

# IGCSE Year 4 Science

## Topic 7: Earth and Space

### Student Practice Worksheet

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#### Set 1: Multiple Choice

*Choose the single best answer for each question by circling the correct letter.*

1. In which direction does the Earth spin on its axis?
  - A. North to South
  - B. Clockwise
  - C. Anti-clockwise (West to East)
  - D. Up and down
2. What is located at the very center of our Solar System?
  - A. The Earth
  - B. The Moon
  - C. The Milky Way
  - D. The Sun
3. How long does it take for the Earth to make one complete rotation on its axis?
  - A. 12 hours
  - B. 24 hours
  - C. 7 days
  - D. 365 days
4. What do scientists call the imaginary line that runs straight through the center of the Earth from the North Pole to the South Pole?
  - A. The Equator
  - B. The Orbit
  - C. The Axis
  - D. The Horizon
5. Which of the following is considered an "outer planet"?
  - A. Mercury
  - B. Mars
  - C. Earth
  - D. Neptune
6. What is the Sun classified as?
  - A. A star
  - B. A planet
  - C. A comet
  - D. An asteroid

- 7.** What causes a comet to form a beautiful tail of gases?
- A. It crashes into an asteroid
  - B. The ice melts as it gets close to the hot Sun
  - C. It spins very fast
  - D. It hits the Earth's atmosphere
- 8.** Why do we have day and night on Earth?
- A. The Sun turns on and off
  - B. The Sun moves around the Earth
  - C. The Moon blocks the Sun
  - D. The Earth rotates on its own axis
- 9.** What is the name of the galaxy where our Solar System is located?
- A. The Andromeda Galaxy
  - B. The Milky Way
  - C. The Solar Galaxy
  - D. The Universe
- 10.** What is a "moon" in astronomy?
- A. A star that reflects light
  - B. A chunk of ice orbiting the Sun
  - C. A large natural object in orbit around a planet
  - D. An asteroid that hits the ground

## Set 2: True or False

*State whether each statement is True or False, and write your answer on the line provided.*

11. The Sun moves across the sky from east to west because it orbits the Earth. \_\_\_\_\_
12. The Earth's axis is completely straight up and down. \_\_\_\_\_
13. The Sun's gravity keeps all the planets in their orbits. \_\_\_\_\_
14. An orbit is the path an object takes around something else. \_\_\_\_\_
15. Mercury, Venus, Earth, and Mars are the four inner planets. \_\_\_\_\_
16. If it is daytime in your country, your part of the Earth is facing away from the Sun. \_\_\_\_\_
17. The Solar System contains only the Sun and eight planets; there is nothing else in it. \_\_\_\_\_
18. Earth is the only planet in the Solar System located at the right distance from the Sun to have liquid water and support life. \_\_\_\_\_
19. A meteorite is a space rock that has successfully hit the ground. \_\_\_\_\_
20. The Earth's atmosphere prevents the heat of the Sun from completely escaping into space at night. \_\_\_\_\_

### Set 3: Fill in the Blanks

*Fill in the missing scientific word to complete each sentence.*

21. The Earth is shaped roughly like a giant \_\_\_\_\_.
22. The Earth's axis is tilted at an angle of \_\_\_\_\_ degrees.
23. The four planets furthest from the Sun (Jupiter, Saturn, Uranus, and Neptune) are known as the \_\_\_\_\_ planets.
24. As the Earth spins, the Sun seems to rise in the east and \_\_\_\_\_ in the west.
25. The Earth moves around the Sun once a \_\_\_\_\_.
26. The Sun is a huge, hot ball of glowing \_\_\_\_\_ at the center of the Solar System.
27. A planetary system is a group of planetary bodies in orbit around a \_\_\_\_\_.
28. When the Sun seems to sink below the horizon, it creates long \_\_\_\_\_ on the surface of the Earth.
29. A \_\_\_\_\_ is a chunk of ice and rock that orbits the Sun.
30. The entire universe contains billions of \_\_\_\_\_, and ours is called the Milky Way.

## Set 4: Matching Concepts

Match the term on the left with its correct scientific description on the right. Write the correct letter (A-E) on the line next to each term.

### Descriptions Bank:

- A. A rock from space that does not completely burn up and hits the ground.
- B. The star at the center of our Solar System.
- C. A small rocky object that orbits the Sun.
- D. The curved path followed by an object going around the Sun or a planet.
- E. A small object with an icy core that has a tail of gases near the Sun.

31. Comet

\_\_\_\_\_

32. Orbit

\_\_\_\_\_

33. Meteorite

\_\_\_\_\_

34. Sun

\_\_\_\_\_

35. Asteroid

\_\_\_\_\_

## Set 5: Short Answer Questions

*Write a brief scientific explanation for each question on the lines provided.*

**36.** Why did people in the past think the Sun moved around the Earth?

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**37.** Name the four inner planets closest to the Sun.

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**38.** Explain why Earth is the perfect planet to support life.

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**39.** What happens to the gases on a comet when it moves away from the Sun's heat?

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**40.** What invisible force from the Sun keeps all the planets, asteroids, and comets safely in their orbits?

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## Set 6: Scientific Enquiry / Practical Questions

*These questions test your ability to model and investigate scientific concepts.*

- 41.** Safia is making a papier-mâché model of the Earth. To show how the Earth spins, she pushes a wooden stick straight through the center from top to bottom. What does this wooden stick represent?

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- 42.** Safia wants her model to be completely accurate to the real Earth. Should she hold the stick perfectly straight up and down, or tilted? Explain why.

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- 43.** Youssef uses a flashlight to represent the Sun and shines it at Safia's spinning globe. What do the parts of the globe that are in darkness represent?

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- 44.** If you wanted to investigate how shadows change during the day, what observation would you make about a shadow at sunrise versus midday?

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- 45.** Look at a model of the Solar System in a classroom. Why does a physical model fail to show the exact true distances and sizes of planets at the same time?

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## Set 7: Exam-Style Structured Questions

*These questions mimic the exact phrasing and style used in Cambridge Primary Checkpoint past papers.*

**46.** The Earth is a planet that moves in space.

**a)** State the name of the path the Earth takes as it travels around the Sun. (1 mark)

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**b)** State how long it takes for the Earth to complete this journey around the Sun. (1 mark)

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**47.** A planetary system contains many different bodies.

**a)** Name the galaxy that our Solar System is part of. (1 mark)

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**b)** What is the main difference between a planet and the Sun? (1 mark)

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**48.** Chen builds a model of the Earth and the Sun using a ball and a lamp. He spins the ball on an axis.

**a)** Explain how this model shows the cause of day and night. (2 marks)

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**49.** Look at the following space objects: Moon, Asteroid, Comet. Which of these objects is made of ice and rock and forms a tail when it gets close to the Sun? (1 mark)

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**50.** The Earth has an atmosphere. Describe one reason why the atmosphere is important for keeping the Earth warm at night. (2 marks)

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