Nova’s Solar System Expedition

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

Follow the steps below to illustrate our solar system. Use your scientific knowledge to ensure the planets are placed in the correct sequence from the Sun. Use your labels from the word bank to annotate your drawing clearly.

Draw: Create a diagram of the solar system set against a dark, starry background. Use a scientific, accurate style. Draw the Sun as a large, glowing sphere on the left. Draw eight distinct, elliptical lines (orbits) radiating from the Sun. Place the planets in order: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune along these paths. Include the Asteroid Belt between Mars and Jupiter. Ensure the gas giants are drawn significantly larger than the inner rocky planets to reflect their relative scale.

Label words: Sun · Mercury · Venus · Earth · Mars · Jupiter · Saturn · Uranus · Neptune · Orbit · Asteroid Belt

Steps:

1. Step 1: Draw the Sun on the far left of your page. Step 2: Draw the eight planets in their correct order from the Sun, ensuring you show their circular paths of travel.
2. Label the path that the Earth takes around the Sun. What is the scientific term for this movement?

3. Explain why the inner planets (Mercury, Venus, Earth, Mars) are often called the 'Terrestrial' planets compared to the gas giants further out.

4. Justify your answer: If Nova the owl were to travel from Earth to Neptune, would she experience a longer or shorter 'year'? Explain your reasoning.

5. Compare and contrast the characteristics of the largest planet in our solar system with those of Earth.

6. What might happen to the temperature of Earth if it were located in the position currently occupied by Mercury? Justify your prediction.