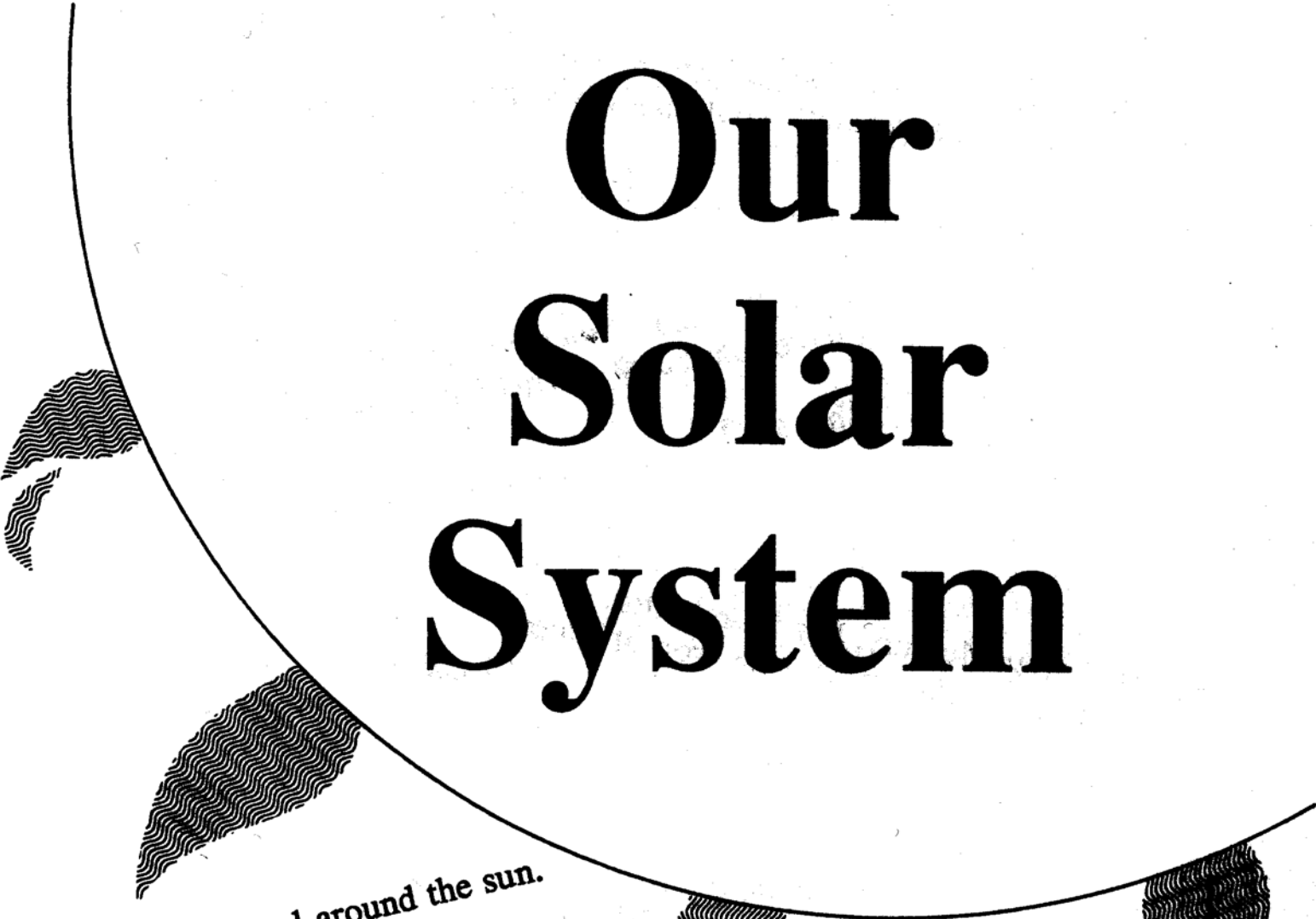


Our Solar System



Nine of us travel around the sun.
You live on a special one.

What am I? _____

Hot, glowing gases keep me bright.
You can wish upon me any night.

What am I? _____

I'm the star in the middle. Isn't that neat?
I give the Earth its light and heat.

What am I? _____

I have water for rivers and oceans and streams.
I'm the only planet with life, so it seems!

What am I? _____

My planets are many, but I have just one sun.
To explore me in a spacecraft would be lots of fun.

What am I ? _____

My soil is red. You could say it's rusty.
I have giant dust storms when my winds get gusty.

What am I ? _____

I'm found after Mercury, but I am hotter.
I have lots of clouds but not one drop of water.

What am I ? _____

My clouds are so pretty - brown, orange and white -
But my great red spot is a curious sight.

What am I ? _____

My rings may be made up of dust and of ice,
But when you see my picture, don't they look nice?

What am I ? _____

When you look through a telescope what do you see?
Clouds of blue-green and rings around me.

