

Name: \_\_\_\_\_

# Solar System

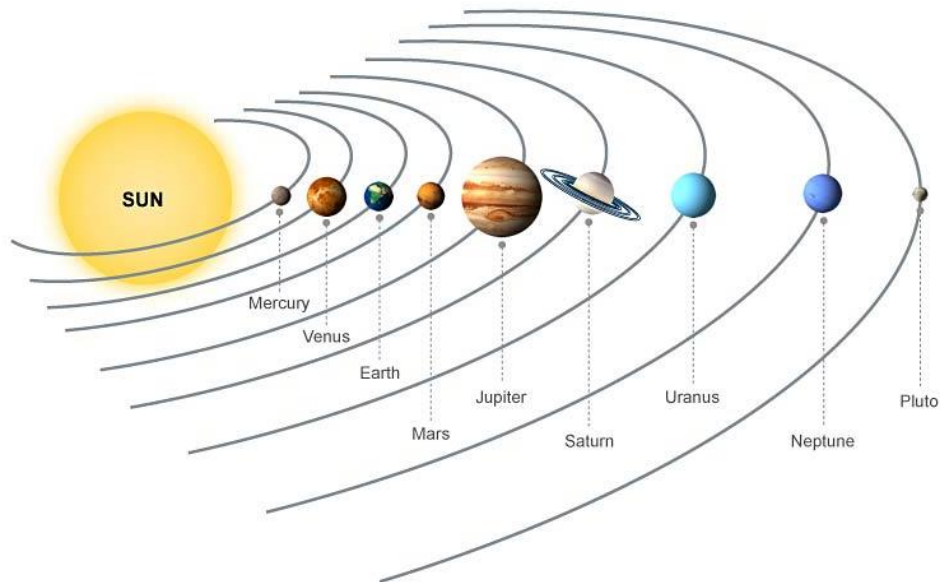
From Scott Foresman

Earth rotates every 24 hours. It also moves around the Sun while it is rotating. The Sun's gravity keeps Earth moving in a path, or orbit, around it.

Earth travels in a slightly oval-shaped orbit around the Sun. one complete orbit takes 365 days and 6 hours. We call this period of time a year. It is amazing to think that Earth is constantly orbiting and rotating and we never feel a thing!

Other objects move around the Sun too. A planet is a large body that orbits around the Sun. Ancient Greeks thought the planets were wandering stars. That is why they named them "planetes," which means wanderers.

There are nine planets that orbit the Sun (if you count Pluto). Asteroids, or chunks of rock, also orbit the Sun. Everything is held in place by the Sun's gravitational pull. The Sun, the planets and their moons, and asteroids make up the solar system.



1. What does the word "planetes" mean? \_\_\_\_\_
2. Earth travels in a slightly \_\_\_\_\_ orbit around the Sun.
3. Besides planets, what else makes up the solar system? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Which planet is closest to the Sun? \_\_\_\_\_
5. Which planet is the furthest from the Sun? \_\_\_\_\_
6. Which planet is the largest? \_\_\_\_\_

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## Solar System - The Inner Planets

From Scott Foresman

The inner planets are Mercury, Venus, Earth, and Mars. Mercury is the closest planet to the Sun. It takes Mercury only 88 days to orbit around the Sun. Mercury gets extremely hot during the day. It can reach more than 400° C.

But Mercury also gets extremely cold at night. Temperatures can drop lower than -180° C. On Earth, Antarctica is the coldest place. Temperatures there drop only to -89° C.

Mercury is the second smallest planet. It has many craters, just like on the Moon.

Venus is the 2<sup>nd</sup> closest planet to the Sun. It takes 225 days to complete one orbit around the Sun. Like Mercury, it is very hot and has many craters. Venus can sometimes get hotter than Mercury. This is because a thick cloud cover traps heat on Venus. The surface of Venus has volcanoes and lava fields.

Earth is the 3<sup>rd</sup> planet. It seems to be just the right distance to support living things. It is the only planet where water is found as a liquid. Earth also has mild temperatures that living things need to survive. Earth has one moon; nothing lives there.

Mars is the 4<sup>th</sup> planet. Mars looks reddish-orange and is often called the "red planet." This is because its surface is made of red clay. It is rough and dusty, with craters and canyons. Mars has the largest volcano in the solar system. One day on Mars is 25 hours long, about the same as Earth. But one year lasts 687 days.



1. Label the planets with their names.
2. How many days does it take Mercury to orbit the Sun? \_\_\_\_\_
3. It takes Venus 225 days to orbit the sun. How many more days is that than Mercury? \_\_\_\_\_
4. Why does it get hotter on Venus than it does on Mercury?  
\_\_\_\_\_  
\_\_\_\_\_
5. It takes Earth 365 days to orbit the Sun. How many fewer days is that than Mars? \_\_\_\_\_

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## Solar System - The Outer Planets (part I)

From Scott Foresman

The outer planets have an asteroid belt that separates them from the inner planets. Scientists believe these asteroids are all that is left of early planets that collided and broke into pieces.

Jupiter is the first outer planet and the largest planet in the solar system. Jupiter is more than 11 times the size of Earth. It rotates around its axis in only 10 hours. However, it takes 12 years for Jupiter to orbit the Sun once. It also has more than 60 moons! The colors of the clouds on Jupiter come from its gases. A never-ending storm on the surface of this planet is called the Great Red Spot. Jupiter has rings around it, but they are very hard to see.

Saturn is the 6<sup>th</sup> planet from the Sun. It is also the second largest planet in the solar system. This planet takes 29 years to go around the Sun. Saturn is known for its bright rings that are often easy to see through a telescope. The rings are made of chunks of ice and rock. These chunks can be as small as a grain of sand or as large as a house. Saturn has at least 30 moons.



1. What separates the outer planets from the inner planets? \_\_\_\_\_
2. What did the asteroids used to be? \_\_\_\_\_
3. How much larger than Earth is Jupiter? \_\_\_\_\_
4. What is the never-ending storm on Jupiter called? \_\_\_\_\_
5. What is the name of the sixth planet? \_\_\_\_\_
6. How long does it take the 6<sup>th</sup> planet to orbit the sun? \_\_\_\_\_
7. What are the rings around Saturn made of? \_\_\_\_\_
8. Approximately how many moons do these two planets have altogether? \_\_\_\_\_

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## Solar System - The Outer Planets (part II)

From Scott Foresman

Unlike the rest of the planets, Uranus rotates on its side. It completes one rotation in just 17 hours. Uranus takes 84 years to complete an orbit around the Sun. This seventh planet from the Sun appears bluish-green. It has rings, like Jupiter, but they are very hard to see. Uranus also has at least 26 moons.

Neptune is the eighth planet from the Sun. It is about the same size as Uranus, which is four times bigger than Earth. Neptune is similar in color to Uranus. The colors of both these planets come from their gases. Neptune has the strongest winds in the solar system. It orbits the Sun in 165 years and has at least 13 moons.

Pluto is not considered a planet by everyone. But for many years it was. It takes 248 years for Pluto to orbit the Sun. Pluto's orbit crosses Neptune's orbit, which is one reason why some scientists don't consider it to be a planet. Pluto is only about half the size of Earth's moon. Pluto is the coldest planet.

**Compare these three planets using a three-column chart.**

Criteria	Uranus	Neptune	Pluto
Moons			
Orbits			
Looks			

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## **Solar System - Art**

Illustrate the solar system the best you can. Use colors. Be creative. Don't forget the Sun!