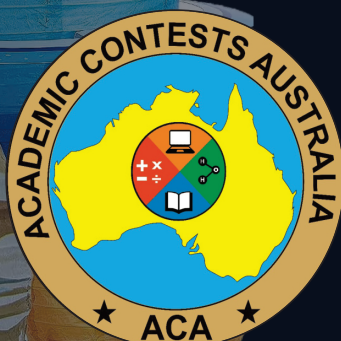




# QUESTION BOOKLET 2025



International  
**FSP**



# Science Contest Volume-19



**GRADE 7 & 8**

**VIBRANT YOUNGSTERS**

Time Allowed : 90 Minutes  
Maximum Marks : 90

**WRITTEN DIRECTIONS FOR THE CONTEST**

- 1) Wait till the invigilator gives the all-clear before beginning the contest.
- 2) Examine your name, father's name, school name, address, and other details one last time on the bubble sheet and answer page.
- 3) Only record your responses on the bubble sheet. Choose the best response from the four alternatives provided, and only one option should be marked per question.
- 4) Fill in the circles on the bubble sheet with blue or black ink; lead pencils are not permitted.
- 5) It is completely forbidden to use any kind of assistance, including cell phones and technological devices.
- 6) Three points are awarded for each right response. Negative marking would occur. A single point would be subtracted for each wrong response.
- 7) No justification may be given for an unaccompanied candidate to leave the examination room, including to use the restroom.
- 8) No objects, including electrical devices, are allowed within the room.
- 9) The competition is divided into the following five categories:
  - A) Vibrant youngsters Grade 1 & 2
  - B) Vibrant youngsters Grade 3 & 4
  - C) Vibrant youngsters Grade 5 & 6
  - D) Vibrant youngsters Grade 7 & 8
  - E) Vibrant youngsters Grade 9 & 10 / 0-levels
- 10) The contest is only open to enrolled students.
- 11) No candidate may remove any provided materials, including answer books, from the hall, even if they are partially filled in or utilized.
- 12) Neither the examiner nor the invigilator may respond if a participant does not understand a word or phrase on the exam paper.
- 13) Please visit [www.fspcompetitions.org](http://www.fspcompetitions.org) to learn about future competitions or to offer insightful comments.
- 14) Vibrant youngsters FSP must receive reports of any academic misconduct or malpractice at [info@fspcompetitions.org](mailto:info@fspcompetitions.org).

**Q 1. Read the passage and answer the question below:**

A group of students conducted an experiment on reflex actions. One student accidentally touched a hot object, and their hand moved away immediately before they could even think about it. Another student noticed that when a bright light was shone in their eyes, their pupils shrank automatically.

**What are the missing steps in this reflex action process?**

1. A \_\_ detects a stimulus.
2. A sensory neuron sends impulses to a \_\_ neuron.
3. A motor \_\_ sends impulses to an effector.
4. The effector produces a \_\_.

- A** Receptor, relay, neuron, response
- B** Sensory, effector, relay, response
- C** Finger, motor, sensory, receptor
- D** Receptor, neuron, response, receptor

**Q 2. A dense forest was planted in a wet and boggy area. The trees were closely spaced, and the forest floor remained damp. Few other plants grew under these trees.****Why were there so few plants on the forest floor?**

- A** The ground is too dry
- B** The tree roots push out other plants
- C** Little sunlight reaches the ground
- D** The soil has too many nutrients

**Q 3.** Human beings live in various environments and often compete with other organisms.

**What do humans compete with plants and animals for?**

- A** Food, water, and space
- B** Only space
- C** Only food
- D** Water and sunlight

**Q 4.** Which of the following is NOT an advantage of using a wind turbine to generate electricity?

- A** Produces renewable energy
- B** Reduces reliance on fossil fuels
- C** Requires no land space at all
- D** Does not produce air pollution

**Q 5.** A researcher compared groundwater and surface water in a region. The study found that even during droughts, groundwater remained available, while rivers and lakes dried up.

**Why is groundwater a more reliable water source in some areas?**

- A** It is stored underground and less affected by evaporation
- B** It is naturally purified before being used



- C** It contains more minerals than river water
- D** It is easier to access than surface water

**Q 6.** A team of scientists measured the air quality in an urban area. They recorded rising carbon dioxide levels over a period of ten years.

