



Year 5 Science Knowledge Organiser: Earth and Space

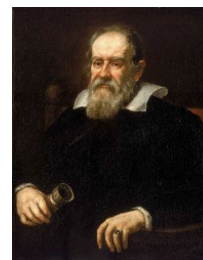


Key vocabulary

Apparent daily motion	the observed 'motion' of the sun during the day
rotate	to turn around on one point, also known as an axis .
celestial body	any naturally occurring object in space.
planets	a celestial body which orbits a star.
solar system	planets and their moons which orbit the Sun.
orbit	a repeating path which one object takes around another.
moon	a natural object which orbits a planet and reflects light.
star	a large glowing ball of gas.
space	an unlimited area where everything can be found. Example: planets and stars.
universe	everything we can touch, sense and feel. It includes all planets, stars and moons.
waxing	description of the moon as it grows from new moon to full moon.
waning	description of the moon as it gets smaller from full moon to new moon.
geocentric model	A belief people used to have that other planets and the Sun orbited around Earth.
heliocentric model	The structure of the Solar System where the planets orbit around the Sun.

Focus scientists

Galileo (1564-1642)
 Discovered four of the biggest moons of Jupiter. Galileo invented the optical telescope. He was the first person to be able to observe celestial objects.



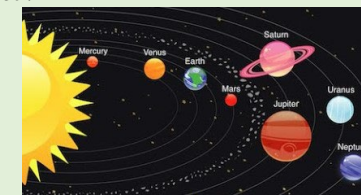
Tim Peake (1972)
 Eighth British person to go into space and the first official British astronaut to walk in space. In 2016, he spent 6 months in space on the International Space Station (ISS).



Key Knowledge

The Planets

The Sun is a hot ball of gas which is classified as a star. The Sun is placed at the centre of our solar system and makes life possible on Earth. Planets are celestial objects that orbit a star like our solar system's Sun. Our solar system is currently believed to include eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. In 2006 Pluto was reclassified as a 'dwarf planet'.

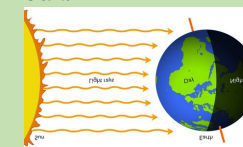


The Earth

The Earth, Sun and Moon are spherical. The Earth rotates on its axis, which stands on a 23.5° angle.

The sun's rays hit the side of the Earth which faces the sun. This causes day and night. It takes the Earth 24 hours to make one complete spin on its axis.

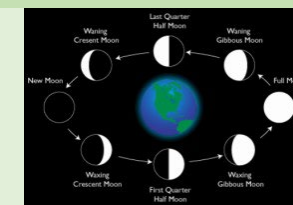
The Earth orbits the Sun.



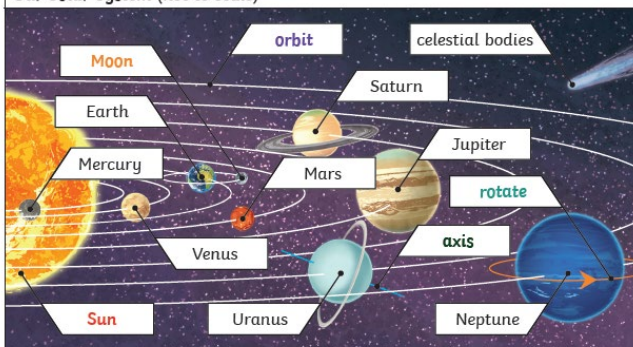
The Moon is a celestial body which orbits the Earth.

One orbit takes approximately a month (almost 28 days).

We only see the part of the Moon that is lit by the sun which is why it appears to be different shapes at different times of the month. The moon is described as waxing as it gets larger from new moon to full moon. As the moon gets smaller from full moon to new moon it is described as waning. There is no life on the Moon because it has no atmosphere (no air or weather).

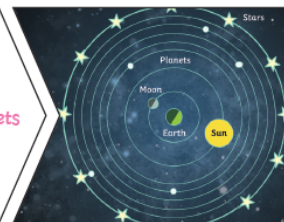


Our Solar System (not to scale)



Geocentric model

Years ago people believed that **planets** moved around the Earth.



The work and ideas of many **astronomers** (such as Copernicus and Kepler) combined over many years before the idea of the **heliocentric model** was developed. Galileo's work on gravity allowed **astronomers** to understand how **planets** stayed in orbit.

