



## Topic Title: To Infinity and Beyond! Year 5 Term Spring 1



### Skills Taught:

- Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)
- 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.
- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object

Immersion Activity/Provocation: Children to create their own Professor Astro Doves, 'space specialists' inspired by Professor Astro Cat's Frontiers of Space.

### Key question?

Why do we have day and night?

### Big Questions:

What is the correct order of the planets from the Sun?  
How do we know that Earth is spherical?

What are the different phases of the moon and why?

How does the solar system give us day and night?

Why do we have day and night?

Topic Title: Mind and Body Enquiry Question: What do we need to do to lead a healthy life?

Focus Texts: Professor Astro Cat's Frontiers of Space



### Challenge for All:

	<u>Skills and Knowledge</u>
Some children will:	<p>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</p> <ul style="list-style-type: none"><li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li><li>• Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</li><li>• Name and locate the Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle and date time zones. Describe some of the characteristics of these geographical areas.</li></ul>
Most children will:	<p>Plan enquiries, including recognising and controlling variables where necessary.</p> <ul style="list-style-type: none"><li>• Use appropriate techniques, apparatus and materials during fieldwork and laboratory work.</li><li>• Take measurements using a range of scientific equipment with increasing accuracy and precision.</li><li>• Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs and models.</li><li>• Describe the movement of the Moon relative to the Earth.</li><li>• Describe the Sun, Earth and Moon as approximately spherical bodies.</li><li>• Name and locate the Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle and date time zones. Describe some of the characteristics of these geographical areas.</li></ul>
Some children will progress further and will:	<p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</p> <ul style="list-style-type: none"><li>• Use test results to make predictions to set up further comparative and fair tests.</li><li>• Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</li><li>• Identify and describe the geographical significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, and time zones (including day and night).</li></ul>

## Enrichment/Outdoor Learning:

<https://www.stem.org.uk/resources/elibrary/resource/35495/our-solar-system-suitable-home-teaching>  
STEM-Our Solar System

<https://www.stem.org.uk/resources/elibrary/resource/33022/sunlight-and-space-travel> STEM- Sunlight and Space Travel

<https://www.stem.org.uk/resources/elibrary/resource/26913/earth-and-space-space-presenters>

<https://www.stem.org.uk/elibrary/resource/30199>

<https://www.stem.org.uk/elibrary/resource/29939> Phases of the Moon

Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.

Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.

## Links to Previous Learning:

Map work- Europe Year 4

Where in the World Topic Year 3

Key Vocabulary: Solar system Planets  
Spherical Movement Rotation Phases Eclipse  
Orbit key physical features, including: beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather

## Cross-curricular links:

Philosophy – Are funds for space exploration better spent on Earth?

Art – Peter Thorpe Space Art, Jackson Pollock

Music – Holst's Planets  
Role play re-enacting movement of the moon relative to the Earth

## Celebration of knowledge and skills gained (opportunities for assessment):

‘Professor Astro Doves’ – ‘space specialists’ sharing learning with parents at Learning Together (or on Dojo)