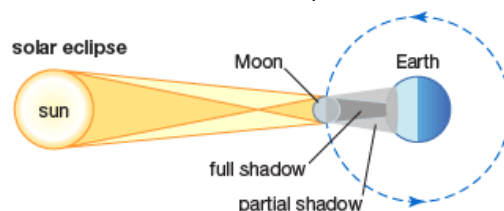


Year 5 Earth and Space

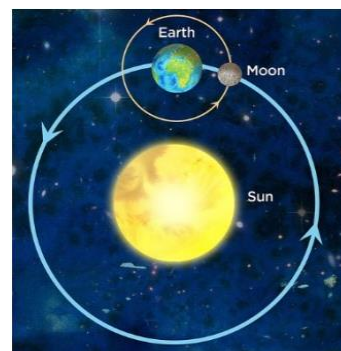
Key Enquiry Questions	Key Facts
<ul style="list-style-type: none"> What is the solar system? 	<ul style="list-style-type: none"> There are 8 planets in our solar system (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune). Pluto is a dwarf planet. All of these planets orbit the sun which 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.
<ul style="list-style-type: none"> What causes day and night? 	<ul style="list-style-type: none"> Earth rotates on its axis anti-clockwise and makes a complete rotation over 24 hours (a day). This makes it appear as though the sun moves through the sky but Earth's rotation causes day and night. Different parts of 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, the shadows that are formed change in size and orientation.
<ul style="list-style-type: none"> How does the moon move in relation to earth? 	<ul style="list-style-type: none"> The moon orbits 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.
<ul style="list-style-type: none"> How does the earth move? 	<ul style="list-style-type: none"> 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!
<ul style="list-style-type: none"> Why do we have seasons? 	<ul style="list-style-type: none"> It is the Earth's tilt that causes the seasons.

Key Vocabulary	
asteroid	A rock that orbits the sun in a belt between mars and Jupiter.
astronomer	Someone who studies astronomy.
astronomy	The branch of science that includes celestial objects, space and the universe.
axis	An imaginary line through the middle of something.
celestial	Positioned in or relating to the sky, or outer space as observed in astronomy.
comet	A bright object with a long tail that travels around the sun.
dwarf planet	A celestial body resembling a small planet but lacking certain criteria that are required for it to be classed as such.
eclipse	Obscuring of the light from one celestial body by the passage of another between it and the observer or between it and its source of illumination.
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 the 29 th February. There is a leap year every 4 years.
meteorite	A rock from outer space that has landed on earth.
moon	A natural satellite of any planet.
orbit	The curved path in space that is followed by an object round and round a planet moon or star.
planet	A large, round object in space that moves around a star.
rotate	Move or cause to move in a circle round an axis or centre.
satellite	An artificial body placed in orbit round the earth or moon or another planet in order to collect information or for communication.
shadow	A dark shape on a surface that is made when something stands between a light and the surface.
solar system	The sun and all the planets that go round it.
sphere	An object that is round in shape, like a ball.
spin	Turns quickly around a central point.
star	A large ball of burning gas in space.
time zones	One of the areas into which the world is divided where the time is calculated as being a particular number of hours behind of ahead of GMT (Greenwich Mean Time).
universe	The whole of space and all the stars, planets and other forms of matter and energy in it.

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.



Earth, the sun and the moon are approximately spherical. Earth orbits the sun. The moon orbits Earth.

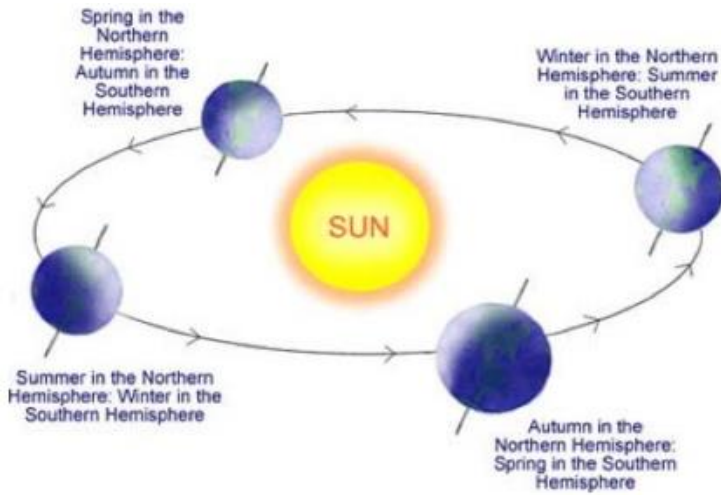


Investigate (suggestions)

- Compare the time of day at different places on Earth.
- Construct shadow clocks and sundials.
- Keep a moon diary over the course of a month - what do you notice?
- Create a solar system diorama.
- Create a fruit solar system

<https://www.stem.org.uk/resources/elibrar y/resource/31649/fruit-solar-system>

The earth's tilt and how this effects seasons:



Day and night diagram

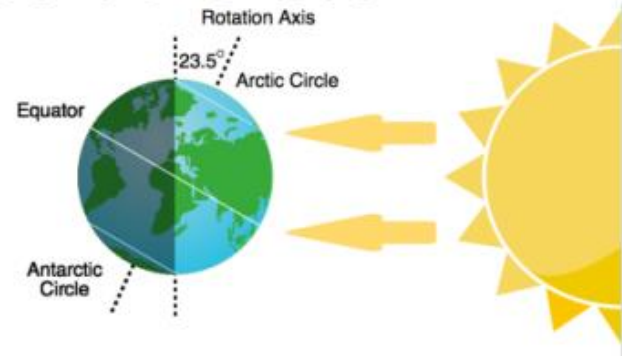


Diagram of the solar system



Moon phases

