


Mendell Primary School



Aspire Challenge Achieve

Medium Term Plan Science



Year Group: FS2	Term: Autumn 2	Teacher: Mrs Eason	Subject lead: Sarah Bride	Overview: Earth & Space <ul style="list-style-type: none"> • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. <div style="background-color: #003366; color: white; padding: 5px; margin-bottom: 5px;"> Comparative / fair testing <small>Changing one variable to see its effect on another, whilst keeping all others the same.</small> </div> <div style="background-color: #008000; color: white; padding: 5px; margin-bottom: 5px;"> Research <small>Using secondary sources of information to answer scientific questions.</small> </div> <div style="background-color: #0099cc; color: white; padding: 5px;"> Pattern-seeking <small>Identifying patterns and looking for relationships in enquiries where variables are difficult to control.</small> </div>		Key End Points: By the end of this unit children will be able to: <ul style="list-style-type: none"> • Explain differences between day and night. • Know that some animals are active at night time and some in the day. • Know that the sun gives us warmth and light. • Name the Earth, Sun, Moon, Stars and use the word Planet. • Know that humans have explored space and walked on the moon. • Know that Earth has a strong pull than in space. 	
Common Misconceptions: Some children may think: <ul style="list-style-type: none"> • the Earth is flat • the Moon and Sun are discs • stars are a pointed 'star' shape • the Moon appears only at night • at night, the Sun is turned off • at night, the Sun goes behind the clouds. 		Unit key Vocabulary: Model and encourage children to use vocabulary such as: <ul style="list-style-type: none"> • Sun, Moon, Earth, star, planet, sky, day, night, space, round, light, heavy, fall, bounce, float, rise, fall, air Expose children to supplementary vocabulary such as: <ul style="list-style-type: none"> • sunrise, sunset, astronaut, astronomer, constellation, orbit, nocturnal, slow-motion, magnify 		High Quality Text: Whatever Next! by Jill Murphy Owl Babies Traditional stories, songs and nursery rhymes <ul style="list-style-type: none"> • Twinkle, Twinkle Little Star Linked careers/ Role Play opportunities: <ul style="list-style-type: none"> • Astronomer • Astronaut on a space station or rocket • Rocket designer 		Risk Assessment/Healthy and safety Risk Assessment for children returning to school for night time observations. Possible campfire risk assessment needed.	Teacher CPD: PLAN ASE EYFS Matrices Homework: Encourage children to observe the evening/night sky with their family.
Links to other learning:	Prior Learning: Explore and respond to different natural phenomena in their setting and on trips. (Birth to three)	Future Learning: <ul style="list-style-type: none"> • Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. (Y5 – Earth and space) • Describe the movement of the Moon relative to the Earth. (Y5 – Earth and space) • Describe the Sun, Earth and Moon as approximately spherical bodies. (Y5 – Earth and space) • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. (Y5 – Earth and space) 		Provision: Small World: animals sorting – active during the day or active during the night following teacher led first lesson. Sand Tray – dropping small objects from different heights to recreate the surface of the moon (creators) have pictures of the moon's surface around the sand tray to stimulate children. Ask questions: how can you make larger or smaller creators on your moon's surface?			