**What could this indicate?**

- A** Reduction in deforestation
- B** Acid rain formation
- C** Depletion of the ozone layer
- D** Increased global warming

**Q 7.** Some students placed a potato in different environments to study decay. In which setup would the potato decay the fastest?

- A** Small pieces in a warm, open container sprayed with water daily
- B** Large pieces in a dry, sealed container
- C** Small pieces in a refrigerator
- D** Large pieces left in a dry area

**Q 8.** A lunar eclipse occurs when:

- A** The Sun is between the Earth and the Moon
- B** The Moon is between the Sun and the Earth
- C** The Earth is between the Sun and the Moon
- D** The Moon is directly above the equator

**Q 9.** A pulley is a simple machine that makes work easier by:

- A** Changing the direction of the applied force
- B** Reducing the weight of an object
- C** Creating energy to lift objects
- D** Decreasing gravity

**Q 10.** A scientist tested different metals by pulling them away from a magnet. Which of these requires the strongest force to separate?

- A** Soft iron
- B** Nickel
- C** Aluminum
- D** Gold

**Q 11.** What happens to a shadow when an object is moved closer to the light source?

- A** It gets smaller
- B** It disappears
- C** It becomes larger
- D** Its shape changes completely

**Q 12.** A torchlight shines on a bunch of grapes, casting a shadow. How can the shadow be made larger?

- A** Use a stronger light source
- B** Move the grapes farther from the torchlight
- C** Move the screen closer to the grapes
- D** Move the grapes closer to the torchlight

**Q 13.** Why does a wooden block float while a metal coin sinks in water?

- A** Metal dissolves in water
- B** Wood is less dense than water, while metal is denser
- C** Wood repels water
- D** Metal is heavier than wood

**Q 14.** A scientist is studying how an increase in insecticide use affects food webs. What is likely to happen if large amounts of insecticides are sprayed in a grassland community?

- A** The population of herbivores will remain unchanged
- B** Plants will start consuming more oxygen
- C** The number of insects will increase
- D** A decrease in caterpillars will reduce sparrowhawk and snake populations

**Q 15. How does friction help us in daily life?**

- A** It reduces energy wastage
- B** It makes surfaces perfectly smooth
- C** It allows us to walk without slipping
- D** It decreases the effect of gravity

**Q 16. A scientist conducted an experiment with germinating seeds in two flasks:**

Flask X: Contains normal sprouting seeds

Flask Y: Contains seeds that were boiled before sprouting

**What observation will be made after four hours?**

- A** Flask Y will have more oxygen
- B** Flask X will have a temperature increase due to respiration
- C** Both flasks will stay at the same temperature
- D** Flask X will cool down faster than Flask Y

**Q 17.** A wooden rod with metal rings (X, Y, Z) is tested for magnetism. What would be the correct observation?

- A** All rings are non-magnetic
- B** X and Z repel each other
- C** Y is non-magnetic while Z is magnetic
- D** X and Y are magnets with opposite poles facing each other