What am I ? _____

OUR SOLAR SYSTEM SERIES

OUR SOLAR SYSTEM, video, grades K–3

OUR SOLAR SYSTEM, booklet, grades K–3

NUESTRO SISTEMA SOLAR, booklet, grades K–3

OUR SOLAR SYSTEM, booklet, grades 2–5

NUESTRO SISTEMA SOLAR, booklet, grades 2–5

OUR SOLAR SYSTEM, TEACHER’S GUIDE AND
ACTIVITIES

Authors: Cyndi Bolewski, Nancy Lebofsky, Larry
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Illustrator: Karen Swarthout

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OUR SOLAR SYSTEM

The **sun** is the center of our **solar system**. The sun is a **star**. It is a ball of hot, glowing gases. It is the closest star to Earth.

Our sun is the only star we can see during the day. At night we can see many stars in the dark sky. Some stars are bigger than our sun and other stars are smaller. These stars are so far away from Earth that they look like tiny points of light.

Nine **planets** move around the sun. Each planet follows its own special path around the sun. This path is called an **orbit**.

Read the sentence below. The first letter of each word can help us to remember the names of the planets.

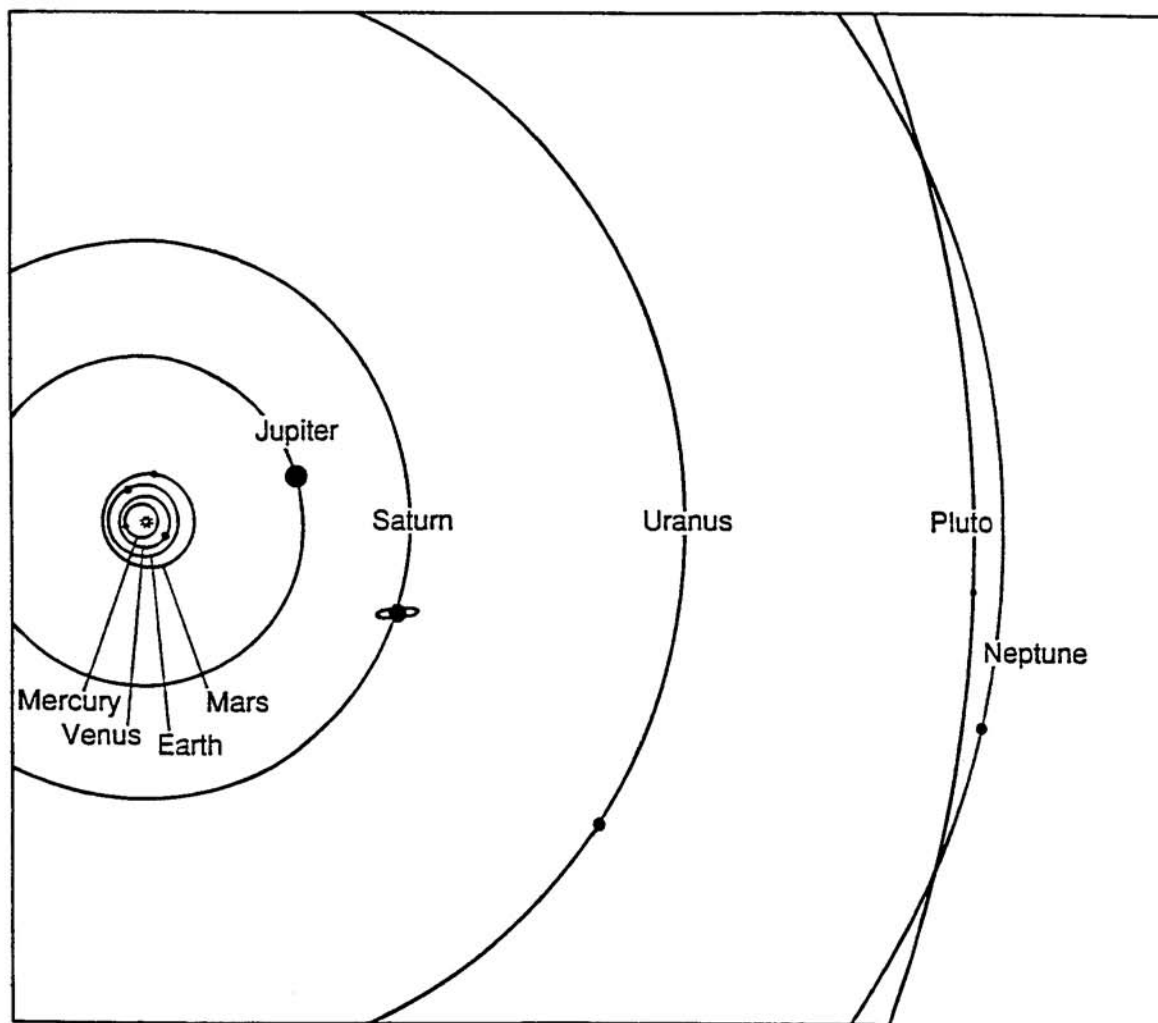
My **V**ery **E**ducated **M**other **J**ust **S**erved **U**s **N**ine **P**izza pies.

These are the nine planets, in order from the sun.

Mercury, **V**enus, **E**arth, **M**ars, **J**upiter, **S**aturn, **U**ranus, **N**eptune, and **P**luto.

