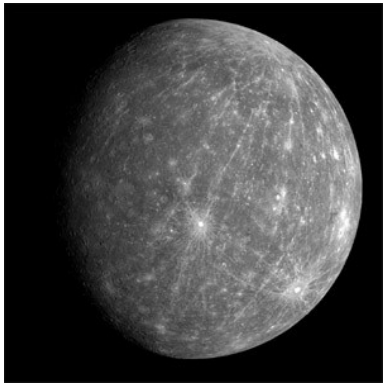

MY VERY EASY METHOD
JUST SPEEDS UP
NAMING PLANETS.

MERCURY



Mercury is the **closest planet to the Sun**, and it is the **smallest planet** in the Solar System.

The picture of Mercury was taken by NASSA's Messenger probe in 2008, it was transmitted back to Earth for scientists to study. Mercury has been visited by two unmanned NASA space probes Mariner 10 and Messenger.

Mercury is 57,900,000km away from the sun.

VENUS



Venus is a very similar size to the Earth, and like Earth, is made of a thick silicate mantle around an iron core. It has a substantial atmosphere and evidence of internal geological activity. Venus is probably the planet that is most similar to Earth in many ways, although it is much drier than Earth and its atmosphere is ninety times as dense.

It is the **hottest planet** in the solar system, with surface temperatures over 400 C. This is thought to be because of the amount of greenhouse gases in its atmosphere.

Venus is named after the Greek Goddess of Love and Beauty.

Venus is 108,000,000 km away from the sun.

EARTH



Earth is the largest and densest of the four inner planets, the only one known to have current geological activity, like earthquakes and volcanoes. It is the **only planet known to have life**. Its liquid hydrosphere (oceans and seas) is unique among the terrestrial planets.

Earth's atmosphere is radically different from those of the other planets, having been altered by the presence of life so it now contains 21% oxygen - which humans need to be able to breathe!

It has one natural satellite, the Moon, which is the only large satellite of a terrestrial planet in the Solar System.

The Earth is 150,000,000 km from the sun.

MARS



Mars the red planet is smaller than both Earth and Venus. The first spacecraft to visit Mars was Mariner 4 in 1965. Several others followed, most recently in 2008, when Phoenix landed in the northern plains to search for water. Three Mars orbiters (Mars Reconnaissance Orbiter, Mars Odyssey, and Mars Express) are also currently at work studying Mars.

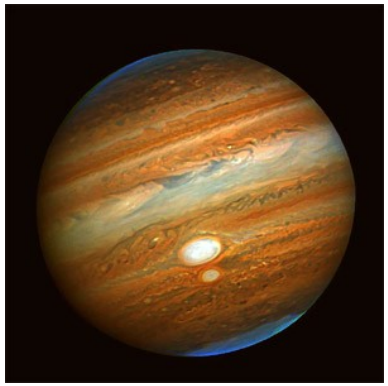


NASA has landed several unmanned robotic probes on Mars, most recently two remote controlled car-like robots called Mars Rovers. These probes allow NASA scientists to explore the planet, take pictures, analyse soil and conduct experiments.

Mars is named after the Greek God of War. It is sometimes also called the red planet, because most of its surface is covered in reddish rocks, dust and soil.

Mars is 228,000,000 km away from the sun.

JUPITER



Jupiter is the **biggest planet** in the solar system. It is a **gas giant**, rather than a terrestrial planet, and is made largely of hydrogen and helium.

The large spot on Jupiter is actually a storm that has been raging for several hundred years!

Jupiter was first visited by Pioneer 10 in 1973 and later by Pioneer 11, Voyager 1, Voyager 2 and Ulysses. The unmanned spacecraft Galileo orbited Jupiter for eight years. In 2003 Galileo was crashed deliberately into Jupiter, to stop it from impacting on Europa, one of Jupiter's moons that scientists believe may harbour some basic form of life

Jupiter is 779,000,000 km away from the sun.

