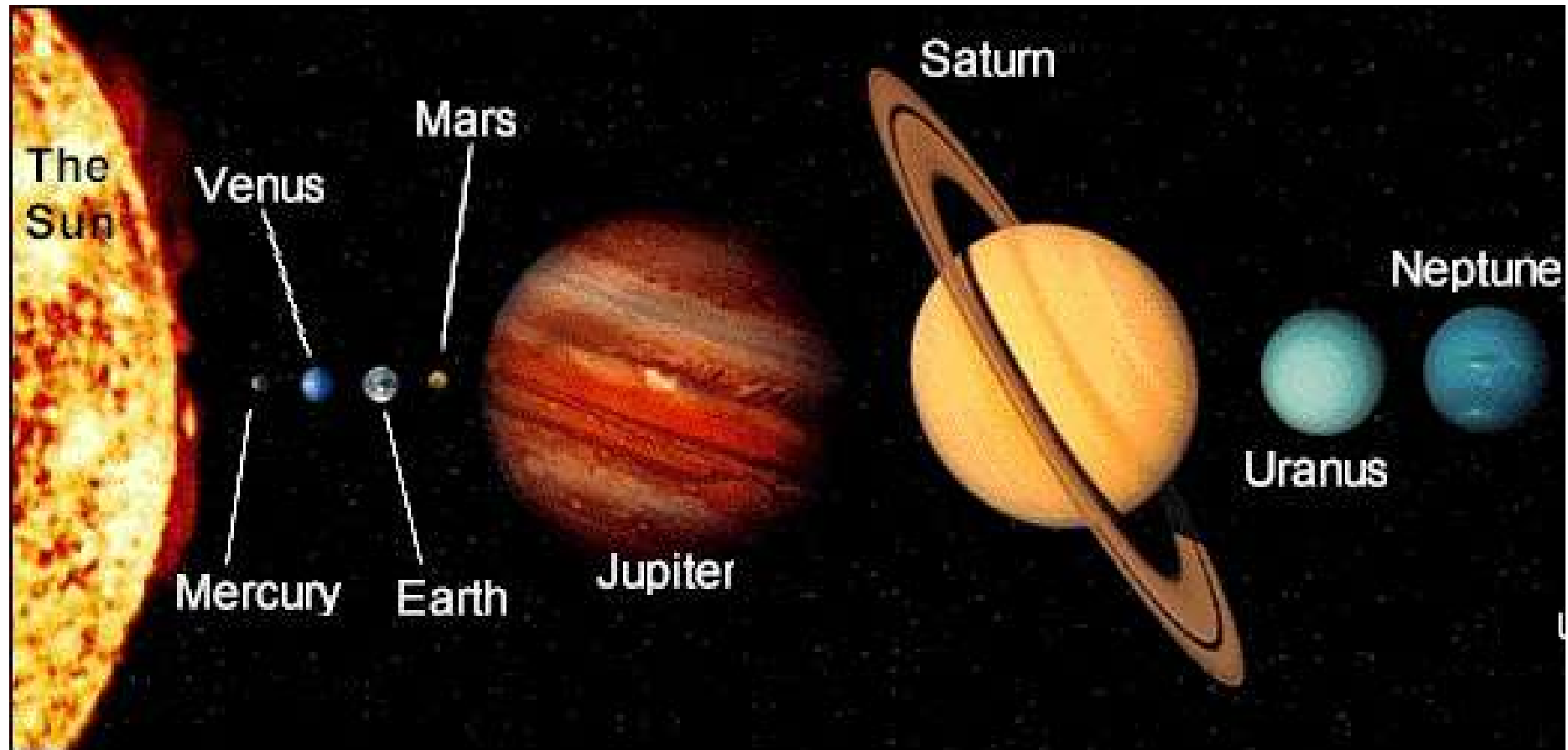


Our Solar System



Our Solar System

- Our Solar system is made up of 8 planets.
- It used to be 9, but.....Pluto is now considered a dwarf planet.
- We are going to start by breaking the solar system into two groups:
- The Inner Planets (4)
 - Inner because they are the four closest to the sun.
- The Outer Planets (4)
 - Outer because they are the four furthest from the sun.