Science Words: Some words in this booklet will be in **bold print**. In the first sentence on this page, **sun** and **solar system** are in **bold print**. All the words in **bold print** can be found in the Glossary on page 22.

Our Solar System



The orbits of the planets.

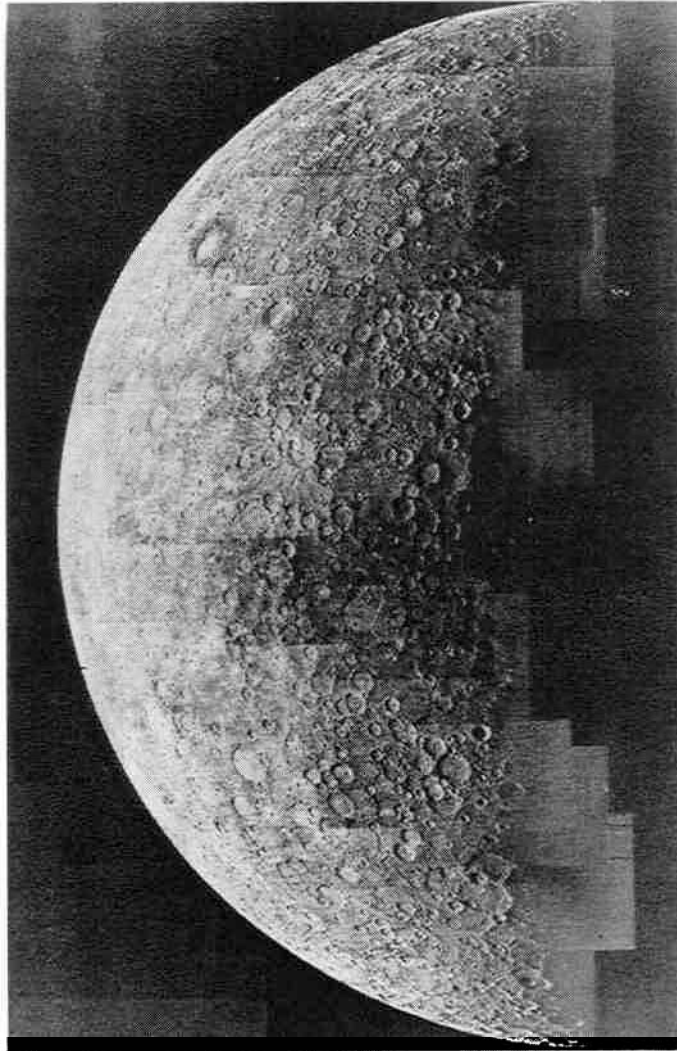
Mercury is the first planet from the sun. Days on Mercury are very hot because it is so close to the sun.

The land on Mercury is hard and rocky. Mercury has **cliffs** and **valleys**. There are many **craters** all over Mercury. Craters are big, round holes in the surface of a planet or **moon**. Mercury does not have water.

MERCURY

V
E
M
J
S
U
N
P

Challenge: What do you think made the craters on Mercury?



Mercury. Its surface has craters, cliffs, and valleys. We have only seen about half of the surface of Mercury.

