DREAMLINE STEAM OLYMPIAD

3–4
GRADE



Grade 3–4 Science Olympiad Sample Questions

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Science Practice Paper | 30 Questions | 30 Marks
Instructions: Choose the correct answer for each question.

1

A plant's roots are badly damaged. What problem is the plant most likely to experience first?

(A) It will stop receiving enough water and minerals from the soil.

(B) It will immediately produce more flowers.

(C) It will absorb food from sunlight through its roots.

(D) It will no longer need water.

2

What do green plants produce during photosynthesis?

(A) Soil

(B) Sugar and oxygen

(C) Salt and sand

(D) Only water

3

Which sequence shows the correct order of a typical flowering plant's life cycle?

(A) Adult plant → seedling → seed → flower

(B) Flower → seedling → seed → adult plant

(C) Seed → seedling → adult plant → flowers and seeds

(D) Seedling → flower → seedling → root

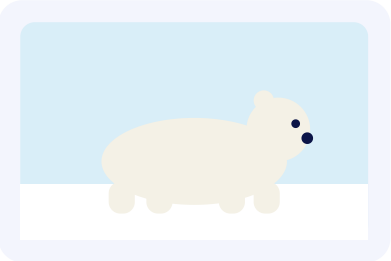
4

An animal has six legs, three main body sections, and a hard outer covering. Which group does it belong to?

- (A) Mammals
- (B) Reptiles
- (C) Amphibians
- (D) Insects

5

How does the thick fur of a polar bear help it survive?



- (A) It helps the bear fly.
- (B) It keeps the bear warm in cold conditions.
- (C) It allows the bear to breathe underwater indefinitely.
- (D) It helps the bear make its own food.

6

Which organ begins digestion by chewing food and mixing it with saliva?

- (A) Heart
- (B) Lungs
- (C) Mouth
- (D) Kidneys

7

Why does your heart beat faster when you exercise?

- (A) Your muscles need more oxygen and nutrients.
- (B) Your bones stop growing.
- (C) Your stomach stops working forever.
- (D) Your body no longer needs energy.

8

Consider this food chain:

Grass → Grasshopper → Frog → Snake

If the number of frogs decreases greatly, what might happen to the grasshopper population?

(A) It must disappear immediately.

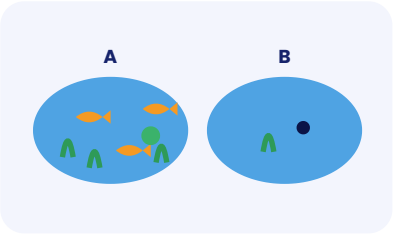
(B) It will turn into frogs.

(C) It will stop eating grass.

(D) It may increase because fewer frogs eat it.

9

Pond A contains many kinds of plants, insects, fish, and frogs. Pond B contains only two kinds of living things. Which pond has greater biodiversity?



(A) Pond B

(B) Pond A

(C) Both must have exactly the same biodiversity.

(D) Neither pond has biodiversity.

10

Which action would best help a school reduce waste sent to landfill?

(A) Use disposable plates at every meal.

(B) Throw recyclable materials into general rubbish.

(C) Reuse supplies, avoid unnecessary packaging, and recycle suitable materials.

(D) Burn all rubbish in the playground.

11

Two students push a box in the same direction. One pushes with a force of 10 units and the other with 5 units. What is their combined force?

- (A) 15 units in the direction of the pushes
- (B) 5 units in the opposite direction
- (C) 10 units in the opposite direction
- (D) 2 units in the direction of the pushes

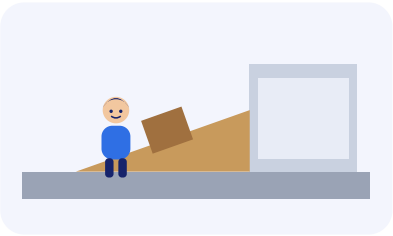
12

A toy car rolls farther on a smooth floor than on a rough carpet. Why?

- (A) Gravity disappears on the smooth floor.
- (B) The car becomes heavier on the carpet.
- (C) The carpet creates more light.
- (D) Greater friction on the carpet slows the car down more.

13

A ramp helps a person move a heavy box into a truck. Which simple machine is the ramp?



- (A) Pulley
- (B) Inclined plane
- (C) Wheel and axle
- (D) Lever

14

A solar-powered calculator works when sunlight reaches its solar panel. Which energy change occurs?



(A) Sound energy changes into chemical energy.

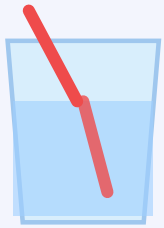
(B) Heat energy changes only into sound energy.

(C) Light energy is converted into electrical energy.

(D) Electrical energy changes into sunlight.

15

A straw appears bent when partly placed in a glass of water. Which property of light explains this?



