



PRACTICE TEST · CLASSES 6 TO 8

Science Olympiad Practice Test for Classes 6 to 8

Twenty-five questions in the three sections of the SOF Science Olympiad (ISO, called NSO until 2026), at Class 6 to 8 level: logical reasoning, physics, chemistry and biology, and the achievers section.

Science Olympiad

01 Before you start

Time – 30 minutes, with a clock in view

Marks – 1 mark for each question in Sections 1 and 2 and 3 marks in the Achievers section: 33 marks in all

Wrong answers – no marks are taken off, so answer every question

The real paper – the SOF ISO for Classes 5 to 12 has 50 questions for 60 marks in 60 minutes

02 Logical reasoning

1 mark each

- 1 Find the next number: 1, 1, 2, 3, 5, 8, ____
(A) 11 (B) 12 (C) 15 (D) 13
- 2 Find the odd one out.
(A) Mercury (B) Moon (C) Venus (D) Mars
- 3 If BRAIN is written as CSBJO, how is HEART written?
(A) IFBSU (B) GDZQS (C) IFBTU (D) HFBSU
- 4 A cube painted red on every face is cut into 27 equal small cubes. How many small cubes have exactly two red faces?
(A) 8 (B) 6 (C) 12 (D) 1
- 5 All metals conduct electricity. Copper is a metal. So:
(A) all conductors are metals
(B) copper is magnetic
(C) nothing can be concluded
(D) copper conducts electricity

03 Science

1 mark each

- 6 Which part of a cell controls its activities?
(A) Cell wall (B) Nucleus
(C) Cytoplasm (D) Vacuole

- 7 The chemical formula of common salt is:
(A) NaCl (B) KCl (C) Na₂CO₃ (D) NaOH
- 8 The SI unit of force is the:
(A) joule (B) watt (C) newton (D) pascal
- 9 Which of these is a chemical change?
(A) Melting ice (B) Dissolving sugar
(C) Breaking glass (D) Rusting iron
- 10 A neutral solution has a pH of:
(A) 7 (B) 0 (C) 10 (D) 14
- 11 Which blood cells fight infection?
(A) Red blood cells (B) White blood cells
(C) Platelets (D) Plasma
- 12 Sound cannot travel through:
(A) water (B) steel
(C) a vacuum (D) air
- 13 Which gas is given out during photosynthesis?
(A) Carbon dioxide (B) Nitrogen
(C) Methane (D) Oxygen
- 14 Which of these uses a concave mirror?
(A) A shaving mirror (B) A car's rear-view mirror
(C) A periscope (D) A dressing-table mirror
- 15 Which of these is a fossil fuel?
(A) Wood (B) Coal
(C) Biogas (D) Hydrogen
- 16 Which disease is caused by a virus?
(A) Typhoid (B) Cholera
(C) Chickenpox (D) Malaria

17 An object moves at 20 m/s. How far does it travel in 15 seconds?

- (A) 35 m (B) 150 m (C) 0.75 m (D) 300 m

18 Which part of the eye controls how much light enters it?

- (A) Iris (B) Retina (C) Lens (D) Cornea

19 Which of these is a mixture?

- (A) Water (B) Air (C) Salt (D) Oxygen

20 Liquid water slowly turning into vapour below its boiling point is called:

- (A) condensation (B) sublimation
(C) evaporation (D) boiling

21 Which organ makes insulin?

- (A) Liver (B) Stomach
(C) Kidney (D) Pancreas

04 Achievers section

3 marks each

22 Two identical bulbs are joined in series to a cell. If one bulb fuses, the other bulb:

- (A) goes off (B) glows brighter
(C) glows the same (D) glows dimmer

23 A ball is thrown straight up. At its highest point, its speed is:

- (A) the greatest (B) zero
(C) the same as at the start (D) half the starting speed

24 Why are the handles of cooking pans often made of plastic or wood?

- (A) They are cheaper
(B) They are good conductors of heat
(C) They are poor conductors of heat
(D) They are magnetic

25 When a candle burns, the change is:

- (A) only physical
(B) only chemical
(C) neither physical nor chemical
(D) both physical and chemical

Answers and explanations

- 1 **D** Each number is the sum of the two before it: $5 + 8 = 13$.
- 2 **B** Mercury, Venus and Mars are planets; the Moon is a satellite of the Earth.
- 3 **A** Each letter moves one step forward: $H \rightarrow I$, $E \rightarrow F$, $A \rightarrow B$, $R \rightarrow S$, $T \rightarrow U$.
- 4 **C** They are the middle cubes of the 12 edges. (8 corner cubes have three red faces.)
- 5 **D** Copper belongs to the group of metals, and every metal conducts electricity.
- 6 **B** The nucleus holds the genetic material and controls the cell.
- 7 **A** Common salt is sodium chloride. Na_2CO_3 is washing soda and NaOH is caustic soda.
- 8 **C** Force is measured in newtons. The joule is energy, the watt power and the pascal pressure.
- 9 **D** Rust is a new substance (iron oxide). The others change only the form or state.
- 10 **A** pH 7 is neutral; below 7 is acidic and above 7 is basic.
- 11 **B** White blood cells fight germs. Red cells carry oxygen and platelets help blood clot.
- 12 **C** Sound needs a medium to travel through, so it cannot cross a vacuum.
- 13 **D** Plants take in carbon dioxide and give out oxygen.
- 14 **A** A concave mirror gives a large image when you are close to it. Rear-view mirrors are convex; the others are plane mirrors.
- 15 **B** Coal formed over millions of years from buried plants.
- 16 **C** Typhoid and cholera are caused by bacteria, malaria by a protozoan, and chickenpox by a virus.
- 17 **D** Distance = speed $\times$ time = $20 \times 15 = 300$ m.
- 18 **A** The iris changes the size of the pupil.
- 19 **B** Air is a mixture of gases. Water and salt are compounds; oxygen is an element.
- 20 **C** Evaporation happens at the surface at any temperature; boiling happens throughout the liquid at the boiling point.
- 21 **D** The pancreas makes insulin, which controls the sugar in the blood.
- 22 **A** In series there is only one path for the current, so a broken bulb breaks the whole circuit.
- 23 **B** Gravity slows the ball until it stops for an instant at the top, then it falls.
- 24 **C** Plastic and wood are poor conductors of heat, so the handle stays cool enough to hold.
- 25 **D** The wax melts (a physical change) and the wax vapour burns to new substances (a chemical change).

How to use this test

- 1 For every wrong answer, find the chapter in your science book and read it again.
- 2 Learn units and formulas: speed, force, pressure, density.
- 3 Achievers questions mix two ideas: say what each one tells you before you answer.

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