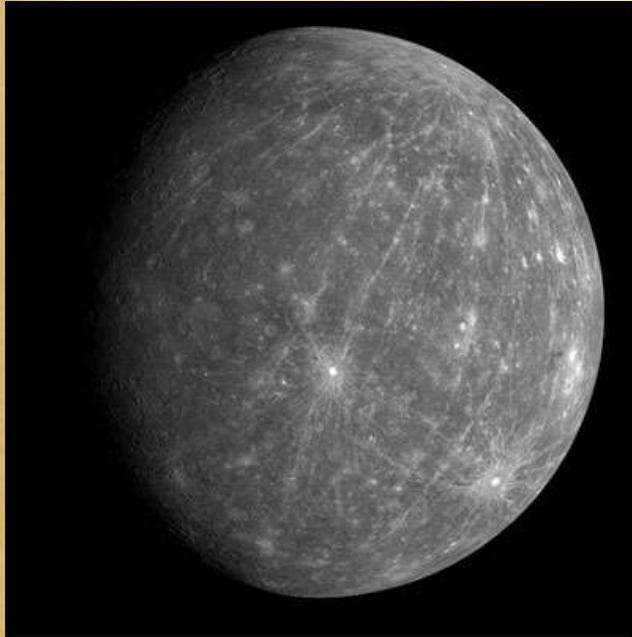


# What is in Our Solar System?

Chapter 9 Lesson 2  
Part 2

ByDesign Science, Level 4  
By Allyssa Sharpe

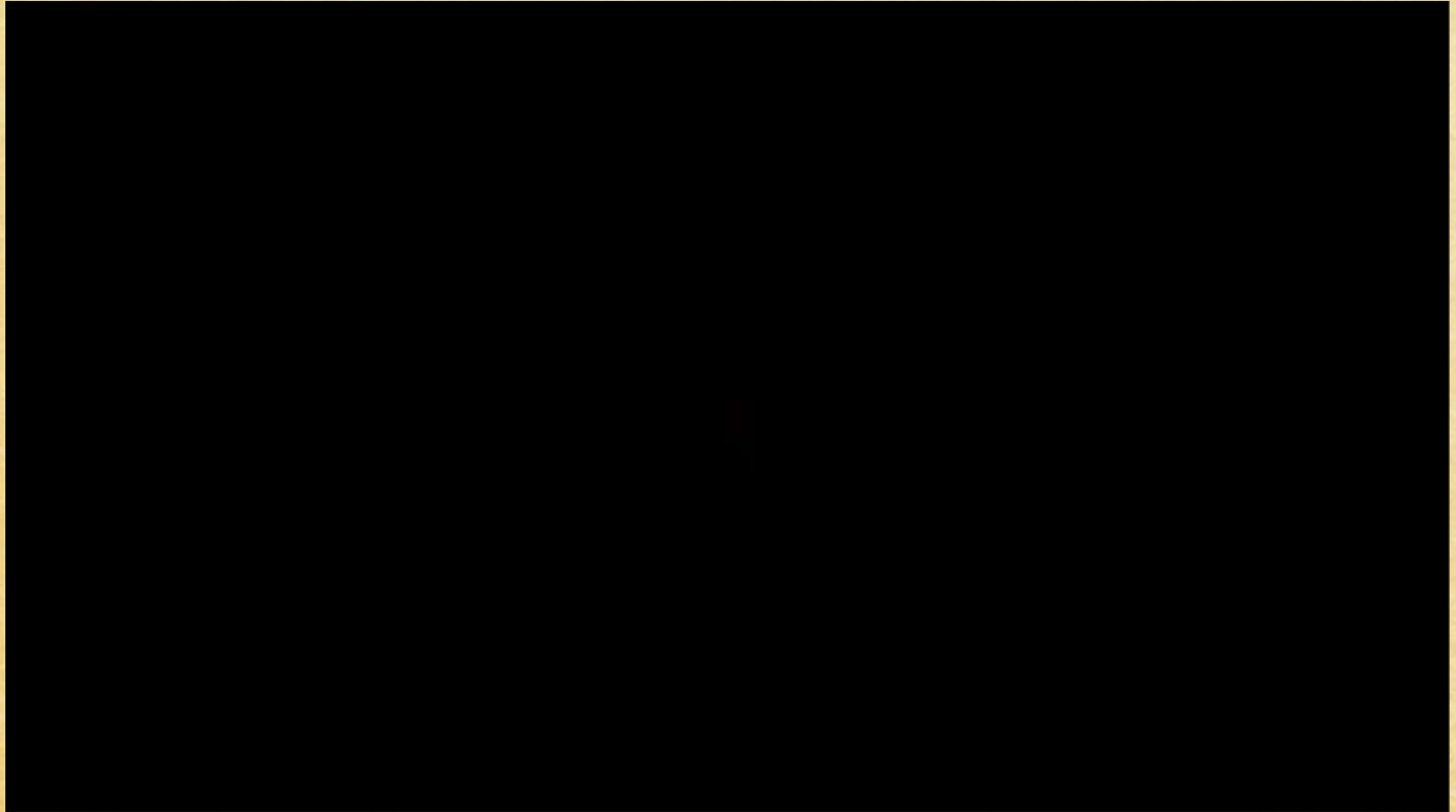


# The Planets

## Mercury

- ◆ Mercury is the smallest inner and is somewhat larger than our Moon.
- ◆ Because it is so close to the Sun, Mercury's surface is very hot – about 800F.
- ◆ Its atmosphere is thin.
- ◆ Mercury is covered with craters.
- ◆ Craters are saucer-shaped holes formed when asteroids or meteorites strike its surface.

# Mercury





# The Planets

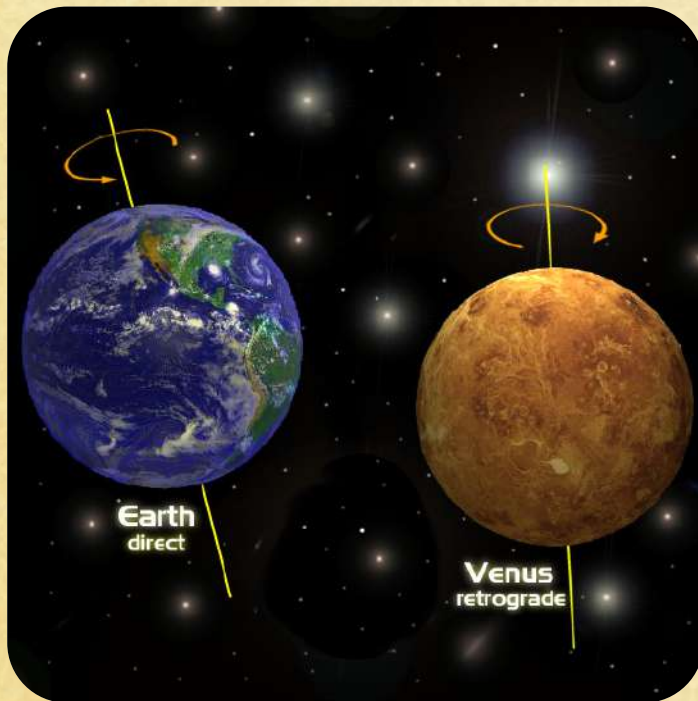
## Venus

- ◆ Venus is slightly smaller than Earth.
- ◆ We cannot see its surface.
- ◆ It is covered with thick clouds.
- ◆ Venus' temperature is high – about 900F.