(A) Refraction

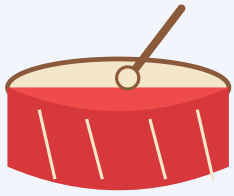
(B) Magnetism

(C) Gravity

(D) Sound vibration

16

A student strikes a drum gently and then strikes it harder. What will usually happen?



(A) The sound becomes silent.

(B) The drum produces light.

(C) The sound always becomes lower in pitch.

(D) The sound becomes louder because the drum vibrates more strongly.

17

A metal spoon and a wooden spoon are placed in warm water. The metal spoon feels warmer to the touch. Why?

- (A) Metal always has a higher temperature than water.
- (B) Metal transfers heat to your hand more readily than wood.
- (C) Wood produces cold air.
- (D) Metal creates heat without receiving energy.

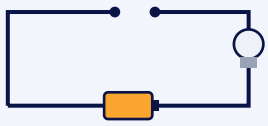
18

A bar magnet attracts an iron nail. What happens to the magnetic attraction when the magnet moves farther away?

- (A) The magnetic force becomes infinitely strong.
- (B) The nail turns into wood.
- (C) The magnetic attraction generally becomes weaker.
- (D) Gravity stops acting on the nail.

19

A bulb, battery, and wires are connected, but a gap leaves the circuit incomplete. What should the student do?



- (A) Connect the gap to make a complete circuit.
- (B) Remove every wire.
- (C) Cover the bulb with paper.
- (D) Put water on the battery.

20

Which statement best describes a gas inside a closed container?

(A) It always keeps a fixed shape and volume.

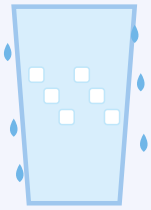
(B) Its particles never move.

(C) It has no particles.

(D) It spreads out to fill the available space.

21

Water droplets form on the outside of a cold glass on a warm day. Where does this water usually come from?



(A) Water passes through the solid glass.

(B) Water vapour in the air cools and condenses into liquid.

(C) The glass creates water from nothing.

(D) The glass melts into water.

22

Which property is most important for the handle of a cooking pot?

(A) It should be transparent.

(B) It should dissolve easily in water.

(C) It should be a poor conductor of heat.

(D) It should attract every magnet.

23

A mixture contains sand and iron filings. Which method is best for separating them?

- (A) Use a magnet to attract the iron filings.
- (B) Add more sand.
- (C) Freeze the mixture.
- (D) Use a thermometer to remove the iron.

24

Which statement correctly distinguishes weather from climate?

- (A) Weather and climate mean exactly the same thing.
- (B) Climate describes only today's temperature.
- (C) Three days of rain completely describe a town's climate.
- (D) Weather describes short-term conditions, while climate describes patterns over many years.

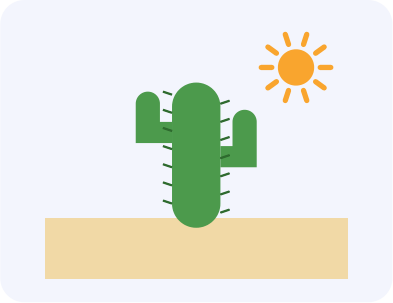
25

A student wants to discover which type of soil holds the most water. Which experiment is fairest?

- (A) Use different amounts of soil and water in each container.
- (B) Use equal amounts of different soils, add equal amounts of water, and measure how much drains through.
- (C) Use only one type of soil and guess the result.
- (D) Change the soil, container size, and water amount at the same time.

26

A cactus has a thick stem and spines instead of broad leaves. How do these features help it survive in a dry desert?



(A) They help it live without sunlight.

(B) They allow it to absorb water from rocks only.

(C) The thick stem stores water, and the spines help reduce water loss.

(D) They allow it to swim through sand.

27

In a grassland, snakes eat mice, and mice eat seeds. If most snakes disappear, what might happen to the mouse population?

(A) It may increase because fewer snakes eat mice.

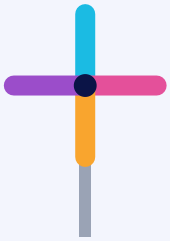
(B) It must become zero immediately.

(C) All mice will become plants.

(D) The mice will no longer need food.

28

A student builds a small windmill. Which change is most likely to help its blades turn easily in a steady breeze?



(A) Glue the blades tightly so they cannot rotate.

(B) Make the blades touch the ground.

(C) Place a solid wall directly in front of the blades.

(D) Ensure the blades can rotate freely around their axle.

29

Two identical plants receive equal amounts of water and the same type of soil, but different amounts of light. Why is this a useful experiment?

- (A) It guarantees that both plants grow equally.
- (B) It helps investigate the effect of light while keeping other conditions similar.
- (C) It proves that plants do not need water.
- (D) It changes too many variables to compare the plants.

30

The Moon appears to have different shapes on different nights. What is the best explanation?

- (A) The Moon changes its actual shape every night.
- (B) Earth's clouds permanently remove parts of the Moon.
- (C) As the Moon orbits Earth, we see different portions of its sunlit half.
- (D) The Moon produces a different amount of light every hour.