Question 1

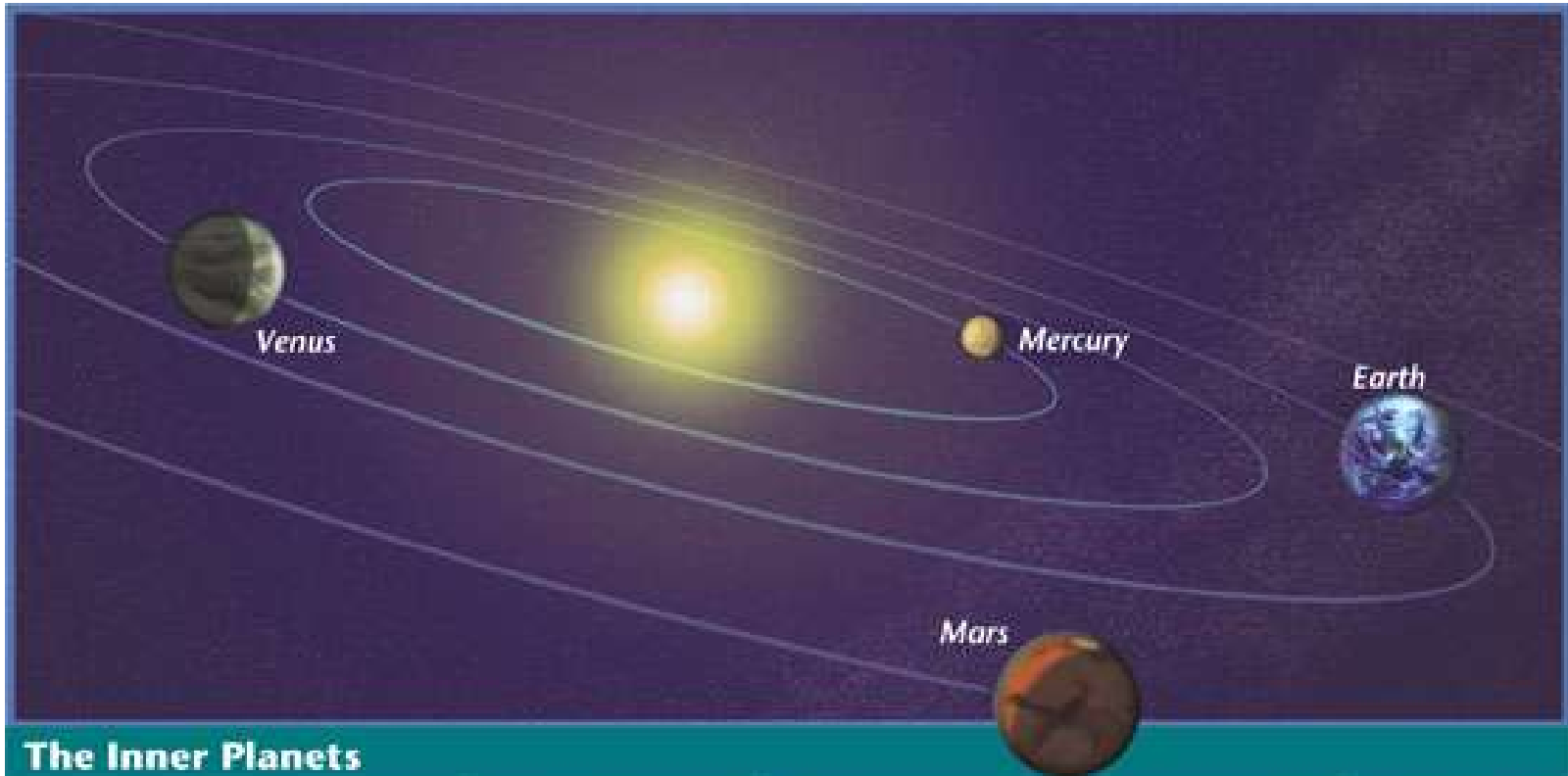
How many planets are in our solar system?

Question 2

Why is Pluto no longer considered a planet?

- a. It was too far away from the sun.
- b. It doesn't have its own orbit
- c. Too much ice on the surface of the planet.
- d. There are no rivers to kayak on.

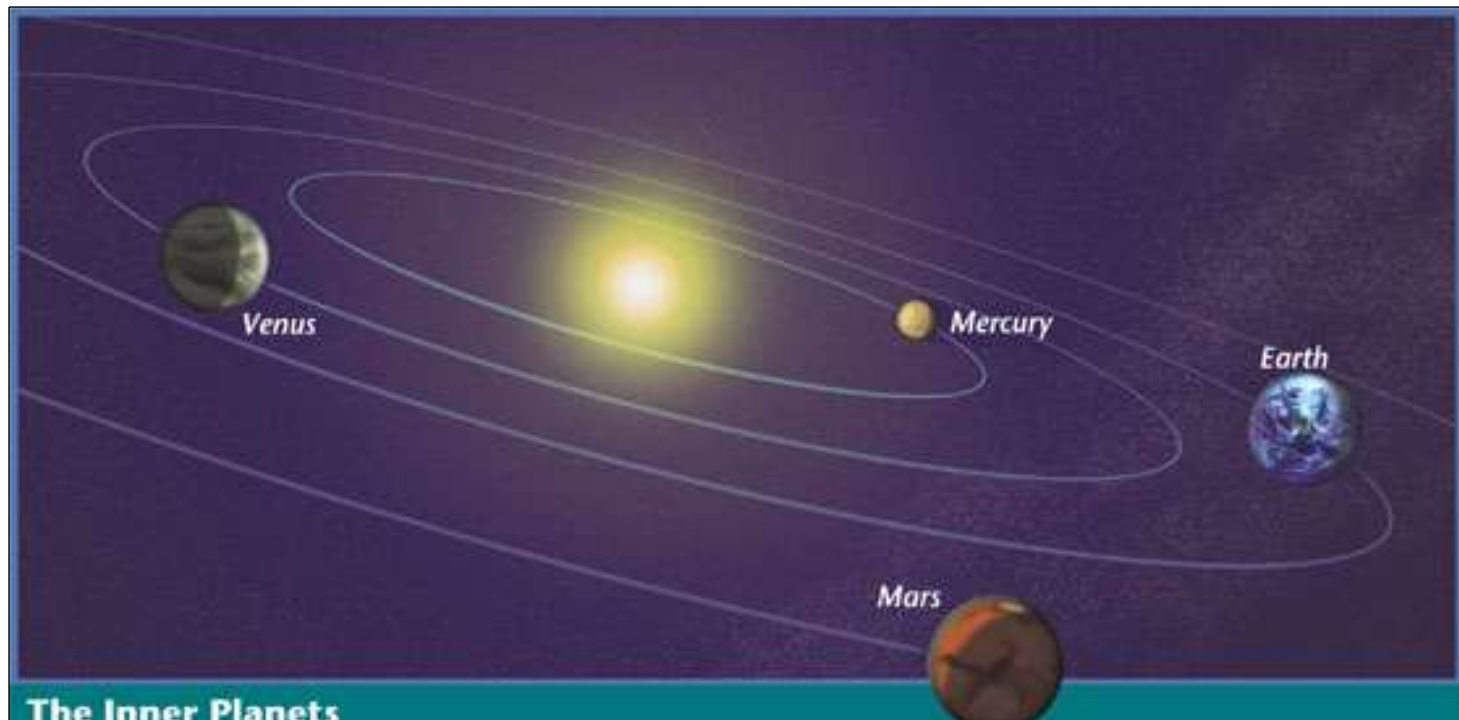
The Inner Planets



The Inner Planets					
Planet	Diameter (kilometers)	Period of Rotation (Earth days)	Average Distance From the Sun (kilometers)	Period of Revolution (Earth years)	Number of Moons
Mercury	4,878	59	58,000,000	0.24	0
Venus	12,104	243	108,000,000	0.62	0
Earth	12,756	1	150,000,000	1	1
Mars	6,794	1.03	228,000,000	1.9	2