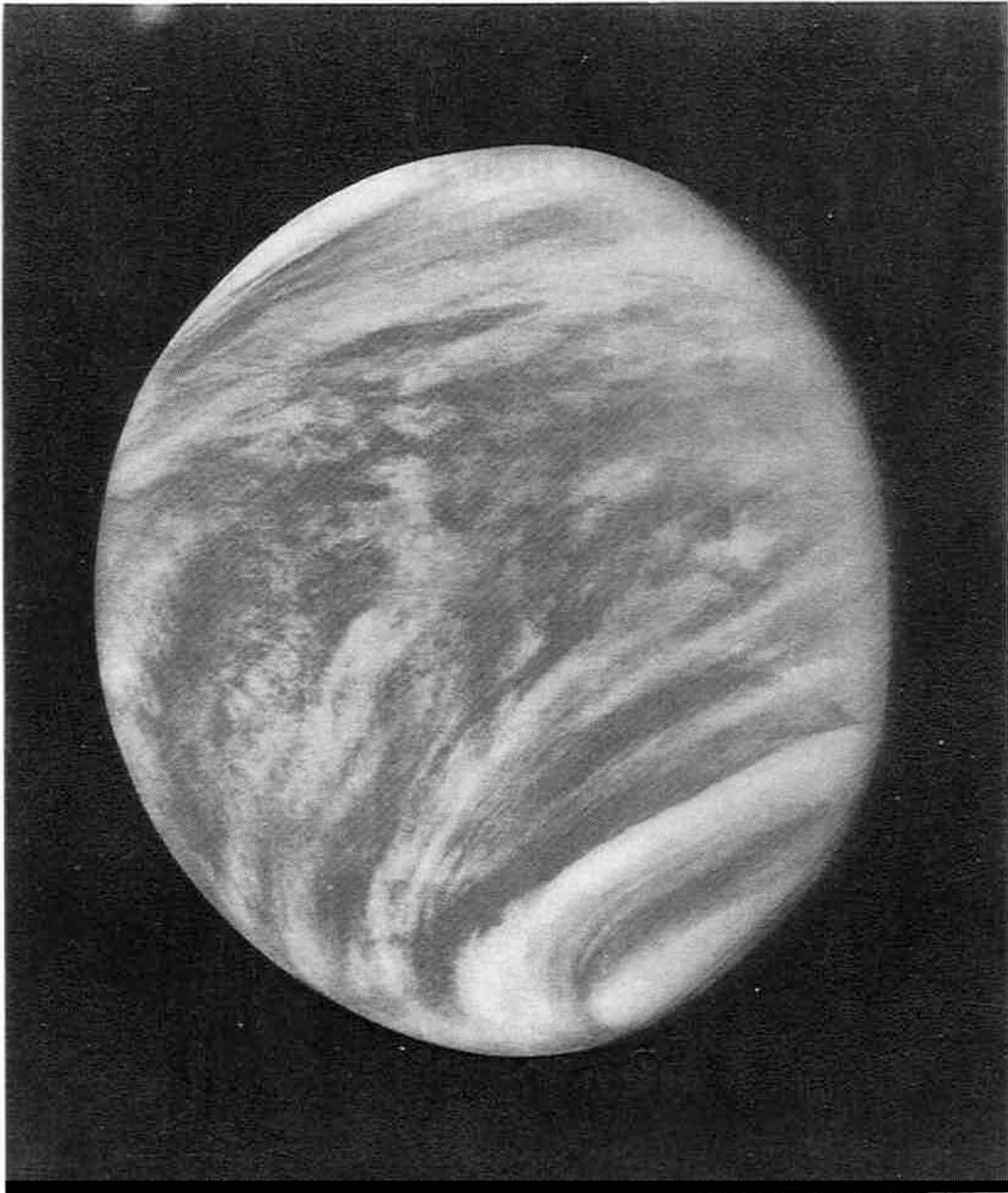
Venus is the second planet from the sun. It is the hottest planet. Venus is hotter than Mercury because its thick clouds trap heat from the sun. This keeps the planet warm.

Venus is the closest planet to our Earth. It has **mountains**, **valleys**, and **volcanoes**. There is no water on Venus.

MERCURY
VENUS

E
M
J
S
U
N
P

Challenge: What would happen on Earth if thick clouds made it very hot all the time?



Venus. Venus is a cloud-covered planet. Below its clouds there are mountains and valleys.

Earth is the third planet from the sun. It is our home. Earth has one moon.

Earth is a hard, rocky planet. There are mountains, valleys, volcanoes, and even some craters. Most of Earth is covered with water. The air is just right for us to breathe! Earth is home to people, plants, and animals.

MERCURY
VENUS
EARTH

M
J
S
U
N
P

Challenge: Do you think there are plants and animals anywhere else in the solar system?



Earth. Earth is our home. It has air for us to breathe and is warm enough for us to live.

Mars is the fourth planet from the sun. It is a hard, rocky planet. Mars is called the red planet because its soil is red. The very strong winds on Mars can cause huge dust storms.

Mars has mountains, canyons, volcanoes, and craters. The valleys may have been formed by water a long time ago. There is no liquid water on the surface of Mars now. No life has been found on Mars.

MERCURY
VENUS
EARTH
MARS

J
S
U
N
P

Challenge: If you were planning a trip to Mars, what would you take on your trip?



Mars. Mars has mountains, volcanoes, canyons, valleys, and craters.

Jupiter is the fifth planet from the sun. It is very cold on Jupiter because it is so far from the sun.