SATURN



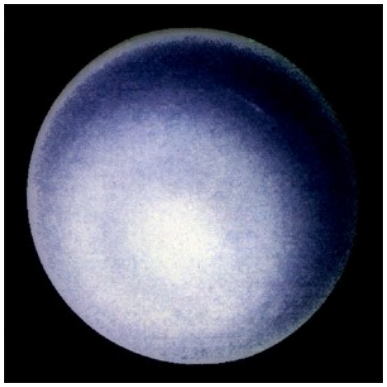
Saturn is distinguished by its extensive **ring system**, but otherwise has several similarities to Jupiter. They are both gas giants. Saturn has at least sixty known satellites; two of which, Titan and Enceladus, show signs of geological activity, though they are largely made of ice.

Saturn was first visited by NASA's Pioneer 11 in 1979 and later by Voyager 1 and Voyager 2. Cassini (a joint NASA / ESA project) arrived on July 1, 2004 and is still in orbit now.

Saturn's rings are extraordinarily thin: though they're 250,000 km or more in diameter they're less than one kilometre thick. The ring particles seem to be composed primarily of water and ice, but they may also include rocky particles with icy coatings.

Saturn is 1,430,000,000 km away from the sun.

URANUS



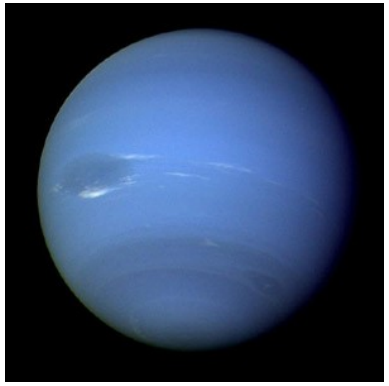
Uranus is the lightest of the outer planets, a type of gas giant that some scientists call an **ice giant**. As you can imagine from this nickname its atmosphere is very cold - **the coldest in the solar system**. The wind on Uranus can blow at over 500 miles per hour!

It was discovered by William Herschel, a famous astronomer, while systematically searching the sky with his telescope on March 13, 1781.

Uranus has been visited by only one spacecraft, Voyager 2 on Jan 24 1986. The picture is an enhanced image of Uranus that was beamed back to Earth by Voyager 2.

Uranus is 2,880,000,000 km away from the sun.

NEPTUNE



Neptune is the outermost planet of the solar system. It is slightly smaller than Uranus. Neptune has also been visited by only one spacecraft, Voyager 2, on Aug 25 1989.

Neptune has a mark on it that looks very similar to Jupiter's great spot. Just like Jupiter, this is caused by violent storms.

The weather is very extreme on Neptune - **the wind on Neptune is the strongest on any planet,** and blows at 1,300 miles per hour - as fast as a jet fighter plane.

Neptune is 4,500,000,000 km away from the sun.

PLUTO



Pluto used to be classed as a planet of the solar system, but is **now considered to be a dwarf planet**, and a **part of the Kuiper belt**. The Kuiper belt is a vast collection of dwarf planets, asteroids, rocks, ice and dust that circle the sun. This belt extends for millions of miles beyond Neptune, on the outskirts of the solar system.

As of mid-2008, five smaller objects are classified as dwarf planets, all but the first of which orbit beyond Neptune. These are:

- ★ Ceres (415,000,000 km from the sun)
- ★ **Pluto** (5,906,000,000 km, from the sun, formerly classified as the ninth planet)
- ★ Haumea (6,450,000,000 km from the sun)
- ★ Makemake (6,850,000,000 km from the sun)
- ★ Eris (10,100,000,000 km from the sun)

THE MOON



The Moon is not a planet at all. It is one of more than three hundred smaller celestial bodies that circle the planets of the solar system.