The Inner Planets

- The Four Inner Planets are:
 - Mercury
 - Venus
 - Earth
 - Mars

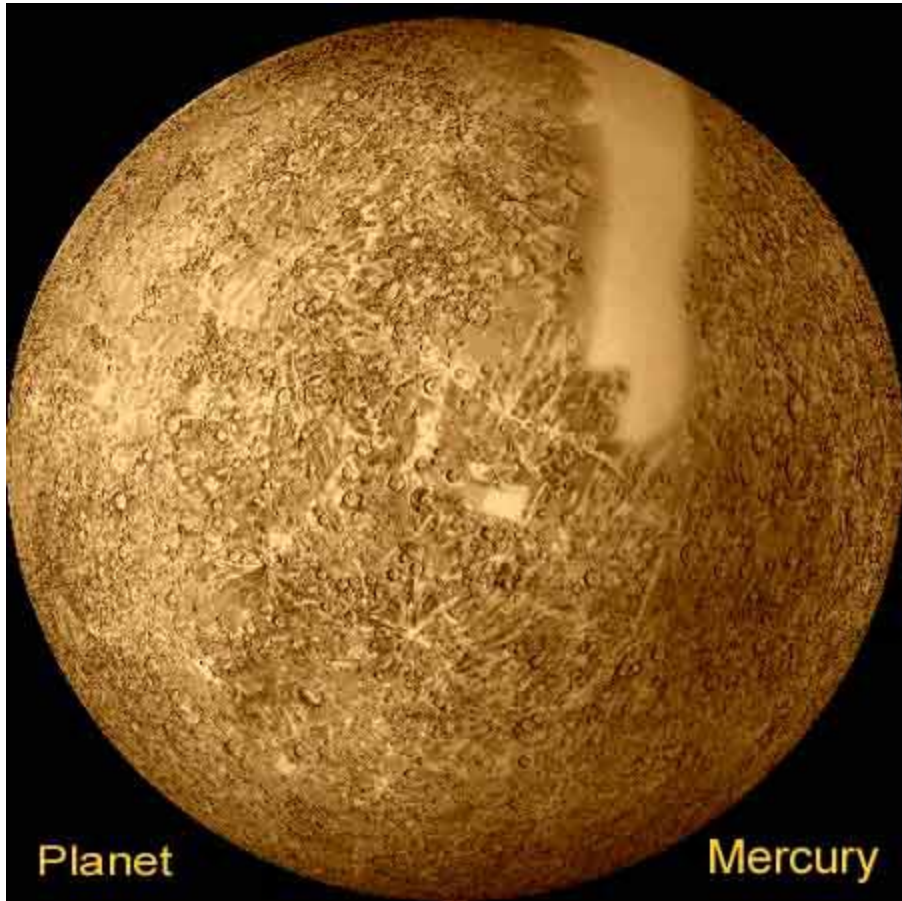


Question 3

Which of the following planets is not one of the inner planets?

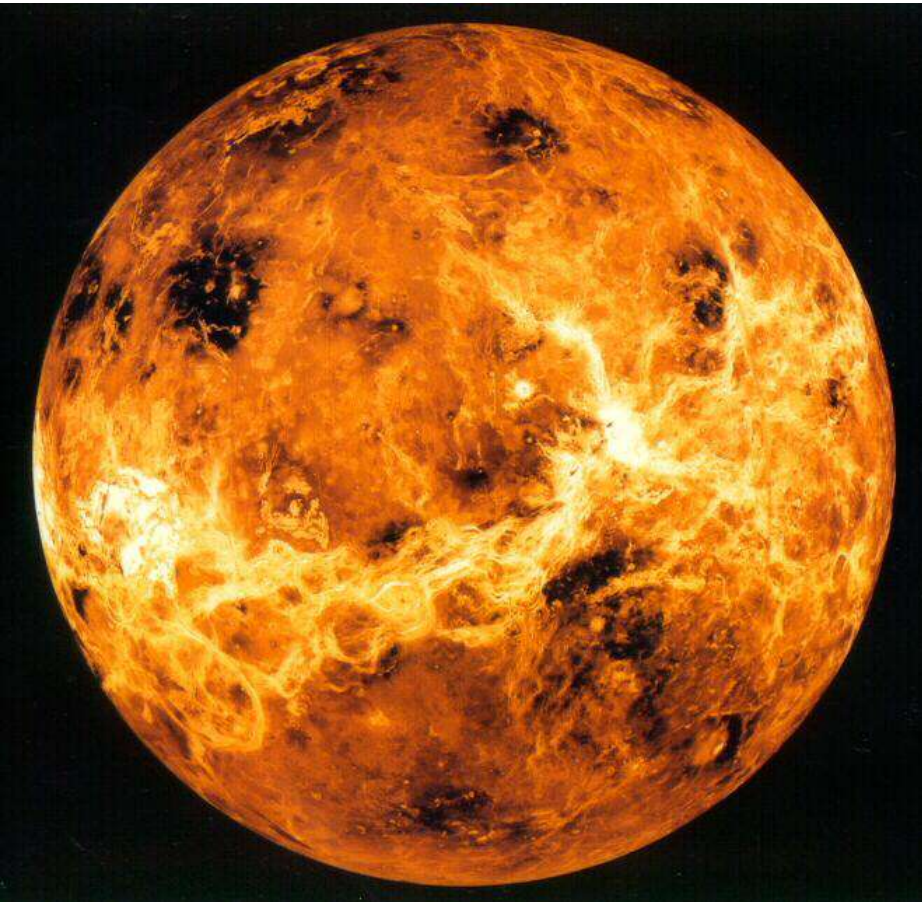
- a. Mars
- b. Venus
- c. Saturn
- d. Mercury
- e. Earth