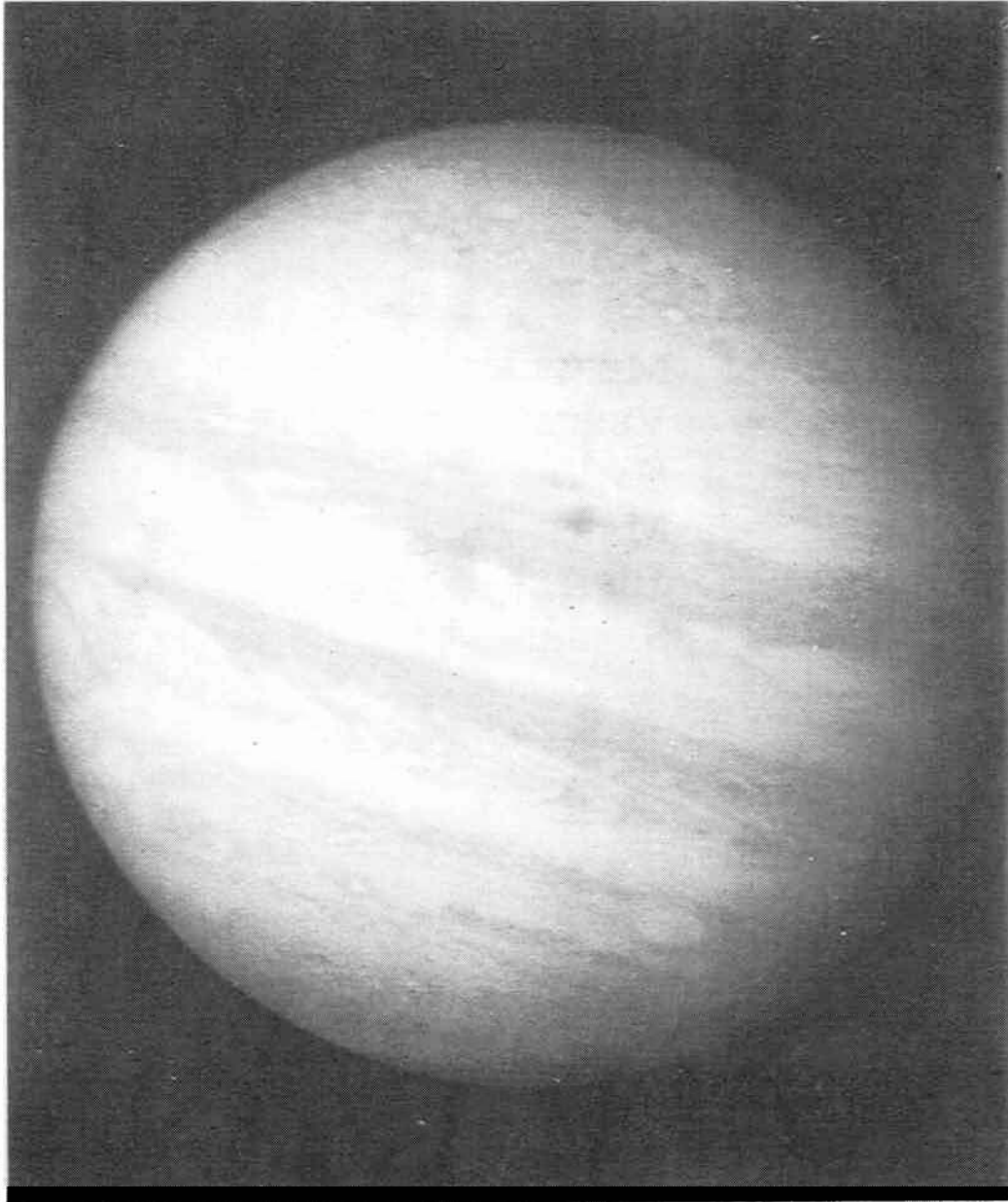
Pictures of Jupiter show the cloud tops around the planet. These clouds are white, brown, red, and orange. We cannot see what is below the clouds even with a **telescope**. There are thin **rings** around the planet.

There is a special spot on Jupiter called the Great Red Spot. These red clouds are part of a huge storm. This storm has been going on for over 300 years!

MERCURY
VENUS
EARTH
MARS
JUPITER

S
U
N
P

Challenge: What do you think you would see if you could send a **spacecraft** through the clouds of Jupiter?



Jupiter. When we look at Jupiter we see the clouds in its atmosphere. We can also see the Great Red Spot.

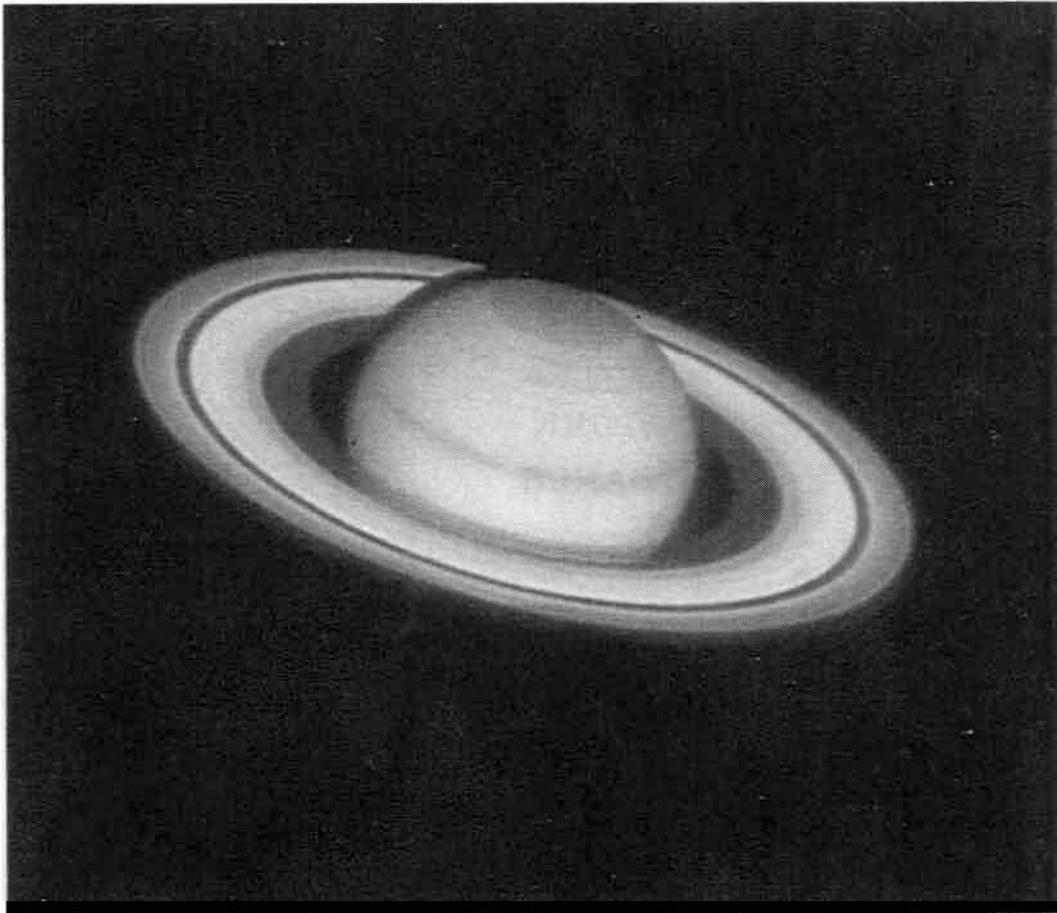
Saturn is the sixth planet from the sun. It is a lot like Jupiter. Saturn is very cold. The planet is covered with clouds. They are not as colorful as Jupiter's clouds.

