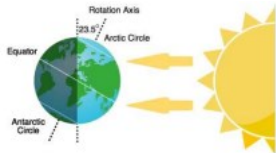


Topic: Earth and Space	Year: 5	Strand: Physics
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What should I already know?
<ul style="list-style-type: none"> We have 4 seasons—Spring, Summer, Autumn, Winter (Y1) The sun is a source of light but the moon is not (Y1) Know that a shadow is caused when an object blocks light from passing through it (Y3) The properties of a sphere

What will I know by the end of the unit?	
What causes day and night?	<ul style="list-style-type: none"> 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 seasons	<ul style="list-style-type: none"> The earth takes 365 and a quarter days to orbit the sun. Because of the extra quarter days it takes to orbit the sun, every 4 years on Earth is a leap year. It is the Earth's tilt that causes the seasons.
The Moon	<ul style="list-style-type: none"> 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 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?	<ul style="list-style-type: none"> There are 8 planets (Mercury, Venus, 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 4 planets are relatively small and rocky, the 4 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.

Vocabulary	
asteroid	a rock that orbits the sun between Mars and Jupiter
axis	an imaginary line through the middle of something
comet	a bright objects with a long tail that travels around the Sun
earth	Earth is one of the eight planets that orbit, or travel around, the Sun in the solar system
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
hemi-sphere	a hemisphere is half of a sphere, or ball
leap year	a year which has 366 days (29 th February), which happens every 4 years
moon	the large round object that circles the Earth and that shines at night by reflecting light from the sun
meteor-ite	a rock from outer space that had landed on Earth
orbit	the curved path in space that is followed by an object going round and round a planet, moon or star
revolve	to go round in one direction
rotates	when something turns or spins around a point located at its centre
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 a light and the surface
solar system	the sun and all the planets that go round it
spherical	an object shaped like a ball
star	a large ball of burning gas in space
sun	the closest star to Earth and it is the source of all the heat and light
time zone	one of the areas into which the world is divided where the time is calculated as being a particular number of hours behind or ahead of GMT
universe	the whole of space and all the stars, planets and other forms of matter and energy in it

Investigate!
<ul style="list-style-type: none"> 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?