

A detailed illustration of the solar system. On the left, the Sun is depicted as a large, glowing orange and red sphere. To its right, several planets are shown in their respective orbits, which are represented by white lines curving around the Sun. From left to right, the planets are: Mercury (a small grey sphere), Venus (a yellowish-brown sphere), Earth (a blue and white sphere), Mars (a reddish-brown sphere), Jupiter (a large orange and white striped sphere), Saturn (a yellow sphere with prominent rings), Uranus (a light blue sphere with a thin ring), and Neptune (a dark blue sphere). The background is a dark, deep blue space with some faint, glowing nebulae and star-like objects. The text "Our Solar System" is centered in the middle of the image in a white, serif font.

Our Solar System

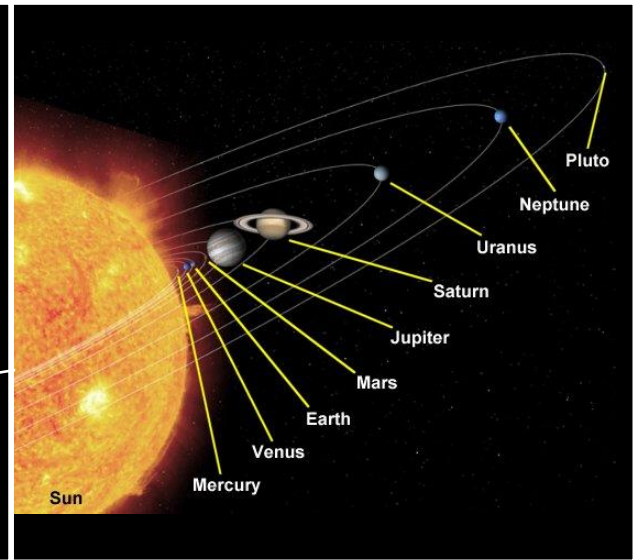
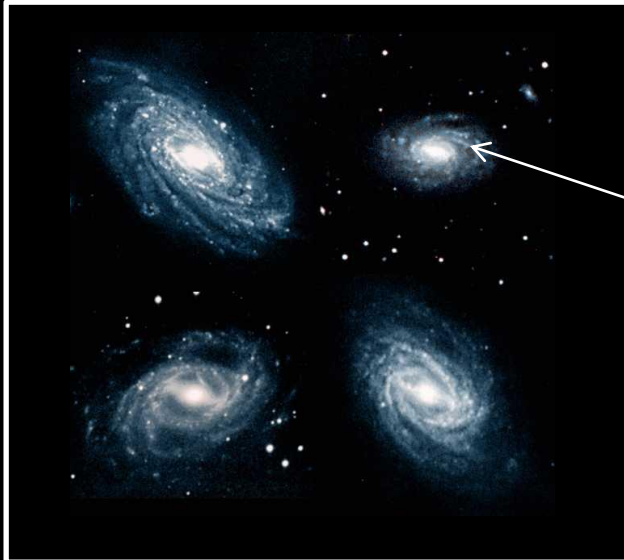
Journal

- Can you name the 8 planets in our Solar System? This includes Earth...

Mercury, Venus, Earth, Mars, Jupiter, Saturn,
Uranus, Neptune

Galaxies

- Our sun is 1 of trillions of stars in the universe. Stars are found in groups held together by gravity.
- A huge group of stars is called a galaxy.
- Our entire universe is made up of thousands of galaxies.
- The images below show you how small we are compared to the entire universe.



UNIVERSE

The entire universe is made of thousands of galaxies

GALAXY

A huge group of stars held together by gravity.

SOLAR SYSTEM

A system of planets & stars that are found throughout galaxies

The Milky Way

- Our Solar System is part of the “Milky Way” galaxy.



