Wraysbury Primary School

No Limits
To Learning!

Topic Title: May the Force be with You **Year Group**: 5 **Academic Year**: 2022-2023

Science Intent: Children will learn how day and night occur and the movement of the Earth and Moon in relation to the Sun.

<table>
<tr><td>Prior Scientific Learning/Linked Topics:

Children will be focussing on The Space Race in their Topic learning. They would be enhancing their learning from year 1. Will have covered Gravity in Forces topic.</td><td colspan="2">Literacy Links (including texts/media used):

Cosmic and Hidden Figures texts.</td><td colspan="2">Maths Links:

Time zones.</td></tr>
<tr><td rowspan="2">Scientific Knowledge</td><td colspan="4">Working Scientifically</td></tr>
<tr><td>Observing and Measuring over time</td><td>Identifying, classifying and grouping</td><td>Comparative and fair testing (controlled investigations)</td><td>Research</td></tr>
<tr><td>• 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.</td><td>• Taking measurements of how their shadow has changed/moved throughout the school day.</td><td>• Naming and recognising the planets in order.</td><td>• Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (shadow investigation).</td><td>• Identifying scientific evidence that has been used to support or refute ideas or arguments.</td></tr>
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Content:

Key learning - Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
Describe the Sun, Earth and Moon as approximately spherical bodies.

- Start - Children sort a series of statements about the solar system into 'true', 'false' or 'not sure' to provide assessment of prior learning and starting point.

- Activity - Planets and the sun are spherical bodies!
  Children will go outside and look at the horizon and research whether scientific evidence supports of refutes the idea that the Earth is flat. Research – Asking questions & Evaluating.

- Activity - Look at the planets of the Solar System and have a 'speed dating' lesson where they gather information about each planet and create posters. Research

- Activity - Through physical demonstration, children are taught about the movement of the planets around the Sun. Following the demonstration children explain their understanding using diagrams and explanations.
  Activity - Chn use their understanding of the movement of the Earth to explain how many days there are in a year and how leap years occur.

Key learning - Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.

- Start - Use concept cartoon 14.2 assess current understanding.
  Using the video at https://explorify.uk/en/activities/whats-going-on/light-and-time discuss what is happening?

- Activity - Make first hand observations of how shadows caused by the sun change throughout the day. Observation over time – Observing & measuring and recording data.

  Show the transition from night to day at https://explorify.uk/en/activities/whats-going-on/earth - What is going on?

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- Activity – Using a LEGO man, a globe and a torch, can you explain day and night? Pattern-seeking – Observing and measuring & Evaluating

Key learning - Describe the movement of the Moon relative to the Earth.

- Start – Concept cartoon 14.10 to incite discussion.
  Watch: https://www.bbc.co.uk/bitesize/clips/z3jd7ty

- Activity – Use role play to re-create the movement of the moon around the earth.
- Activity - Children create a paper model to demonstrate how the Moon moves in relation to the Earth.

Key learning – Time zones

- Children focus on time zones, looking at a map of the world and predicting the time in different countries.

Key Vocabulary:

- Earth, Sun, Star, Moon, Planets (Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune), Sphere, Spherical bodies, Satellite, Orbit, Rotates, Axis

Stunning Start/Marvellous Middle/Fabulous Finish:	OAA/Trips/Visits/Visitors:
Stunning Start: Marvellous Middle: Mobile planetarium Fabulous Finish: Shadow drawing over time.	Mobile planetarium