The Inner Planets: Mercury



- Atmosphere: Very thin made up of small amounts of sodium and other gases
- Surface: Mercury has many flat plains and many craters on its surface.
- Moons: 0
- Distance from the Sun: 1st planet, 58 million km
- Fun Fact: about the size of our moon. Temperature ranges from 430 - -170 degree Celcius

The Inner Planets: Venus



- Atmosphere: Very thick atmosphere, mostly carbon dioxide and clouds are partly made of sulfuric acid.
- Surface: Venus is covered with rock, volcanoes, craters, and strange domes not found on other planets.
- Moons: 0
- Distance from the Sun: 2nd planet, 108 million km.
- Fun Fact: 460 degree Celsius because of intense greenhouse effect.

The Inner Planets: Earth



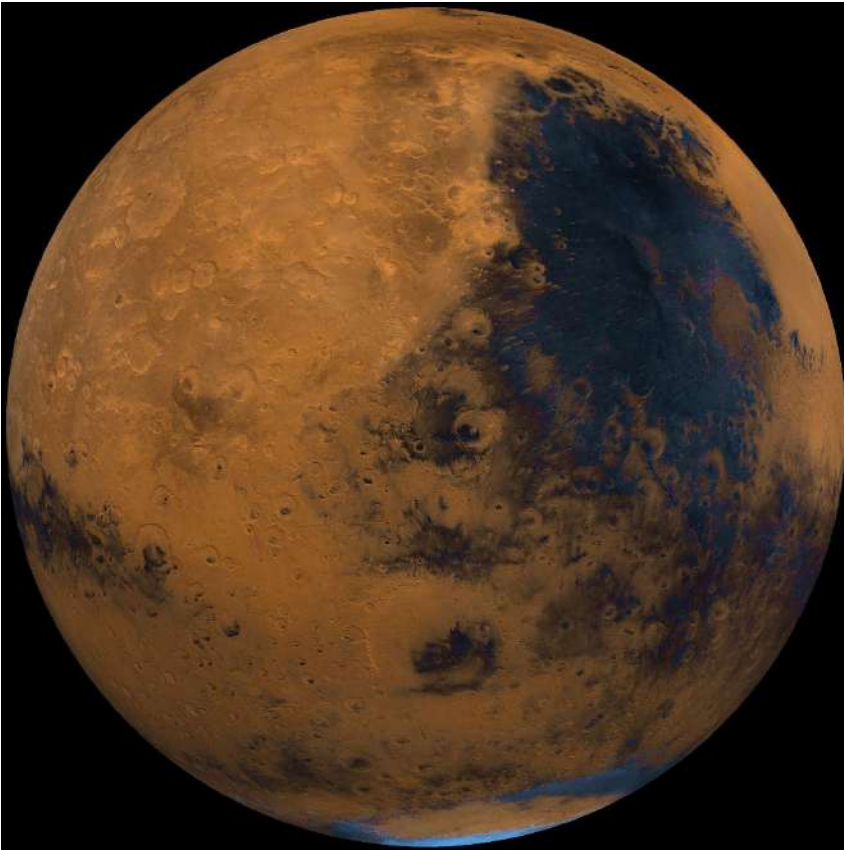
- Size: 12,756 km in Diameter
- Atmosphere: Nitrogen, Oxygen, Argon and others.
- Surface: 70% water. Rock and earth.
- Moons: one
- Distance from the Sun:
- 3rd planet, 150 million km
- Fun Fact: Only planet that sustains life.

Inner Planets: The Earth



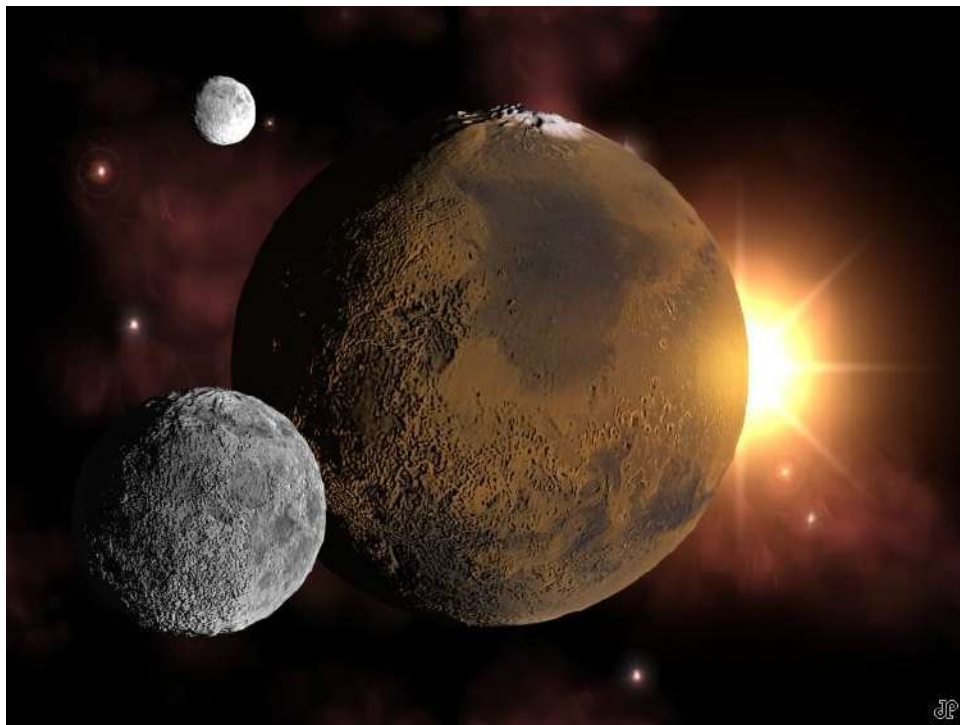
- The moon is 3,476 kilometers in diameter
- Much of the moon's surface is covered with round pits called **craters**.
- Dark, flat areas called **maria**.
- In the moon's surface range from 100°C, the boiling point of water, to -170°C, well below freezing.