# The Planets

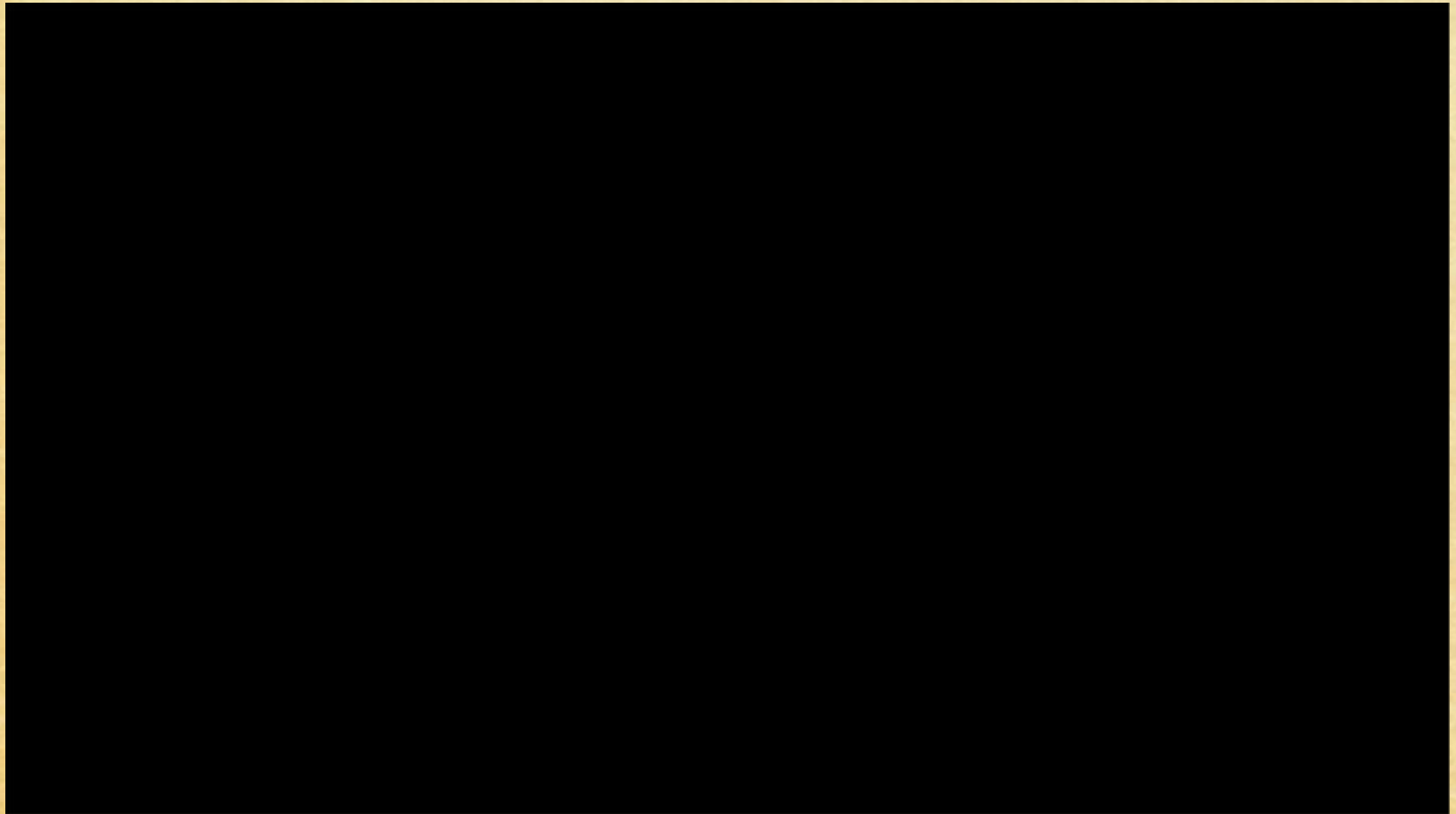
## Venus



- ◆ Its atmosphere is 93 times thicker than Earth's and has a lot of carbon dioxide that traps heat.
- ◆ Venus rotates backward compared with other planets.
- ◆ The length of its year is very close to its rotation period.



# Venus



# The Planets

## Earth



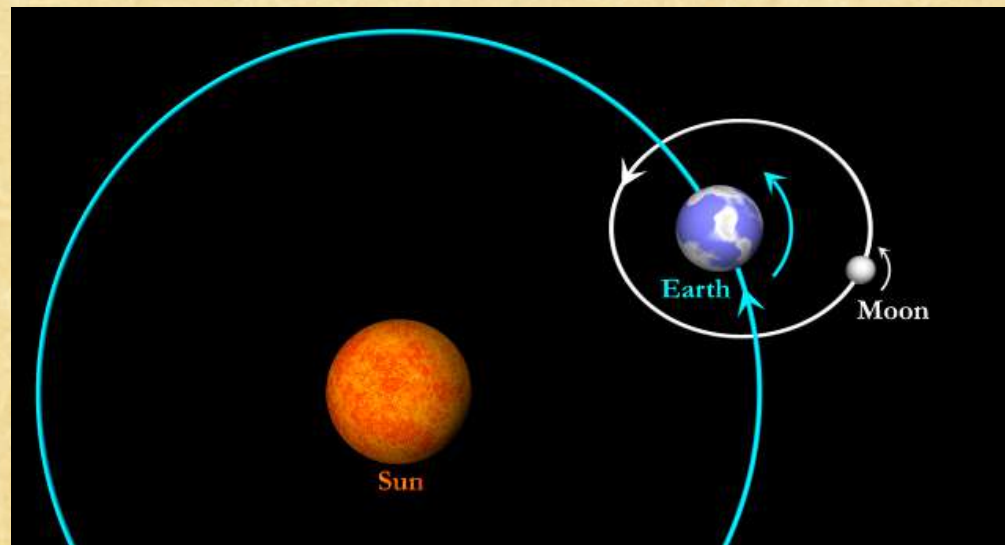
- ♦ The largest inner planet. It is the only one known to support life and have liquid water.
- ♦ God designed Earth with several features that make it possible for life to thrive here.
  1. Earth's atmosphere is just right mixture of nitrogen, oxygen, and other gases necessary for living things.
  2. Earth is just the right distance from the Sun. If it were closer it would be too hot. If it were further away it would be too cold.



