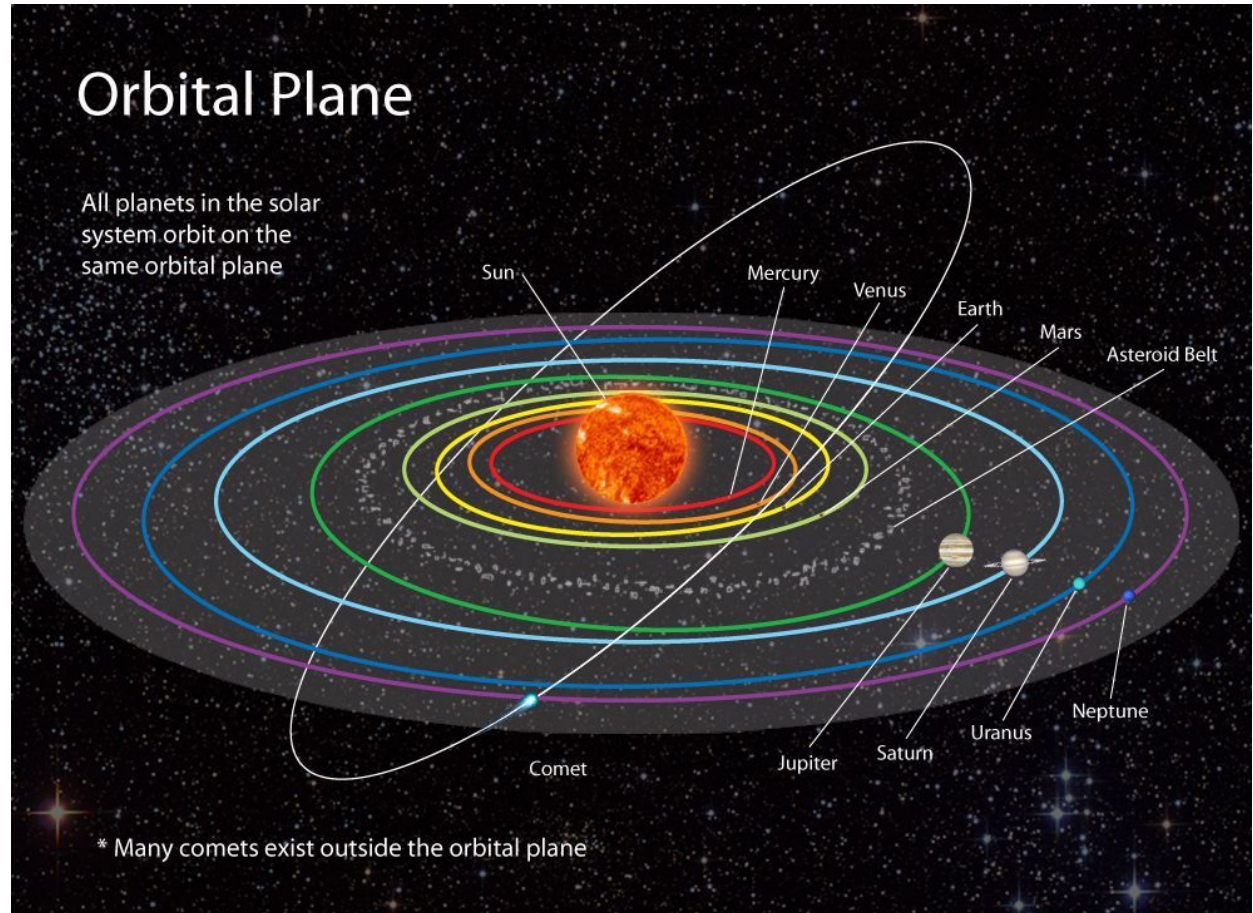
# Stars in relation to Earth

- The distance from the Earth to the Sun is 92.96 million miles.
- It takes about 8 minutes for light to reach earth from the sun
- If you flew on a plane to the sun it would take 19 years
- The farthest star you can see in the night sky is V762 in the constellation Casiopeia (16,308 light years away)
- The closest stars to Earth are Alpha Centauri A and B which are 4.22 light years way.



