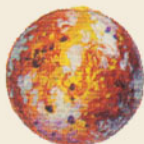


TEXAS INSTRUMENTS

**Voyager**<sup>TM</sup>  
Educational Product

Journey to

# The Planets<sup>TM</sup>



**Voyager**<sup>TM</sup> Educational Product  
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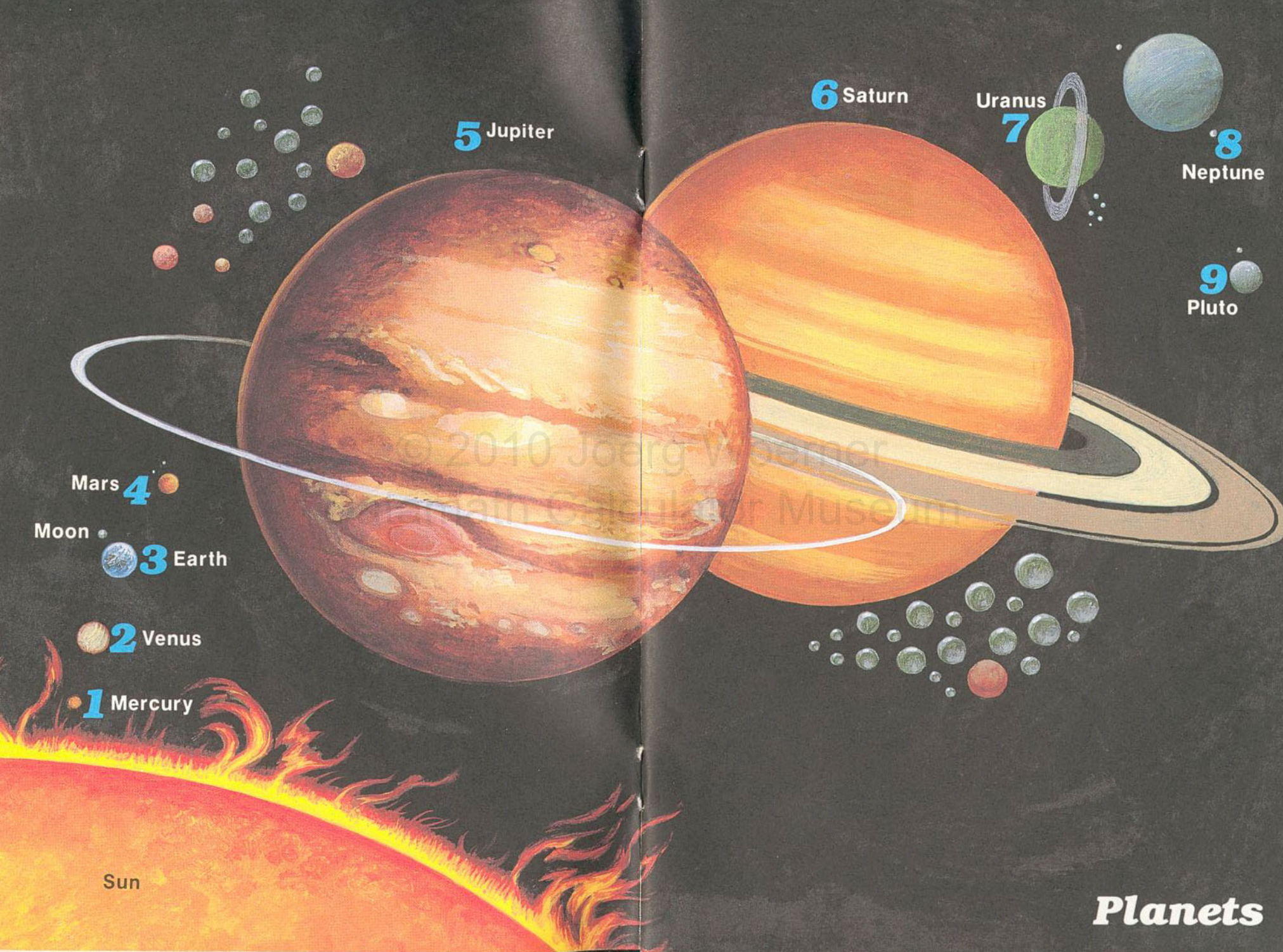
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**5** Jupiter