# The Planets

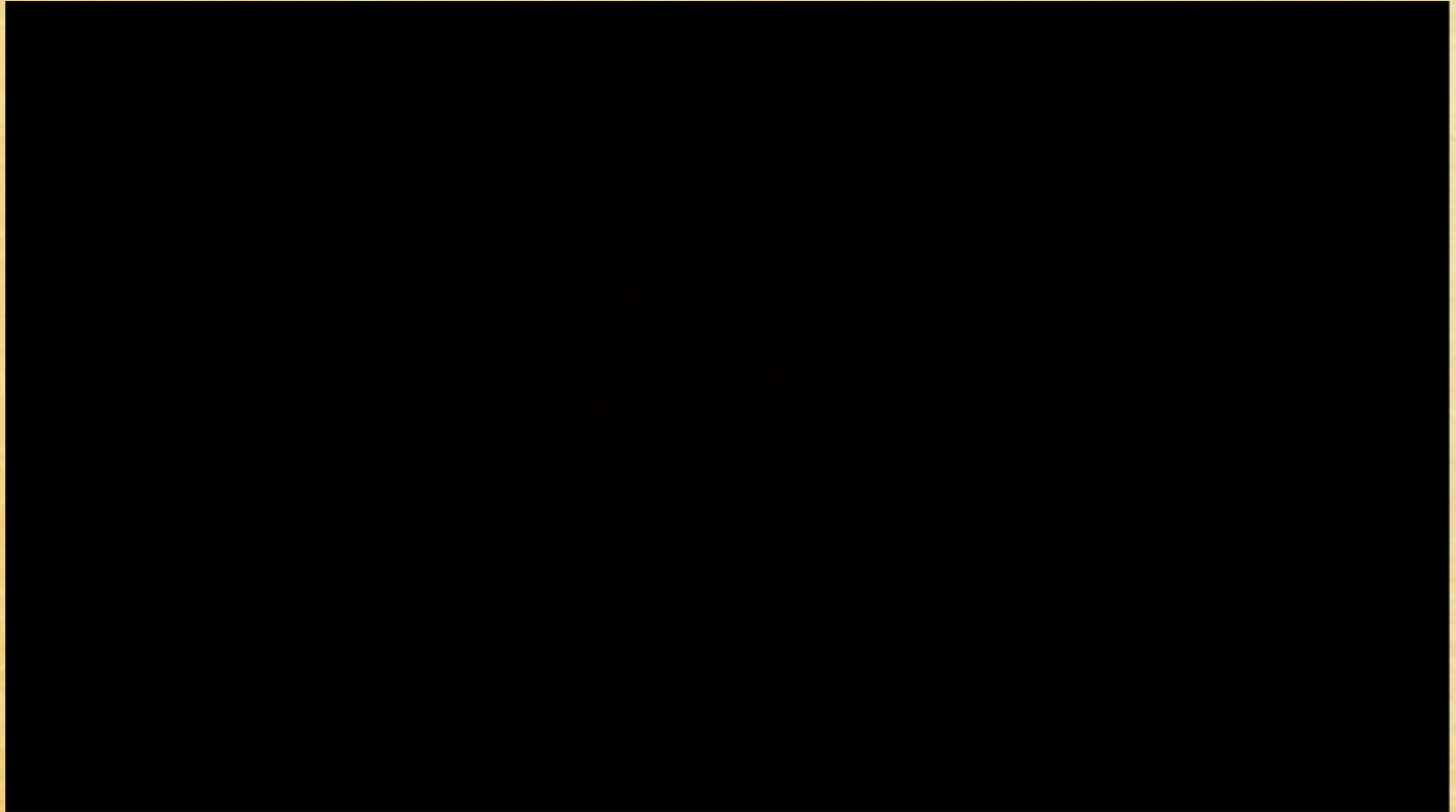
## Earth

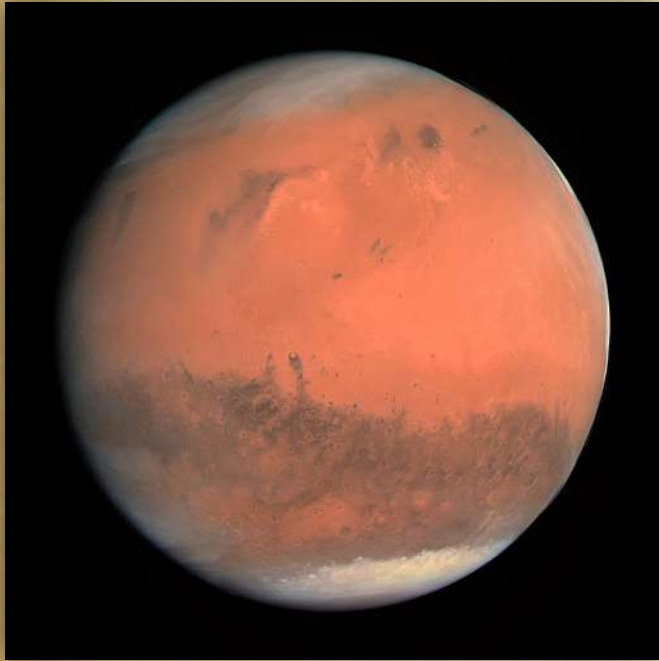
3. Earth is just the right size to create the right amount of gravity to keep the atmosphere from escaping into space and to keep it from crushing life on Earth.
4. Earth's one moon is just the right size and just the right distance from Earth to create tides. The tides prevent the ocean from becoming stagnant.





