

Full Practice Exam — Set 1

Science · Class 5 · Full Syllabus Practice Exam

TIME 60 minutes	QUESTIONS 50	TOTAL MARKS 60	MAX. SCORE ___ / 60
--------------------	-----------------	-------------------	------------------------

Name: _____ Class/Sec: _____ Date: _____

INSTRUCTIONS

- There are **50 questions** in this paper. All questions are compulsory.
- Each question has four options (A), (B), (C) and (D). Exactly **one** option is correct.
- Questions 1–45 carry **1 mark** each. Questions 46–50 (Achievers Section) carry **3 marks** each.
- There is no negative marking. Use of a calculator is **not** allowed.
- Study every diagram carefully. Rough work may be done at the side of each page.

Section 1 — Logical Reasoning

Q1–Q10 · 1 mark each

- What comes next in the series? 1, 4, 9, 16, 25, ____
 (A) 30 (B) 34
 (C) 36 (D) 49
- Find the **odd one out**: 27, 64, 100, 125
 (A) 27 (B) 64
 (C) 100 (D) 125
- What comes next in the series? AZ, BY, CX, ____
 (A) DV (B) DX
 (C) EW (D) DW
- Study the pattern in the top row. Which of the figures P, Q, R or S should come in place of the question mark?

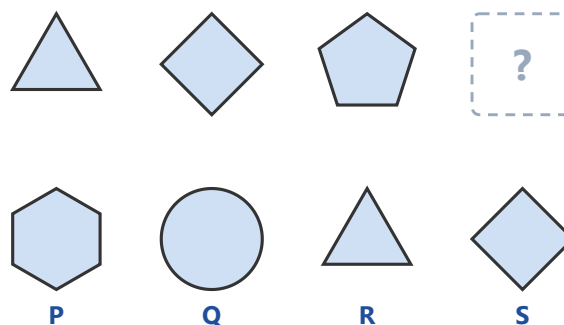


Fig. 4.1 — The number of sides increases by one each time

- (A) P (B) Q
 (C) R (D) S
- In a certain code, FISH is written as 6-9-19-8. How is BIRD written in the same code?
 (A) 2-9-18-4 (B) 2-8-18-4
 (C) 2-9-17-4 (D) 2-9-18-5

6. Pointing to a man, Ravi said, 'He is the son of my mother's only son.' How is the man related to Ravi?
- (A) Brother (B) Father
(C) Nephew (D) Son
7. In a queue, Anu is 9th from the front and 16th from the back. How many people are in the queue?
- (A) 23 (B) 24
(C) 25 (D) 26
8. A man walks 3 km due north, then turns right and walks 4 km. How far is he from his starting point?
- (A) 5 km (B) 1 km
(C) 7 km (D) 12 km
9. How many **triangles** of any size are there in the figure below?

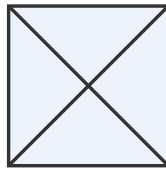


Fig. 9.1 — A square with both diagonals drawn

- (A) 4 (B) 6
(C) 8 (D) 10
10. If 15 August 2026 is a Saturday, what day of the week will 15 September 2026 be?
- (A) Monday (B) Thursday
(C) Wednesday (D) Tuesday

Section 2 — Science

Q11–Q45 · 1 mark each

11. Which of these is an egg-laying mammal?
- (A) Platypus (B) Bat
(C) Kangaroo (D) Dolphin
12. A tadpole breathes through gills, but an adult frog breathes through _____.
(A) Gills only (B) Its tail
(C) Spiracles (D) Lungs and moist skin
13. A stick insect looks almost exactly like a twig. This adaptation is called _____.
(A) Camouflage (B) Hibernation
(C) Migration (D) Metamorphosis
14. The seasonal journey of birds to escape harsh weather and find food is called _____.
(A) Hibernation (B) Migration
(C) Aestivation (D) Camouflage
15. During photosynthesis, a leaf takes in _____ and gives out _____.
(A) Oxygen; carbon dioxide (B) Nitrogen; oxygen
(C) Carbon dioxide; oxygen (D) Carbon dioxide; nitrogen
16. The tiny pores on a leaf through which gases move in and out are called _____.
(A) Buds (B) Veins
(C) Midribs (D) Stomata