**6** Saturn

Uranus  
**7**

**8**  
Neptune

**9**  
Pluto

Mars **4**

Moon • **3** Earth

**2** Venus

**1** Mercury

Sun

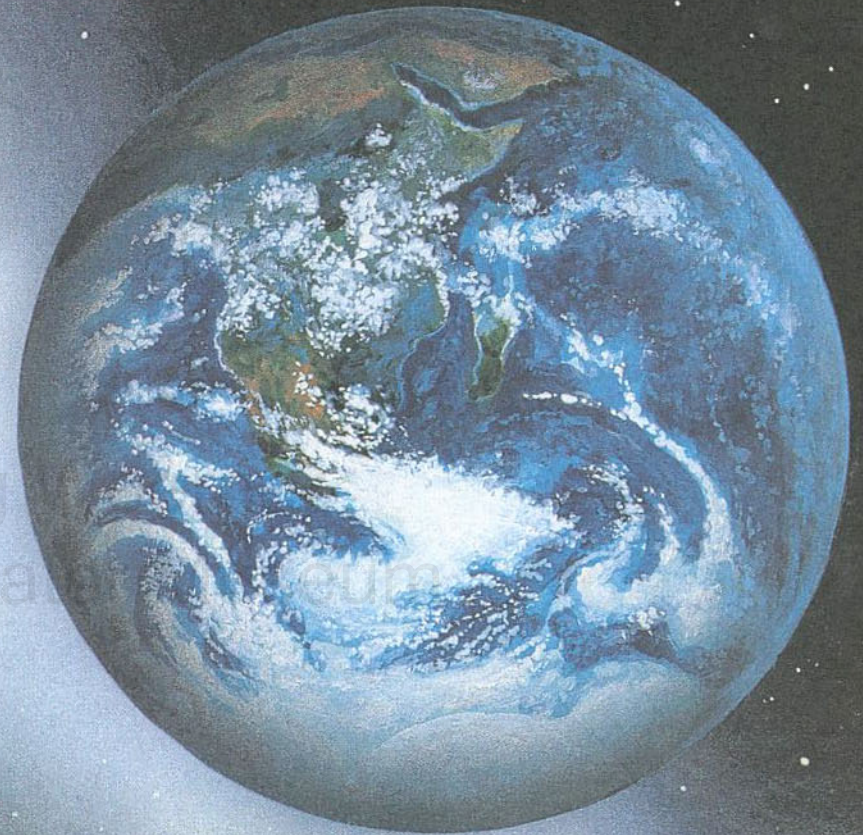
**Planets**



For as long as there have been people on Earth, they have looked up into the sky. They have looked at the fiery sun, the shining moon and the twinkling stars and tried to figure out exactly what they are.

Before there were telescopes or rockets, there was no way to find out. There was, however, one thing in space that people could explore—our own planet, **Earth**.

Scientists believe that Earth is the only planet in the solar system able to support life. Earth is just the right distance from the sun not to get too hot or too cold for plants and animals and people to live. There are other reasons why life can exist on Earth. Earth has water, and Earth has an **atmosphere**—a layer of air surrounding it. Earth has one moon, which is about one-fourth the size of Earth. Our moon has no air and no water.



