

What is the earth like?

How do we know the earth is round?

https://www.youtube.com/watch?v=o_W280R_Jt8

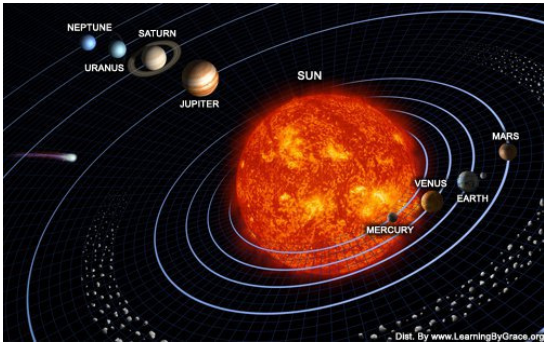
Where is the earth?



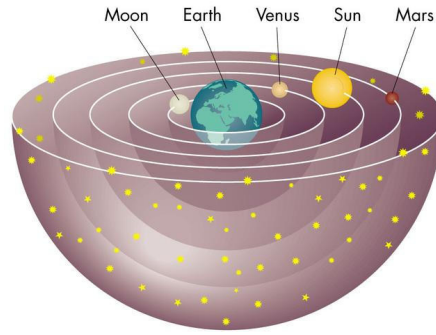
Universe

Galaxy

Solar System

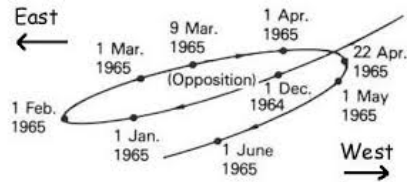
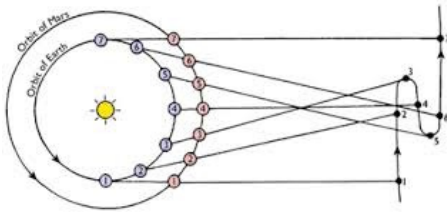


Heliocentric: Objects in the solar system revolve around the sun



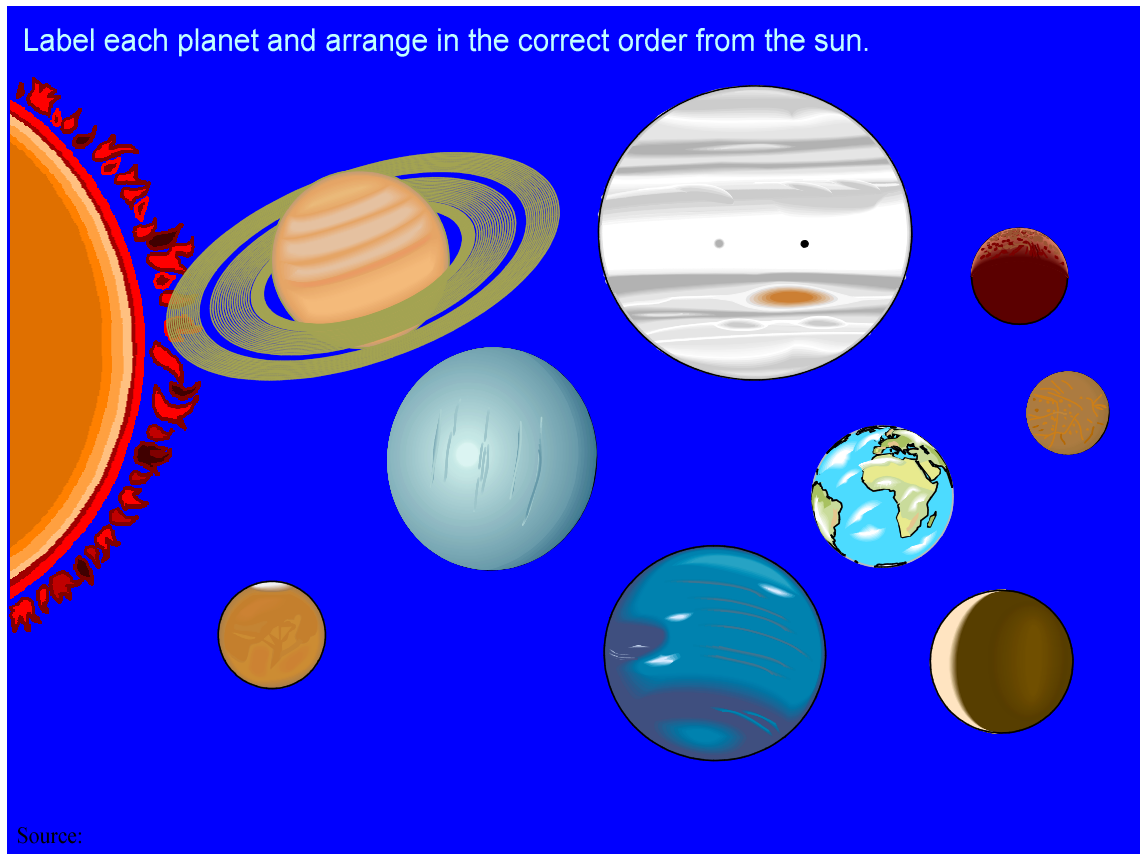
Geocentric: Objects in the solar system revolve around the earth