The Inner Planets: Mars



- Size: 6,794 kilometers in Diameter
- Atmosphere: Thin and made of mostly carbon dioxide
- Surface: Rocky with crater and inactive volcanoes.
- Moons: 2
- Distance from the Sun: 228 million km

The Inner Planets: Mars



- Phobos, the larger moon, is only 27 kilometers in diameter
- Deimos is even smaller, only 15 kilometers in diameter.

Question 4

Which inner planet is closest to the size of the earth?

- Mercury
- Venus
- Mars
- Saturn

Question 5

Why is the surface of Venus hotter than Mercury?

- Volcanoes
- Green House Effect
- Lightning
- That's just the way Venus rolls.

Question 6

Which if the two inner planets have the thinnest atmospheres?

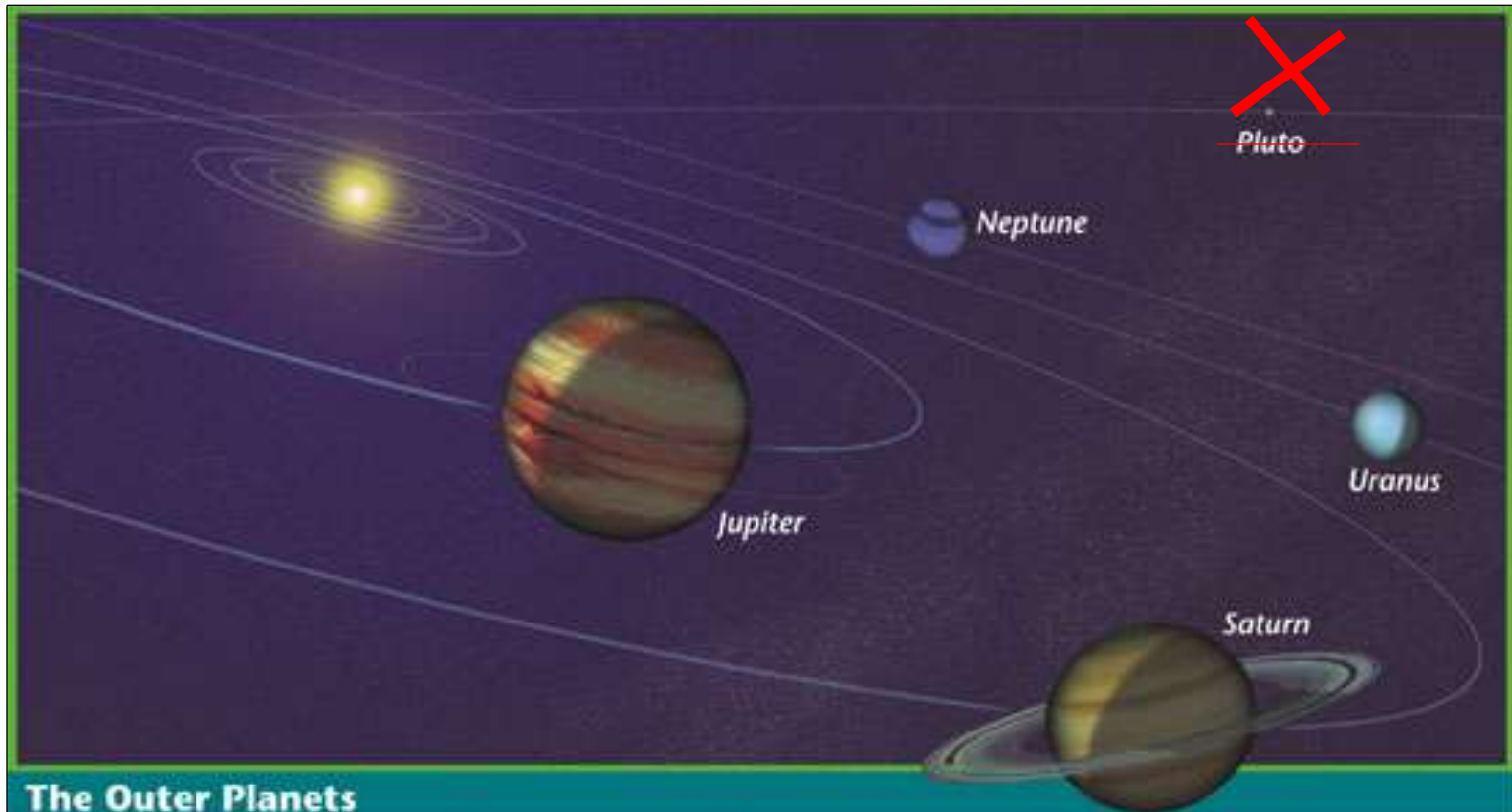
- a. Mars and Earth
- b. Earth and Venus
- c. Mercury and Mars
- d. Mars and Venus

Question 7

Which of the inner planets has the thickest atmosphere?