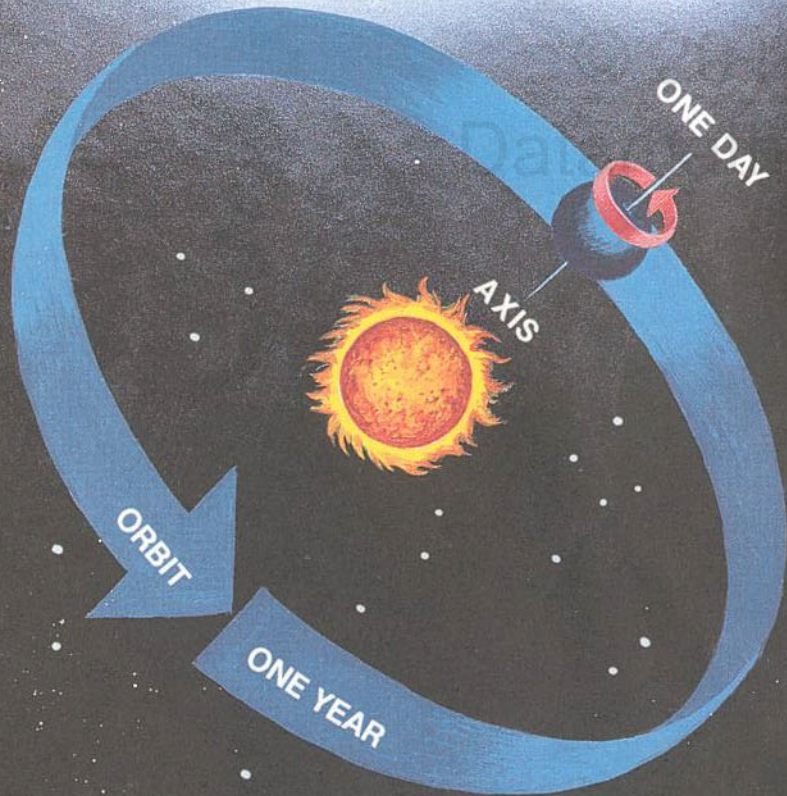
### **Earth**

- travels around the sun
- is natural
- has people living on it
- is our home
- is a planet
- has one moon



The time it takes for a planet to make one complete trip, or orbit, around the sun is called a year. The farther a planet is from the sun, the longer the orbit is and the more time this trip takes. That is why the length of a year is different on each planet.

While the planets travel in their orbits, they also spin around and around. Imagine a line from the north pole to the south pole passing right through the center of a planet. That line is called the planet's **axis**. The time it takes for a planet to spin around once on its axis is called a day. Since the planets spin at different speeds, the length of a day is different on each planet.



**Mercury** is the planet closest to the sun. That is why Mercury has the shortest orbit, and so, the shortest year. Mercury moves very quickly in its orbit, but it turns very slowly on its axis. In the time it takes Earth to have 1 year, Mercury has about 4 years. In these 4 years, Mercury has only 6 days.



### **Mercury**

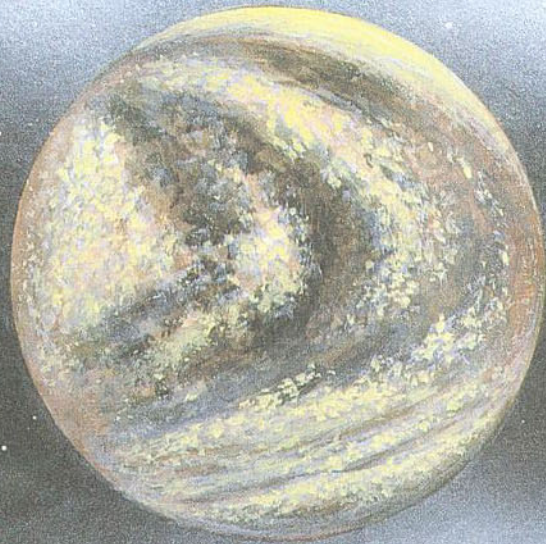
- is smaller than Earth
- has no moon
- has no rings
- is hard to see without a telescope
- is the closest to the sun



**Venus** is the second planet from the sun. Venus is almost the same size as Earth. That is why it is known as Earth's twin.

Venus is covered with pale yellow clouds. Most of the surface of this planet is rocky desert. There are also mountains on Venus, the tallest of which is nearly seven miles higher than the highest mountain on Earth.

Venus turns very, very slowly on its axis. It has the longest day in the solar system.



## **Venus**

- is almost the same size as Earth
- has no moon
- has no rings
- can be seen without a telescope
- is called "Earth's twin"

**Mars**, the red planet, is only about half the size of Earth, but it is more like Earth than any other planet. Mars used to have streams and rivers like Earth, but now these have all dried up. The surface of Mars is now all desert, except for ice caps on the north and south poles.

People could not live on Mars because there is not enough air. Also, although the temperature on Mars in the middle of the day would be comfortable, at night it gets colder than any place on Earth.



## **Mars**

- is smaller than Earth
- has two moons
- has no rings
- can be seen without a telescope
- is called the red planet