17. After fertilisation, which part of a flower ripens into the fruit?
- (A) Ovary (B) Sepal
(C) Petal (D) Stigma
18. The pitcher plant traps insects because the soil it grows in lacks _____.
(A) Water (B) Nitrogen
(C) Sunlight (D) Carbon dioxide
19. The longest and strongest bone in the human body is the _____.
(A) Backbone (B) Rib
(C) Thigh bone (D) Collar bone
20. The rib cage mainly protects the _____.
(A) Brain (B) Stomach only
(C) Kidneys (D) Heart and lungs
21. Which component of blood carries oxygen around the body?
(A) Red blood cells (B) White blood cells
(C) Platelets (D) Plasma only
22. Which of these is an **involuntary** action?
(A) Writing with a pen (B) The beating of the heart
(C) Kicking a ball (D) Climbing stairs
23. Bleeding gums and slow healing of wounds are caused by a deficiency of _____.
(A) Vitamin A (B) Vitamin D
(C) Vitamin C (D) Iron
24. Which of these is the best source of **roughage**?
(A) Butter (B) Sugar
(C) Boiled egg (D) Whole wheat chapati
25. A meal of rice, chapati and boiled potato is **not** balanced because it lacks _____.
(A) Protein, vitamins and minerals (B) Energy
(C) Carbohydrates (D) Water
26. The boxes below show how particles are arranged in three samples of matter. Which box represents a **gas**?

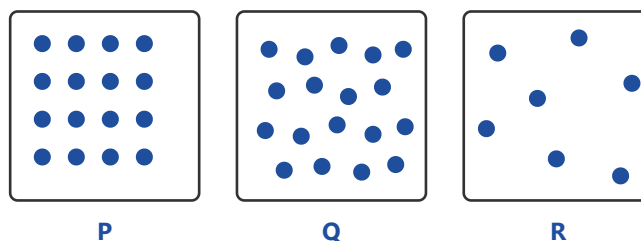


Fig. 26.1 — Arrangement of particles in three samples

- (A) P (B) Q
(C) R (D) Both P and Q
27. Tiny drops of water appear on the outside of a glass of cold lemonade. This happens because _____.
(A) Water leaks out through the glass (B) Water vapour in the air condenses on the cold surface
(C) The lemonade evaporates through the glass (D) The glass melts slightly

28. Which method would you use to separate sand from a mixture of sand and water?

- (A) Evaporation
- (B) Winnowing
- (C) Filtration
- (D) Using a magnet

29. Ice floats on water because ice is _____ than the same volume of water.

- (A) Heavier
- (B) Harder
- (C) Colder
- (D) Lighter

30. Two children sit on a see-saw as shown. What will happen?

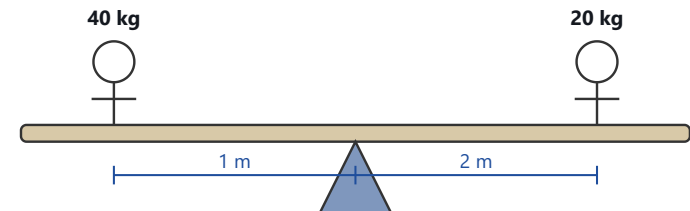


Fig. 30.1 — Two children on a see-saw

- (A) It will stay balanced
- (B) The 20 kg side will go down
- (C) The 40 kg side will go down
- (D) It will spin round the fulcrum

31. A ball rolls further on a smooth marble floor than on a carpet because the marble floor has _____.

- (A) More friction
- (B) Less friction
- (C) More gravity
- (D) Less gravity

32. Ravi pushes hard against a heavy wall for five minutes, but the wall does not move. How much work has he done, scientifically?

- (A) A very large amount
- (B) No work at all
- (C) Half the usual work
- (D) It cannot be decided

33. When an electric fan is switched on, the main energy change is _____.

- (A) Electrical to light
- (B) Heat to electrical
- (C) Electrical to mechanical
- (D) Chemical to sound

34. A shadow is formed because light _____.

- (A) Bends around objects
- (B) Changes colour
- (C) Is absorbed by air
- (D) Travels in straight lines and is blocked by an opaque object

