

Class 4 | Science Olympiad

Instructions: Each question has one correct answer. Choose the best option (A/B/C/D). Answer key is provided at the end. This paper is for practice only — not an official exam paper. Recommended time: **45 minutes**.

Q1. Cells were first observed by which scientist?

A. Charles Darwin

B. Robert Hooke

C. Isaac Newton

D. Louis Pasteur

Q2. The process by which plants lose water through leaves is called:

A. photosynthesis

B. respiration

C. transpiration

D. germination

Q3. Which type of wave does NOT need a medium to travel?

A. sound waves

B. water waves

C. seismic waves

D. light (electromagnetic) waves

Q4. The chemical formula for water is:

A. CO₂

B. H₂O

C. NaCl

D. O₂

Q5. Which of these is an example of KINETIC energy?

A. a book on a shelf

B. water stored in a dam

C. a stretched rubber band

D. a moving train

Q6. The pH of pure water is:

A. 0

B. 5

C. 7

D. 14

Q7. Which blood vessel carries blood AWAY from the heart?

A. vein

B. capillary

C. artery

D. lymph vessel

Q8. The tilt of Earth's axis causes:

A. day and night

B. the seasons

C. ocean tides

D. eclipses

Q9. What is the correct order of the electromagnetic spectrum from lowest to highest frequency?

A. gamma, X-ray, UV, visible, IR, microwave, radio

B. radio, microwave, IR, visible, UV, X-ray, gamma

C. radio, visible, UV, microwave, IR, X-ray, gamma

D. visible, radio, microwave, UV, IR, X-ray, gamma

Q10. The process of breaking down food to release energy is called:

A. photosynthesis

B. transpiration

C. fermentation

D. cellular respiration

Q11. An acid has a pH:

A. equal to 7

B. less than 7

C. greater than 7

D. equal to 14

Q12. Newton's First Law of Motion states that an object at rest:

A. gradually slows down on its own

B. remains at rest unless acted on by a force

C. accelerates if no force acts on it

D. changes direction without any force

Q13. The symbol for the element iron is:

A. Ir

B. In

C. Fe

D. Fo

Q14. Which part of the eye contains light-sensitive cells?

A. cornea

B. iris

C. lens

D. retina

Q15. A solution that turns litmus paper BLUE is:

A. acidic

B. neutral

C. alkaline (basic)

D. a salt solution

Q16. Which gas is produced when an acid reacts with a metal carbonate?

A. oxygen

B. hydrogen

C. carbon dioxide

D. nitrogen

Q17. The Moon takes approximately ___ to complete one orbit of Earth.

A. 1 day

B. 7 days

C. 28 days

D. 365 days

Q18. Which of these animals undergoes COMPLETE metamorphosis?

A. grasshopper

B. cockroach

C. butterfly

D. locust

Q19. The basic unit of heredity is the:

A. cell

B. chromosome

C. nucleus

D. gene

Q20. Sound travels FASTEST through:

A. vacuum

B. air

C. water

D. steel

Q21. Which planet has the MOST moons in our solar system?

A. Jupiter

B. Saturn

C. Uranus

D. Neptune

Q22. Photosynthesis produces glucose AND:

A. carbon dioxide

B. nitrogen

C. oxygen

D. water vapour only

Q23. Which of these is a NON-CONTACT force?

A. friction

B. tension

C. gravitational force

D. applied force

Q24. The ozone layer protects Earth by absorbing:

A. infrared radiation

B. ultraviolet (UV) radiation

C. radio waves

D. visible light

Q25. Which organ produces bile to help digest fats?

A. pancreas

B. kidney

C. stomach

D. liver

Q26. The chemical symbol for gold is:

A. Go

B. Gd

C. Ag

D. Au

Q27. Convection currents occur in:

A. solids only

B. liquids and gases

C. vacuum

D. metals only

Q28. Which type of tissue carries electrical signals in the body?

A. muscle tissue

B. connective tissue

C. nerve tissue

D. epithelial tissue

Q29. The half-life of a radioactive element is the time it takes to:

A. become completely stable

B. double its mass

C. decay to half its original amount

D. split into two elements

Q30. Which of these is an example of a chemical change?

A. dissolving sugar in water

B. cutting metal into pieces

C. boiling water

D. cooking an egg

Q31. The Milky Way is classified as a:

A. star

B. planet

C. galaxy

D. nebula

Q32. Which type of energy is stored in food?

A. kinetic energy

B. chemical energy

C. nuclear energy

D. electrical energy

Q33. What is the function of red blood cells?

A. fight infections

B. help in blood clotting

C. carry oxygen around the body

D. produce antibodies

Q34. Atoms of the same element with different numbers of neutrons are called:

A. ions

B. isotopes

C. allotropes

D. compounds

Q35. Which of the following illustrates Newton's Third Law?

A. a car decelerating when brakes are applied

B. a rocket moving forward as gas is expelled backward

C. a ball falling due to gravity

D. friction slowing a sliding block

Q36. The function of stomata in plants is to:

A. absorb water from the soil

B. transport glucose

C. allow gas exchange and transpiration

D. anchor the plant

Q37. Which element is the MOST abundant in Earth's crust?

A. iron

B. silicon

C. oxygen

D. aluminium

Q38. A convex mirror produces an image that is:

A. real and inverted

B. virtual, upright, and magnified

C. virtual, upright, and diminished

D. real and upright

Q39. During aerobic respiration, glucose reacts with oxygen to produce:

A. glucose and water

B. carbon dioxide, water, and energy

C. oxygen and glucose

D. nitrogen and carbon dioxide

Q40. Which law states that pressure and volume of a gas are inversely proportional (at constant temperature)?

A. Charles's Law

B. Avogadro's Law

C. Dalton's Law

D. Boyle's Law

Answer Key

Q1: B Q2: C Q3: D Q4: B Q5: D Q6: C Q7: C Q8: B Q9: B Q10: D
Q11: B Q12: B Q13: C Q14: D Q15: C Q16: C Q17: C Q18: C Q19: D
Q20: D Q21: B Q22: C Q23: C Q24: B Q25: D Q26: D Q27: B Q28: C
Q29: C Q30: D Q31: C Q32: B Q33: C Q34: B Q35: B Q36: C Q37: C
Q38: C Q39: B Q40: D