

Earth, Solar System and Our Environment

Science · Class 4 · Topic-wise Practice Worksheet

TIME 40 minutes	QUESTIONS 15	TOTAL MARKS 21	MAX. SCORE ___ / 21
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Name: _____ Class/Sec: _____ Date: _____

INSTRUCTIONS

- There are **15 questions** in this worksheet. All questions are compulsory.
- Each question has four options (A), (B), (C) and (D). Exactly **one** option is correct.
- Questions 1–12 carry **1 mark** each. Questions 13–15 (Achievers Section) carry **3 marks** each.
- There is no negative marking. Study every diagram and table carefully.

Section A — Scientific Reasoning

Q1–Q8 · 1 mark each

- How many planets are there in our solar system?

(A) Seven

(B) Ten

(C) Nine

(D) Eight
- Mars is often called the _____ planet.

(A) Red

(B) Blue

(C) Green

(D) Golden
- Day and night are caused by the _____ of the earth.

(A) Revolution

(B) Rotation

(C) Tilt

(D) Size
- The seasons are caused by the revolution of the earth together with the _____ of its axis.

(A) Size

(B) Speed

(C) Tilt

(D) Colour
- A solar eclipse takes place when _____.

(A) The earth comes between the sun and the moon

(B) The moon stops rotating

(C) The sun comes between the earth and the moon

(D) The moon comes between the sun and the earth
- Which of the following is a **non-renewable** resource?

(A) Coal

(B) Wind

(C) Sunlight

(D) Flowing water
- Which of these waste materials is **non-biodegradable**?

(A) Vegetable peels

(B) Plastic bag

(C) Paper

(D) Cow dung
- Which gas is present in the largest amount in air?

(A) Oxygen

(B) Carbon dioxide

(C) Nitrogen

(D) Water vapour

9. The diagram shows four phases of the moon as seen from the earth. Which one is the **new moon**?



Fig. 9.1 — Four phases of the moon

- (A) P (B) Q
(C) R (D) S

10. In the table below, which row is **incorrectly** matched?

Row	Body	Description
(A)	Sun	A star
(B)	Jupiter	The largest planet
(C)	Moon	A planet
(D)	Saturn	Has bright rings

Table 10.1 — Bodies in the sky

- (A) Row (A) (B) Row (B)
(C) Row (C) (D) Row (D)
11. An astronaut who weighs 60 kg-wt on the earth would weigh only about 10 kg-wt on the moon. This is because the moon _____.
(A) Has no gravity at all (B) Has no air
(C) Is much colder than the earth (D) Has a much weaker pull of gravity than the earth
12. Planting trees on a bare hillside helps prevent soil erosion mainly because _____.
(A) Tree roots bind the soil and leaves break the force of falling rain (B) Trees look attractive
(C) Trees make the soil heavier (D) Trees stop the wind from blowing

Achievers Section

Q13–Q15 · 3 marks each

13. Consider the following statements.
(i) The moon produces its own light.
(ii) The sun is the nearest star to the earth.
(iii) Deforestation increases the amount of carbon dioxide in the air.
Which of the statements is/are correct?
(A) (i) and (ii) only (B) (ii) and (iii) only
(C) (i) and (iii) only (D) All three
14. Two identical trays of soil are tilted at the same angle. Tray X is bare and tray Y is covered with growing grass. The same amount of water is poured over each. The runoff from X is muddy and from Y almost clear. Which conclusion is best supported?
(A) Grass makes water dirty (B) Plant cover reduces the loss of soil by running water
(C) Bare soil absorbs more water than grass-covered soil (D) The angle of a slope has no effect on erosion

15. Match each practice in Column I with the resource it chiefly helps to conserve, given in Column II.

Column I	Column II
(P) Using a bucket instead of a shower	(1) Forests and trees
(Q) Recycling old newspapers	(2) Fossil fuels
(R) Cycling to school instead of going by car	(3) Water
(S) Making compost from kitchen waste	(4) Soil fertility

Table 15.1

(A) P-3, Q-2, R-1, S-4

(C) P-3, Q-1, R-2, S-4

(B) P-1, Q-3, R-4, S-2

(D) P-4, Q-1, R-2, S-3

Answer Key

1	D	2	A	3	B	4	C	5	D
6	A	7	B	8	C	9	A	10	C
11	D	12	A	13	B	14	B	15	C

Solutions

1. Answer: (D) Eight

There are **eight** planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. Pluto was reclassified as a dwarf planet in 2006.

2. Answer: (A) Red

Mars looks reddish because its surface is covered with soil and rocks rich in iron oxide — the same substance as rust. The earth is called the blue planet.

3. Answer: (B) Rotation

As the earth spins on its axis — its **rotation** — the half facing the sun has day and the half turned away has night. One full spin takes about 24 hours.

4. Answer: (C) Tilt

Because the axis is **tilted**, different parts of the earth lean towards the sun at different points in the year, which gives us summer and winter.

5. Answer: (D) The moon comes between the sun and the earth

In a solar eclipse **the moon comes between the sun and the earth**, so the moon's shadow falls on the earth. When the earth comes in between, it is a lunar eclipse.

6. Answer: (A) Coal

Coal took millions of years to form, so once it is used up it cannot be replaced within our lifetime. Sunlight, wind and flowing water are constantly renewed.

7. Answer: (B) Plastic bag

A **plastic bag** does not rot away — it may lie in the soil for hundreds of years. Vegetable peels, paper and cow dung are all broken down by bacteria and fungi.

8. Answer: (C) Nitrogen

Air is about 78% **nitrogen** and only about 21% oxygen. The remaining 1% or so is carbon dioxide and other gases.

9. Answer: (A) P

P is completely dark, which is the new moon (amavasya). Q is a thin crescent, R is a half moon and S, fully lit, is the full moon. The moon has no light of its own — these shapes show how much of its sunlit half we can see.

10. Answer: (C) Row (C)

The moon is a **satellite**, not a planet — it goes round the earth, whereas planets go round the sun. The other three rows are correct.

11. Answer: (D) Has a much weaker pull of gravity than the earth

The moon is far smaller and lighter, so its gravitational pull is only about one-sixth as strong. Weight is the pull of gravity, so it falls to about $60 \div 6 = 10$. The astronaut's **mass** is unchanged, and the moon does have gravity — it is simply weaker.

12. Answer: (A) Tree roots bind the soil and leaves break the force of falling rain

A network of **roots grips the soil** so that wind and running water cannot carry it away, and the **leaves break the force of falling rain** before it strikes the ground.

13. Answer: (B) (ii) and (iii) only

Statement (i) is false — the moon has no light of its own and merely reflects sunlight. Statement (ii) is true; the sun is about 150 million km away, while the next nearest star is thousands of times further. Statement (iii) is true; trees absorb carbon dioxide, so cutting them down leaves more of it in the air. Hence **(ii) and (iii)**.

14. Answer: (B) Plant cover reduces the loss of soil by running water

The only difference between the trays was the grass, so it must explain the difference in the result. Muddy water means soil is being carried away; clear water means it is staying put. So **plant cover reduces the loss of soil by running water** — which is why hillsides are kept under vegetation.

15. Answer: (C) P-3, Q-1, R-2, S-4

A bucket bath uses far less **water** than a shower (3). Paper is made from wood pulp, so recycling saves **trees** (1). Cycling burns no petrol, saving **fossil fuels** (2). Compost returns nutrients to the soil and reduces the need for chemical fertilisers, conserving **soil fertility** (4). Hence P-3, Q-1, R-2, S-4.