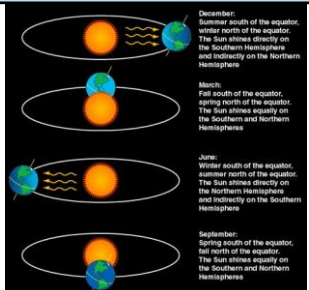
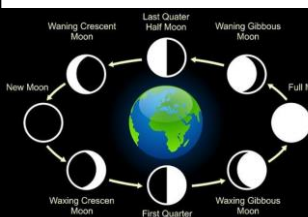
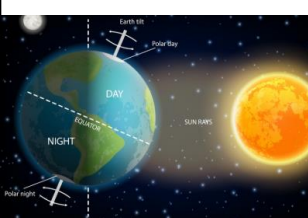


# Science Knowledge Organiser – Year 5 – Earth and Space

Key Vocabulary	
<b>Asteroid</b>	A rock that orbits the sun in a belt between Mars and Jupiter.
<b>Axis</b>	An imaginary line through the middle of something (i.e. a planet)
<b>Comet</b>	A bright object with a long tail that travels around the sun
<b>Earth</b>	A planet which orbits around the sun in 365 days
<b>Galaxy</b>	An extremely large group of stars and planets. Our galaxy is called the <b>Milky Way</b> .
<b>Gravity</b>	The force which causes things to drop to the ground
<b>Meteorite</b>	A rock from outer space that has landed on Earth
<b>Moon</b>	A celestial body that orbits around a planet
<b>Orbit</b>	The curved path in space that is followed by an object going round and round a planet, moon or star
<b>Planet</b>	A celestial body which moves in orbit around the sun. It is massive enough to have its own gravity.
<b>Shadow</b>	A dark shape on a surface that is made when something blocks the light
<b>Solar System</b>	The solar system is made up of the sun and everything that orbits around it, including planets, moons, asteroids, comets and meteoroids. There are <b>8</b> planets within our solar system, they are: Mercury, Venus, Earth, Mars, Jupiter, Saturn Uranus and Neptune.
<b>Sphere</b>	A round solid shape like a ball
<b>Spin</b>	Turn quickly around a central point
<b>Star</b>	A large ball of burning gas in space with a fixed point
<b>Sun</b>	A large star which is at the centre of our Solar System
<b>Universe</b>	The whole of space and all of the stars, planets and other forms of matter and energy in it.

What causes the seasons on earth?	
 <p><b>December:</b> Summer south of the equator, winter north of the equator. The Sun shines directly on the Southern Hemisphere and indirectly on the Northern Hemisphere.</p> <p><b>March:</b> Fall south of the equator, spring north of the equator. The Sun shines equally on the Southern and Northern Hemisphere.</p> <p><b>June:</b> Winter south of the equator, summer north of the equator. The Sun shines directly on the Northern Hemisphere and indirectly on the Southern Hemisphere.</p> <p><b>September:</b> Spring south of the equator, fall north of the equator. The Sun shines equally on the Southern and Northern Hemisphere.</p>	<p>Earth's tilted axis causes the seasons. Throughout the year, different parts of Earth receive the Sun's most direct rays. So, when the North Pole tilts toward the Sun, it's summer in the Northern Hemisphere. And when the South Pole tilts toward the Sun, it's winter in the Northern Hemisphere.</p>

Key Knowledge	
<b>How does the Moon move around the Earth?</b>	
<p>The Moon orbits the Earth anticlockwise and takes approximately 28 days, we call this the <b>lunar month</b>. The Moon spins once on its axis every time it orbits Earth. This means that we only see one side of the Moon. The side of the moon we do not see is called the dark side of the moon.</p> <p>The Moon has different phases depending on where it is in its orbit. Each lunar month, the moon is unilluminated, this is call the new moon. As the lunar month continues, more of the moon is illuminated by the sun until it becomes a full moon.</p> <p><b>Waxing</b> occurs after a new moon and before a full moon, as more of the moon is illuminated.</p> <p><b>Waning</b> occurs after a full moon and before a new moon, as less of the moon is illuminated.</p>	 <p style="color: red; text-align: center;"><b>There is gravity on the moon. However it is a much lesser force than the gravity on earth.</b></p>
<b>What causes day and night?</b>	
<p>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</p>	
<b>What shape are the earth, sun and moon?</b>	
<p>The earth, sun and moon are approximately spherical in shape.</p> <p>The earth orbits the sun.</p> <p>The moon orbits the earth.</p>	