SATURN

“The Jewel of the Solar System”

Contributors:
Fernanda Martinez, Fall 2015
Spahr Hanks-Sison, Spring 2014
Tommy Sengdao, Spring 2013

ASTR101, Dr. Mike Chu
Montgomery College, Germantown
Early Mythology

• Saturn was first noticed in 700 B.C.E by the Assyrians when it sparked in the sky.
• Saturn gets its name from the Roman God of agriculture, Saturnus.
• The Greeks gave Saturn the name Cronos, after the God of Harvest, due to its position in the sky during harvest season.
• Saturn is the sixth planet from our sun.
• Saturn is called the “jewel of the solar system” because of its beautiful rings.
• It is the second largest planet in our solar system.
• Saturn is about 4.503 billion years old.
• Saturn is mostly made of hydrogen
• Saturn orbits the sun every 29.4 Earth years.
• Saturn has the most spectacular rings of any planet in the solar system. They are made of billions of small chunks of ice and rock.
Saturn’s Atmosphere

- Saturn does not have a solid surface.
- The outer atmosphere of Saturn contains 96.3% molecular hydrogen and 3.25% helium by volume.
- Ammonia, acetylene, ethane, propane, phosphine and methane have been discovered in Saturn's atmosphere.
- Saturn has cloud stripes and storms just like Jupiter, but they are much harder to see. The clouds we see in Saturn are mostly yellow and white and are results of super fast winds in the upper atmosphere.
- Saturn is not a friendly place for humans because of its pressure. The pressure is so powerful it squeezes gas into liquid.
The Composition of Saturn’s Interior

- Saturn's composition is mostly made up of hydrogen and helium, but there is also ice of ammonia, ice of methane, and water ice.

- Under the cloud layers, hydrogen of which Saturn is made of changes to liquid hydrogen and then changes to liquid metallic hydrogen when the pressure of the interior becomes too high.

- Core is found at the far interior of Saturn and it is made of rocky and metal elements.
The Discovery of Saturn's Rings

- In 1620 Galileo Galilei, an Italian astronomer, first noted Saturn’s rings.
- In 1659, Dutch astronomer Christian Huygens discovered that there were more than just one ring on Saturn. Which gave us the known 7 ring regions.
Facts on Saturn Rings

• There are 7 known regions of the rings, A B C (D) F E G.
• The rings are 173,000 miles in diameter, that is wider than 21 Earths side by side.
• The rings are 65 feet in height almost un-seeable from the horizontal view.
• Each ring has particles made up of billions of icy debris moving around at a rapid rate.
• The rings move at about 20,000-40,000 mph with the inner rings moving faster than the outer rings.
Saturn's Moons

- Saturn has at least 150 moons and moonlets, but only 53 of these have been given official names.
- They are grouped based on their size, orbits, and proximity to Saturn.
- Titan is Saturn's largest moon, it is slightly larger than Mercury and is the second-largest moon in the solar system.
- Most of Saturn’s moons are small, have no atmosphere, and are heavily cratered.
- 24 of Saturn’s moons are regular satellites, the remaining 38 are irregular satellites.
NASA’s Observation

• Key dates: The Cassini Probe was launched on Oct. 15th 1997.
• July 11th 2004 it orbited into Saturn.
• December 24th 2004 the Huygens Probe was released.
• January 14th 2005 the Huygens Probe landed on Saturn.
• November 27th 2011 the Cassini Probe did a distant flyby on the moon, Titan.
• It also has made discovery of geysers on the moon Enceladus, providing the possibility of water and life on other planets.
THE END
References

• https://en.wikipedia.org/wiki/Saturn
• http://www.universetoday.com/15298/saturn/
• http://nineplanets.org/saturn.html
• http://solarsystem.nasa.gov/planets/saturn
Questions

• Name the regions of rings for Saturn?
• How many named moons does Saturn have?
• Who was the first person to note Saturn’s ring?
• How old is Saturn approximately?
• What is Saturn mostly made of?
• Who is Saturn named for according to the Romans?
• When did Huygens Probe land on Saturn?
• Is Saturn the second largest in the Solar System?