

Nova's Cosmic Journey: Earth and Space

Learning objective: To describe the movement of the Earth and other planets relative to the Sun in the solar system, and to understand the Earth's rotation and the Moon's orbit.

Read each question carefully and use your knowledge of the solar system to provide scientific answers. Ensure you use key vocabulary where appropriate.

Nova the owl is looking through her telescope at the night sky. She knows that our Earth is one of eight planets in our solar system, all of which move in their own paths around the Sun.

Word bank: Orbit · Axis · Rotate · Solar System · Spherical · Gravity · Day and Night

1. Nova observes that the Sun appears to move across the sky during the day. Explain why this actually happens due to the movement of the Earth. (2 marks)

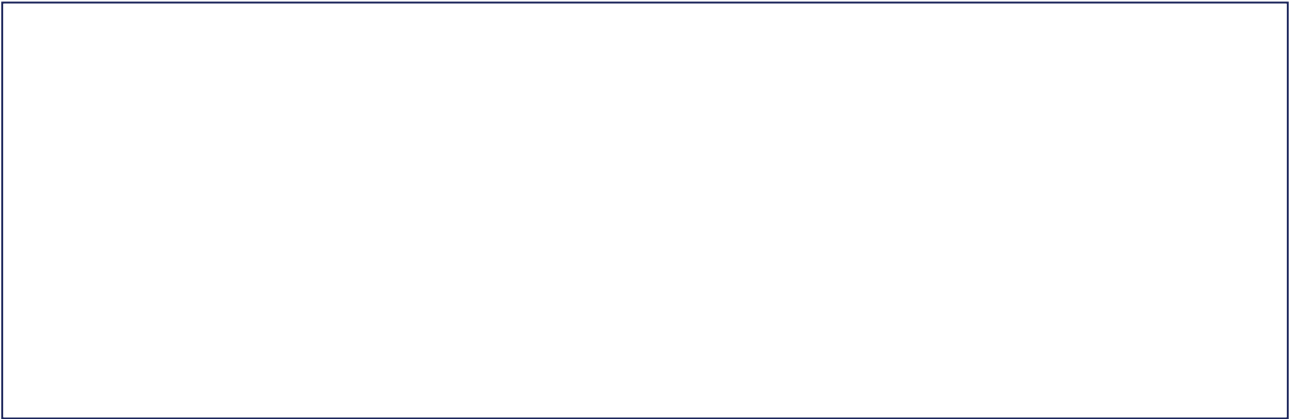
2. How long does it take for the Earth to complete one full rotation on its axis, and what does this movement cause? (2 marks)

3. Describe the shape of the Earth, the Sun, and the Moon. What scientific term do we use to describe this shape? (2 marks)

4. How long does it take for the Earth to complete one full orbit around the Sun? What season-related cycle does this period of time create? (2 marks)

5. Explain the role of gravity in our solar system. How does it affect the relationship between the Earth and the Sun? (2 marks)

Draw: Draw a diagram showing the Earth orbiting the Sun. Label the Earth's axis and draw an arrow to show the direction in which the Earth rotates.



Extension challenge: Research why we have leap years. Write a short paragraph explaining how the Earth's orbit around the Sun is not exactly 365 days, and how this impacts our calendar.