

## Year 5 Autumn 2

## Space - The Final Frontier

## KNOWLEDGE MAT

Topic Vocabulary	Essential Information	
<i>Energy- another word for power, created when particles called electrons move from one atom to another.</i>	<ul style="list-style-type: none"> <li>The universe contains all matter and space in existence.</li> <li>The Sun is a star.</li> <li>Ptolemy thought that everything orbited the Earth, but scientists like Copernicus and Galileo used telescopes and measurements to show that the Earth orbited the Sun.</li> <li>The Solar System is made up of the Sun and the objects that orbit it.</li> <li>There are eight major planets in our solar system (in order from the closest to the Sun): Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.</li> <li>Humans have sent man-made satellites into orbit that assist with telecommunication.</li> <li>All the planets in the solar system orbit the Sun. The further away they are from the Sun, the longer their orbit.</li> <li>The Earth spins around an imaginary line through its centre called an axis. This axis is tilted.</li> </ul>	<ul style="list-style-type: none"> <li>Night and day are the result of the Earth rotating on its axis. Dawn happens at different times across the planet so we divide Earth into time zones.</li> </ul>
<i>Orbit- the curved path of a celestial object or spacecraft around a star, planet, or moon.</i>		<ul style="list-style-type: none"> <li>The tilt of the Earth towards and away from the Sun's light as the Earth orbits the Sun leads to the seasons, as during winter the light is spread over a wider area (see diagram below).</li> </ul>
<i>Reflection- when light, heat or sound bounces off an object without absorbing it.</i>		<div> <p>Winter: UK tilts away from the Sun so the sunlight hits at an angle spreading over a big area</p> <p>Summer: UK tilts towards the Sun so the sunlight hits square on spreading over a small area</p> </div>
<i>Celestial body- a large object in the universe (e.g. galaxy, star, planet, comet).</i>		<ul style="list-style-type: none"> <li>The Moon orbits the Earth roughly every 28 days.</li> <li>As the Moon orbits the Sun, different parts of it are lit up by the Sun, which is why we see a different shape lit up on the Moon as the lunar cycle progresses; these are called phases of the Moon.</li> </ul> <div> </div>
<i>Planet- A planet (e.g Earth) is defined as a spherical celestial body that orbits a star.</i>		
<i>Satellite- A satellite orbits a planet. Moons are natural satellites. Also a machine that is sent into space to collect information or for communication.</i>		
<i>Eclipse- A solar eclipse happens when the Moon is between the Sun and the Earth, casting a shadow on the Earth; a lunar eclipse happens when the Earth is between the Sun and the Moon, casting a shadow on the Moon.</i>		
<i>Star- an exceptionally hot ball of gas, originally made from hydrogen and helium</i>		
<i>Solar system- the collection of eight planets and their moons in orbit round the sun.</i>		
<i>Solar- related to the Sun (Sol means Sun).</i>		
<i>Universe- all of space and time and their contents (including planets, stars, galaxies, and all other forms of matter/energy).</i>		
<i>Constellation- a group of stars forming a recognisable pattern.</i>		