There are beautiful rings around Saturn. These rings are made of many pieces of ice and dust.

MERCURY
VENUS
EARTH
MARS
JUPITER
SATURN

U
N
P

Challenge: Why don't the chunks of ice in Saturn's rings melt?



Saturn. When we look at Saturn we see its clouds. We can also see its beautiful rings!

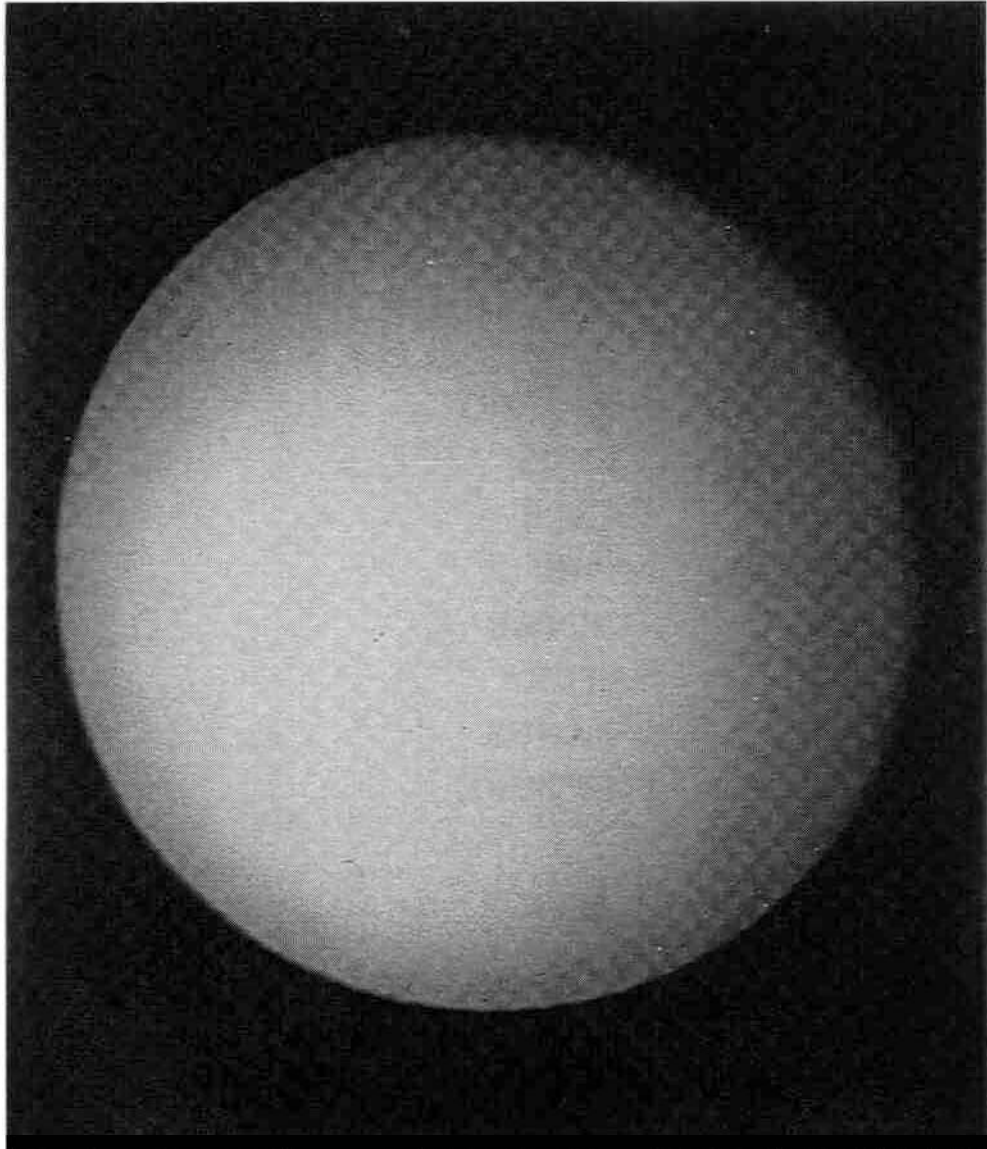
Uranus is the seventh planet from the sun. It is very cold on Uranus. When we look at Uranus through a telescope we see its clouds. These clouds are a blue-green color.

