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| Year 5 – Earth and Space | | | | | |
| **National Curriculum Objectives:**  \* 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 roughly 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. | | | | | |
| **Prior Learning:** | **Working Scientifically (NC) Links:** | **Opportunities for working Scientifically:** | **Story / Book Opportunities:** | **Maths Opportunities:** | **Vocabulary:** |
| **In Year 1:**  **Seasonal Changes:**  \* Observe the changes across the 4 seasons.  \* Observe and describe weather associated with the seasons and how day length varies. | \* Compare the time of day at different places on the Earth through internet links and direct communication.  \* Create simple models of the solar system.  \* Construct simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day.  \* Find out why some people think that structures such as Stonehenge might have been used as astronomical clocks. | \* Research information to enable you to make an orrery.  \* What happens to a lego person’s shadow over the day?  **\*** Are there any patterns in the way a shadow moves over the course of a day?  \* If it is …… in the UK, what time is it in …..?  \* How does the shape of the moon appear to change over a month?  \* What is the effect of different size meteors hitting the moon? | **The Skies Above My Eyes**  (Charlotte Guillain & Yuval Zommer)  **George’s Secret Key to the Universe**  (Lucy and Stephen Hawking with Christophe Galfard)  **The Way Back Home**  (Oliver Jeffers) | Ratios and scales  Measuring angles – to make a sundial  Plotting graphs to record daylight hours | Earth, Sun, Moon, Mercury, Jupiter, Venus, Saturn, Mars, Uranus, Neptune, spherical, solar system, rotates, star, orbits, planet |
| **Types of scientific Enquiry:**  Fair & Comparative testing  Research using secondary sources  Identifying, classifying & grouping  Pattern seeking  Observing over time | **Claudius Ptolemy and Nicolaus Copernicus**  (Heliocentric vs Geocentric Universe)  **Neil Armstrong** (First man on the Moon)  **Helen Sharman** (First British astronaut)  **Tim Peake** (First British ESA astronaut) |
| **In KS3:**  \* Gravity force, weight = mass x gravitational field strength (g), on Earth g=10N/kg, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun  \* Our sun as a star; other stars in our galaxy; other galaxies.  \* The seasons and the Earth’s tilt, day length at different times of year, in different hemispheres.  \* The light year as a unit of astronomical distance. | | | | | |

