



Subject: Science
 Year group: 5
 Term: Spring
 Unit name: Earth and space

Prior Knowledge - Observe changes across the four seasons. (Y1 - Seasonal changes) Observe and describe weather associated with the seasons and how day length varies. (Y1 - Seasonal changes)

Scientific enquiry	
Classifying	Terrestrial, gas giant and ice giant planets Planet names, properties and distance from the sun Moon and movement
Observing over time	Comparing times of the day and night Creating simple sundials Appearance of the moon over time
Pattern seeking	Not relevant
Comparative/fair testing	Not relevant
Researching	Stonehenge as an astronomical clock How the universe was formed Planets

- National curriculum:**
- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
 - Describe the movement of the Moon relative to the Earth.
 - Describe the Sun, Earth and Moon as approximately spherical bodies.
 - Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.

- Working Scientifically:**
- Begin to recognise which secondary sources will be the most useful to research their ideas.
 - Raise different kinds of questions about scientific phenomena.
 - Make and explain predictions.

Assessment for learning
 Recapping prior knowledge- beginning of unit- what do children already know?
 Beginning of each lesson- focus on recall of previous learning (quick quizzes)

<p>Respect</p> <p>Do for other people the same things you want them to do for you.</p> <p>Matthew 7:12</p>	<p>Integrity</p> <p>An honest witness tells the truth. But a dishonest witness tells lies.</p> <p>Proverbs 12:17</p>
---	---



**Enriching lives every day; enabling our school community to learn, achieve and flourish
through living 'life in all its fullness'**



<i>Key Learning- what will the children know by the end of the unit?</i>	
To answer the question: what is the solar system?	The sun is a star. There are 8 planets in our Solar System (Mercury, Venus, Earth, 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 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. These travel around the Sun in fixed orbits. Earth takes 365¼ days to complete its orbit around the Sun.
To answer the question: what causes day and night?	The Earth rotates (spins) on its axis every 24 hours. As Earth rotates half faces the Sun (day) and half is facing away from the Sun (night). As the Earth rotates, the Sun appears to move across the sky. 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.
To describe the movement of the moon.	The Moon orbits the Earth. It takes about 28 days to complete its orbit. The Sun, Earth and Moon are approximately spherical.
Explore key scientists linked with earth and space.	Scientists you could explore: Aristarchus (310 – 230 B.C.). He was the first to figure out that the Earth travels around the Sun. Nicolas Copernicus (1473 – 1543). Had the idea that Earth revolves on its axis and the Earth and other planets orbit around the Sun Galileo Galilei (1564 – 1642). Discovered four of Jupiter's moons. In 1609 was the first person to make a study of the skies with a telescope. Edwin Hubble (1889-1953). In 1924 Hubble showed that nebulae (fuzzy light patches in the sky) were distant galaxies. In 1929 he found the speed of galaxy moves away from the Earth depends on its distance from the Earth. If a galaxy is four times as far away as another, it is moving four times as fast. This is Hubble's law. William Huggins. Showed that stars are made up of the same elements that exist on Earth. Cecilia Payne-Gaposchkin (1900-79). In the 1920's she proved that stars are made mostly of hydrogen. Arthur Eddington (1882- 1944). He was the first to work out what the inside of a star was like. Professor Brian Cox (1968 -) Contemporary physicist, presents many BBC programmes) Heidi Hammel (1960 -) Astronomer
British Science Week	