Uranus has very thin rings around it. They are not as beautiful as Saturn's rings.

MERCURY
VENUS
EARTH
MARS
JUPITER
SATURN
URANUS

N
P

Challenge: Imagine that you have found a new planet in our solar system. Tell about your planet in words or draw a picture. Where is your planet in our solar system? Is it hot or cold? What does it look like?



Uranus. Uranus is covered with clouds. The clouds look blue-green.

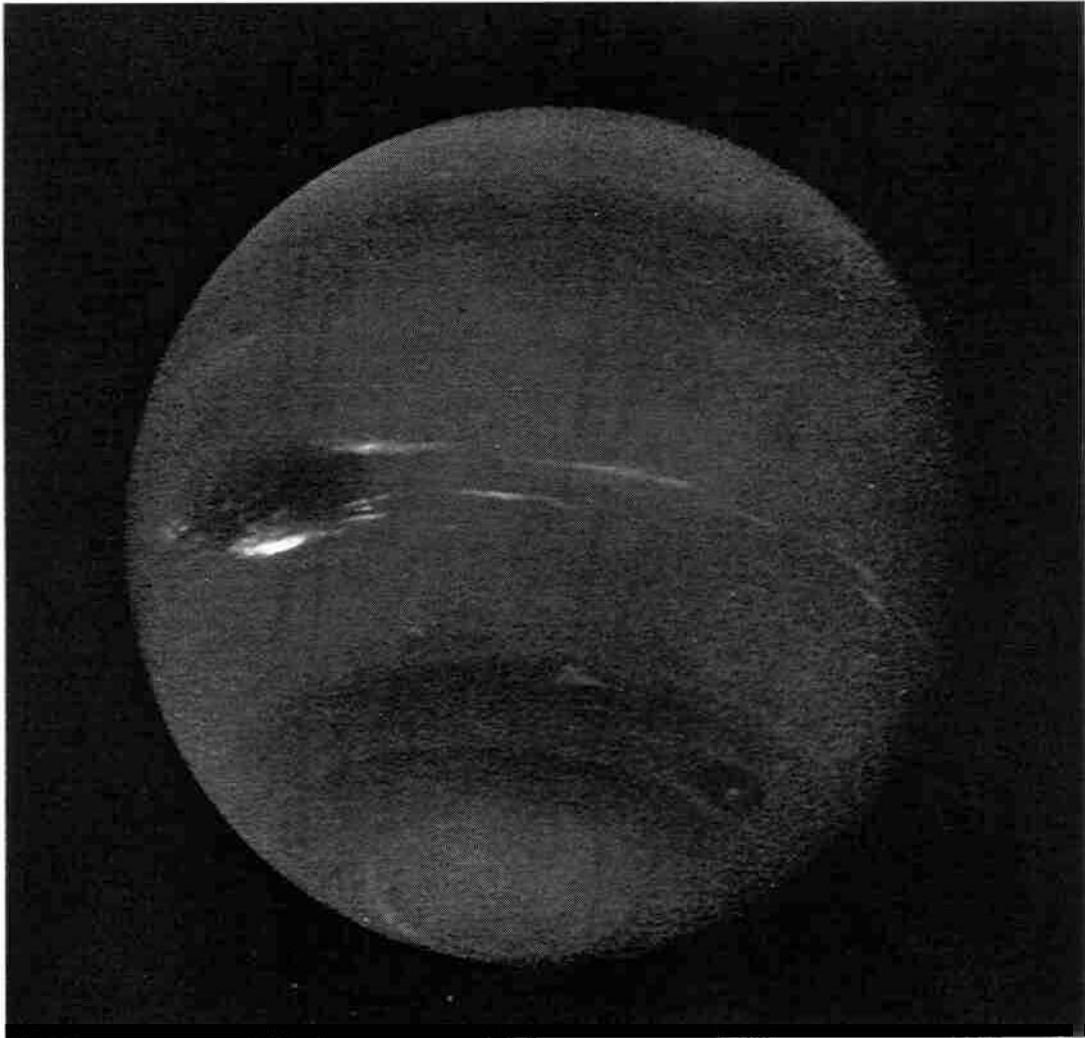
Neptune is usually the eighth planet from the sun. Sometimes Pluto moves closer to the sun. Then Neptune is the ninth planet from the sun for a while.

It is very cold on Neptune. When we see Neptune through a telescope it looks blue. We are seeing the clouds of Neptune. Neptune has a Great Dark Spot. This spot is a storm just like the Great Red Spot on Jupiter. There are thin rings around Neptune.

MERCURY
VENUS
EARTH
MARS
JUPITER
SATURN
URANUS
NEPTUNE

P

Challenge: Think about Jupiter, Saturn, Uranus, and Neptune. How are these four planets alike? How are they different?