# Earth





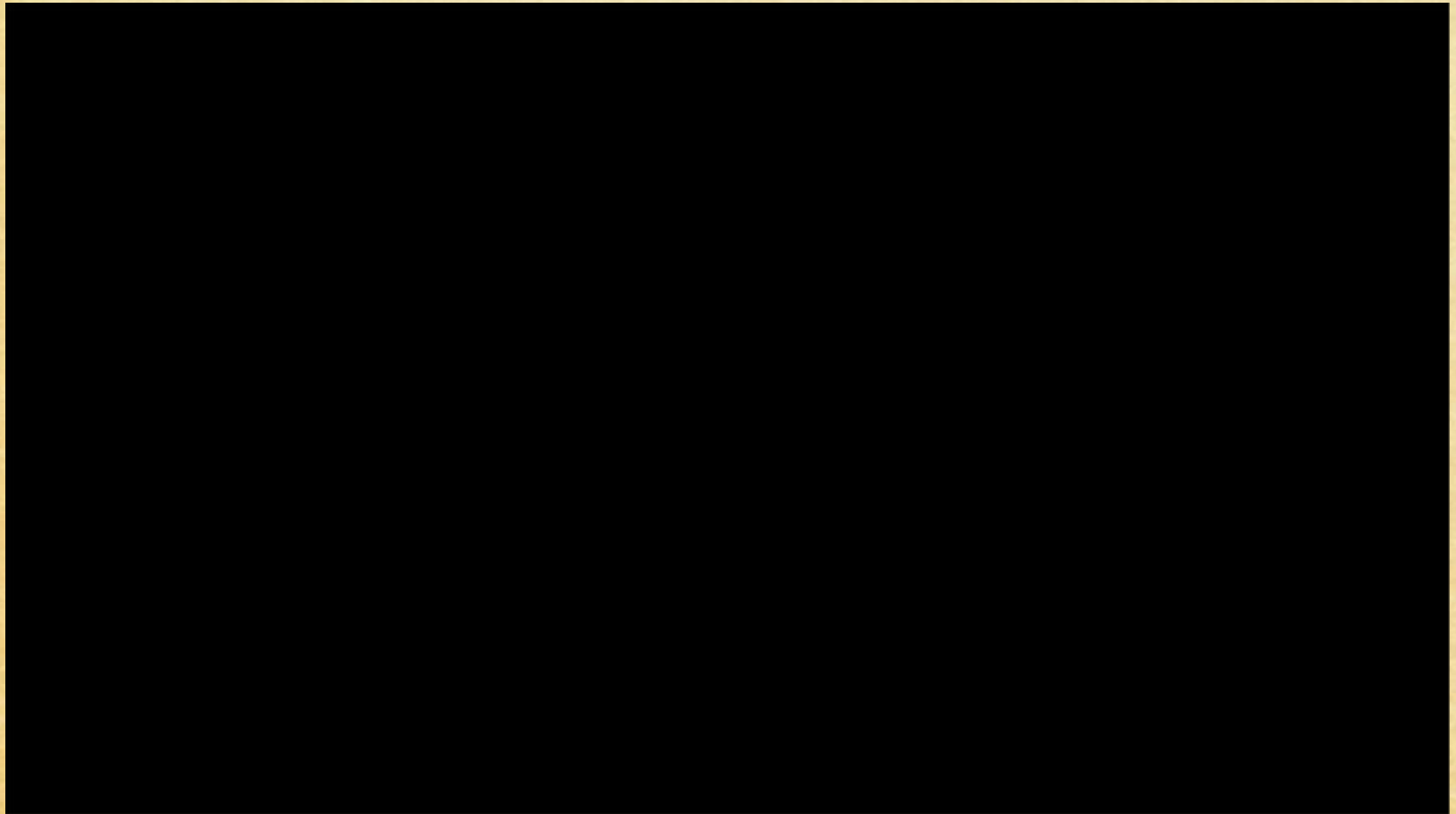
# The Planets

## Mars

- ◆ Mars looks red because it has iron on its surface.
- ◆ Mars has ice caps made of carbon dioxide and water.
- ◆ It has canyons, valleys, and plains.
- ◆ It also has the largest volcano in the Solar System!
- ◆ Water once flowed on Mars and may lie below its surface.
- ◆ Its air is very thin, and it has two moons.



# Mars



# The Planets

## Jupiter

- ♦ Jupiter is the largest planet and has at least 64 moons.
- ♦ Its moon Ganymede is larger than Mercury.



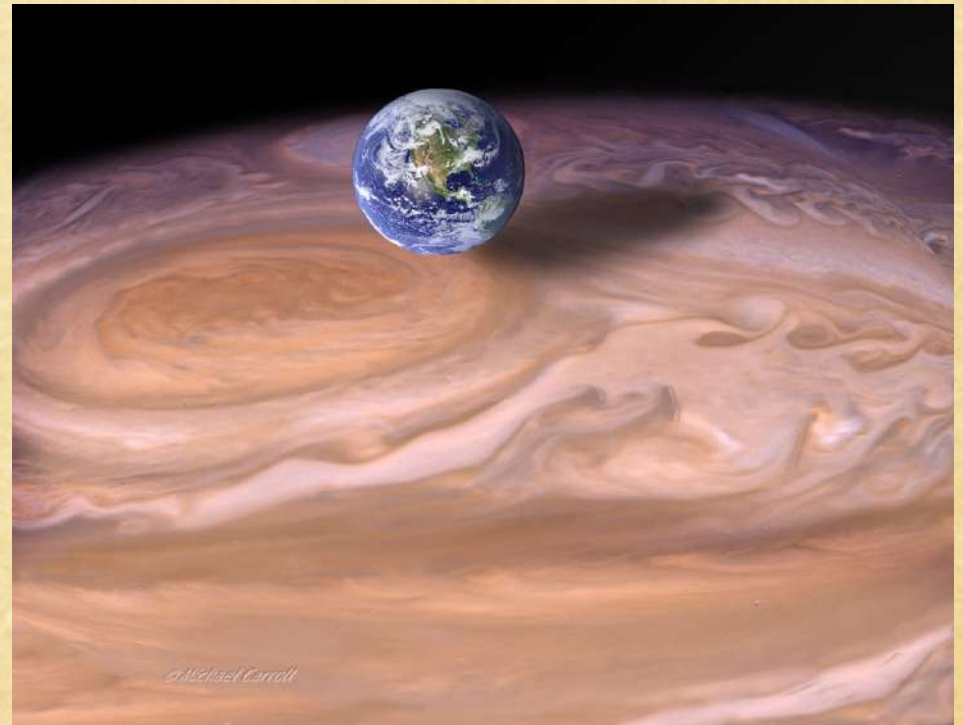
- ♦ Jupiter is a ball of gas and liquid. It has hardly any solid surface.
- ♦ Jupiter rotates faster than any other planet.