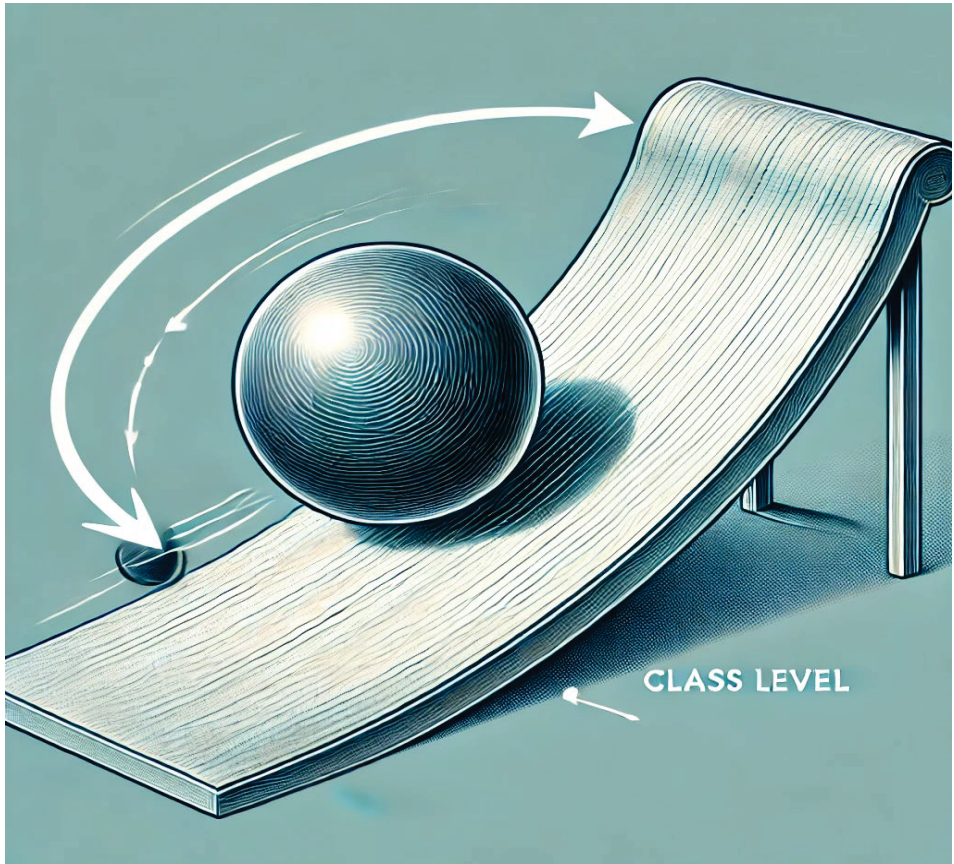
**Q 18.** What type of energy transformation occurs in a hydroelectric power plant?

- A** Sound energy to chemical energy
- B** Light energy to thermal energy
- C** Kinetic energy to electrical energy
- D** Magnetic energy to gravitational energy

**Q 19.** What is the role of decomposers in an ecosystem?

- A** Consume only plant material
- B** Absorb sunlight for photosynthesis
- C** Break down dead organisms and recycle nutrients
- D** Store energy in food chains

**Q 20.** The diagram below shows a ball rolling down a smooth ramp. What will happen to its speed as it reaches the horizontal surface?



- A** The ball will move in reverse
- B** The speed will increase rapidly
- C** The ball will stop immediately
- D** The speed will remain constant if there is no friction

**Q 21.** A scientist is studying the groundwater table in a city. He observes that the water level is dropping rapidly.

**Which human activity is most responsible for this change?**

- A** Planting more trees in urban areas
- B** Excessive use of groundwater for domestic and industrial purposes
- C** Increase in annual rainfall
- D** Decrease in population density

**Q 22.** Which of the following correctly explains why metal is a good conductor of electricity?

- A** It has free-moving electrons that allow electricity to flow
- B** Metal has a hollow structure
- C** Metal absorbs all types of energy
- D** Metal can store electricity permanently

**Q 23.** Why do astronauts appear weightless in space?

- A** There is no gravity in space
- B** They are in free fall around Earth, experiencing microgravity
- C** Space has strong magnetic fields
- D** The Moon's gravity cancels out Earth's gravity



**Q 24.** A student placed three identical glasses of water at the same temperature next to each other.

**Which of the following is TRUE about heat flow between the glasses?**

- A** Heat flows from the glass with the most water to the one with the least
- B** There will be no heat flow if all the glasses have the same temperature
- C** Heat moves from the left glass to the right glass
- D** The glass in the middle loses heat first

**Q 25.** A scientist is testing the effect of magnets on different materials. She places a steel nail, an aluminum earring, a glass bead, and a copper wire near a strong magnet.