We live here in the Milkyway

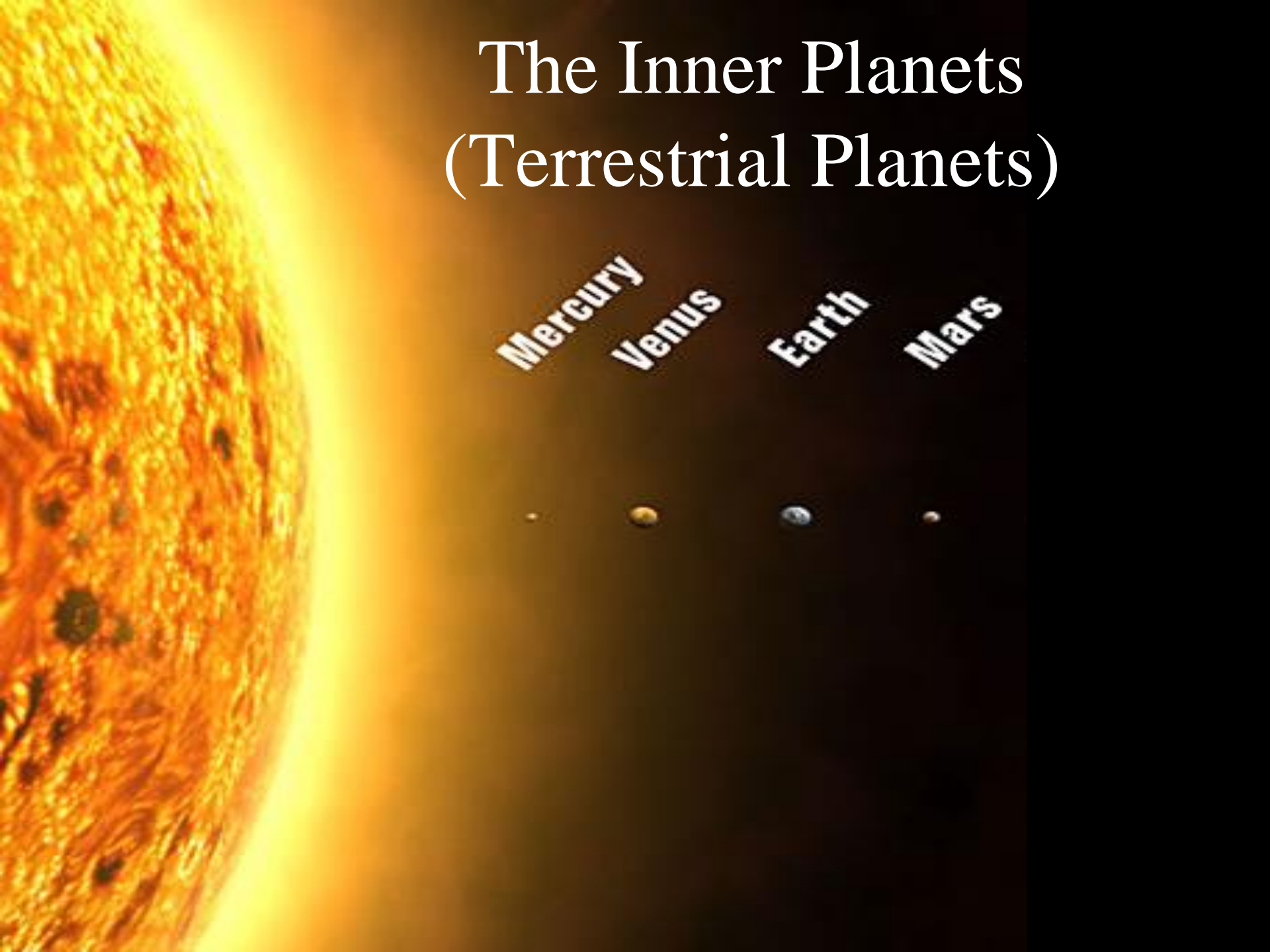
The Inner Planets (Terrestrial Planets)

Mercury

Venus

Earth

Mars



Spinning Planets

- **Period of Rotation:** amount of time that an object takes to rotate once. (1 Day)
- **Period of Revolution:** time it takes an object to revolve around the sun once. (1 year)

