





## 7L The Solar System and Beyond

<p>The Earth</p> 	<ul style="list-style-type: none"> <li>• Human beings live on Earth.</li> <li>• The Earth is a planet in the Solar System.</li> <li>• The Sun is at the centre of the Solar System.</li> <li>• The Earth orbits (moves around) the Sun.</li> <li>• One complete Earth orbit around the Sun takes about 365 days. This is called a year.</li> <li>• A leap year is 366 days. Leap years occur every four years and happen because an Earth orbit is actually 365 and a quarter days so we collect the four quarters together in an extra day.</li> <li>• The Earth rotates (spins) on a tilted axis. Each rotation takes 24 hours. This is called a day.</li> <li>• The Moon orbits the Earth.</li> </ul>	<p>Galaxy</p>	<ul style="list-style-type: none"> <li>• A galaxy is a collection of billions of stars orbiting a central point</li> <li>• Our Sun is part of a galaxy called the Milky Way. Other stars in the Milky Way are Alpha Centauri, Rigel and Betelgeuse.</li> <li>• There are billions of galaxies in the Universe.</li> </ul>
<p>Day and Night</p>	<ul style="list-style-type: none"> <li>• The part of the Earth facing the Sun is in daytime. The part facing away is in night time.</li> <li>• Sunrise and sunset happen as the Earth rotates on its axis. The Sun seems to take a curved path across the sky</li> <li>• The Sun appears to rise in the East and set in the West as the Earth rotates anticlockwise on its axis.</li> </ul>	<p>Seasons</p> 	<ul style="list-style-type: none"> <li>• The Earth has seasons because of the tilt in its axis.</li> <li>• In summer, there are more hours of sunlight and it is warmer. The Earth is tilted towards the Sun.</li> <li>• In Winter, there are fewer hours of daylight and it is colder. The Earth is tilted away from the Sun.</li> <li>• The Northern Hemisphere has opposite seasons to the Southern Hemisphere, i.e. when it is Winter in the Northern Hemisphere, it is Summer in the Southern Hemisphere.</li> <li>• <b>At the North Pole, the Sun doesn't set for part of the Summer and doesn't rise for part of the Winter</b></li> </ul>
<p>The Solar System</p> 	<ul style="list-style-type: none"> <li>• The Solar System is made up of the Sun orbited by eight planets</li> <li>• The planets in order are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune</li> <li>• Comets and asteroids also orbit the Sun</li> <li>• The further away from the Sun a planet is, the lower the temperature on its surface.</li> <li>• The further away from the Sun a planet is, the longer its orbit takes.</li> </ul>	<p>Light Year</p>	<ul style="list-style-type: none"> <li>• A light year is a unit of distance used to measure the huge distances in space.</li> <li>• It is how far light travels in one year. One light year is 9.46 trillion km!</li> </ul>
<p>Stars</p>	<ul style="list-style-type: none"> <li>• A star is a ball of hydrogen that gives out heat and light due to nuclear reactions happening inside it</li> <li>• Our Sun is a star</li> <li>• Stars appear to move across the night sky because of the Earth's rotation on its axis.</li> <li>• Stars form patterns in the sky called constellations, e.g. Orion</li> </ul>	<p>The Moon</p> 	<ul style="list-style-type: none"> <li>• The Moon orbits the Earth</li> <li>• It is a natural satellite</li> <li>• The Moon appears to change shape over a cycle of around 28 days. We call this the phases of the moon.</li> <li>• We see the moon because it reflects light from the Sun</li> <li>• We see different phases because different parts of the Moon are lit up by the Sun as it orbits the Earth.</li> <li>• new moon → waxing crescent → first quarter → half moon → waxing gibbous → full moon → waning gibbous → last quarter → waning crescent</li> <li>• When the Earth passes between the Sun and the Moon, we call it a lunar eclipse</li> </ul>