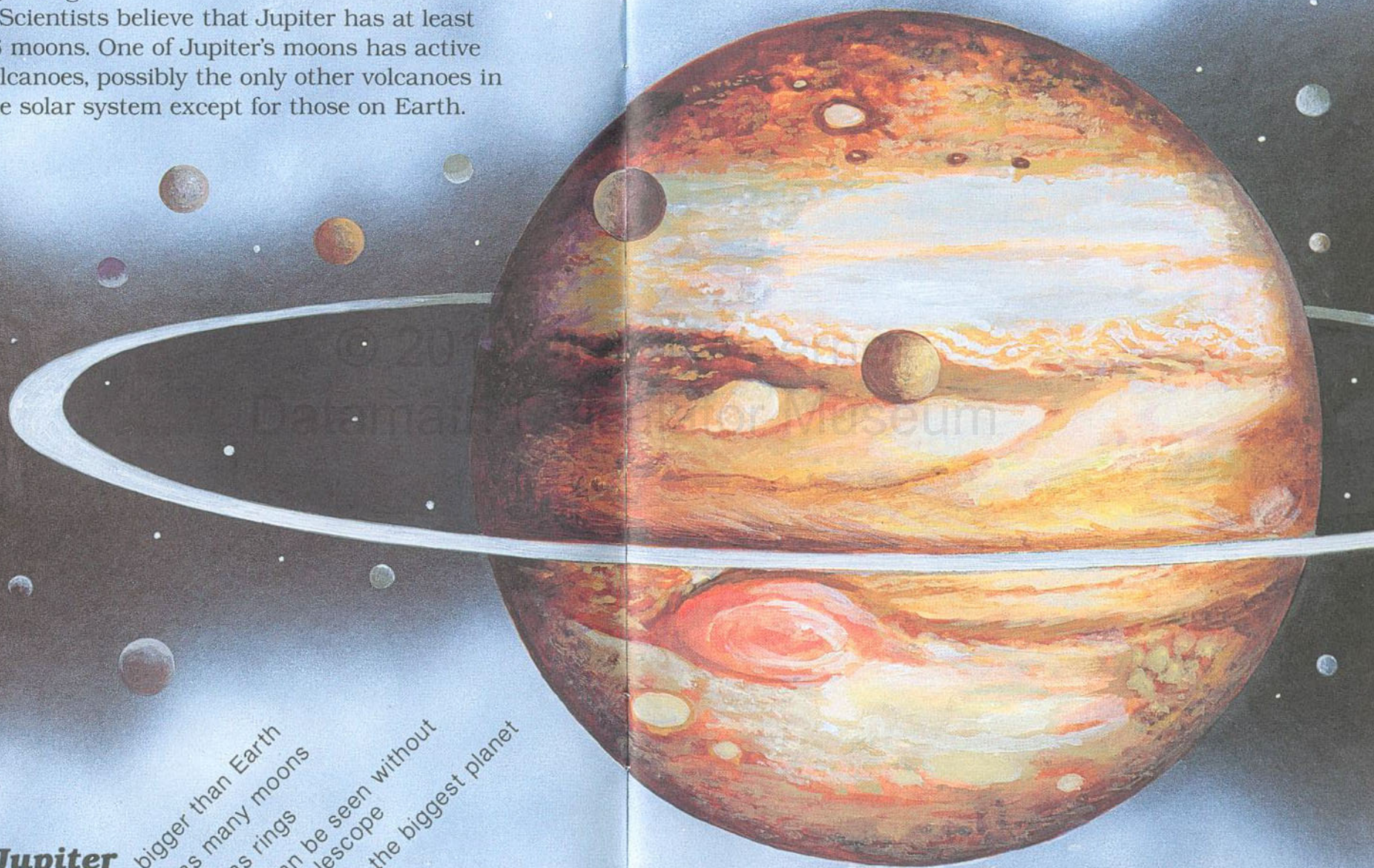
**Jupiter** is the largest planet in the solar system. It is a giant ball of gas. There is no ground to stand on. There are always storms on Jupiter, with swirling clouds and flashing lightning.

Scientists believe that Jupiter has at least 16 moons. One of Jupiter's moons has active volcanoes, possibly the only other volcanoes in the solar system except for those on Earth.