		<p>Creative: making space rockets from junk modelling materials.</p> <p>Book corner: books about day/night, space and space exploration.</p> <p>Role Play: Astronauts space station.</p>			
Forest School:		<p>Invite the children back to school in the evening for a campfire or for their tea. Provide the children with binoculars and telescopes to make observations of the sky at night. Have a set quiet time for the children to observe sounds at night time.</p> <p>Key learning: There can be different sounds during the night. Telescopes and binoculars help us see things far away. Stars can only be seen at night.</p>			
<u>Learning Intention</u>		<u>Lesson Outline (Key Questions in colour)</u>	<u>Resources</u>	<u>Vocabulary</u>	<u>Lowest 20% Adaptations</u>
1	L.I. I can explain when it is day or night.	<p>Big Question: How do we know it is day or night?</p> <p>Word of the week: Sun Definition: The Sun is a star. There are lots of stars in the universe, but the Sun is the closest one to Earth, and it's the only one in our solar system. It is the centre of our solar system. The Sun is a hot ball of glowing gases.</p> <p>Show the children a picture during the day. Is it day time or night time? How do we know it is day time? Show the children a picture during the night. Is it day time or night time? How do we know it is night time? Allow the children time to explore the images and observe the clues about day/night. Encourage talk about the amount of light, the activities the children are doing, animals seen, sun, moon, stars etc... Ask the children to talk about what they do in the day that they can't do at night and vis versa.</p> <p>Address the common misconception about the moon only being visible at night. Has anyone seen the moon during the day time?</p> <p>Ask the children what animals they might see in the day? What about the night? Why do you think some animals are active at night and not in the day? Introduce the vocabulary nocturnal and explain to the children that some animals come out at night time to hunt for food and sleep in the day. Share the story Owl Babies and the following clip to support children's understanding. https://www.bbc.co.uk/programmes/p011n1lx</p>	<p>Pictures of day/night.</p> <p>Owl babies.</p> <p>Teacher CPD if needed:</p> <p>Moon definition: The Moon is Earth's only natural satellite</p>	Sun, moon, stars, day, night, active	
2	L.I. I know the sun gives us light and heat which changes throughout the day. 	<p>Big Question: What changes in the sky during the day?</p> <p>Together as a class set up a temperature weather station outside. They could place thermometers in the playground and the teacher could have a data logger to model to the children.</p> <p>Throughout the day allow the children to observe changes in the sky safely. Ensure the children understand not to directly look into the sun because it can damage their eyes. Each time record the temperature and encourage the children to think about changes in the levels of light e.g when the clouds obscure the sun do the children notice that it becomes darker? Share each temperature reading with the children and discuss the position of the sun in the sky at each stage of outside observations. Can they think about why the temperature might be different? Encourage talk about where the sun is in the sky, is the sun out or hidden behind the clouds?</p> <p>Share the following sentence stems to bring their observations from throughout the day together:</p>	<p>Thermometer in the playground.</p> <p>Data loggers.</p>	Light, heat, sun, temperature, warmer, brighter.	Deepening vocab: sunrise, sunset.

		<p>It is warmer and brighter when the sun is... It is colder and darker when the sun is ...</p> <p>Deepening learning: vocabulary sunrise, sunset to support the children's understanding of the sun's movement in the sky across the day.</p> <p>End of the day: What changes did we see in the sky today? Was the sun in the same place? Encourage the children to talk about the position of the sun and how it appears to move across the sky.</p>			
3	<p>L.I. I can name the planet I live on.</p> 	<p>Word of the week: planet</p> <p>Big Question: What planet do we live on?</p> <p>Ask the children what planet do we live on? What do we know about Earth? What shape is the Earth? Be aware of the common misconception that Earth is flat during discussions.</p> <p>What other planets have you heard of? Explain that today the children will be finding out about different planets to create a piece of art work. Share the planet song with the class and give them access to books about the solar system. https://www.youtube.com/watch?v=mQrlgH97v94 Allow the children to explore the books or prepared pictures and talk about how the planets are similar or different e.g. size, colour etc...</p> <p>Using pictures ask the children to use cutting skills to create a poster about the planets in our solar system. Challenge: children could be given support to name some of the planets – all must label Earth. The planets do not need to be in order however if a child wishes to do this they can use a book or the song for support.</p>	<p>Pictures of planets, art materials, glue, scissors.</p> <p>Books about planets.</p>	Earth, planet.	
4	<p>L.I. I know that Earth has a stronger pull than in space.</p> 	<p>Big Question: How do things move when they fall?</p> <p>Explain to the children that astronauts have been exploring space for many years which is called space exploration. Ask the children what they think it is like in space? Would they like to go? Do they know or have they heard about any astronauts or space missions.</p> <p>Show the children footage of the moon landing. https://www.youtube.com/watch?v=cwZb2mqId0A What do you notice about how Neil Armstrong walked across the moon? Introduce the idea that on Earth we have a strong pull which allows us to walk because we are being pulled towards the middle of Earth. On the Moon there is less pull which makes it hard for astronauts to walk like we do on Earth. Share the Tim Peake space station video: https://www.youtube.com/watch?v=56kUCIJSYI What do you notice? What happens when we get washed?</p> <p>Take the children into the hall to compare how different objects fall through the air – feathers, scarves, bubbles, balloons, balls, beanbags etc. allow the children to talk and observe that the objects move differently. Ensure the children notice that all objects fall, this is because the objects are being pulled towards the middle of the Earth. Did this happen in space? Why? There is less pull in space.</p>	<p>feathers, scarves, bubbles, balloons, balls, beanbags.</p>	Earth, Moon, pull, fall, bounce.	