

In this unit: Pupils will learn about the movement of the Earth around the sun and the movement of the moon around the Earth. They will also learn about other planets in the solar system. Pupils will apply this knowledge to create a scaled planetarium and an Earth, sun and moon model.

Children should already know:

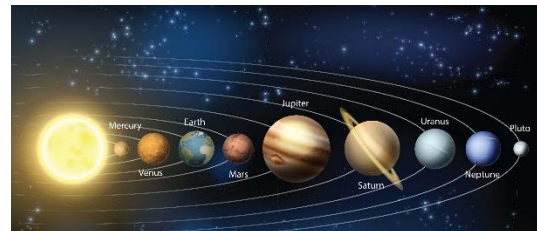
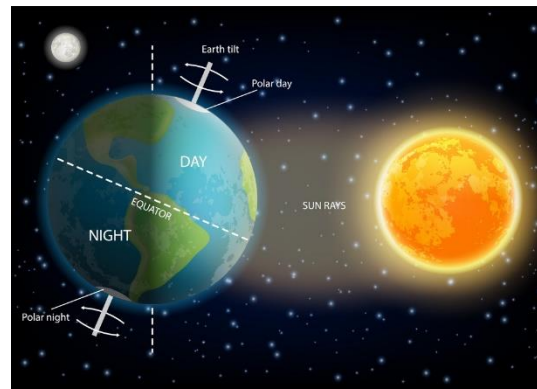
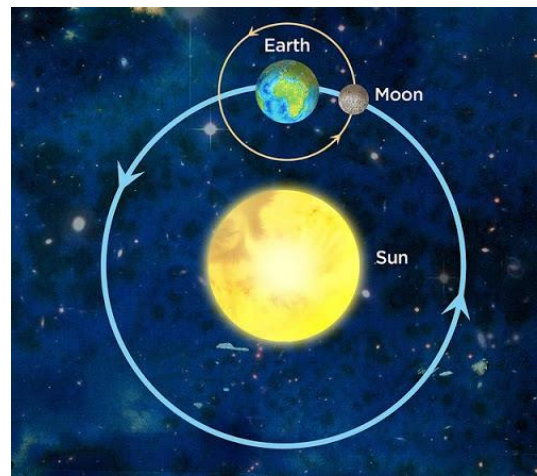
- that we have four seasons – spring, summer, autumn, winter.
- that the sun is a source of light but that the moon is not.
- that shadows are created when opaque objects block the light.
- that the Earth is a spherical shape.

At the end of this unit, children will know:

- that the Earth rotates on its axis anti-clockwise and that it takes a full day, 24 hours, to complete a full rotation.
- that the sun does not move and it is the Earth's rotation that makes this appear to happen.
- that different parts of the Earth experience day and night at different times and this is why we have time zones.
- that the Earth takes 365 and  $\frac{1}{4}$  days to orbit the sun and this is why we have leap years.
- that the Earth's tilt is what causes the seasons.
- that the moon orbits the Earth anti-clockwise and it takes around 28 days.
- the moon's gravity causes tides.
- that there are 8 planets in the solar system and they all orbit the sun.
- that the solar system is also made up of asteroids, meteorites and comets.
- that our solar system is called the Milky way and this is in the universe.

Pupils could investigate:

- the time of day at different places on Earth.
- the use of shadows for telling the time.
- the different phases of the moon.
- the length of day on different planets.
- the correlation between distance from the sun and length of year.



### Key Vocabulary

asteroids	rocks that orbit the sun in a belt
astronomical	relating to astronomy (the science of space)
axis	an imaginary line through the middle of a planet
calibrated	marked with scales or readings
celestial	relating to the sky or outer space
comets	a block of ice and dust in space; the tail is caused by the ice melting
eclipse	a blocking of light by a planet or satellite
galaxy	a large group of stars and planets
geocentric	having the earth as the centre
heliocentric	having the sun as the centre
meteors	a rock from outer space that has landed on Earth
Milky Way	the galaxy in which we live
moon	the natural satellite of the Earth
rotation	the spin of an object about an axis
Solar System	the sun and all the planets that orbit it
time zones	an area or stretch of land where the time is the same
universe	the whole of space and everything in it

Key Questions:

- what is the solar system?
- what is the moon?
- how long does it take the Earth to orbit the sun?
- what causes night and day?
- how long is a year and what causes the seasons?
- is the time of day the same all around the world?