

Nova's Cosmic Quest: Earth and Space Quiz

Learning objective: To describe the movement of the Earth and other planets relative to the Sun in the solar system, and to use the idea of the Earth's rotation to explain day and night.

Join Nova the owl for a flight through the stars! Read each question carefully and select the best answer. Remember to use your scientific knowledge to justify your reasoning.

Answer Key: 1.C, 2.True, 3.Rotation, 4.B, 5.False (The Sun is a star, not a planet), 6.A, 7.True, 8.Axis, 9.C, 10.B. Explanation: Earth completes one full rotation on its axis every 24 hours, causing the cycle of day and night as we face toward or away from the Sun.

Word bank: Axis · Orbit · Rotation · Sphere · Gravity · Solar System · Planet · Star

1. 1. Which of these best describes the shape of the Earth? A) A flat disc B) A perfect cube C) A near-spherical object* D) A jagged rock (1 mark)

2. 2. True or False: It takes approximately 365 days for the Earth to complete one full orbit around the Sun. (1 mark)

3. 3. What is the scientific name for the Earth spinning on its own axis? (1 mark)

4. 4. Why do we experience night-time on Earth? A) The Sun goes out B) Our side of the Earth is facing away from the Sun* C) The Moon blocks the light D) The atmosphere gets cold (1 mark)

5. 5. True or False: The Sun is the largest planet in our solar system. (1 mark)

6. 6. Which force keeps the planets in orbit around the Sun? A) Gravity* B) Magnetism C) Friction D) Air pressure (1 mark)

7. 7. True or False: The Earth is tilted on its axis. (1 mark)

8. 8. What is the invisible line running through the North and South Poles called? (1 mark)

9. 9. How long does it take for the Earth to complete one full rotation? A) 12 hours B) 365 days C) 24 hours* D) One month (1 mark)

10. 10. Which planet is closest to the Sun? A) Mars B) Mercury* C) Venus D) Earth (1 mark)

Draw: Draw a diagram showing the Earth orbiting the Sun. Include arrows to show the direction of the rotation and label the axis.



Extension challenge: Greater Depth Challenges: 1. Explain why the Sun appears to 'rise' in the east and 'set' in the west from our perspective on Earth. 2. Compare and contrast the rotation of the Earth with its orbit; how do they differ in time and movement? 3. If the Earth were not tilted on its axis, what might happen to our seasons? Justify your answer. 4. Why do we only see one side of the Moon from Earth? 5. Research and describe why ancient civilisations believed the Earth was the centre of the universe. 6. Propose a theory: If the Earth stopped rotating suddenly, what would the impact be on life as we know it?