Retrograde motion -proof that the earth is not the center of the solar system



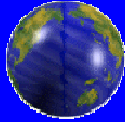
Our Solar System

<http://video.nationalgeographic.com/video/101-videos/solar-system-sci>



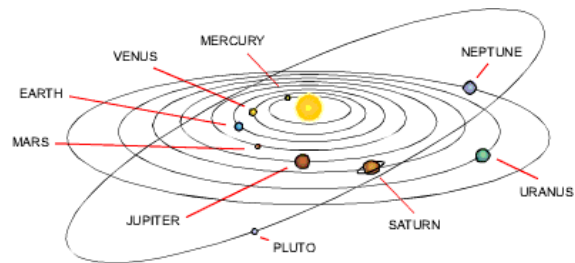
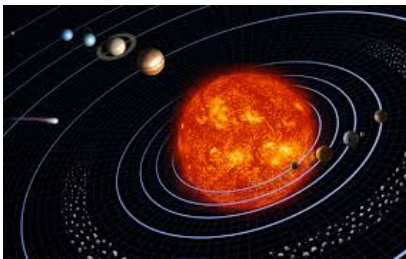
Revolution and Rotation of objects in the solar system

Rotation-to turn around itself



Revolution-to go around something else

Characteristics of the solar system

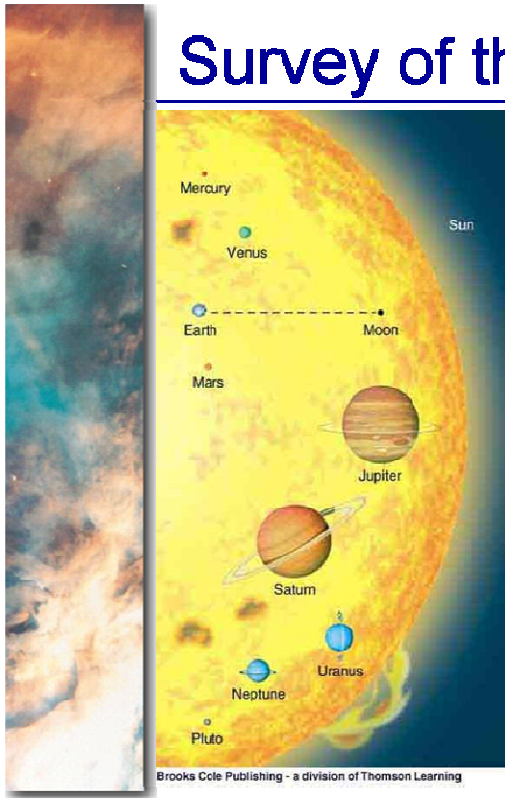


All planets are orbiting on the same plane. (except pluto)

All planets are revolving around the sun in the same direction (counter clockwise)

Almost all the planets are rotating on their axis in the same direction (counter clockwise)

Survey of the Solar System



Relative Sizes of the Planets

Assume, we reduce all bodies in the solar system so that the Earth has diameter 0.3 mm.

Sun: ~ size of a small plum.

Mercury, Venus, Earth, Mars:
~ size of a grain of salt.

Jupiter: ~ size of an apple seed.

Saturn: ~ slightly smaller than Jupiter's "apple seed".

Pluto: ~ Speck of pepper.

Inner vs Outer Planets

Terrestrial Planets: Small Rock Based -mercury,venus,earth mars

Gas Giants: Extremely thick atmospheres.

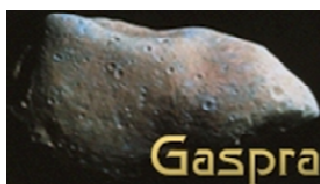
Massive clouds or swirling gas around a dense planet core.

-jupiter, saturn, netune, uranus

What else is out there in the solar system?

ASTEROID BELT

Most asteroids can be found in the Asteroid Belt, which is located between Mars and Jupiter. Asteroids are rocky and metallic objects that orbit the Sun, but are too small to be considered planets. They are known as *minor planets*. Asteroids range in size from Ceres, which has a diameter of about 1000 km, down to the size of pebbles.





COMETS



Comets are sometimes called **dirty snowballs** or "icy mudballs". They are a mixture of ices (both water and frozen gases) and dust that for some reason didn't get incorporated into planets when the solar system was formed. This makes them very interesting as samples of the early history of the solar system.



Comet Halley in 1910

Comets have elliptical orbits.



When we see a comet, we are seeing the tail of the comet as it comes close to the Sun.

Shoemaker Levy Collision

<http://www.youtube.com/watch?v=CiLNxZbpP20>

<http://www.youtube.com/watch?v=HXgq3Iq4wOk>



Meteor -any object that burns up as it enters earth's atmosphere creating a shooting star effect

Meteorite -an chunk of rock that's origin is beyond our earth

Explore the solar system.....

