Key vocabulary

asteroid A rock that orbits the Sun. Many are found in a belt between Mars and Jupiter.

axis An imaginary line through the middle of something.

comet A bright object with a long tail that orbits the Sun.

diurnal Active during the day.

galaxy An extremely large group of stars and planets. Our galaxy is called the Milky Way.

intertidal zone The area where the ocean meets the land between high and low tides.

leap year A year which has 366 days. There is a leap year every 4 years.

meteorite A rock from outer space that has landed on Earth.

nocturnal Active at night.

orbit The curved path in space that is followed by an object going round and round a planet, moon or star.

planet A large, round object in space that orbits a star.

rotate Goes around itself.

revolve Goes around something else.

solar system The Sun and all of the planets that move around it.

star A large ball of burning gas in space.

Universe The whole of space and all of the stars, planets and forms of matter and energy within it.

To Infinity and Beyond...

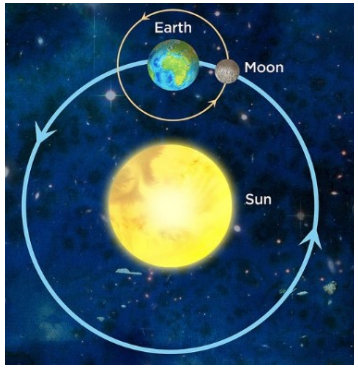
What should I already know?

- We have four seasons (autumn, winter, spring and summer).
- The Sun is a source of light but the Moon is not.
- A shadow is formed when the light from a light source is blocked by an object.
- The properties of a sphere.

What will I know by the end of the unit?

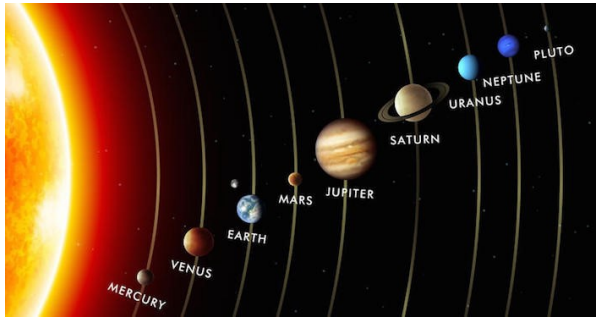
What orbits what?

- The Sun, Earth and Moon are approximately spherical.
- The Earth ***orbits*** the Sun.
- The Moon ***orbits*** the Earth.



The Solar System

- There are 8 ***planets*** in our ***Solar System*** (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune). Pluto is a dwarf planet.
- They all ***orbit*** the Sun, which is a ***star***, and they all have moons orbiting them apart from Venus and Mercury.
- The first four planets are relatively small and rocky, while the four outer planets are gas giants (Jupiter and Saturn) or ice giants (Uranus and Neptune).
- There are also ***asteroids***, meteoroids and ***comets*** in the Solar System.
- The ***Solar System*** is in a ***galaxy*** called the Milky Way.
- The galaxy is in the ***universe***.



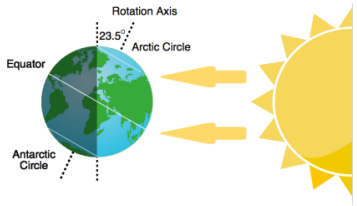
Day and night

The Earth rotates on its ***axis*** anti-clockwise and makes a complete rotation over 24 hours (a day).

This makes it appear as the Sun moves through the sky but the Earth's rotation causes day and night.

Different parts of the Earth experience daylight at different times - this means that it is morning, afternoon and night in different places. This is also the reason why we have time zones.

As the Earth rotates, shadows that are formed change in size and orientation.



Year Length

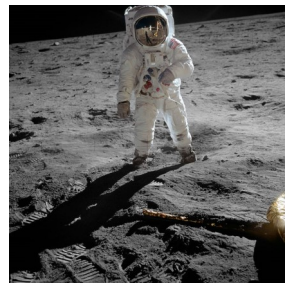
- The Earth takes 365 and a quarter days to orbit the Sun. (365.25)
- Because of the extra quarter day it takes to orbit the Sun, every four years on Earth is a ***leap year!***

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.

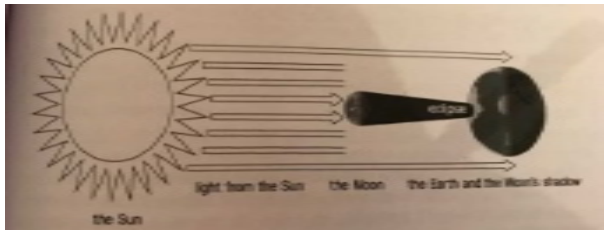
1st Space Mission

- July 20th 1969
- Apollo 11 spacecraft
- Neil Armstrong and Buzz Aldrin stepped foot on the Moon.



A Solar Eclipse

When the Moon passes between the Sun and Earth, the shadow cast by the Moon falls on the Earth's surface and we would no longer be able to see the Sun. This is called a solar eclipse.



Investigate!

- Compare the time of day at different places on Earth.
- Keep a moon diary over the course of a month-what do you notice?