<http://www.youtube.com/watch?v=97Ob0xR0Ut8&feature=related>

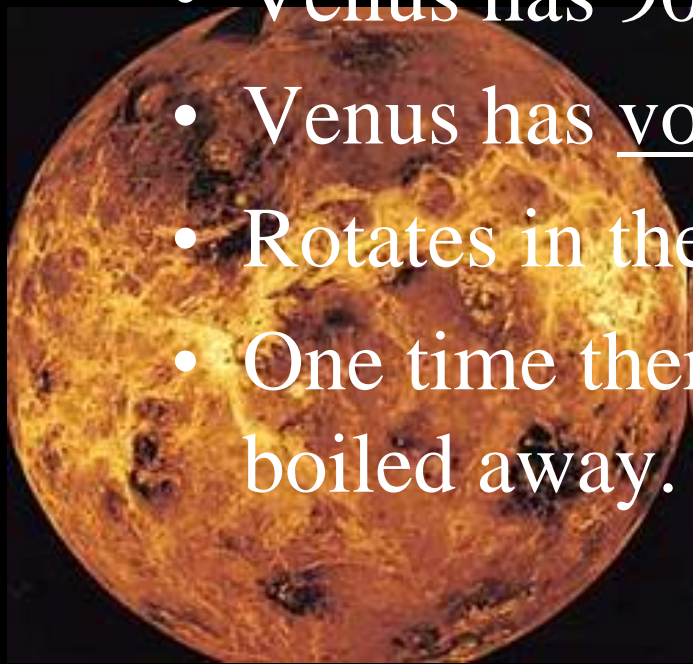


Mercury

- **On Mercury you weigh only 38% of what you weigh on Earth.**
- **Fastest orbiting planet**
- **Planet nearest to the sun**
- **One side of the planet can be 800 degrees Fahrenheit when the other can be -280 degree Fahrenheit at the same time.**

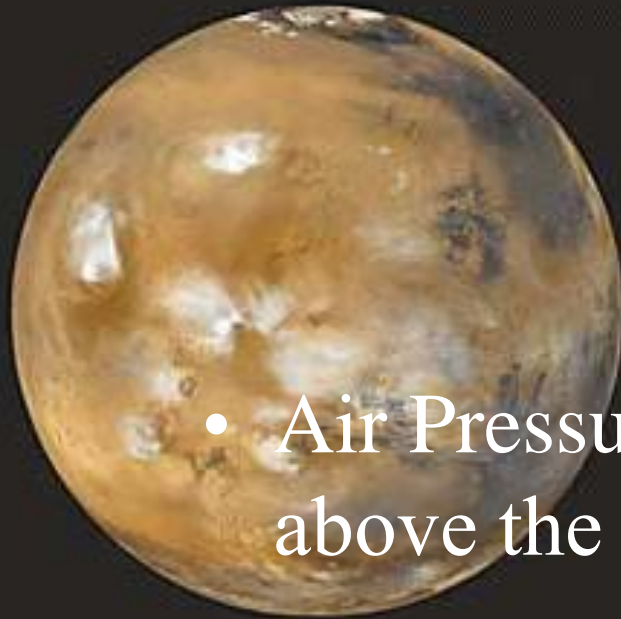
Venus

- On Venus you weigh only 91% of what you weigh on Earth.
- Venus has 90 times the pressure of Earth
- Venus has volcanoes like Earth
- Rotates in the opposite direction of Earth.
- One time there were oceans before they boiled away.



Earth

- 23 hours and 56 min=1 Earth day (rotation)
- 365 days =1 Earth year (revolution)
- Earth is warm enough to keep most of its water from freezing and cold enough to keep it's water from boiling
- Temperature is between -13 degrees Celsius and 37 degrees Celsius

