Science Knowledge Organiser – Earth and Space

What do we know about the solar system?

Year 5 - Term 4

Nursteed Community Primary School

Prior knowledge	Key knowledge	Subsequent knowledge
• Explore the natural world around them. (Reception Earth and space) • Describe what they see, hear and feel whilst outside. (Reception Earth and space) • 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)	• 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.	• Gravity force, weight = mass x gravitational field strength (g), on Earth g=10 N/kg, different on other planets and stars; gravity forces between • Earth and Moon, and between Earth and Sun (qualitative only). (KS3) • Our Sun as a star, other stars in our galaxy, other galaxies. (KS3) • The seasons and the Earth's tilt, day length at different times of the year, in different hemispheres (KS3). • The light year as a unit of astronomical distance. (KS3)

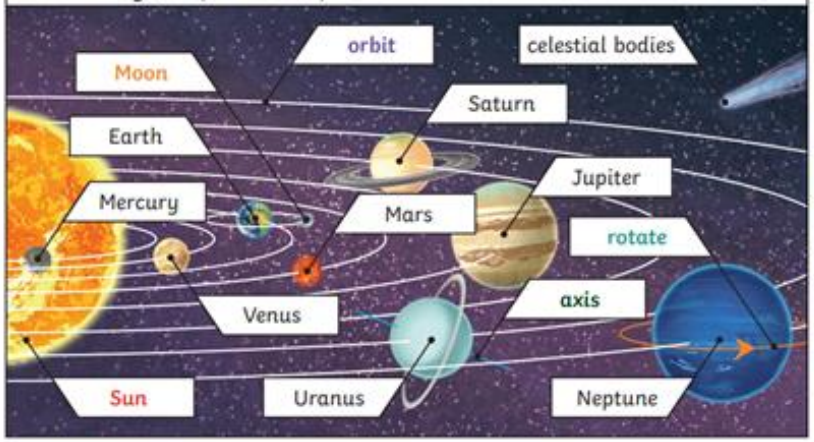
Working Scientifically Skills – Year 5 & 6

At least one LI per block should focus on a WS skill.

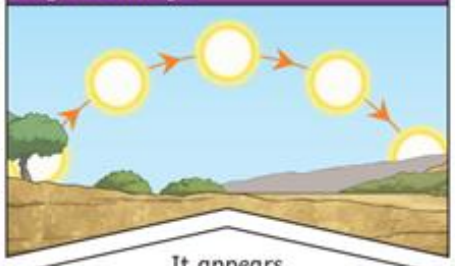
- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- Identifying scientific evidence that has been used to support or refute ideas or arguments.

Vocabulary	Meaning
Earth	The planet on which we live.
Sun	A huge start that Earth and the other planets in our solar system orbit around.
Moon	A natural satellite which orbits Earth or other planets.
Planet	A large object, round or nearly round, that orbits a star.
Spherical bodies	Astronomical objects shaped like spheres.
Solar system	The collection of 8 planets and their moons in orbit round the sun.
Rotate	To spin e.g. Earth rotates on its own axis.
Star	A giant ball of gas held together by its own gravity.
Orbit	To move in a regular, repeating curved path around another object.

Our Solar System (not to scale)

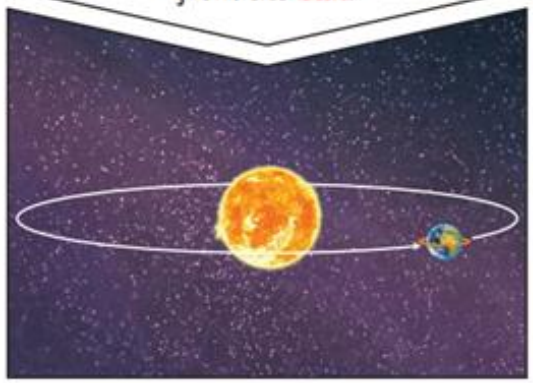


Key Knowledge



It appears to us that the Sun moves across the sky during the day but the Sun does not move at all. It seems to us that the Sun moves because of the movements of Earth.

Earth rotates (spins) on its **axis**. It does a full rotation once in every 24 hours. At the same time that Earth is rotating, it is also orbiting (revolving) around the Sun. It takes a little more than 365 days to orbit the Sun. Daytime occurs when the side of Earth is facing towards the Sun. Night occurs when the side of Earth is facing away from the Sun.



The Moon orbits Earth in an oval-shaped path while spinning on its **axis**. At various times in a month, the Moon appears to be different shapes. This is because as the Moon rotates round Earth, the Sun lights up different parts of it.