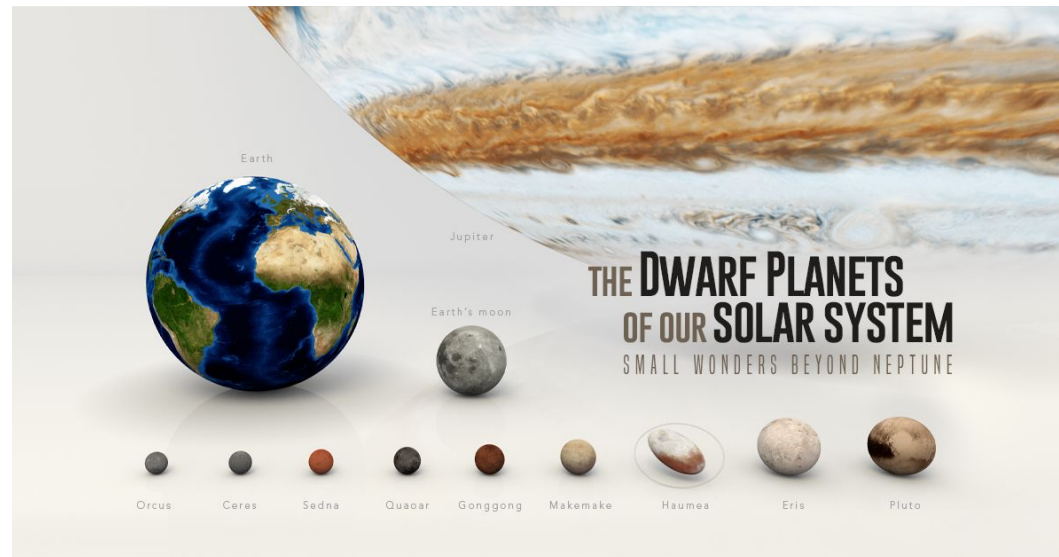


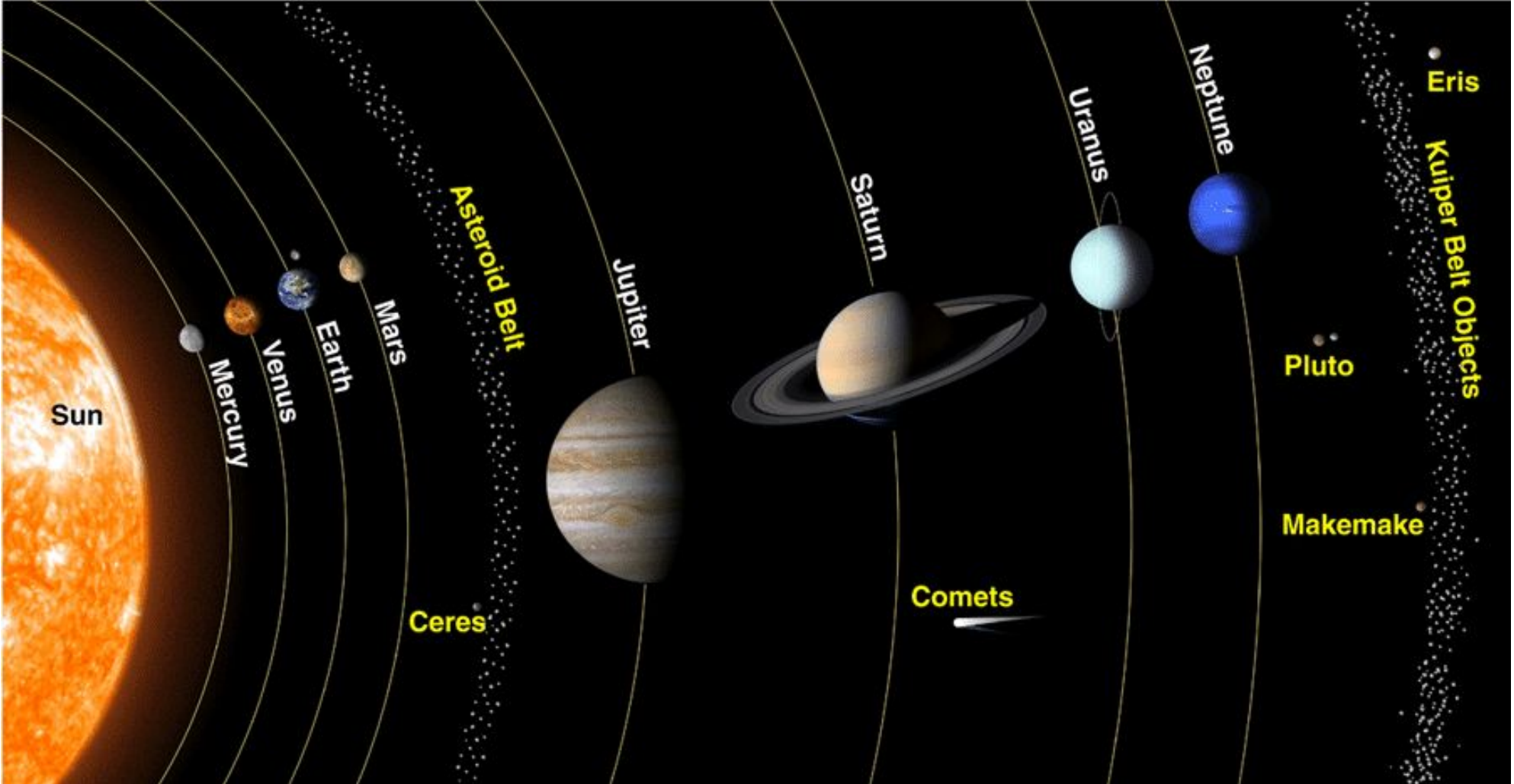
- Our star, the Sun has a large gravitational pull that holds objects in the solar system in place
- Each object revolves around the sun in a path called an orbit
- The shape of the orbit is based on any objects size.
- Planets are slightly oval (almost circular), others are elliptical.



# Planets and other objects

- The largest object in the solar system are planets
- They are called planets when they have enough mass to have a gravitational pull on other objects
- Dwarf planets are smaller and have less gravitational pull meaning they are not as round as planets.
- Plutoids are planets outside of Neptune's orbit and are round





Sun

Mercury

Venus

Earth

Mars

Asteroid Belt

Ceres

Jupiter

Saturn

Comets

