

Nova's Cosmic Journey: Our Solar System

Learning objective: To describe the movement of the Earth and other planets relative to the Sun in the solar system, and to understand the idea of a spherical body.

Use your knowledge of the solar system and the provided word bank to answer the questions below. Nova the owl is counting on you to help map out our neighbourhood in space!

Word bank: Sun · orbit · spherical · gravity · axis · rotation · planets

1. Nova observes that all planets in our solar system are roughly ball-shaped. What is the scientific term used to describe this shape? (1 mark)

2. Explain the difference between the Earth's rotation on its axis and its orbit around the Sun. How long does each process take? (3 marks)

3. Why do the planets stay in a predictable path around the Sun rather than drifting off into deep space? Mention the force involved. (2 marks)

4. If a rocket costs £1,250,000 to build and you have a budget of £5,000,000, how many rockets could you fund for a space mission? Show your working. (2 marks)

5. Why does the Sun appear to move across the sky during the day, even though it is the Earth that is actually moving? (2 marks)

Draw: Draw a diagram showing the Earth orbiting the Sun. Label the Sun, the Earth, the Earth's axis, and draw arrows to show the direction of the orbit.



Extension challenge: Research the 'gas giants' in our solar system. Write a short paragraph explaining why they are different from the 'rocky' planets like Earth and Mars.