- Mercury
- Venus
- Earth
- Mars

The Outer Planets

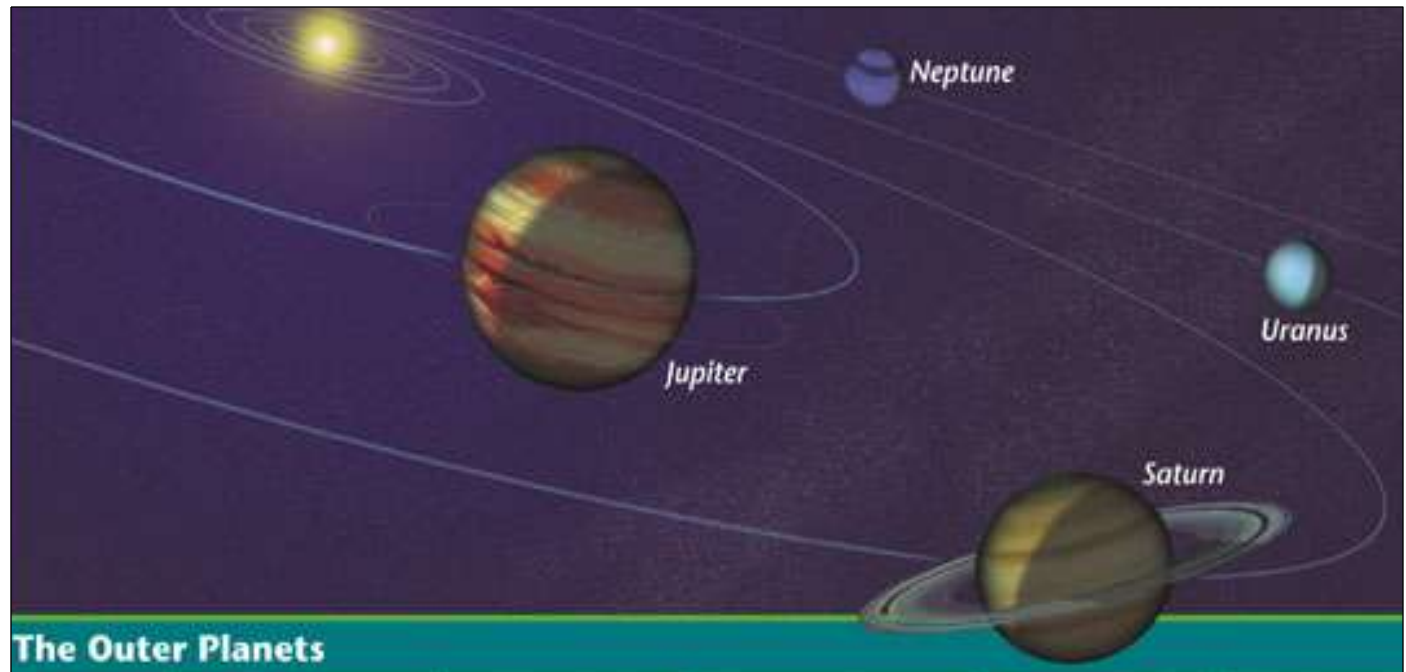


The Outer Planets

Planet	Diameter (kilometers)	Period of Rotation (Earth days)	Average Distance From the Sun (kilometers)	Period of Revolution (Earth years)	Number of Moons
Jupiter	142,800	0.41	778,000,000	12	18
Saturn	120,540	0.43	1,427,000,000	29	18
Uranus	51,200	0.72	2,871,000,000	84	20
Neptune	49,500	0.67	4,497,000,000	165	8

The Outer Planets

- The Four Outer Planets are (JSUN)
 - Jupiter
 - Saturn
 - Uranus
 - Neptune



Question 8

Which of the following planets is **NOT** one of the Outer Planets?

- Jupiter
- Mercury
- Saturn
- Neptune
- Uranus

The Outer Planets: Jupiter



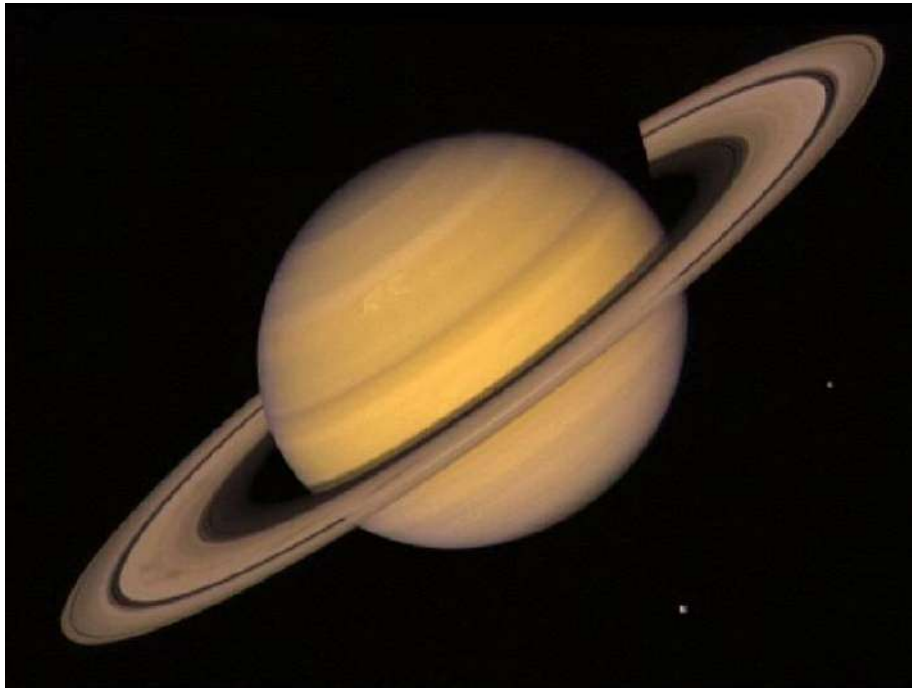
- Size: 142,800 kilometers in Diameter
- Atmosphere: A thick atmosphere made up mainly of hydrogen and helium.
- Surface: Astronomers think that each of the giant planets has a partly solid core made of rock, ice, frozen carbon dioxide, and other compounds
- Moons: 63+
- Distance from the Sun: 778 million km
- Fun Fact: Swirling red eye is an on going storm like a hurricane here on earth.

The Outer Planets: Jupiter



- The four largest moons of Jupiter are named Io, Europa, Ganymede, and Callisto.

