

Year 5 Earth and Space

(Physics)



Prior and future learning

Prior Knowledge	What's next?
<ul style="list-style-type: none"> I can observe changes across the four seasons. I can observe and describe weather associated with the seasons. I can observe and describe how day length varies. (Y1 – Seasonal changes)	<ul style="list-style-type: none"> Gravity force, weight = mass x gravitational field strength (g), on Earth $g=10\text{ N/kg}$, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun (qualitative only). Our Sun as a star, other stars in our galaxy, other galaxies. The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. The light year as a unit of astronomical distance.

Track your learning

How I will show what I have learned	☹️	😐	😊
I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.			
I can describe the movement of the Moon relative to the Earth.			
I can describe the Sun, Earth and Moon as approximately spherical bodies.			
I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.			

Key knowledge I need to understand
<ul style="list-style-type: none"> The Sun is a star. It is at the centre of our solar system. There are 8 planets (can choose to name them, but not essential). These travel around the Sun in fixed orbits. Earth takes $365\frac{1}{4}$ days to complete its orbit around the Sun. The Earth rotates (spins) on its axis every 24 hours. As Earth rotates half faces the Sun (day) and half is facing away from the Sun (night). As the Earth rotates, the Sun appears to move across the sky. The Moon orbits the Earth. It takes about 28 days to complete its orbit. The Sun, Earth and Moon are approximately spherical.

Possible texts to read:

George's secret key to the universe – *Lucy and Stephen Hawking with Christophe Galfard*
 The way back home – *Oliver Jeffers*



Working scientifically assessment: Space craters, Solar system research

Scientist: Helen Sharman (First British astronaut)
 Tim Peake (First British ESA astronaut)

Link to maths curriculum:

Number:

- Comparing the diameter of the Earth, Sun and Moon (*Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit*).

Vocabulary

Asteroid	A rock that orbits the sun in ab belt between Mars and Jupiter.
Axis	An imaginary line through the middle of something.
Comet	A bright object with a long tail that travels around the sun.
Galaxy	An extremely large group of stars and planets. Our galaxy is called the Milky way.
Gravity	The force which causes things to drop to the ground.
Leap year	A year which has 366 days. The extra day is 29 th February.
Meteorite	A rock from outer space that has landed on earth.
Orbit	The curved path in space that is followed by an object going round and round a planet.
Planet	A large, round object in space that moves around a star.
Shadow	A dark shape on a surface that is made when something stands between light and the surface.
Solar system	The Sun and all the planets that go around it.
Dwarf planet	A planet that has an orbit around the Sun but has not cleared a path in its orbit.
Spin	Turns quickly around a central point.
Star	A large ball of burning gas in space.
Time zones	One of the areas of the world which is divided into being ahead or behind GMT
Universe	The whole of space and all the stars, planets and other forms of matter and energy in it.
Solar eclipse	When the moon passes directly in front of the Sun.