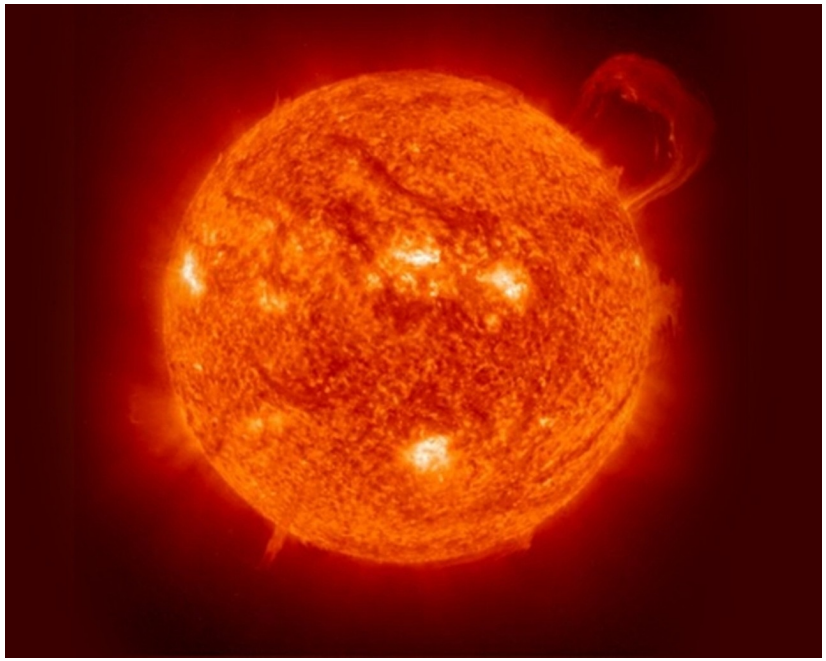
The Moon was the first such celestial body that people knew about as it was always visible from earth! After 1665, when astronomers observed moons around other planets, the word moon started to be used as a collective term for them all instead of satellites.

Scientists know more about the Moon than any other planet or celestial body in the solar system, because it is the only place that humans have ever visited. Between 1969 and 1972, **twelve astronauts visited the Moon**, exploring, experimenting and collecting rocks and soil, to help us learn more.

The Moon has a gravitational pull on the Earth, and it this that causes the tides of the oceans.

The Moon's Latin name is "Luna", and it is around 240,000 miles away from the Earth.

THE SUN



Our Sun is middle-sized yellow **star** which scientist have named Sol, the same name given by the ancient Romans. This is why our system of planets is called the Solar System.

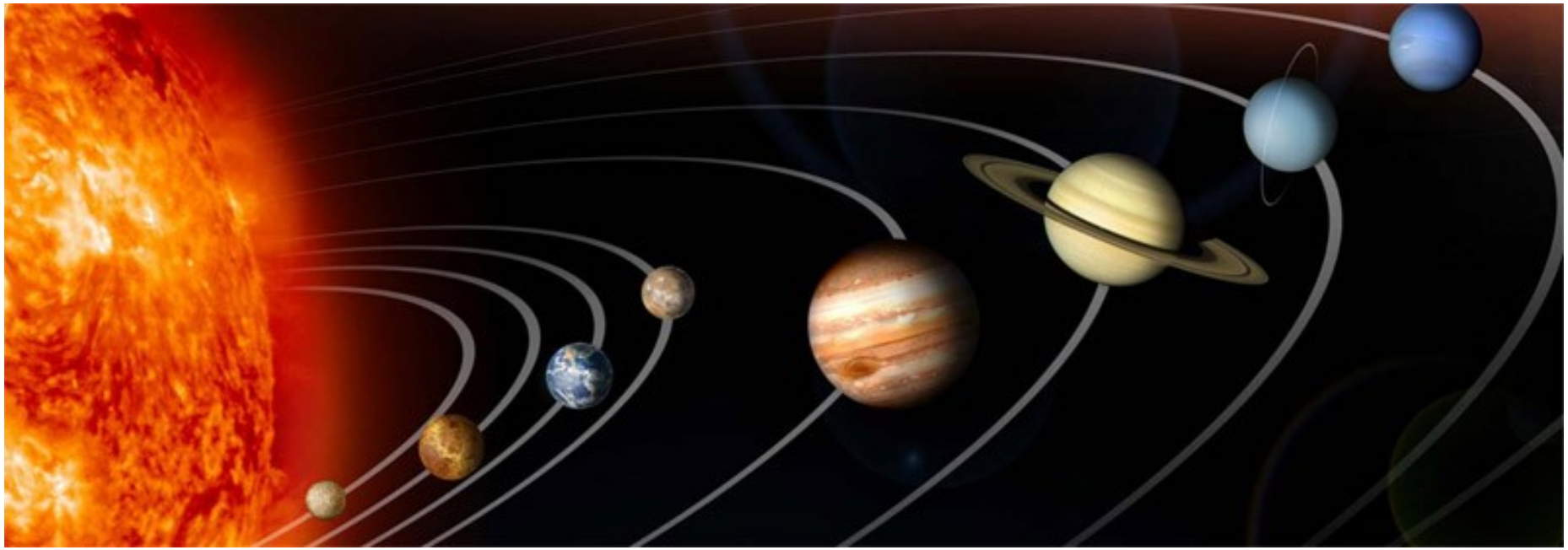
The Sun was born in a vast cloud of gas and dust around 5 billion years ago.

