Will we ever send another human to the moon?

1. What shape are the Sun, Earth and Moon and what did our forefathers think?
2. What can we learn about the solar system and the other planets in it?
3. How does the Earth, and other planets, move relative to sun?
4. Can you explain why we have day and night using a model of the sun and the Earth?
5. Why does night and day occur at different times in different places on earth?
6. Can you describe the movement of the moon relative to the earth?
7. How does the sun help us to tell the time?

We learn the following scientific knowledge and skills:

- Explain the Earth, Sun and Moon as spherical bodies? **(1)**
- Explain how planets are linked to stars? **(1,2,)**
- Identify and explain the movement of the Earth and other planets relative to the Sun? **(3)**
- Explain how seasons and the associated weather are created? **(4,5)**
- Use the idea of rotation to explain how night and day are created and use diagrams to show the apparent movement of the sun across the sky? **(4,5)**
- Compare the time of day at different places on the Earth? **(5)**
- Identify and explain the movement of the Moon relative to the Earth? **(6)**
- Begin to understand how older civilizations used the Sun to create astronomical clocks? (e.g. Stonehenge, Capernicus) **(7)**
- Construct sundials and shadow clocks **(7)**

Hook for Learning:

- Model the solar system outside.

As Talkers can we…?

- Contribute to a discussion about the flat earth theory?
- Reflect on the contributions of different members of the group and consider the effect of each role?

Using Technology can we…?

- Use Scratch to programme an orrery?
- Research, design and make solar system top trumps cards?

As Mathematicians can we…?

- Answer questions using time zone graphs?

As Writers can we…?

- Write a biography for Tim Peake?

Vocabulary

- Earth
- Sun
- moon
- planets
- solar system
- star
- Mercury
- Venus
- Mars
- Jupiter
- Saturn
- Uranus
- astronomical
- lunar
- crescent moon
- gibbous moon
- Neptune
- Pluto
- rotate
- Aristotle
- Ptolemy
- sundial
- eclipse
- orbit
- axis
- spherical
- heliocentric

As Thinkers can we…?

- Appreciate a range of viewpoints, even when different from own.
- Persevere even when the solution is not readily available.
- Recognise that sometimes we need expertise from others to help solve a problem.

Week 1

What shape are the Sun, Earth and Moon and what did our forefathers think?

https://www.bbc.co.uk/bitesize/clips/zd3fb9q and information from PIXL explaining how we know the Earth is spherical.

Research the different views of our forefathers.

Week 2

What can we learn about the solar system and the other planets in it?

https://www.bbc.co.uk/bitesize/topics/zdrrd2p/articles/ztsqj6f Make a poster/model of the planets in the solar system, including key facts about each. Make your own mnemonic to remember the order of the planets from the sun.

Week 3

How does the Earth, and other planets, move relative to the sun?

Draw and label planets and their orbits

Week 4

Can you explain why we have day and night using a model of the sun and the Earth?

Information from PIXL. Use cut outs to model the earth rotating around the sun to show day and night. Watch the video on day and night and write a short paragraph explaining how it works.

Week 5

Why does night and day occur at different times in different places on earth?

Time zone video https://www.bbc.com/bitesize/articles/zjk46v4

Prime meridian map to look at time zones. Research the time zones in different countries.

Week 6

Can you describe the movement of the moon relative to the earth?

Information from PIXL.