35. A wall clock held before a plane mirror shows 3 o'clock in the mirror. What is the actual time?

- (A) 9 o'clock
- (B) 6 o'clock
- (C) 3 o'clock
- (D) 12 o'clock

36. A sound heard again after being reflected from a distant hill is called a/an _____.

- (A) Vibration
- (B) Echo
- (C) Noise
- (D) Pitch

37. A steel spoon left in hot tea soon becomes hot at the handle. The heat travels by _____.

- (A) Radiation
- (B) Convection
- (C) Conduction
- (D) Reflection

38. Which gas is present in the largest amount in air?
- (A) Oxygen (B) Water vapour
(C) Carbon dioxide (D) Nitrogen
39. Which of these wastes is **non-biodegradable**?
- (A) Plastic carry bag (B) Vegetable peels
(C) Paper (D) Cow dung
40. The three R's that help protect the environment are _____.
(A) Read, Write, Repeat (B) Reduce, Reuse, Recycle
(C) Rain, River, Rock (D) Remove, Replace, Rebuild
41. A solar eclipse takes place when _____.
(A) The earth comes between the sun and the moon (B) The sun comes between the earth and the moon
(C) The moon comes between the sun and the earth (D) The moon stops rotating
42. Mars is often called the red planet because its surface is rich in _____.
(A) Copper (B) Water
(C) Ice (D) Iron oxide
43. We always see the same side of the moon from the earth because the moon _____.
(A) Takes the same time to rotate once as to go once round the earth (B) Does not rotate at all
(C) Is much smaller than the earth (D) Has no light of its own
44. The all-in-one emergency helpline number in India is _____.
(A) 100 (B) 112
(C) 911 (D) 999
45. A girl spills hot tea on her hand. What is the best first aid?
(A) Rub ice directly on the burn (B) Hold the burnt part under cool running water for about 10 minutes
(C) Apply toothpaste to the burn (D) Cover it tightly with plastic

Achievers Section

Q46–Q50 · 3 marks each

46. Consider the following statements.
(i) All animals that live in water breathe through gills.
(ii) Photosynthesis stops at night but respiration continues.
(iii) A shadow is always dark, whatever the colour of the object.
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
47. 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 and the run-off collected. The water from X is muddy and from Y almost clear. Which conclusion is best supported?
- (A) Grass makes water dirty (B) Bare soil absorbs more water than grass-covered soil
(C) Plant cover reduces the loss of soil by running water (D) The angle of a slope has no effect on erosion

48. A boy sees a flash of lightning and hears the thunder **3 seconds** later. Taking the speed of sound in air as 330 m/s, roughly how far away was the lightning?
- (A) 110 m (B) 330 m
(C) 3,300 m (D) 990 m
49. In a pond the food chain is **algae** → **small fish** → **big fish** → **kingfisher**. Fertiliser washes into the pond and the algae grow enormously. What is the most likely **immediate** effect?
- (A) The number of small fish will rise, as they have more food (B) The number of small fish will fall at once
(C) The kingfishers will start eating algae (D) The big fish will begin to make their own food
50. Match each item in Column I with the correct description in Column II.

Column I	Column II
(P) Spoon feels hot in tea	(1) Reflection of light
(Q) Image seen in a mirror	(2) Conduction of heat
(R) Spoon looks bent in water	(3) Light travels in straight lines
(S) Shadow behind a tree	(4) Refraction of light

Table 50.1

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

Answer Key

1	C	2	C	3	D	4	A	5	A
6	D	7	B	8	A	9	C	10	D
11	A	12	D	13	A	14	B	15	C
16	D	17	A	18	B	19	C	20	D
21	A	22	B	23	C	24	D	25	A
26	C	27	B	28	C	29	D	30	A
31	B	32	B	33	C	34	D	35	A
36	B	37	C	38	D	39	A	40	B
41	C	42	D	43	A	44	B	45	B
46	B	47	C	48	D	49	A	50	B

Solutions

1. Answer: (C) 36

Each number is a whole number multiplied by itself: 1×1 , 2×2 , 3×3 , 4×4 , 5×5 .

The next is $6 \times 6 = \mathbf{36}$.

2. Answer: (C) 100

$27 = 3 \times 3 \times 3$, $64 = 4 \times 4 \times 4$ and $125 = 5 \times 5 \times 5$ — each is a number multiplied by itself three times. **100** is not, so it is the odd one out.

3. Answer: (D) DW

The first letter moves forward — A, B, C, **D** — while the second moves backward from the end — Z, Y, X, **W**.

So the next pair is **DW**.

4. Answer: (A) P

The figures have 3 sides, then 4, then 5 — one more each time. The next figure must have **6 sides**, which is the hexagon, figure **P**.

5. Answer: (A) 2-9-18-4

Each letter is replaced by its position in the alphabet: F = 6, I = 9, S = 19, H = 8.

So B = 2, I = 9, R = 18 and D = 4, giving **2-9-18-4**.

6. Answer: (D) Son

Ravi's mother's **only son** must be Ravi himself. So the man is the son of Ravi — that is, Ravi's **son**.

7. Answer: (B) 24

Anu is counted in both positions, so she must not be counted twice.