The Sun gives us heat, light, our food, and the air that we breathe. It powers the atmosphere to give us the winds and rain. Even the coal and oil that generate electricity for light and power come from plants and animals that lived hundreds of millions of years ago and depended on the Sun for life. The Sun heats the land, oceans, and air. It evaporates water from lakes and oceans. When the water vapour cools, it drops as rain or snow, giving us the moisture we need for drinking water and for plants and animals to grow.

The sun also plays the role of a big anchor, which creates gravity that keeps our planet and the other planets of the solar system in a small space. If it weren't for the sun, our planet would simply fly off loose into the universe.

For most of us, Earth's environment ends somewhere above the clouds but below the space shuttle. The 93 million miles (150 million kilometres) of space between the Earth we know and the star we see is empty black space, a vacuum. Or is it?

THE SOLAR SYSTEM



The Sun Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune

*Since the invention of the telescope, three more planets have been discovered in our solar system: Uranus (1781), Neptune (1846) and Pluto (1930). **Pluto was reclassified as a dwarf planet in 2006**. In addition, our solar system is populated by thousands of small bodies such as asteroids and comets. Most of the asteroids orbit in a region between the orbits of Mars and Jupiter, while the home of comets lies far beyond the orbit of Pluto, in the Oort Cloud.*

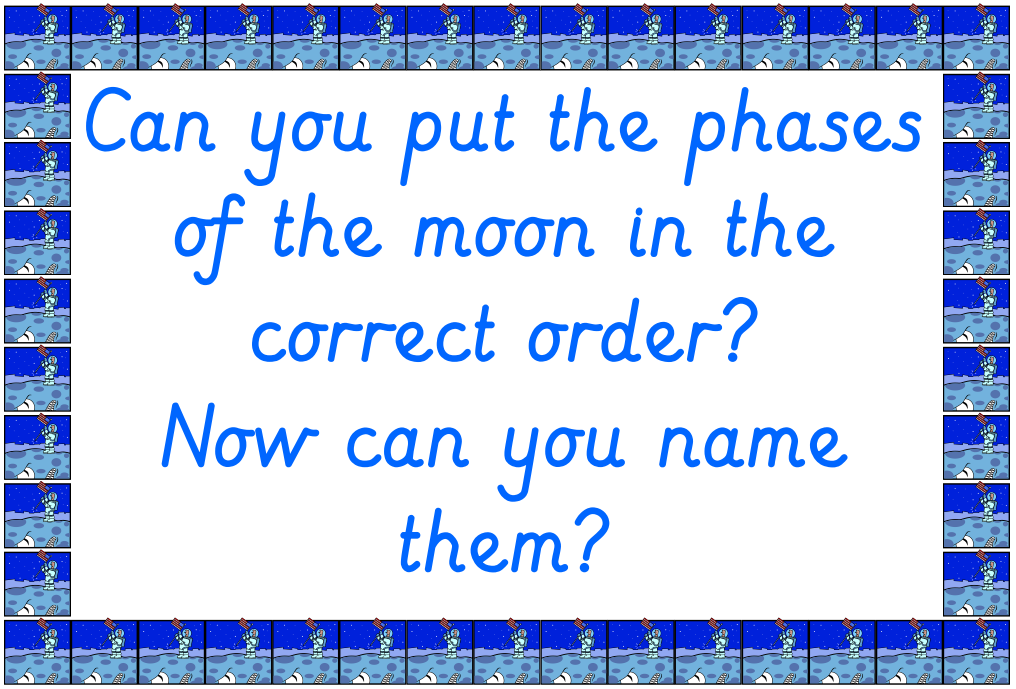
The four planets closest to the sun** -- **Mercury, Venus, Earth, and Mars** -- are called the **terrestrial planets** because they have solid rocky surfaces. **The four large planets** beyond the orbit of Mars -- **Jupiter, Saturn, Uranus, and Neptune** -- are called the **gas giants.