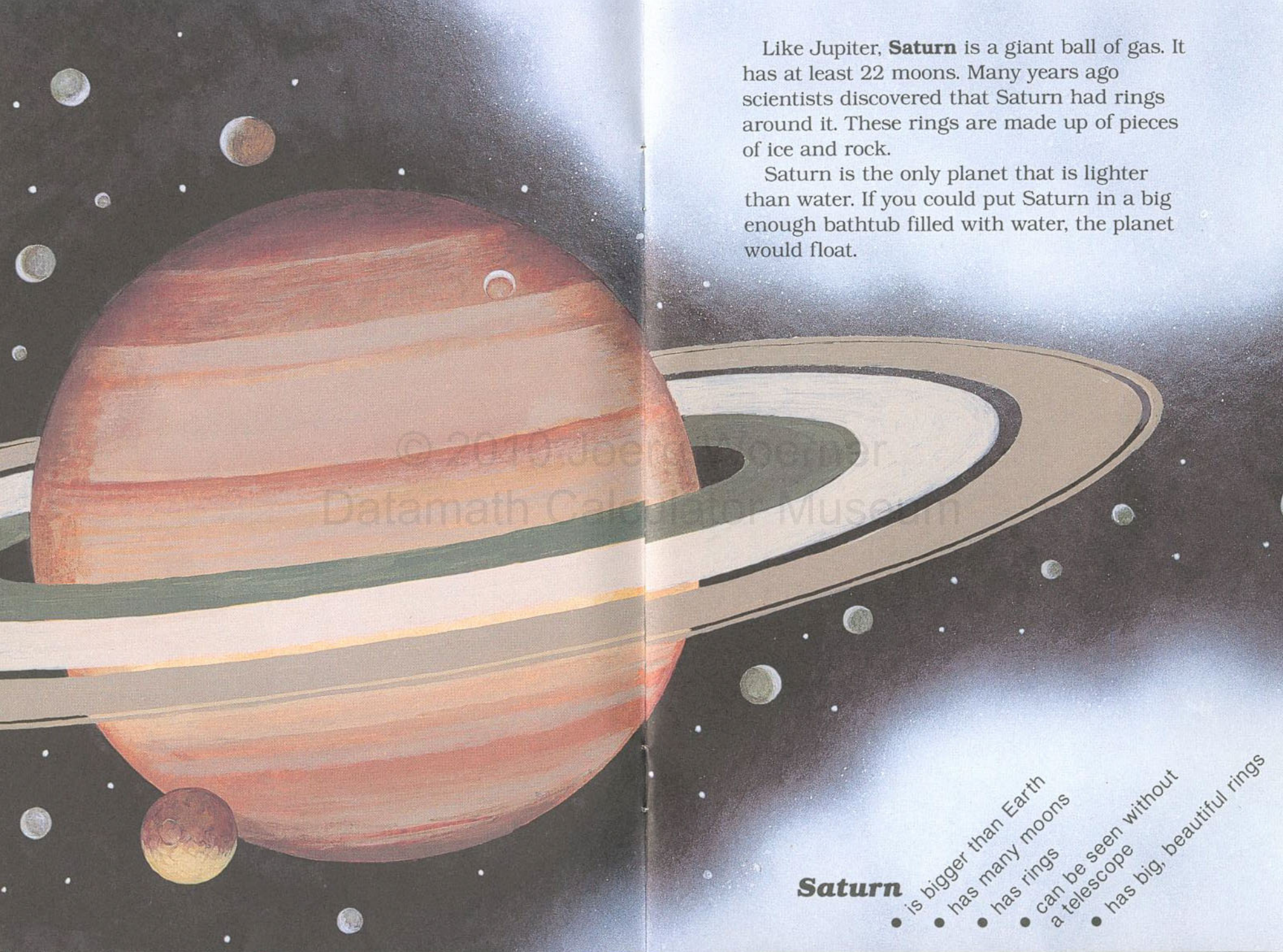
Jupiter has the shortest day of any of the planets. Jupiter's day lasts about 10 Earth hours.

## **Jupiter**

- is bigger than Earth
- has many moons
- has rings
- can be seen without a telescope
- is the biggest planet







Like Jupiter, **Saturn** is a giant ball of gas. It has at least 22 moons. Many years ago scientists discovered that Saturn had rings around it. These rings are made up of pieces of ice and rock.

Saturn is the only planet that is lighter than water. If you could put Saturn in a big enough bathtub filled with water, the planet would float.