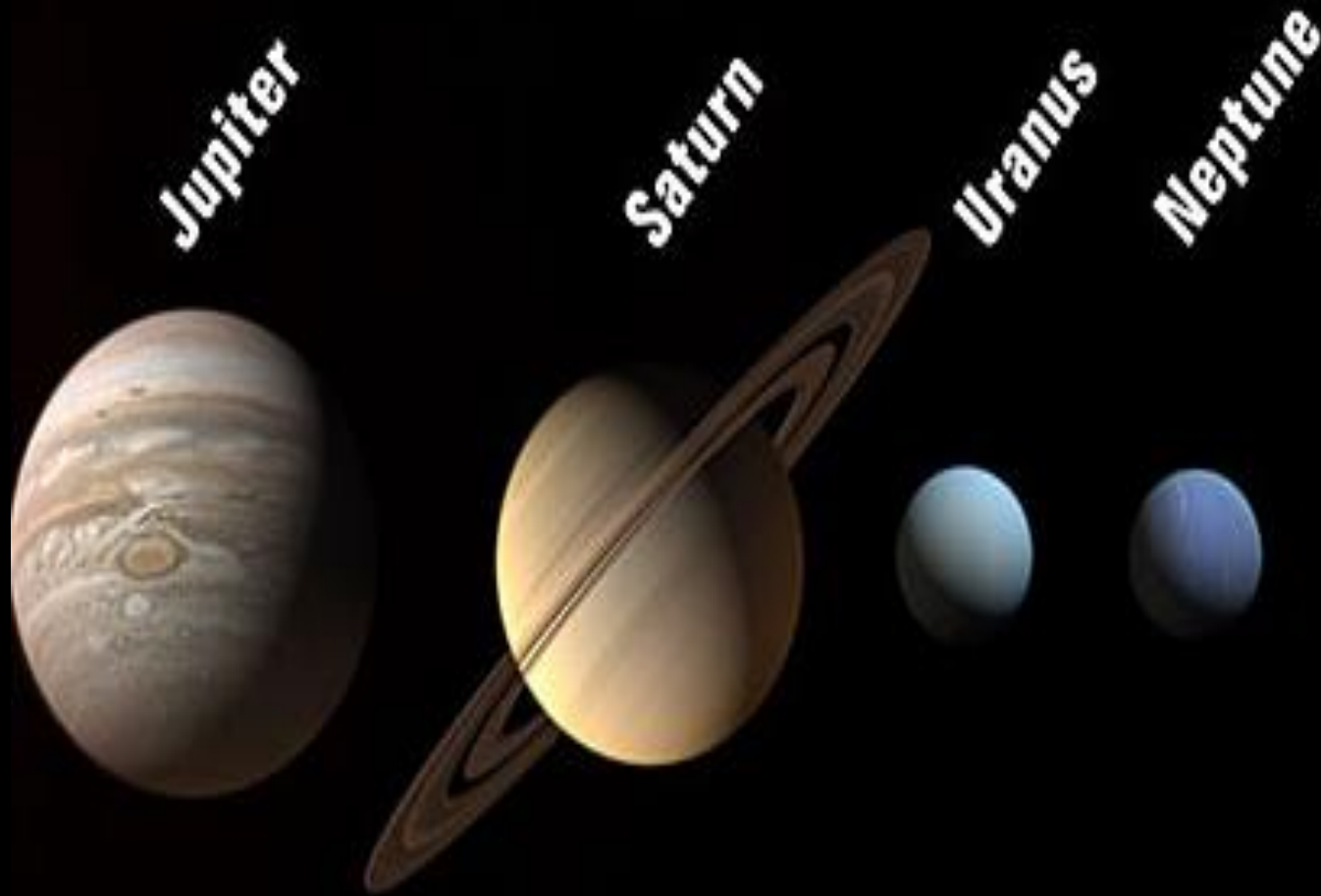


Mars

- Air Pressure on Mars is the same as 30 km above the Earth's surface
- Mars is in the form of ice.
- Evidence that water was there at one time
- Volcanic history like Earth.
- It has the tallest mount of the planets (Olympus Mons) 3x's size of Mt. Everest.