Uranus

Neptune

Pluto

Makemake

Kuiper Belt Objects

Eris

# Things to Remember

1. The sun is much larger than anything else in the solar system. It has the most mass. This means that it has the most gravitational pull. The result is everything revolves around the sun.
2. Our solar system has eight planets.
3. The first four planets are called terrestrial planets and the last four are called Jovian planets or gas giants.

Science changes a lot. There are many times when scientists do not agree. This is part of the nature of science. Many Scientists disagree over what to call Pluto. When it was discovered in the 1930's, it was called a planet. Then i was called a dwarf planet. Now, it is called a plutoid.

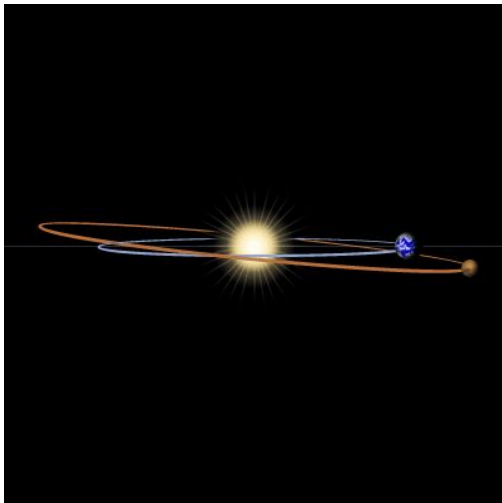
What do you think? What should we call Pluto?





