Year 5 Term 2

How can somewhere you have never been, be so important?

SCIENCE



National Curriculum Links:

Plan different types of scientific enquiry to answer questions, including recognising and controlling variables where necessary.
Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Identify scientific evidence that has been used to support or refute ideas or arguments.
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.

Essential Prior Learning:

Differences between night and day: the sun gives us light during the day and its absence makes it dark at night.
Gravity keeps us on Earth and the planets in place.
The sun, moon and stars exist.
We live on a planet called Earth: there are other planets.
Earth is round.

Progression in Skill:

With increasing independence, ask questions and plan how to answer them.
Recognise when and how secondary sources might help you answer a question that cannot be answered through practical investigations: books, photographs, videos.
Plan different types of scientific enquiries to answer scientific questions: fair tests (including making decisions, with support, about which variables to control or change), comparative tests, observational scientific enquiry, pattern-seeking (investigation over time)
When planning the method, decide: intervals for observation, equipment, how to record observations.
Create a model (solar system).
Choose and use the most appropriate equipment, taking measurements with increasing accuracy and precision: metre rule, tape measures.
Collect, gather and record data and results of increasing complexity using scientific tables.
Identify scientific evidence that has been used to support or refute ideas or arguments.
Use disciplinary writing and scientific vocabulary to answer the enquiry question.
Identify scientific evidence that has been used to refute ideas.
Explore the work of Copernicus (heliocentric universe).
Describe the movement of the Earth, and other plants, 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.
Explain how shadows changing throughout the day proves that the Earth is rotating on its axis.

Long-term Memory Knowledge:

Explain how the Earth and other planets move in the solar system in relation to the sun.
Explain the movement of the moon in relation to the Earth.
Know what shape the sun, Earth and moon are.
Explain day and night, referring to the Earth's rotation; explain why the sun appears to move across the sky.
Know some of the ways in which scienctists have learnt about the solar system.

Key Vocabulary	
rotation	when something turns or spins around a point located at its centre
orbit	repeating path that one object in space takes around another
heliocentric	has the sun at its centre
axis	an imaginary line that runs directly through the centre of Earth: Earth rotates on its axis
position	a comparison of where something is related to another object or its surroundings
Sun	the star at the centre of our solar system
Moon	a large natural object that orbits the Earth or a planet
axis	the centre around which something rotates
spherical	an object shaped like a ball
solar system	a part of space that consists of the sun and everything that orbits or travels around the sun
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune	the eight planets that orbit the sun; the planets in our solar system

Progression in Resources:

Planet models, reference texts

Relevance	
Now	There are planets other than ours; begin to understand the relationship between them; see that our wider environment extends beyond our planet.
Future	Understand why some people explore other planets and the importance of learning more about them; understand that our actions on Earth impact a wider environment than just our planet.
Aspiration	Learn more about space and the planets, possibly considering a career that is related; become involved in the quest to find life on other planets or whether life could be sustained elsewhere.