### **Saturn**

- is bigger than Earth
- has many moons
- has rings
- can be seen without a telescope
- has big, beautiful rings

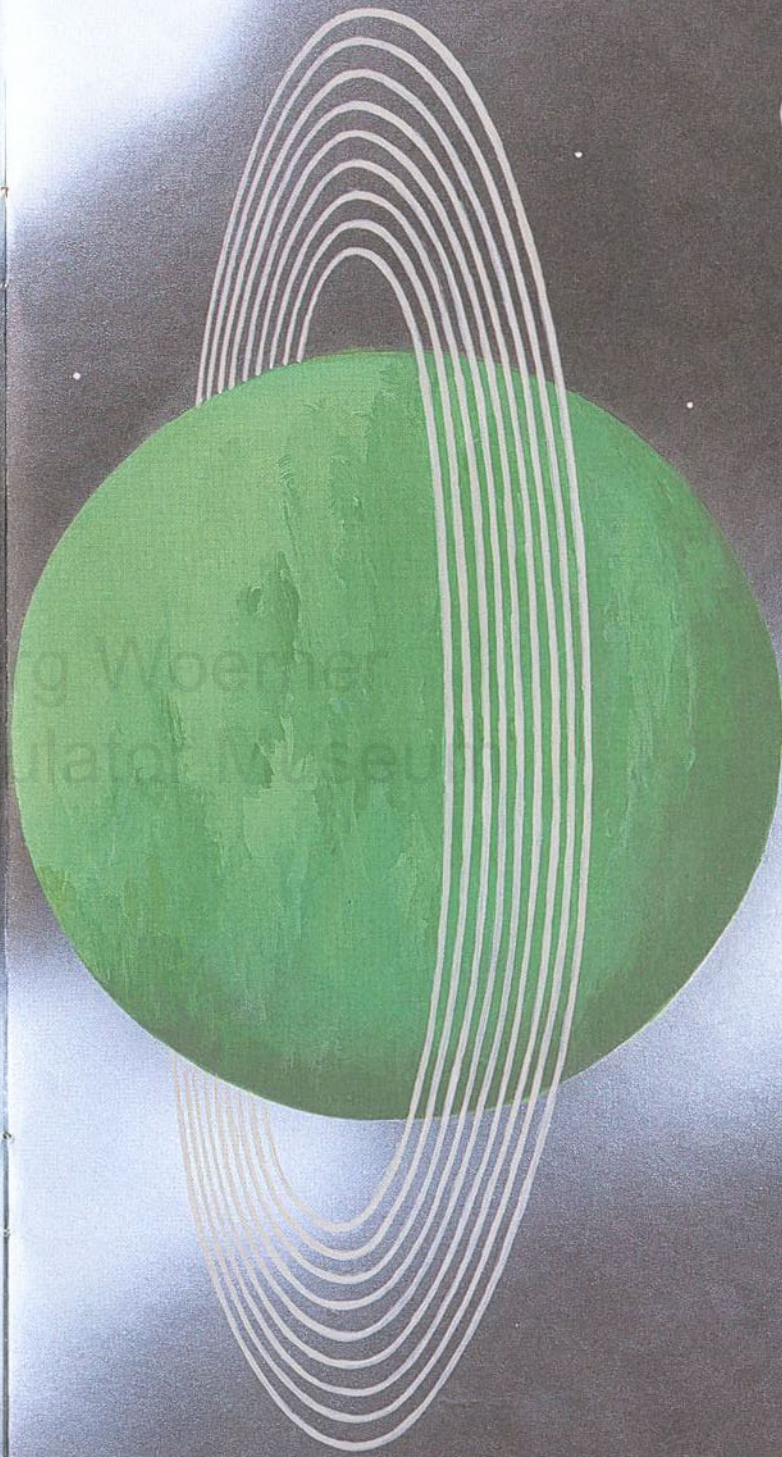


**Uranus** is a large ball of gas with nine rings and many moons. Like the other planets of gas, Uranus is very, very hot on the inside and very, very cold on the outside.

The rings around Uranus look as if they are going around the planet from top to bottom, unlike the rings of Jupiter and Saturn which look as if they go around the planet from side to side. This is because Uranus is tipped on its side and so its axis points in a different direction.

## Uranus

- is bigger than Earth
- has many moons
- has rings
- can be seen only with a telescope
- is tipped on its side





**Neptune** is named after the Roman god of the sea. But there are really no seas on this planet. Neptune is the last of the great gas planets. Neptune has two moons. Neptune probably has rings around it, but we are not absolutely sure because even our most powerful telescopes have not yet been able to get a clear enough view. However, in August 1989, a NASA planetary probe will fly by and send information back to Earth.