Total = $9 + 16 - 1 = \mathbf{24}$ people.

8. Answer: (A) 5 km

Turning right from north means he now walks east, so his two paths are at right angles and form a right-angled triangle.

Distance = $\sqrt{3^2 + 4^2} = \sqrt{9 + 16} = \sqrt{25} = \mathbf{5 \text{ km}}$.

9. Answer: (C) 8

The two diagonals cut the square into **4 small triangles**. Each pair of neighbouring small triangles also makes a **larger triangle** along one side, and there are 4 of those.

$4 + 4 = \mathbf{8}$ triangles in all.

10. Answer: (D) Tuesday

August has 31 days, so 15 September is 31 days after 15 August.

Every 7 days brings the same weekday round again, and $31 = 7 \times 4 + 3$, so we move on 3 days.

Saturday + 3 days = **Tuesday**.

11. Answer: (A) Platypus

Almost all mammals give birth to live young, but the **platypus** and the spiny anteater lay eggs. They are still mammals because they have hair and feed their young on milk.

12. Answer: (D) Lungs and moist skin

During metamorphosis the tadpole loses its gills and tail. The adult frog breathes through **lungs and its moist skin**, which is why it must stay damp.

13. Answer: (A) Camouflage

Camouflage means blending in with the surroundings. It helps the insect hide from predators, and helps predators creep up on prey unnoticed.

14. Answer: (B) Migration

Migration is a long seasonal journey. The Siberian crane, for example, flies to India every winter and returns when the weather improves.

15. Answer: (C) Carbon dioxide; oxygen

Photosynthesis is: carbon dioxide + water → food + oxygen, in sunlight using chlorophyll. So the leaf takes in **carbon dioxide** and gives out **oxygen** — the reverse of breathing.

16. Answer: (D) Stomata

Stomata are tiny openings, mostly on the underside of a leaf. Carbon dioxide enters and oxygen and water vapour leave through them.

17. Answer: (A) Ovary

The **ovary** swells and ripens into the fruit, while the ovules inside it become the seeds. Petals and sepals usually dry up and fall off.

18. Answer: (B) Nitrogen

Pitcher plants grow in marshy soil poor in **nitrogen**. They still make their own food by photosynthesis, but digest insects to get the nitrogen they need.

19. Answer: (C) Thigh bone

The **thigh bone**, or femur, is the longest and strongest single bone. It carries the whole weight of the body while walking and running.

20. Answer: (D) Heart and lungs

The ribs curve from the backbone to the breastbone, forming a cage around the chest that shields the **heart and lungs** and helps in breathing.

21. Answer: (A) Red blood cells

Red blood cells contain haemoglobin, a red pigment that picks up oxygen in the lungs and releases it wherever the body needs it.

22. Answer: (B) The beating of the heart

An involuntary action happens without our deciding it and continues even during sleep. **The beating of the heart** is one, and so are breathing and digestion.

23. Answer: (C) Vitamin C

A shortage of **vitamin C** causes scurvy, whose signs are swollen bleeding gums, loose teeth and wounds that heal slowly. Citrus fruits, amla and guava are rich sources.

24. Answer: (D) Whole wheat chapati

Roughage comes from the tough fibrous parts of plants. A **whole wheat chapati** keeps the bran of the grain, so it is rich in fibre. Butter, sugar and eggs contain none.

25. Answer: (A) Protein, vitamins and minerals

Rice, chapati and potato are all carbohydrate-rich, so the meal has plenty of energy but almost no **protein, vitamins or minerals**. Adding dal and a green vegetable would balance it.

26. Answer: (C) R

In box **R** the particles are few and far apart, scattered all over the container — that is how the particles of a gas are arranged. P shows the tightly packed regular pattern of a solid and Q the closely spaced but irregular pattern of a liquid.

27. Answer: (B) Water vapour in the air condenses on the cold surface

The air always holds invisible water vapour. When it touches the cold glass it loses heat and turns back into liquid drops — **condensation**, the same process that forms dew and clouds.

28. Answer: (C) Filtration

Sand does not dissolve, so its grains are held back on the filter paper while the water passes through. That is **filtration**. Salt, being soluble, would pass straight through.

29. Answer: (D) Lighter

Water expands when it freezes, so the same mass of ice takes up more space and is **lighter** for its volume — that is, less dense. This is why fish can survive under a frozen pond.

30. Answer: (A) It will stay balanced

A see-saw balances when weight $\times$ distance from the fulcrum is equal on both sides.