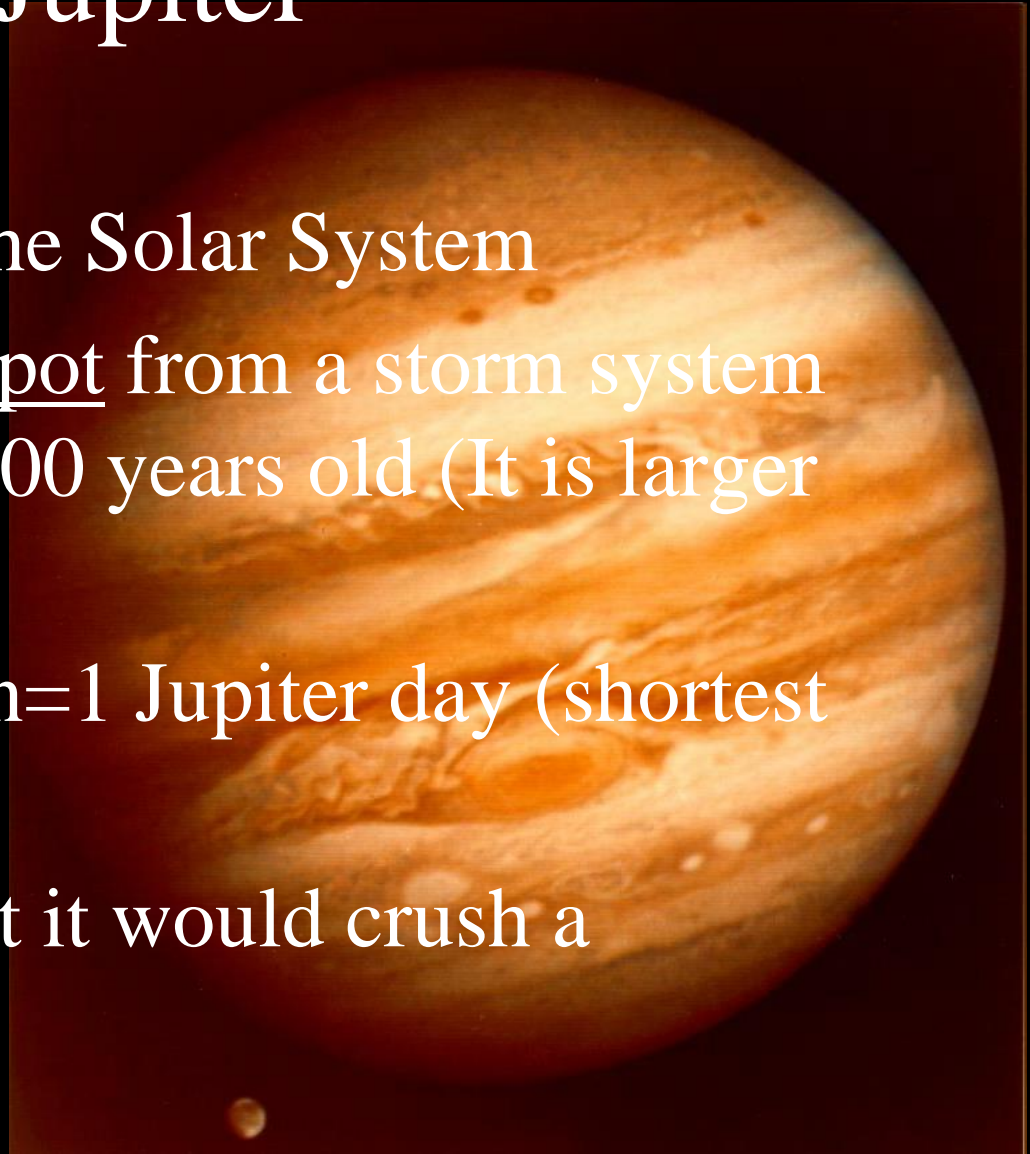
Outer Planets

(Gas Planets or Jovial Planets)



Jupiter

- Largest planet in the Solar System
- Has a Great Red Spot from a storm system that is more than 400 years old (It is larger than Earth!)
- 9 hours and 54 min=1 Jupiter day (shortest day)
- Pressure is so great it would crush a spaceship.



Saturn



- 2nd Largest planet in the Solar System
- 95 times more massive than earth.
- Saturn has the largest rings of any planet, the rings are made of icy particles.
- Most moons of any planet.