**Which materials will be attracted to the magnet?**

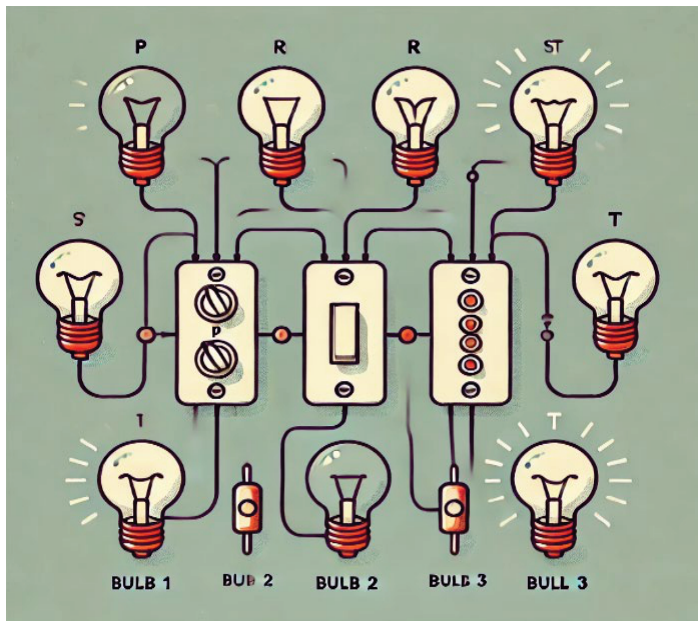
- A** Glass bead and copper wire
- B** Aluminum earring and glass bead
- C** Copper wire and steel nail
- D** Steel nail only

**Q 26.** What happens when an object moves through a vacuum?

- A** It creates sound waves
- B** It slows down immediately
- C** It moves without air resistance
- D** It becomes weightless

**Q 27.** The given diagram shows a simple circuit with multiple switches and bulbs.

Which switches must be closed for only Bulb 2 to light up?



- A** R and T only
- B** P, R, and T
- C** Q, R, and S
- D** All switches must be closed

**Q 28.** A scientist studies an animal with the following characteristics:

Cold-blooded

Lays eggs

Breathes through lungs

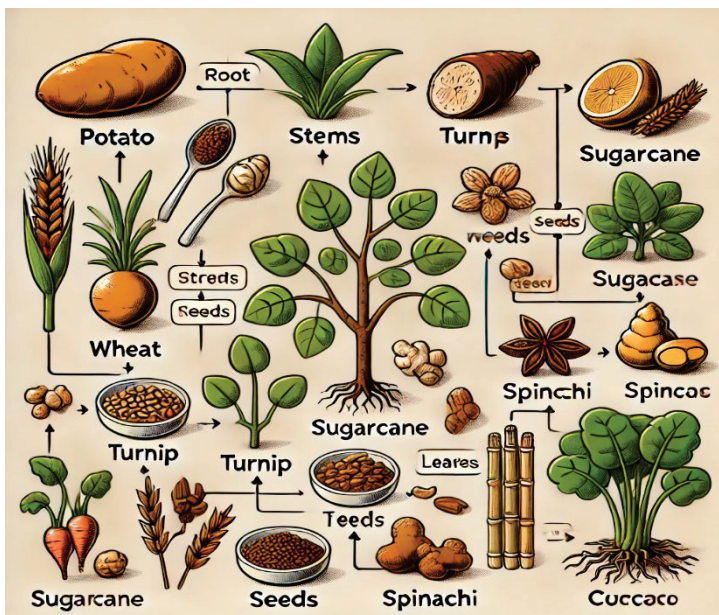
Has scales

To which group does this animal belong?

- A** Amphibians
- B** Reptiles
- C** Mammals
- D** Birds

**Q 29.** A fruit fly population in a farm decreases significantly after insecticides are sprayed. What is the **MOST LIKELY** consequence?

- A** Fruit flies will become stronger over time
- B** The farm will produce more crops
- C** The insecticide will only affect plants
- D** Lizards, which feed on fruit flies, will decrease in number

**Q 30.** Study the flowchart below.

A researcher is categorizing different types of edible plants based on their parts (roots, stems, seeds, and leaves).

Which statement correctly matches the plants in the chart?

- A** Potato belongs to edible stems, while wheat belongs to edible seeds
- B** Ginger belongs to edible leaves, while turnip belongs to edible roots
- C** Sugarcane belongs to edible seeds, while spinach belongs to edible stems
- D** Cocoa belongs to edible roots, while cumin belongs to edible stems

# ANSWER SHEET

## GRADE 7 & 8

### Q.NO ANSWER

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### Q.NO ANSWER

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