

Nova's Celestial Observatory: The Earth, Moon, and Sun

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

Follow the steps below to complete your scientific diagram. Use your best observational drawing skills to ensure the relative positions of the celestial bodies are accurate.

Draw: Draw a large, glowing Sun on the far left of your page. In the centre, draw the Earth tilted on its axis. Draw the smaller Moon positioned to the right of the Earth. Use dashed lines to show the path of the Earth's orbit around the Sun and the Moon's orbit around the Earth. Include a 'night' side (shaded dark) and a 'day' side (bright) on your Earth.



Label words: Sun · Earth · Moon · Orbit · Axis · Rotation · Satellite · Solar System

Steps:

1. Draw an arrow to show the direction of the Earth's rotation. Explain why this movement results in day and night on Earth.
2. Label the Earth's orbit around the Sun. How long does it take for the Earth to complete one full orbit?
3. Why is the Moon described as a natural satellite of the Earth? Justify your answer.

4. Compare and contrast the sizes of the Sun, the Earth, and the Moon. If the Sun were the size of a large beach ball, why must the Earth be drawn significantly smaller?
5. What might happen if the Earth stopped rotating on its axis? Explain the consequences for life on our planet.
6. Explain why we only ever see one side of the Moon from Earth, despite it being in constant motion.