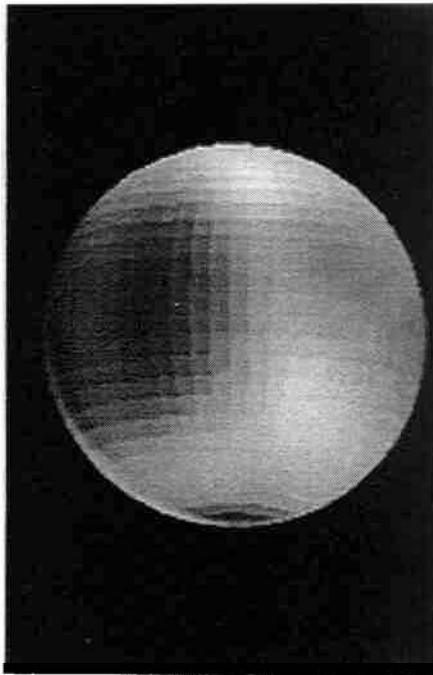
Neptune. When we look at Neptune we see its blue clouds. We can also see the Great Dark Spot.

Pluto is usually the ninth planet from the sun. Sometimes Pluto's orbit brings it closer to the sun than Neptune. From 1979 until 1999 Pluto is the eighth planet from the sun!

Pluto is made of ice and rock. It is very cold there. It is the only planet in our solar system that has not been visited by a spacecraft. We do not have any clear pictures of Pluto because it is too far away from Earth.

MERCURY
VENUS
EARTH
MARS
JUPITER
SATURN
URANUS
NEPTUNE
PLUTO

Challenge: Pluto is the last known planet in our solar system. If you could go beyond Pluto, what do you think you would find?



Pluto. We have only seen Pluto from far away. It looks like a point of light.

Image courtesy of Marc W. Buie/Lowell Observatory.

Glossary

canyon – a deep valley with steep sides.

cliff – a very steep, high wall of rock.

crater – a big, round hole in the surface of a planet or moon.

moon – a body which orbits a planet.

mountain – land that rises to a great height.

orbit – the path a planet takes when it moves around the sun. The path a moon takes when it moves around a planet.

planet – one of nine bodies that orbit the sun. The nine planets in order from the sun are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto.

rings – small pieces of ice and rock grouped together that orbit a planet.

solar system – the sun, and the nine planets and their moons that orbit the sun.

spacecraft – a vehicle made to travel in the solar system.

star – a ball of hot, glowing gases.

sun – the star closest to Earth. The center of the solar system. A ball of hot, glowing gases which gives Earth heat and light.

telescope – an instrument used for observing bodies in the solar system.

valley – low-lying area between mountains and hills.

volcano – an opening in the surface of a planet or moon through which melted rock and steam flow.

The Planets of the Sun
"Farmer in the Dell"

The family of the sun
The family of the sun
Here is the first planet in
The family of the sun

MERCURY is hot
And Mercury is small
This planet has no atmosphere
It has no air at all

The family of the sun
The family of the sun
Here's the second planet
In the family of the sun

VENUS has thick clouds
Its air would make you ill
The air's so thick it traps the heat
And makes it hotter still

(Refrain...Here is the third planet)

We love the EARTH our home
Its oceans and its trees
We eat its food and breathe its air
So no pollution please!

(Refrain...Here is the fourth planet)

MARS is very red
It's also dry and cold
Some day you might visit Mars
Before you're very old

(Refrain...Here is the fifth planet)

JUPITER is big
We've studied it a lot
We've found that it has 16 moons
And a swirling Great Red Spot!

(Refrain...Here is the sixth planet)

SATURN has many rings
We wondered what they were
Now we know they're icy rocks
Which we saw as a blur

(Refrain...Here's the seventh planet)

URANUS has 15 moons
And a blue-green atmosphere
At its north pole it's dark at night
For 42 Earth years!

(Refrain...Here is the eighth planet)

NEPTUNE is blue and white
It has a Great Dark Spot
The sun's 3 billion miles away
It stays cold here a lot

(Refrain...Here is the ninth planet)

And now the smallest one
Is it farthest from the sun?
PLUTO is cold and icy too
To land there won't be fun

The family of the sun
The family of the sun
There are at least 9 planets in
The family of the sun

Revised Lyrics: Larry Dunlap, Flandrau Science Center
Tucson, Arizona
From Exploring the Planets Gallery, National Air and Space
Museum, Smithsonian Institution

Sometimes I am eight and sometimes I am nine.
I'm blue with a Great Dark Spot. Isn't that fine?

What am I ? _____

Hard and rocky and hot as can be,
Craters cover most of me.

What am I ? _____

We don't go around Earth in a circular pattern,
Just Jupiter, Uranus, Neptune and Saturn.

What am I ? _____

You can't take my picture. I 'm too far away.
But maybe a spacecraft will fly by someday.

What am I ? _____

CHOICES

Mercury
Venus
Earth

Mars
Jupiter
Saturn

Uranus
Neptune
Pluto

star
planets
sun
rings
solar system