Left: $40 \times 1 = 40$. Right: $20 \times 2 = 40$.

The two turning effects are equal, so **it stays balanced** — sitting further out makes up for being lighter.

31. Answer: (B) Less friction

Friction is greater between rough surfaces. A smooth marble floor produces **less friction**, so it takes away the ball's energy of motion more slowly and the ball travels further.

32. Answer: (B) No work at all

Work = force $\times$ distance moved. The wall moved no distance, so the work done on it is zero — **no work at all**, however tired Ravi feels. His muscles do use energy, but that is a different thing.

33. Answer: (C) Electrical to mechanical

The motor converts **electrical energy into the mechanical energy** of the spinning blades. A little becomes heat and sound, but that is not the main change.

34. Answer: (D) Travels in straight lines and is blocked by an opaque object

Light **travels in straight lines**, so it cannot bend round an opaque object. The region behind the object that receives no light appears as a dark shadow.

35. Answer: (A) 9 o'clock

A plane mirror reverses left and right, which is lateral inversion. Reading a mirror clock is the same as subtracting from 12: $12 - 3 = 9$ **o'clock**.

36. Answer: (B) Echo

An **echo** is a sound heard a second time after reflecting off a large hard surface. The delay is the time the sound takes to travel there and back.

37. Answer: (C) Conduction

Conduction is the passing of heat through a solid from its hotter part to its cooler part. Steel is a good conductor, so heat travels quickly up the handle; a wooden spoon would stay cool.

38. Answer: (D) Nitrogen

Air is about 78% **nitrogen** and only about 21% oxygen. Carbon dioxide, water vapour and other gases make up the remaining 1% or so.

39. Answer: (A) Plastic carry bag

Biodegradable waste is broken down by bacteria and fungi within weeks or months. A **plastic carry bag** does not rot and may lie in the soil for hundreds of years.

40. Answer: (B) Reduce, Reuse, Recycle

Reduce means using less in the first place, **reuse** means using an item again, and **recycle** means turning waste into new products. Reducing is the most effective, because the waste is never made at all.

41. Answer: (C) The moon comes between the sun and the earth

In a solar eclipse **the moon passes 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 instead.

42. Answer: (D) Iron oxide

Mars looks reddish because its soil and rocks are rich in **iron oxide** — the same substance as rust. The earth, by contrast, is called the blue planet because of its oceans.

43. Answer: (A) Takes the same time to rotate once as to go once round the earth

The moon **takes the same time to spin once on its axis as it takes to travel once round the earth** — about 27 days. Because the two periods match, the same face is always turned towards us.

44. Answer: (B) 112

112 is the single national emergency number in India, connecting to the police, fire service and ambulance. 100, 101 and 102/108 also still work.

45. Answer: (B) Hold the burnt part under cool running water for about 10 minutes

Cool running water carries the heat away, limits the damage and eases the pain. Ice applied directly can damage the skin further, and home remedies trap the heat and risk infection.

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

Statement (i) is false — whales, dolphins and turtles live in water but breathe air with lungs. Statement (ii) is true; photosynthesis needs sunlight, while respiration never stops. Statement (iii) is true; a shadow is simply a region where light is absent, so it has no colour of its own. Hence **(ii) and (iii)**.

47. Answer: (C) Plant cover reduces the loss of soil by running water

The grass cover is the only difference between the two trays, so it must explain the difference in the result. Muddy water means soil is being washed away; clear water means it is staying put. So **plant cover reduces the loss of soil by running water** — the roots bind the soil and the leaves break the force of the falling water.

48. Answer: (D) 990 m

Light reaches the boy almost instantly, so the 3-second gap is the time taken by the sound alone.

Distance = speed × time = $330 \times 3 = 990 \text{ m}$, roughly one kilometre. This is the basis of the rule that every 3 seconds between flash and thunder means about a kilometre.

49. Answer: (A) The number of small fish will rise, as they have more food

Small fish feed directly on the algae, so more algae means more food and **their number rises first**. Only later, as the extra algae die and rot, does the pond lose its dissolved oxygen and the fish suffer. A kingfisher cannot digest algae, and no animal can make its own food.

50. Answer: (B) P-2, Q-1, R-4, S-3

A spoon heats up by **conduction** through the solid metal (2). A mirror image is formed by **reflection** (1). A spoon looks bent because light changes direction on passing from water into air — **refraction** (4). A shadow forms because **light travels in straight lines** and cannot bend round the tree (3). Hence P-2, Q-1, R-4, S-3.