Uranus

- Discovered in 1781
- Uranus appears blue-green in color
- It's axis of rotation is tilted 90 degrees
- Moons are named after Shakespearean plays and formed from other broken moons.

Neptune



- Discovered in 1846
- Neptune has visual belts of clouds
- Interior releases thermal energy to its outer layers.
- Use to be the 8th planet after Pluto until 1999.

What Keeps Our Planets & Other
Objects In Space In Orbit??

GRAVITY & INERTIA

Other Space Objects

COMETS

ASTEROIDS

METEOROIDS

What is a comet?



- **A comet is a small body made out of dust, rock, gas & ice.**
- **They are kind of like a dirty snowball**
- **Comets come from faraway regions of our solar system beyond the planets**

Comets are made up of different parts.



- **The nucleus**
- **The coma**
- **The ion tail**
- **The dust tail**

Comet Brain Pop

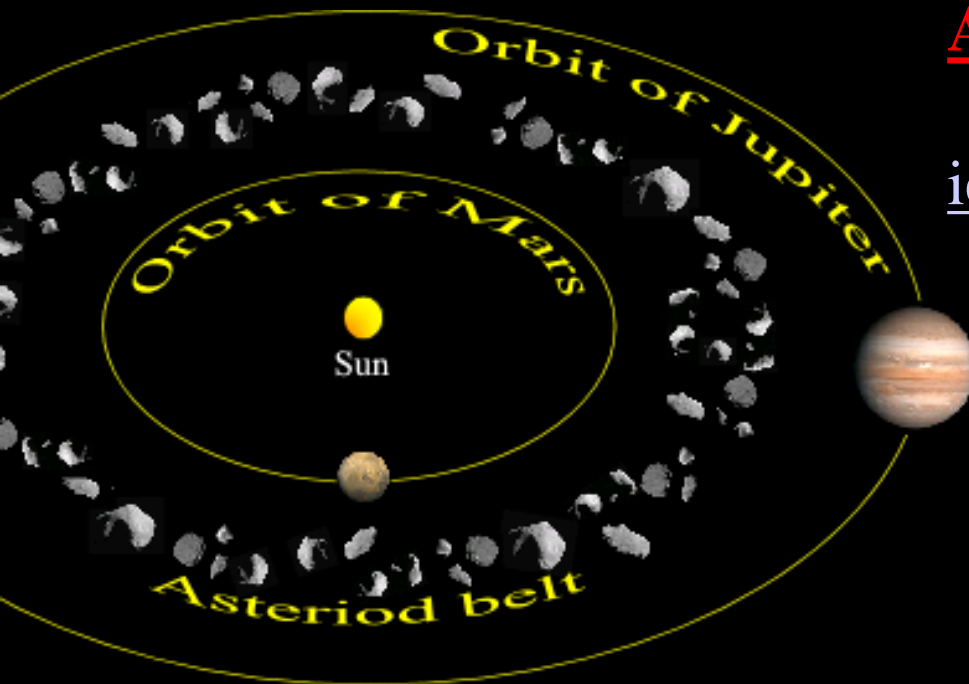
<http://www.brainpop.com/science/space/comets/>

What is an asteroid?



- Asteroids are large pieces of space rock with irregular shapes.
- They are also known as planetoids or minor planets that revolves around our sun

- **Most asteroids orbit the Sun in the asteroid belt located between Mars and Jupiter. A few asteroids approach the Sun more closely.**
- **Asteroids can collide with object such as Earth's moon, creating huge craters on the surface.**



[Asteroid Brain Pop](http://www.brainpop.com/science/space/asteroids/)

<http://www.brainpop.com/science/space/asteroids/>

METEORIODS

METEORS &

METEORITES



Meteoroid

- Meteoroids are pieces of rock or dust that are smaller than asteroids.
- Meteoroids are tiny particles left by an asteroid or a comet & most meteoroids are smaller than the size of a pebble.

- When small meteoroids enters Earth's atmosphere, they usually burn up & make a fiery trail as it falls, it is then called a meteor or a "shooting star"



- Meteors that land on Earth are called meteorites.