



Summer 1	Earth and Space					
Prior learning	EYFS – Explore Outer Space					
Lesson objective	Explore the solar system and its planets	Understand the heliocentric model of the solar system	Explain the Earth's movement in space	Explain the Earth's rotation and night and day	Explain the movement of the Moon	Design a planet using knowledge gained
Key vocabulary	terrestrial planet gas giant planets Solar System spherical orbit	astronomy heliocentric geocentric dwarf planet orbit	axis poles season hemisphere orbit	sundial time zone gnomon dial shadow	moon phase waxing waning eclipse	rocky planet gas planet moon orbit solar system
Creative context						
Substantive knowledge	Describe the Sun, Earth and Moon as approximately spherical bodies	Describe the movement of the Earth and other planets relative to the Sun in the solar system	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky	Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky	Describe the movement of the Moon relative to the Earth	Describe the Sun, Earth and Moon as approximately spherical bodies
Disciplinary knowledge	Identifying scientific evidence that has been used to support or refute ideas or arguments Taking measurements, using a range of Scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	Identifying scientific evidence that has been used to support or refute ideas or arguments	Reporting and presenting findings from enquiries – including conclusions, causal relationships and explanations of and a degree of trust in results - in oral and written forms such as displays and other presentations	Using test results to make predictions to set up further comparative and fair tests	Identifying scientific evidence that has been used to support or refute ideas or arguments	Reporting and presenting findings from enquiries



<p>Recorded learning</p>	<p>Using the key information from the fact cards and the distance information from Draw the planets of the solar system in order from the Sun and record 3 interesting key features.</p> <p>Challenge Task: Come up with a way of representing the distances of the planets on an A3 sheet (e.g. 1cm for every 20 million KM)?</p>	<p>In 8 different groups, create a papier mache planet - each group completing a different planet from the Solar System. Think about its size, colour and other characteristics. Alternatively, you could use polystyrene balls and challenge the children to create their own heliocentric models in small groups.</p> <p>Challenge Task: record their own solar system drawing with key facts and information about each planet. Ask them to describe Copernicus' ideas about planetary motion.</p>	<p>Create a representation of Earth using clay. Mark 3 different sections on clay Earth. Shine a torch onto the Earth and record which parts are illuminated and when. Record where the light falls at different points and consider whether it would be summer or winter depending on the angle.</p> <p>Challenge Task: imagine that the points marked on clay Earths are different countries. How would the time zones between the countries be different from each other? What would it be like if there were no time zones and it was the same time everywhere?</p>	<p>Design and make a sundial. Determine where the time lines should be marked and mark on the handout where they believe the shadow will fall at different times of day. Use the sundial outside, placing it in the same place. If their prediction was wrong, ask the children to mark the correct location using a different colour.</p> <p>Where will the shadow be at 2pm? Where will it be at 9am?</p> <p>Challenge Task: work out different times across the world using time zone data. They are to find a country and record the time they use in the time zone data provided.</p>	<p>Fill in 'Phases of the Moon' pinwheel sheet.</p> <p>Challenge Task: Encourage the children to research the lunar month. What does the Moon look like now? What phase is the Moon at now? Keep an eye on the Moon over the course of the month.</p>	<p>Design their own planet using the planning handout sheet.</p> <p>Challenge Task: identify different features on their planet and plan how it will orbit the Sun. Ask them to answer extended questions about the Moon/s of the planet and the effect they have.</p>
---------------------------------	--	---	---	--	---	--



Science – Year 5



Future learning

--