Solar system facts

The Sun is a star.

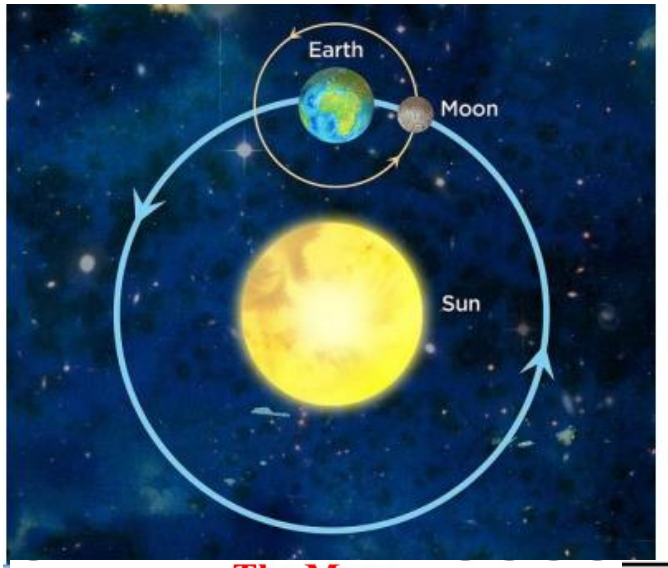
The Earth is one of eight planets that travel around the Sun in our **solar system**

The planets are called Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

The solar system is also home to lots of asteroids, moons, and **dwarf planets** such as Pluto.

An easy way to remember the names of planets in order is:
My Very Easy Method Just Speeds Up Naming.

Tim Peake, British Astronaut
Major Tim Peake became the first British astronaut in space for over 20 years when he blasted off for the International Space Station on 15th December 2015.
When he applied to be an astronaut he was selected from 8000 applicants. As part of his training he has learnt Russian, spent 12 days under the sea and completed a winter survival mission.



The Moon
The Moon orbits the Earth anticlockwise and takes approximately 28 days.

The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon.

The Moon has different phases depending on where it is in its orbit. The Moon's gravity causes high and low tides.

The Moon

The closest celestial object to the earth is the Moon. Let's now consider it.
How does it move?
How far away is it? (How do we know that?)
How big and massive is it?
What about its surface?
Does it have an atmosphere?
Can we predict eclipses?

The Galileo spacecraft sent back this image of the Moon as it headed into the outer solar system. The distinct bright ray crater at the bottom of the image is the Tycho impact basin.

Major Peake lived aboard the International Space Station for 6 months conducting experiments in microgravity and maintaining links with schools and children on Earth.

Planet Earth facts

The planet Earth is a **sphere**. It is about 4.5 billion years old.

Earth spins at 1000 miles per hour. It takes 24 hours to complete a full rotation.
It's daytime on the side of the Earth that faces the Sun and night time on the side that is facing away.

As the Earth rotates on its **axis**, shadows that are formed change in size and orientation

As it is night in some parts of the world while it is day in other parts, different places in the world have different times. This is why the world is divided into 24 different time zones. One for each hour in a day.

The Earth takes 365¼ days to travel around the Sun.

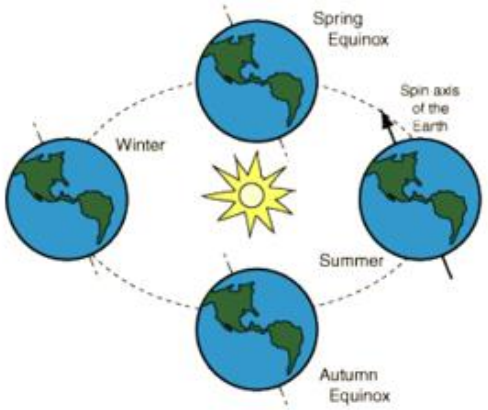
Planet Earth has one moon, which is held in **orbit** by gravity.

Earth is the third planet from the Sun. The Earth is the only planet in our solar system not to be named after a Greek or Roman deity

The Earth

The Earth rotates one complete turn every 24 hours to give us day and night.

When Britain faces the Sun it is daytime in Britain but the other side of the world is in darkness. So, in Australia it is the middle of the night.



Earth rotates on an axis. During the winter, the North Pole is tilted away from the Sun's rays. As Earth travels around the Sun, the tilt of Earth changes. By June, the North Pole is tilted towards the Sun and the days become very long. Earth takes a year to orbit the Sun and it is the tilt which creates the seasons.

The Moon's Orbit

The moon takes 27 days (and 8 hours) to orbit the Earth. The Moon has an elliptical orbit rather than a circular orbit, which means it orbits the Earth in an egg shape. As a result the distance from the Earth to the Moon varies from 225,623 miles to 252,008 miles.

Pluto

The dwarf planet Pluto is found at the very edge of the Solar System in the Kuiper Belt, an area of space beyond Neptune. It is the largest of the dwarf planets.

It was originally thought to be the ninth planet in the Solar System; however it, was reclassified in 2006 as a dwarf planet.

Pluto has five moons; Charon, Styx, Nix, Kerberos and Hydra. Charon is the largest of these moons and is about half the size of Pluto.

Sundials. are **the oldest known instruments for telling time**. The surface of a sundial has markings for each hour of daylight. As the Sun moves across the sky, another part of the sundial casts a shadow on these markings. The position of the shadow shows what time it is.

	Key Vocab
Planets	Planets are large natural objects that orbit or travel around stars
Solar System	The solar system consists of the Sun and everything that orbits, or travels around, the Sun
Moon	The Moon is a large natural object that orbits, or travels around
Night and Day	Daytime is when you can see the sun from where you are, and its light and heat can reach you. Night-time is when the sun is on the other side of the Earth from you, and its light and heat don't get to you.
Names of Planets	Eight planets orbit the star called the Sun. In order from the closest to the Sun, these planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.
Dwarf Planets	a dwarf planet is an object orbiting the Sun that is large enough to be rounded by its own gravity but is not gravitationally dominant in its orbital area and is not a moon.
Orbit	An orbit is the path of an object around a particular point in space
Rotate	Rotation refers to an object's spinning motion about its own axis. "Revolution" refers the object's orbital motion around another object. For example, Earth rotates on its own axis, producing the 24-hour day. Earth revolves about the Sun, producing the 365-day year.
Shadow	A shadow is the dark shape made when something blocks light
Sundial	A sundial is an instrument that tells the time like a clock.