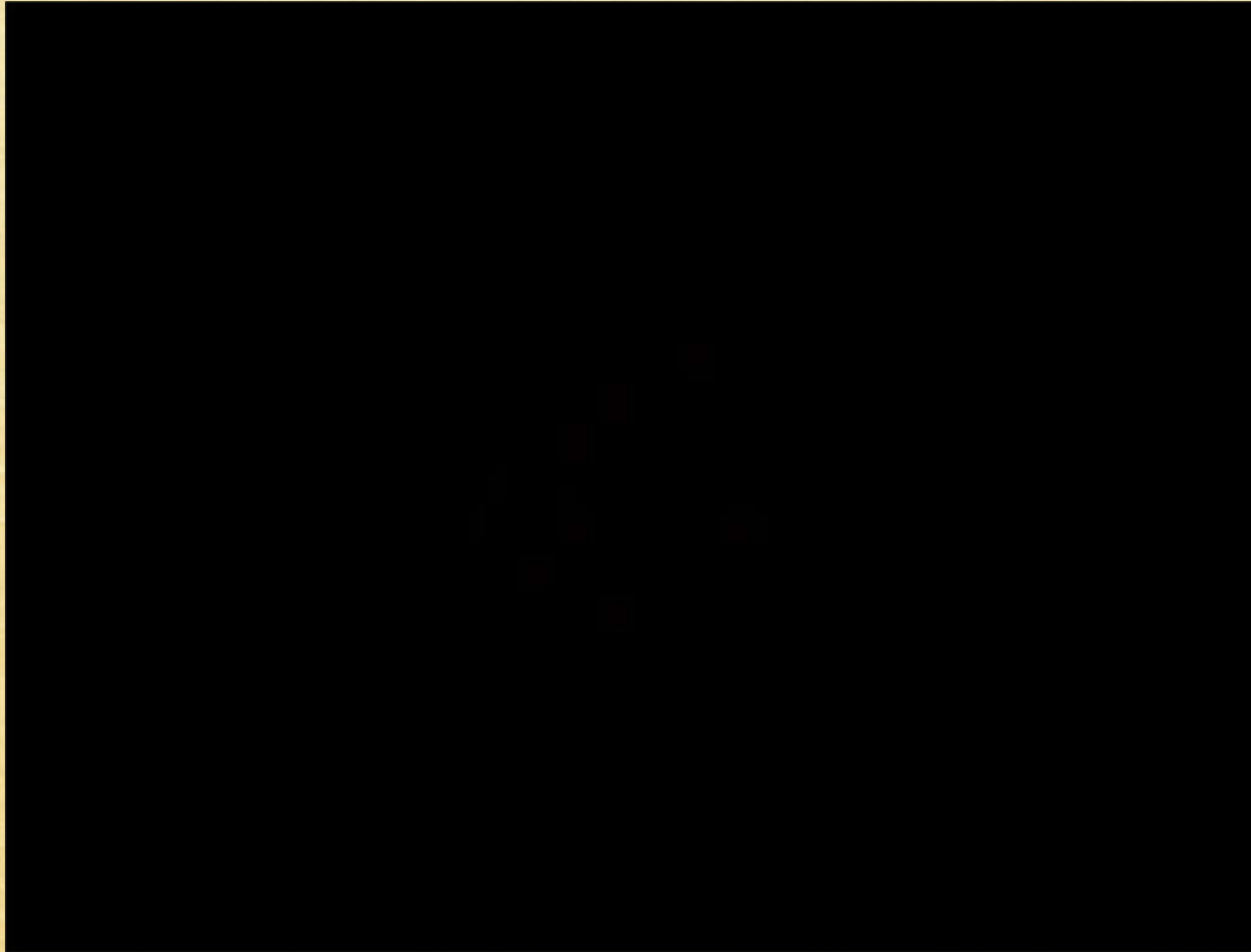
# The Planets

## Jupiter

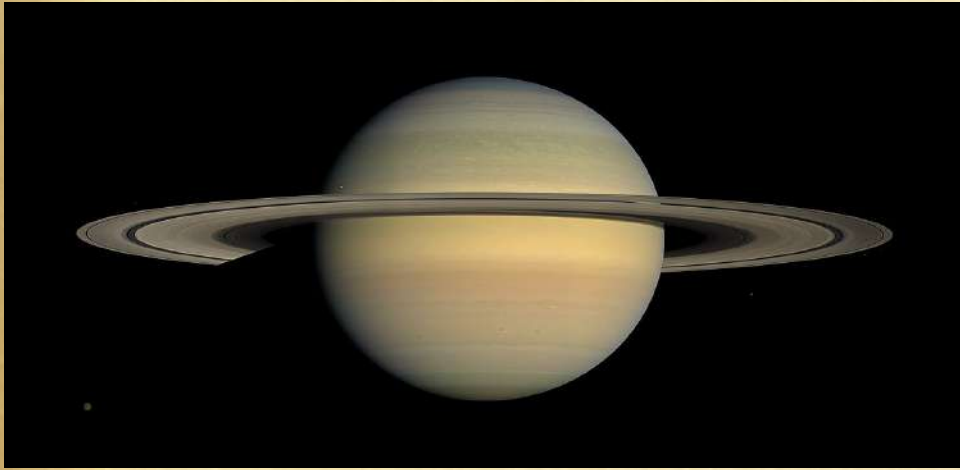
- ◆ It has thick clouds made of hydrogen and helium.
- ◆ The Great Red Spot on its surface is a storm larger than Earth.
- ◆ Jupiter has a strong magnetic field.