Beyond Neptune, on the edge of the Kuiper Belt, tiny, distant, dwarf planet Pluto has a solid but icier surface than the terrestrial planets.

What is an astronaut?

Who was the first person in space?

Can you build a space vehicle?





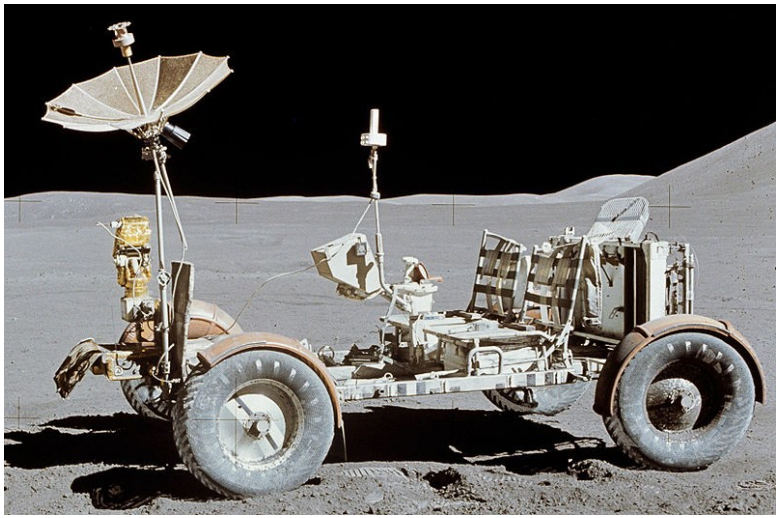
Space shuttle launch.

What can you find out about the space shuttles?



The International Space Station.

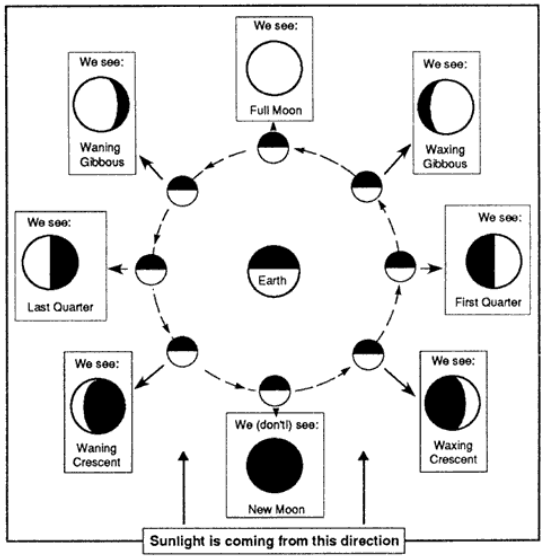
What can you find out about the space station?



Apollo 15 Lunar Rover.

How did the astronauts use the moon buggy?

THE PHASES OF THE MOON





















new moon

first quarter

full moon

last quarter

new crescent

waxing gibbous

Waning gibbous

old crescent