

St Clement's Catholic Primary School- Science

Topic: Space

Year: 5

Term: Autumn 1

What should I already know?

- We have four seasons (winter, spring, summer and autumn).
- The sun is a source of light, the moon is not.
- Know that a shadow is caused when an object blocks light from passing through it.
- The properties of a sphere.

Vocabulary

Orbit	The curved path an object makes
Rotation	To turn or spin
Solar system	A star and everything that travels in it
Planet	A celestial body that revolves around the sun
Galaxy	A collection of star systems
Sun	The star at the centre of the solar system
Lunar	Relating to the moon
Universe	Everything that exists everywhere
Spherical	Shaped like a sphere
Star	A large ball of burning gas
Gravity	The force which causes things to fall to the floor
Celestial body	An object in space

What will I know by the end of the unit?

What causes 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.
- Because of the Earth's tilt, the poles experience 24 hours of sunlight in the summer, and very few hours of sunlight in the winter.
- As the Earth rotates, shadows that are formed change in size and orientation.

Year length and the four seasons

- The Earth takes 365 and a quarter days to orbit the Sun.
- Because of the extra quarter day it takes to orbit the Sun, every four years on Earth is a leap year!
- It is the Earth's tilt that causes the seasons.

The moon

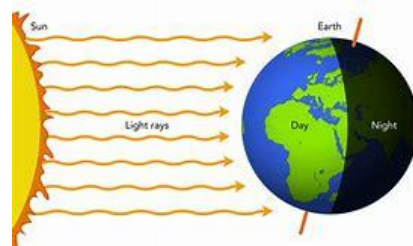
- The Moon orbits the Earth anticlockwise and takes approximately 28 days.
- The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon.
- The Moon has different phases depending on where it is in its orbit.
- The Moon's gravity causes high and low tides.

What is the solar system?

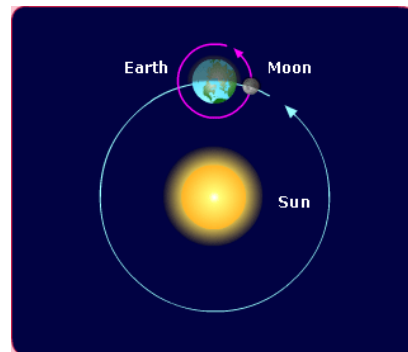
- There are 8 planets in our Solar System (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune). Pluto is a dwarf planet.
- They all orbit the Sun, which is a star, and they all have moons. The first four planets are relatively small and rocky, while the four outer planets are gas giants (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.

Diagrams

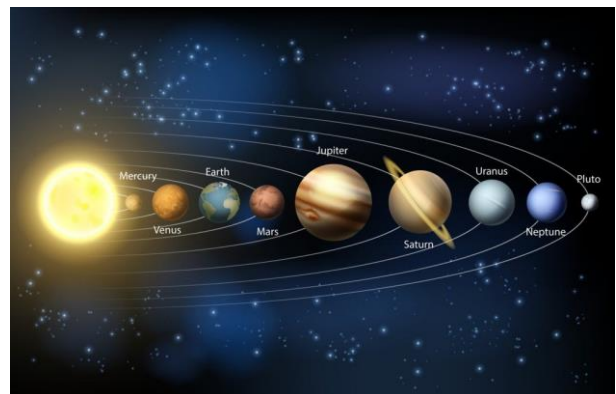
Day and night diagram



Earth, sun and moon movement



The order of the planets



Key facts

- It takes 28 days for the moon to orbit the Earth.
- It takes 365 and ¼ days for the Earth to orbit the sun.
- It takes 24 hours for the Earth to rotate on its axis.
- Every four years we have an extra day on February 29th - this is called a leap year.

Famous scientist(s)

- Yuri Gagarin**- First man in space on VOSTOCK 1 spacecraft (1951)
- Valentina Tereshkova**- First woman in space from Russia on VOSTOCK 6 (1963)
- Neil Armstrong**- First man on the moon on APOLLO 11 (1969)
- Tim Peake**- most recent Briton to go into space (2015)