# Jupiter





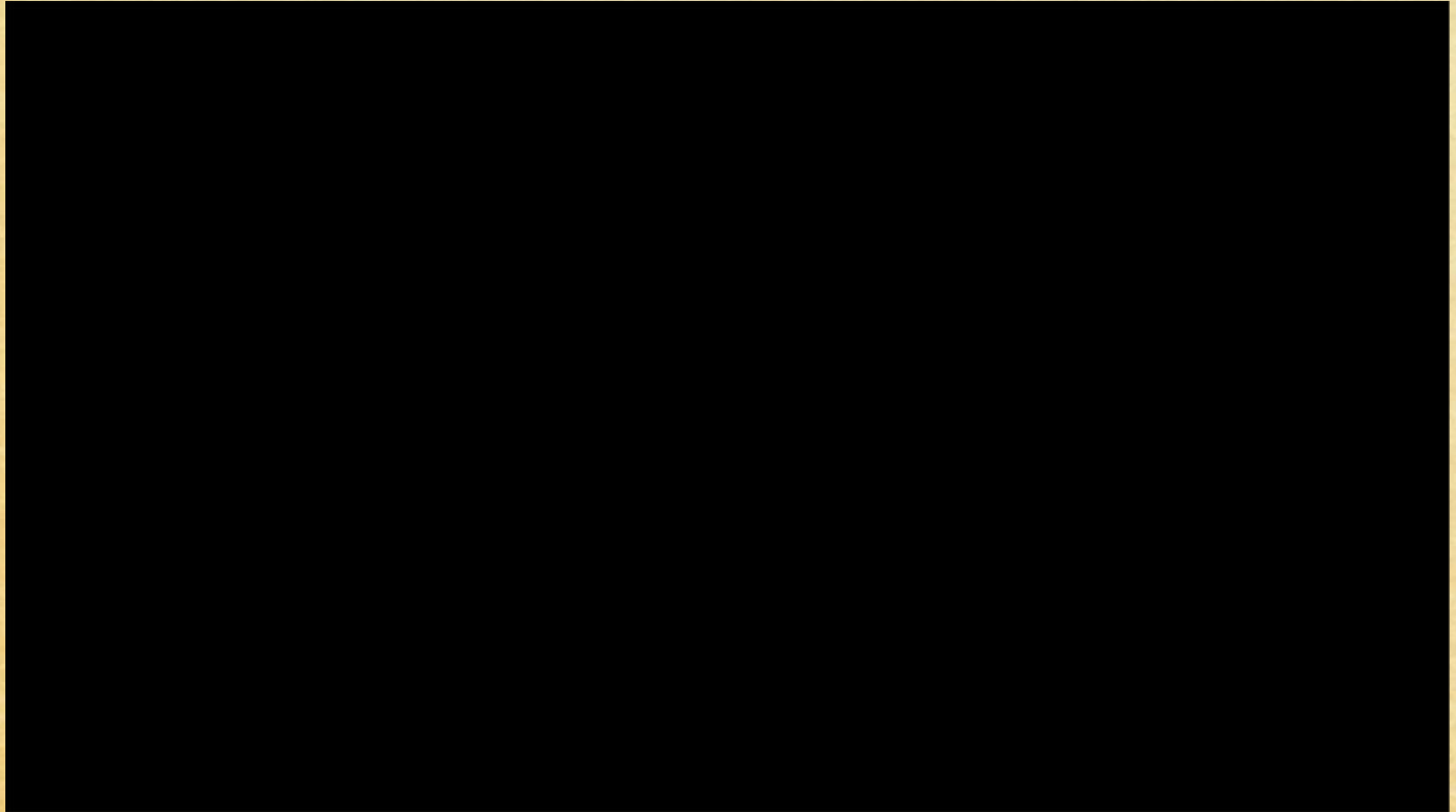


# The Planets

## Saturn

- ◆ Saturn is the second-largest planet.
- ◆ It has seven main rings made of rock and ice, and it has at least 62 moons.
- ◆ Saturn is a giant ball of gas but may have a solid core.
- ◆ It is covered with thick clouds of hydrogen and helium.
- ◆ Saturn has a strong magnetic field.

# Saturn





# The Planets

## Uranus

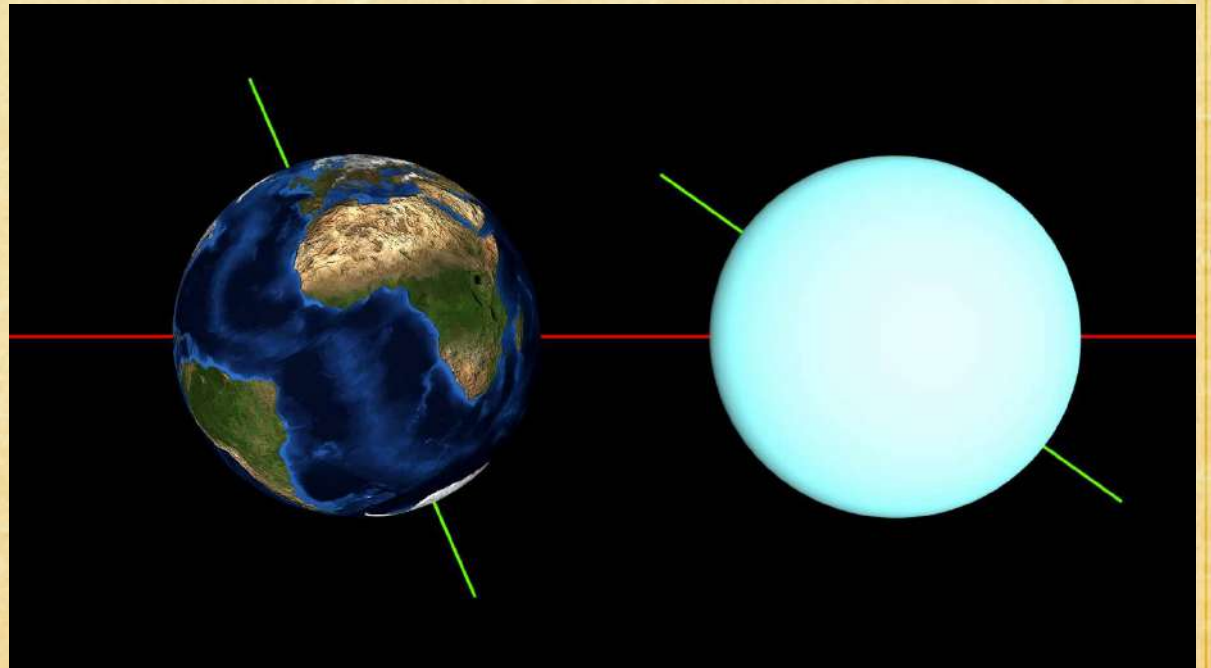
- ◆ Uranus is the farthest planet that can be seen without a telescope.
- ◆ Uranus is a pale blue-green ball of gas.
- ◆ It has clouds of methane and may contain an ocean of liquid water and ammonia.