# The Motion of Stars vs. Planets

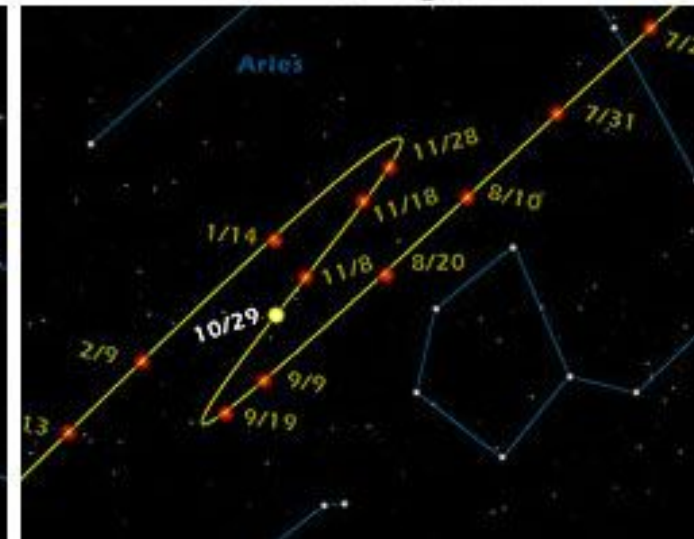
- Because stars are far away we do not notice their movement.
- They appear to be in the same location.
- Planets cannot be seen in the same place every night. They each move at different speeds.
- If you look at the night sky for several nights you should see the planet moving across the sky.



**2003 Retrograde**

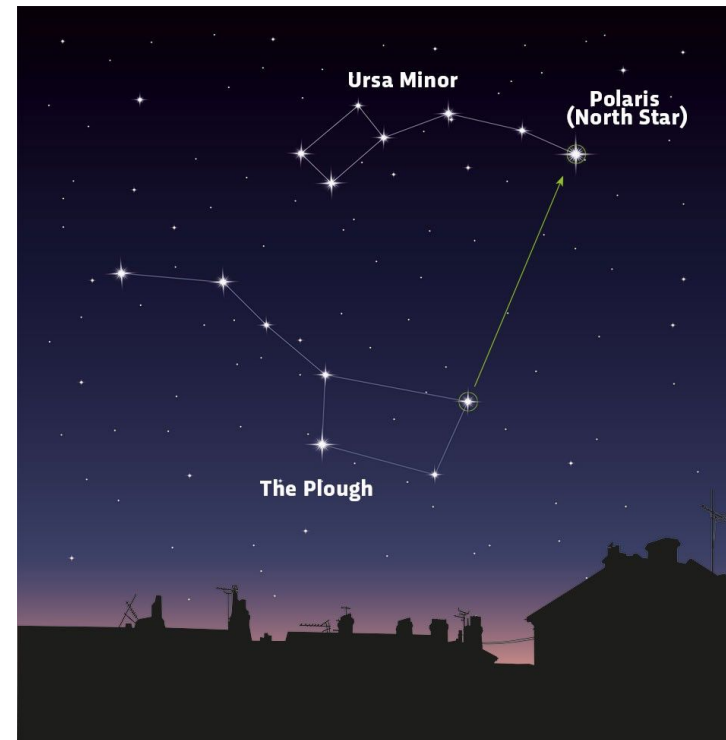


**2005 Retrograde**



# The North Star

- The North Star marks true north in the northern hemisphere.
- Each night the entire sky can be seen rotation around the north star
- It is called Polaris
- It is directly overhead in the night sky
- Only visible in northern hemisphere



# Our Galaxy

- The milky way
- It looks like a milky band of stars that divides the night sky in half
- We mapped the night sky with our eyes creating constellations
- The night sky is different from month to month (move in predictable patterns)
- Because the constellations shapes never change people used them for navigation, the season changes

