

Nova's Solar System Explorer Log

Learning objective: To describe the movement of the Earth and other planets relative to the Sun in the solar system.

Use this template to document your research into the solar system. Imagine you are assisting Nova the owl on her astronomical journey. Use the word bank to help you describe how the planets move and why we have different seasons and day and night cycles.

Word bank: orbit · rotate · axis · spherical · solar system · gravity · day and night · seasons

1. The Sun's Role: Explain why the Sun is central to our solar system and how it influences the planets orbiting it. (2 marks)

2. Earth's Rotation: Describe the movement of the Earth that causes day and night. How long does one full rotation take? (2 marks)

3. Comparing Orbits: Compare and contrast the orbit of Earth with another planet of your choice. How do their orbital periods differ? (3 marks)

4. The Effect of Tilt: Justify your answer: Why is the tilt of the Earth on its axis important for the changing seasons we experience? (3 marks)

5. Deep Thinking: What might happen to life on Earth if the planet stopped rotating on its axis? Explain your reasoning. (4 marks)

6. Scientific Reflection: If you were designing a new planet, what factors would you need to include to ensure it could support life similar to Earth? (4 marks)

Extension challenge: Design a 'Travel Guide' for an alien visiting our solar system. You must justify why they should visit a specific planet, explaining its position relative to the Sun and its unique movement patterns.