# The Planets

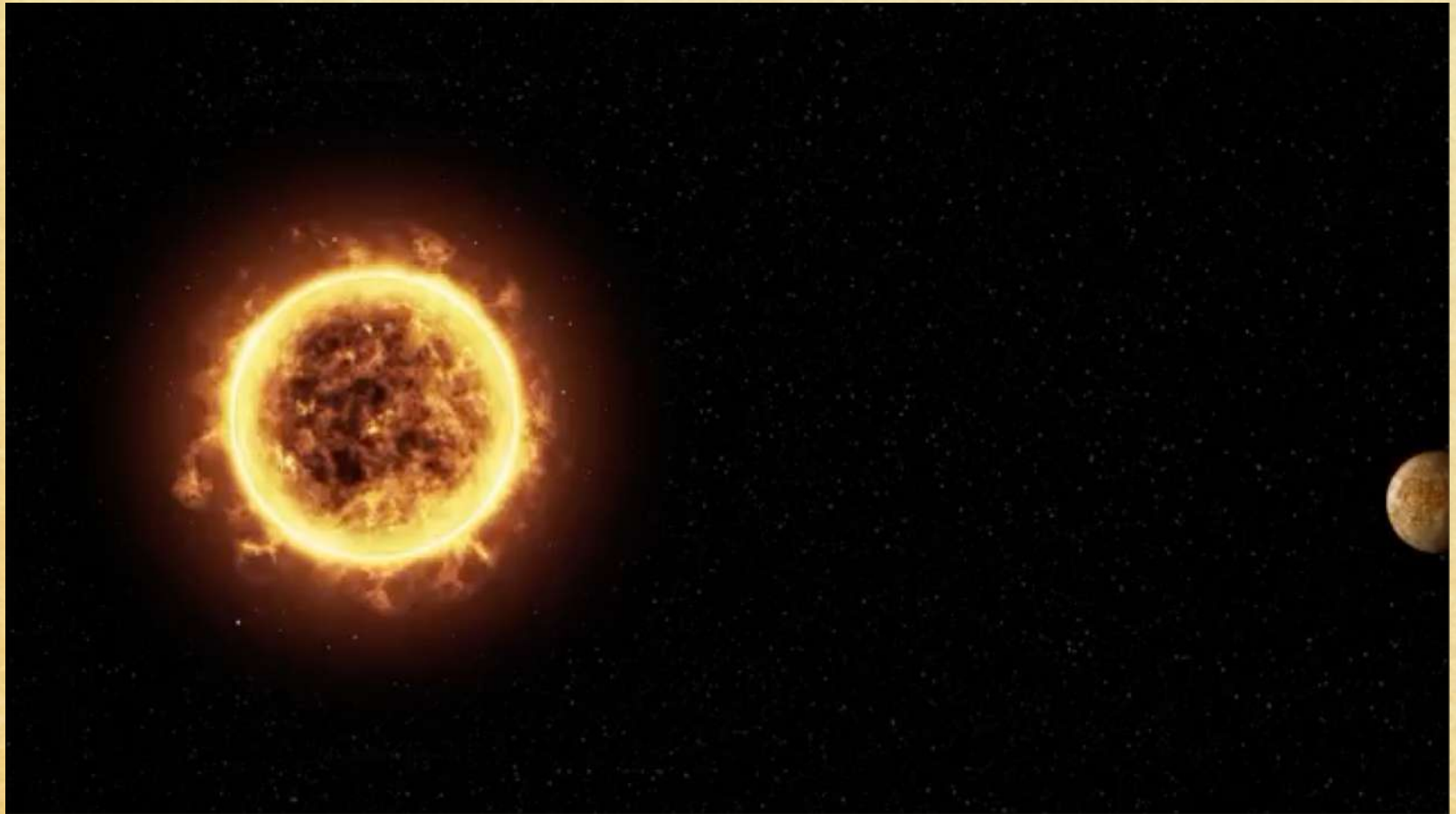
## Uranus

- ◆ Its center may be a solid core about the size of Earth.
- ◆ Uranus is tilted on its side.
- ◆ It has a thin ring system.



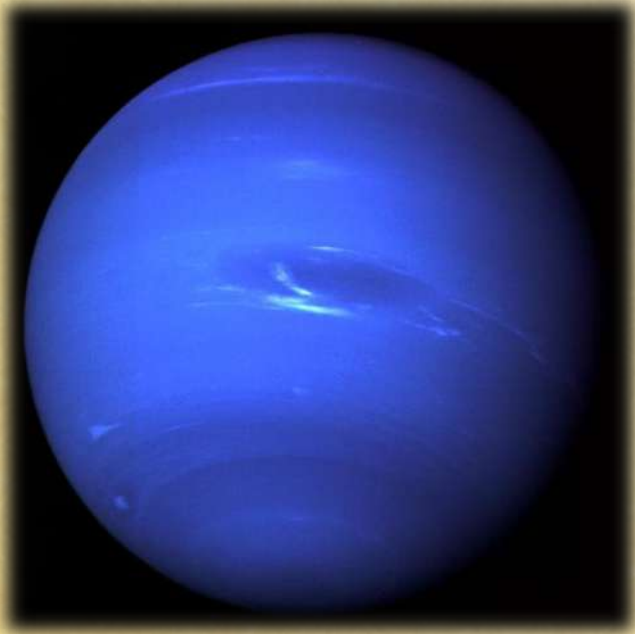


# Uranus



# The Planets

## Neptune



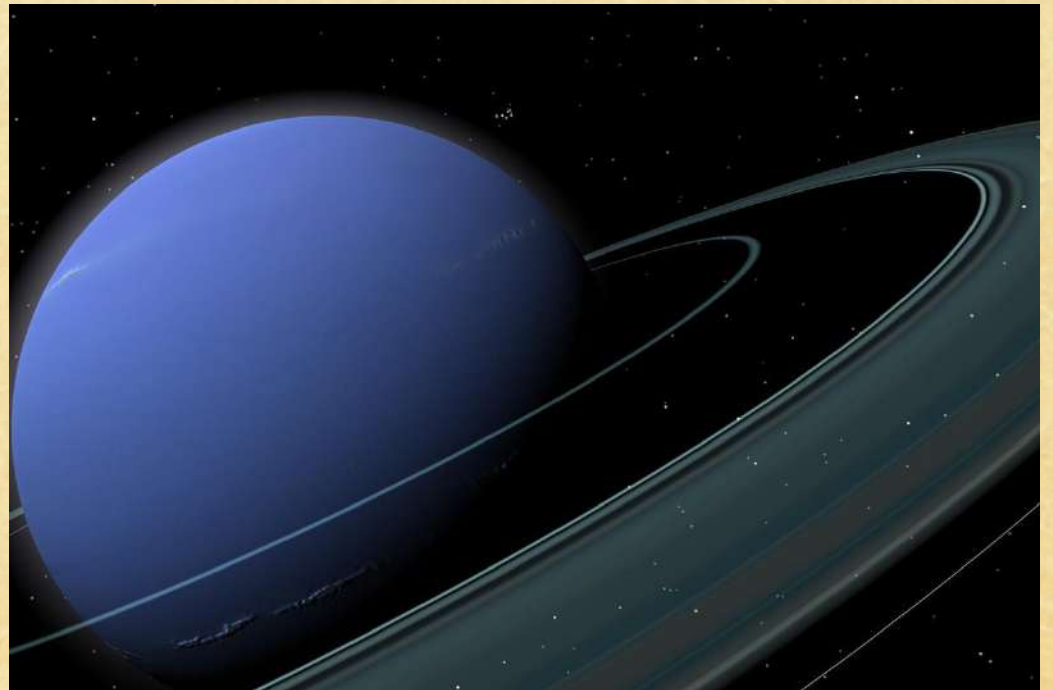
- ◆ Neptune is an icy blue planet made of hydrogen, helium, frozen methane, and water.
- ◆ Astronomers predicted that another planet existed beyond Uranus.
- ◆ Then, they looked for Neptune and discovered it very close to the location they predicted.