The Outer Planets: Saturn

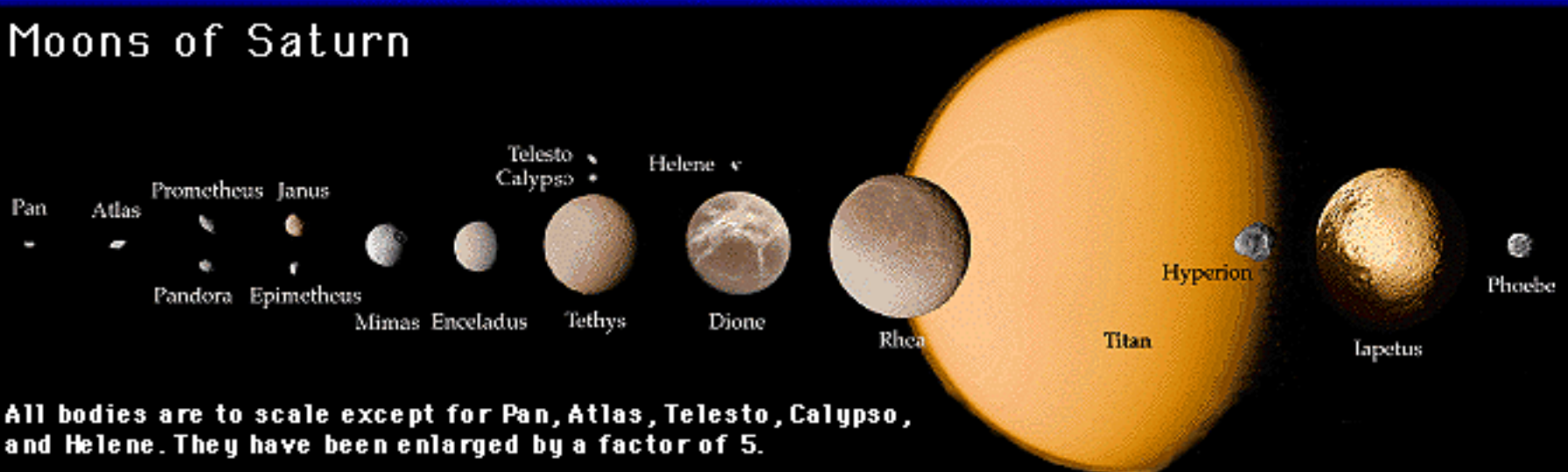


- Size: 120,540 kilometers in Diameter
- Atmosphere: a thick atmosphere made up mainly of hydrogen and helium
- Surface: Astronomers think that each of the giant planets has a partly solid core made of rock, ice, frozen carbon dioxide, and other compounds
- Moons: 60+
- Distance from the Sun: 1.4 billion km
- Fun Fact: Saturn's rings are made of chunks of ice and rock

The Outer Planets: Saturn

- Saturn's largest moon, Titan, is larger than Earth's own moon.
- Four other moons of Saturn are each over 1,000 kilometers in diameter. They are named Tethys (tee this), Iapetus (eye ap uh tus), Dione, and Rhea.

Moons of Saturn



Question 9

The atmosphere of Saturn and Jupiter mostly composed of

- oxygen and hydrogen
- nitrogen and hydrogen
- hydrogen and helium
- hydrogen and nitrogen

Question 10

Which is larger planet?

- Jupiter
- Saturn

Question 11

True or False

Jupiter and Saturn have a core made of rock and ice?

Question 12

What is Jupiter swirling red eye?

- A view of the inner core
- A giant crater
- A giant storm
- An exploded bottle of red dye no. 9

Question 13

Saturn's ring are made up of

- rock and ice
- star dust
- moons
- debris from spaceships

The Outer Planets: Uranus



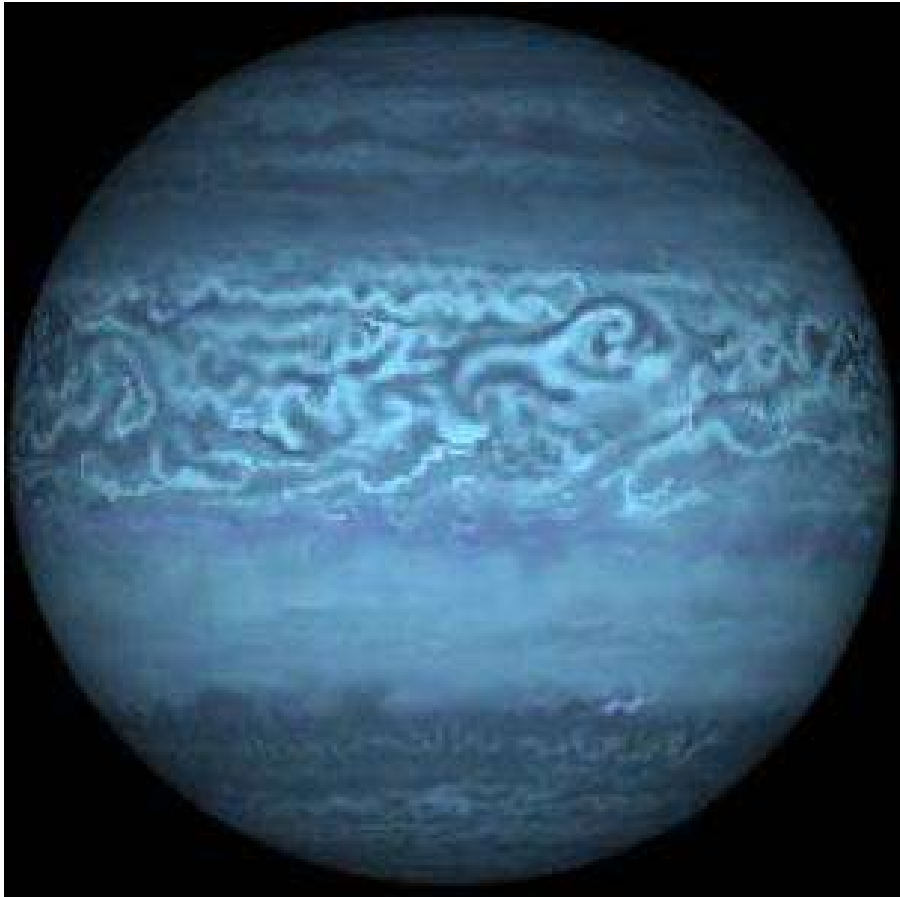
- Size: 51,200 kilometers in Diameter
- Atmosphere: Uranus' atmosphere is about 83% hydrogen, 15% helium and 2% methane. Uranus looks bluish because of traces of methane in its atmosphere.
- Surface: Uranus is composed primarily of rock and various ices and does not have a rocky core, but rather that its material is more or less uniformly distributed.
- Moons: 27+
- Distance from the Sun: 2.8 billion km
- Fun Fact: Uranus's axis is tilted at an angle of about 90° from the vertical