### **Neptune**

- is bigger than Earth
- has two moons
- has rings
- can be seen only with a telescope
- is named after the Roman god of the sea

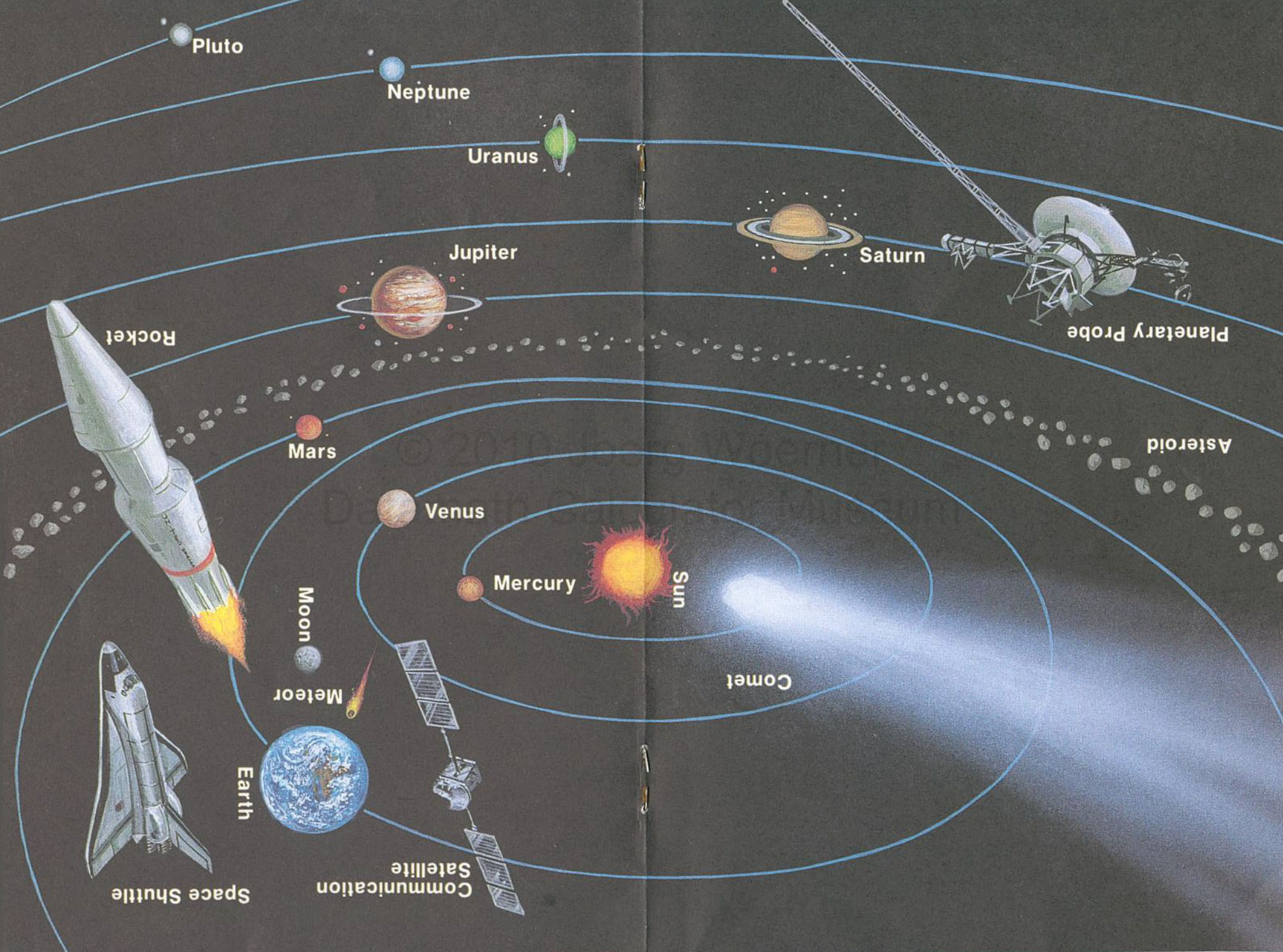
**Pluto** is the last planet in our solar system to have been discovered. It is a hard, frozen snowball. Pluto is the coldest planet in the solar system and is smaller than Earth's moon. Pluto's orbit is very unusual. Sometimes Pluto is closer to the sun than Neptune, other times it is farther away.



### **Pluto**

- is smaller than Earth
- has one moon
- has no rings
- can be seen only with a very large telescope
- is the smallest planet





Pluto

Neptune

Uranus

Jupiter

Saturn

Planetary Probe

Asteroid

Mars

Venus

Mercury

Sun

Comet

Meteor

Moon

Earth

Communication  
Satellite

Space Shuttle

Rocket