



TSS Primary Science MTP 2022-2023

Year 5 Block 5 – Earth & Space

Key Targets and Learning Objectives		Key Activities	Equipment
<ul style="list-style-type: none"> • Know that the Earth is surrounded by a layer of air called the atmosphere, which is a mixture of different gases (including nitrogen, carbon dioxide and oxygen) • Understand that most water on Earth is not pure and has dissolved substances in it • Understand that pollution is the introduction of substances by humans that harm the environment and identify examples of pollution • Describe the water cycle (limited to evaporation, condensation and precipitation) • Describe the orbit of the Earth around the Sun (limited to slight ellipse, anticlockwise direction and the duration) • Describe how the tilt of the Earth can create different seasons in different places • Know that a satellite is an object in space that orbits a larger object and a moon is a natural satellite that orbits a planet • Use models, including diagrams, to represent and describe scientific phenomena and ideas (WS) 		<ul style="list-style-type: none"> • Lesson 1 – Pre assessment. Recap on gases in our atmosphere. Create a sense of scale by measuring out the different layers. Include a few key objects – mount Everest, airplanes, satellites • Lesson 2 & 3 – Recap the water cycle. Research pollution affecting our water (use hard hitting visual images). Children create information poster into the harmful of pollution • Lesson 4 – Create a size comparison between the sun, the Earth, and the moon. Using the models, children act out the orbit of Earth around the sun. Know key info such as: distances, time taken for light to travel, time to orbit etc • Lesson 5 – Recap previous lesson and model out the distances using the dome as the sun, a tennis ball as Earth and a golf ball as the moon. Measure the scaled down distances using a trundle wheel. Using an atlas, demonstrate how the tilt of Earth gives us seasons. Why don't we get seasons on Oman? • Lesson 6 – Link to previous lesson. Research the number of natural satellites around the planets. Record information in a table. Look into the number of manmade satellites in space. Discuss how this could become a problem. Who should own the space where the satellites fly? • Lesson 7 – End of block assessment + end of year quiz • STEAM activity – (time dependent) There is too much space debris in space. Each group designs their own machine to collect space debris. They must sell their idea to get a one-trillion-dollar contract. Why is their machine the best? What will they have to think about? What ideas are already out there where they could get inspiration from? 	<ul style="list-style-type: none"> • Square paper • Colouring pencils • Tennis and golf balls • Trundle wheels • Atlas • Torches
Key vocabulary	Going Green Link	Integration of technology	
Atmosphere, nitrogen, carbon dioxide, oxygen, troposphere, stratosphere, mesosphere, thermosphere, exosphere, pollution, evaporation, condensation, precipitation, solar	<ul style="list-style-type: none"> • Look at how satellites are beginning to overpopulate our outer atmosphere. Talk about the dangers this can cause. 	<ul style="list-style-type: none"> • iPads for research • Science apps around space (look at positions of planets, satellites etc) 	



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system, satellite, seasons			
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