The Outer Planets: Uranus

- Uranus's five largest moons have icy, cratered surfaces.



The Outer Planets: Neptune



- Size: 49,500 kilometers in Diameter
- Atmosphere: Its atmosphere is mostly hydrogen and helium with a small amount of methane.
- Surface: various "ices" and rock with about 15% hydrogen and a little helium and most likely a small core (about the mass of the Earth) of rocky material.
- Moons: 13+
- Distance from the Sun: 4.4 billion km
- Fun Fact: In 1989 *Voyager 2* flew by Neptune, where it photographed a Great Dark Spot.
- Like the Great Red Spot on Jupiter, the Great Dark Spot probably was a giant storm

The Outer Planets: Neptune



- Astronomers have discovered thirteen moons revolving around Neptune.
- Neptune's largest moon is Triton.
- Triton's south pole is covered with a cap of ice, and that dark material erupts from underneath.

Question 14

Why is Uranus blue?

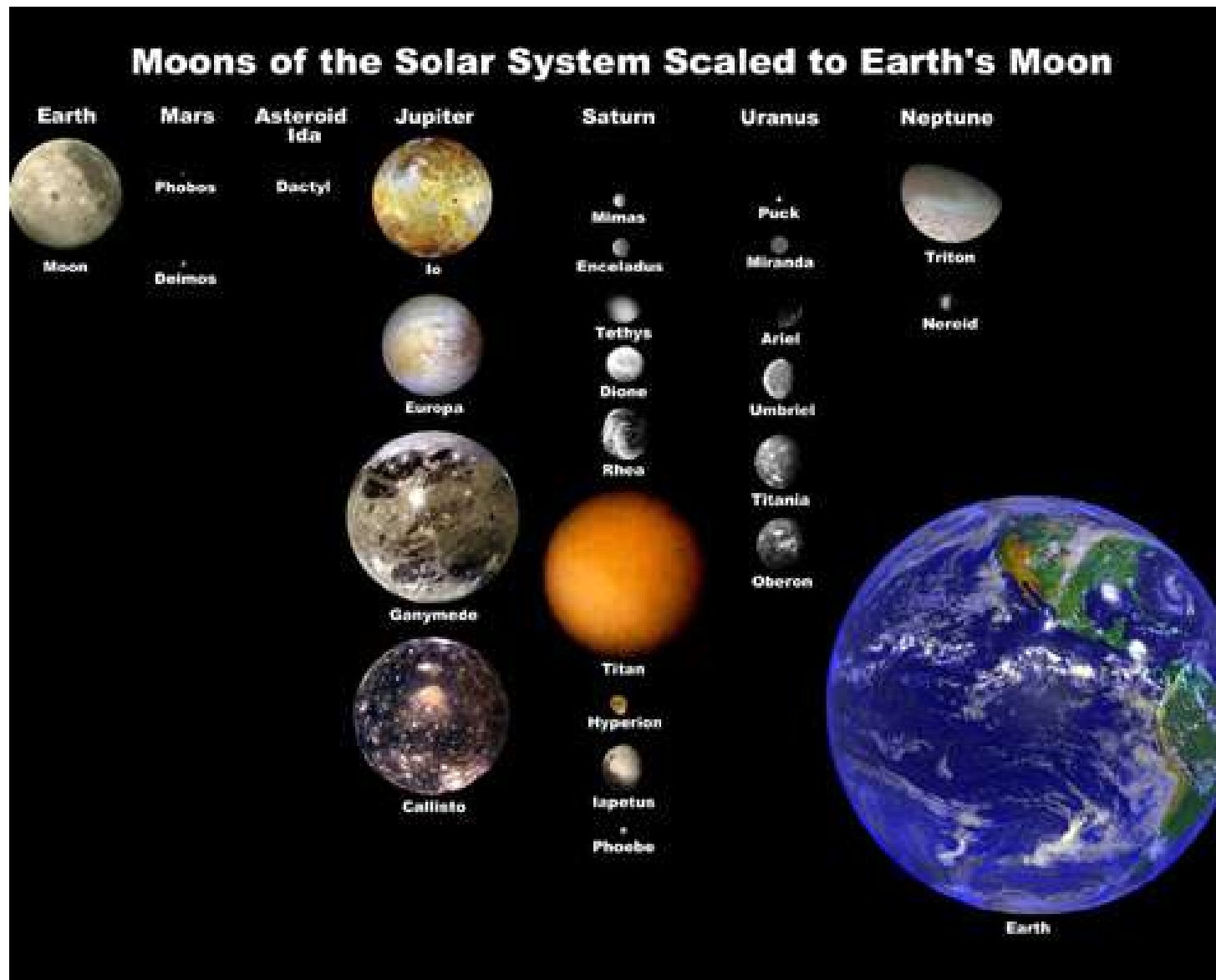
- No light can penetrate that deep into space
- Methane gas
- No oxygen
- Smurfs live there.

Question 15

True or False

Neptune has a core made of rock and ice.

The Moons of Our Solar System



Question 16

What are the only two planets that do not have moons?

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