

PEMBRIDGE CE PRIMARY SCHOOL LEARNING JOURNEY ITINERARY

Pembridge is a school where we encourage everyone to be inspired through faith in God and to live by Christian values so that our teaching and learning is of the highest quality, our whole community flourishes and we reflect all that is worthy of praise.

SUBJECT: Science

YEAR: A

TERM: Autumn 1

YEAR GROUPS: 5/6

KEY QUESTION: *What is a heliocentric view of the Earth?*

PREVIOUS KNOWLEDGE *We would expect most children to already be able to:*

- Have some knowledge of the Earth Sun and Moon being aware that the Earth is a planet and the Sun, a star.
- Know that the Earth is one planet in our solar system.
- Know the length of a day and of a year.

End of Unit Objectives

*Some children will not yet have met what is expected and show they are **emerging** because they can:*

- Explain why a day is 24 hours because that is how long it takes the Earth to rotate once **KQ1**
- Link the rotation of the Earth to the need for time zones **KQ2**
- Carry out an investigation into the position of the Sun and the size and direction of shadows **KQ2**
- With support, make a model of the Solar System to a given scale **KQ3**
- Draw the phases of the Moon and know that the Moon orbits the Earth each month **KQ4**
- Know that it takes the Earth a year to orbit the Sun and that there is a link between this and our seasons **KQ5**

*Most children will show that they have reached the **expected** level because they can:*

- Draw a diagram of the rotation of the Earth and explain precisely how the Earth gets light and dark and identify positions on the Earth where it would be the midday, sunset and midnight **KQ1**
- Understand that time zones are measured from the prime meridian **KQ2**
- Note the position of the Sun with accuracy and relate the Sun to the direction, size and quality of a shadow **KQ2**
- Model the Solar System according to a given scale **KQ3**
- Model the phases of the Moon correctly and explain why we see different 'shapes' of reflected light from the Moon **KQ4**
- Model the Earth's orbit showing how this causes summer and winter and know that the Earth's orbit takes 364 and a quarter days resulting in the need for a Leap Year **KQ5**

*Some children will have gone beyond the expected level and show that they are **exceeding** because they can:*

- Understand terms such as axis and appreciate that the Earth is at an angle of approx. 23 degrees. Understand why a 'day' might be different on other planets **KQ1**
- Work out eg why time zones are jagged **KQ2**
- Suggest what else might be investigated **KQ2**
- Suggest a possible scale for modelling the Solar system **KQ3**
- Visualise the Earth and Moon from a diagram and predict what would be seen from the Earth **KQ4**
- Sort a number of statements into the correct places on a diagram of the Earth's orbit to show a greater understanding of the effect of the Earth's orbit **KQ5**

ASSESSMENT OPPORTUNITIES – What are children aiming for?

Children will be able to demonstrate their learning through:

- Verbal responses during discussion in lessons and further questioning to extend their understanding.
- Diagrams, models and written explanations
- Solving problems eg related to time zones and making logical connections
- Using an investigative approach, taking accurate measurements to collect data and describing and explaining results.

ENRICHMENT OPPORTUNITIES –

What can we give children along the journey to help them remember more?

We will endeavour to include:

- The use of good quality videos and websites to enhance learning
- Opportunities to learn in practical ways

CROSS-CURRICULAR LINKS –

What links can we make to help children make sense of what we want them to know and be able to do?

This itinerary fits with our other learning through:

- Maths - taking measurements, making a line graph, scales
- English - writing a report (a planet)
- Geography - time meridians closely aligned to lines of longitude

LEARNING BEHAVIOURS *Children will be expected to:*

Tries new things

Uses a variety of different sources from which to gather information.

Works hard

Responds to pink marking in order to further understanding.

Concentrates

Completes tasks within the given time frame and remains on task.

Self-motivates

Asks questions based on new learning to extend knowledge and understanding.

Imagines

Visualises eg if the axis of the Earth were to change, what would be the result?

Improves

Re-considers responses based on feedback sometimes aiming for greater precision.

Understands others

Works collaboratively, particularly on practical tasks.

Doesn't give up

Perseveres with challenges that are set.