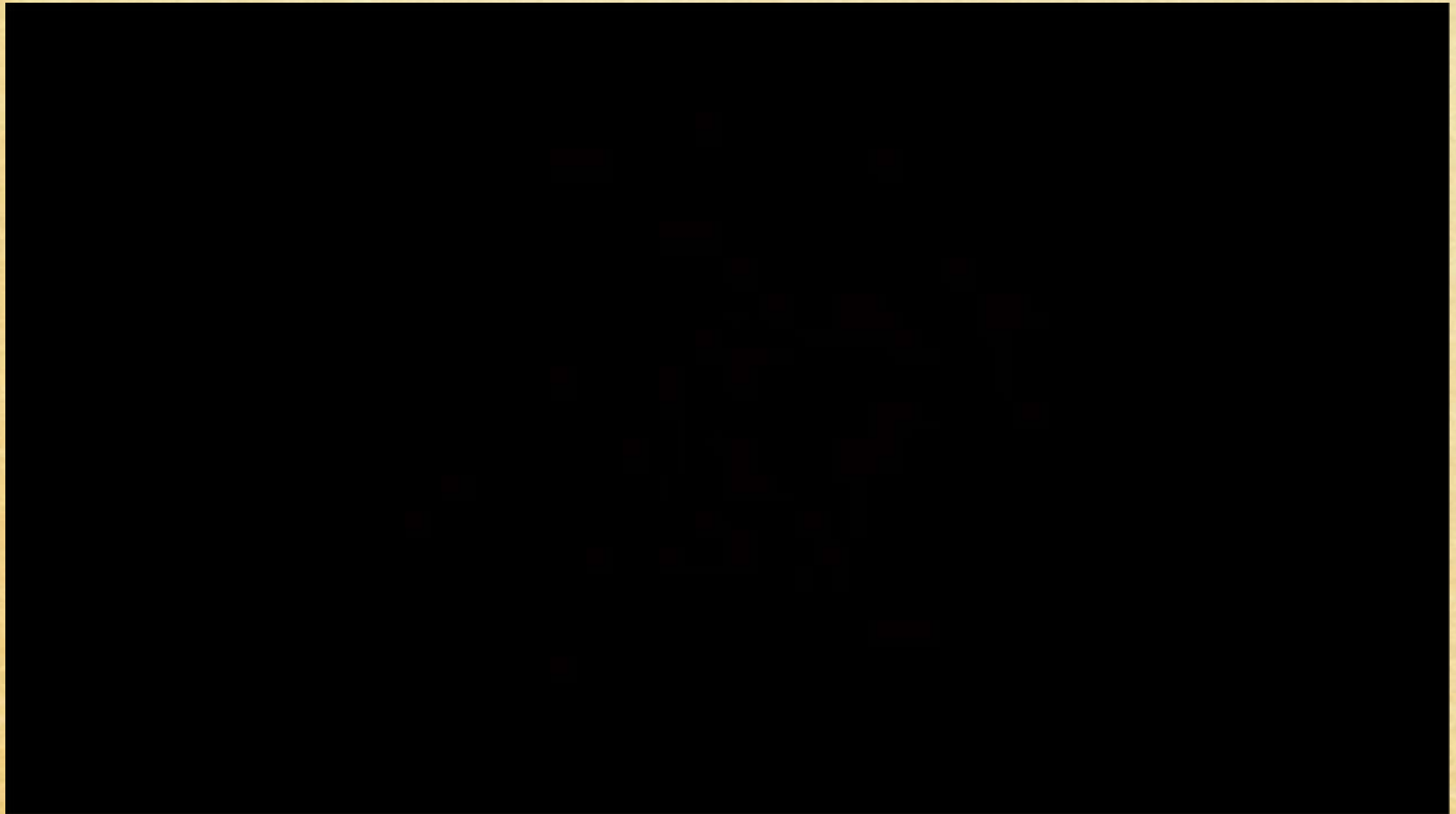
# The Planets

## Neptune

- ◆ One of Neptune's moons – Triton – orbits the planet in the opposite direction of the planet's rotation.
- ◆ Neptune's rings are fainter and darker than Saturn's.
- ◆ Pluto crosses Neptune's orbit.



# Neptune





# Review

1. What is space?
  - area beyond Earth's atmosphere
2. What are stars?
  - huge glowing balls of gas
3. What is an example of a star?
  - Sun
4. What is a telescope?
  - a long tube with a lens at each end to collect light
5. Who was the first person to use the telescope to look at the sky?
  - Galileo

# Review

6. What is a satellite?

- object that orbits another object in space

7. Are satellites natural or man-made?

- Both

8. What was the first space craft launched in space?  
Who launched it?

- *Sputnik 1*, the Soviet Union

9. Who were among the first space travelers?

- Yuri Gagarin and John Glenn



# Review

10. Who was the first person on the moon?

- Neil Armstrong

11. What are space probes?

- uncrewed vehicles that are used to collect information to send back to Earth

12. Who is included in a solar system family?

- planets and their moons, the dwarf planets and their moons, asteroids, meteoroids, and occasional comets

# Review

13. What is an astronomical unit?

- is the average distance from the Sun to Earth

14. How long is one AU?

- ~93 million miles

15. What are the planets in our solar system?

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

16. What are the inner planets?

- first four planets are closest to the Sun: Mercury, Venus, Earth, and Mars



# Review

17. What are the outer planets?

- Last four planets are huge and made mostly of gases: Jupiter, Saturn, Uranus, and Neptune

18. What is the asteroid belt?

- a band of asteroids that orbit together between Mars and Jupiter

19. What are asteroids?

- chunks of irregularly shaped rock that orbit the Sun between the inner and outer planets.

# Review

20. What are dwarf planets?

- round bodies that orbit the Sun, they share their orbits with other space objects
- Ceres, Pluto, Eris

21. What are comets?

- small bodies made of lumps of rock, metal, and dust covered with ice