



Grade 8

OLYMPIAD 2023 - 24

SCIENCE

Total Questions: 50

Total Marks: 50

Time: 1hr

Set: A

Question: 1 of 50

QID: 21485

Marks: 1

Alex and Bruno were playing badminton together. Since the weather was very hot, they were sweating. Alex's clothes absorbed the sweat and were comfortable. However, Bruno was not comfortable with his clothes. The probable reason could be-

- A. Alex was wearing nylon shirt and Bruno was wearing cotton shirt.
- B. Alex was wearing cotton shirt and Bruno was wearing nylon shirt.
- C. Both Alex and Bruno were wearing cotton shirt.
- D. Both Alex and Bruno were wearing nylon shirt.

Question: 2 of 50

QID: 21472

Marks: 1

Which process involves turning over the upper layer of the soil to expose fresh soil and bury weeds?

- A. Irrigation
- B. Ploughing
- C. Harvesting
- D. Transplanting

Question: 3 of 50

QID: 21452

Marks: 1

What is the color of the flame produced by burning a magnesium ribbon?

- A. White
- B. Red
- C. Yellow
- D. Green

Question: 4 of 50

QID: 21467

Marks: 1

Which organization works for the conservation of wildlife?

- A. WHO
- B. UNESCO
- C. Greenpeace
- D. WWF

Question: 5 of 50

QID: 21482

Marks: 1

What is the process of turning monomers into polymers called?

- A. Polymerization
- B. Condensation
- C. Crystallization
- D. Distillation

Question: 6 of 50

QID: 21477

Marks: 1

Which type of friction occurs when an object moves over a surface?

- A. Static friction
- B. Rolling friction
- C. Kinetic friction
- D. Fluid friction

Question: 7 of 50

QID: 21481

Marks: 1

Which polymer is commonly used in making non-stick cookware?

- A. Polyethylene
- B. Polypropylene
- C. Polytetrafluoroethylene (PTFE)
- D. Polyvinyl chloride (PVC)

Question: 8 of 50

QID: 21463

Marks: 1

Which air pollutant is responsible for the formation of acid rain?

- A. Carbon dioxide
- B. Sulfur dioxide
- C. Nitrogen oxide
- D. Methane

Question: 9 of 50

QID: 21487

Marks: 1

The amount of heat energy produced on complete combustion of 1 kg of a fuel is called:

- A. ignition temperature
- B. Calorific value
- C. combustion value
- D. combustion temperature

Question: 10 of 50

QID: 21453

Marks: 1

Which gas is responsible for the characteristic smell of rotten eggs during incomplete combustion?

- A. Oxygen
- B. Hydrogen Sulfide
- C. Carbon monoxide
- D. Sulphur dioxide

Question: 11 of 50

QID: 21486

Marks:1

Write the ignition temperatures of the following objects in ascending order? (i) Wood (ii) Dry grass (iii) Water with paper cup (iv) Petrol

- A. (ii) < (iv) < (i) < (iii)
- B. (iii) > (i) > (iv) > (ii)
- C. (i) < (ii) < (iv) < (iii)
- D. (iv) > (iii) > (i) > (ii)

Question: 12 of 50

QID: 21488

Marks:1

Which of these is a behavioural adaptation?

- A. A hognose snake pretends as dead to trick the predator.
- B. A frog's light-colored belly makes it harder for a predator.
- C. The scarlet king snake looks very much like the poisonous coral snake.
- D. A treehopper on a leaf or twig resembles a thorn.

Question: 13 of 50

QID: 21465

Marks: 1

Which of the following is a beneficial microorganism used in the production of bread?

- A. Bacteria
- B. Virus
- C. Fungus
- D. Algae

Question: 14 of 50

QID: 21484

Marks:1

Which non-metal is essential for the formation of chlorophyll in plants?

- A. Oxygen
- B. Nitrogen
- C. Carbon
- D. Magnesium

Read the description of a trait.

Nellie has a scar on her right elbow.

What information supports the conclusion that Nellie **acquired** this trait?

- A. Nellie's sister has a bruise from falling on her elbow.
- B. Nellie's scar is on her right elbow. Her father also has a scar on his right elbow.
- C. Nellie's scar was caused by an accident. She cut her arm when she fell off her bicycle.

Select the part whose main job is to use energy from sunlight to make sugar.

- A. nucleus
- B. chloroplast
- C. vacuole
- D. cytoplasm

What is the purpose of using ball bearings in machines?

- A. To reduce friction
- B. To increase friction
- C. To generate electricity
- D. To store energy

Which of the following is an extinct species?

- A. Cheetah
- B. Bengal tiger
- C. Dodo
- D. Komodo dragon

What type of flame is produced when there is incomplete combustion of a fuel?

- A. Luminous flame
- B. Non-luminous flame
- C. Blue flame
- D. Smoky flame

Question: 20 of 50

QID: 21480

Marks: 1

In the process of cracking in the petroleum industry, what is the main objective?

- A. Removing impurities
- B. Converting liquid petroleum into gas
- C. Extracting gasoline
- D. Breaking down large hydrocarbons into smaller ones

Question: 21 of 50

QID: 21483

Marks: 1

Which method of irrigation is known for its efficient water usage but requires a precise layout of pipes and tubes?

- A. Drip irrigation
- B. Sprinkler irrigation
- C. Flood irrigation
- D. Subsurface irrigation

Question: 22 of 50

QID: 21474

Marks: 1

Which synthetic fibre is often used for making sports clothing due to its moisture-wicking properties?

- A. Nylon
- B. Polyester
- C. Rayon
- D. Acrylic

Question: 23 of 50

QID: 21456

Marks: 1

What is the process by which cells divide to produce new cells?

- A. Fertilization
- B. Reproduction
- C. Mitosis
- D. Meiosis

Question: 24 of 50

QID: 21442

Marks: 1

In the given matrix, what is the missing number? | 3 | 7 | 9 | | 5 | ? | 11 | | 8 | 6 | 4 |

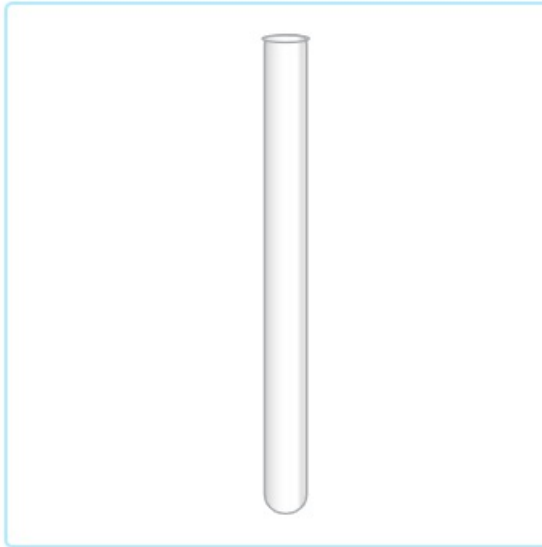
- A. 10
- B. 13
- C. 18
- D. 15

Select the graduated cylinder.

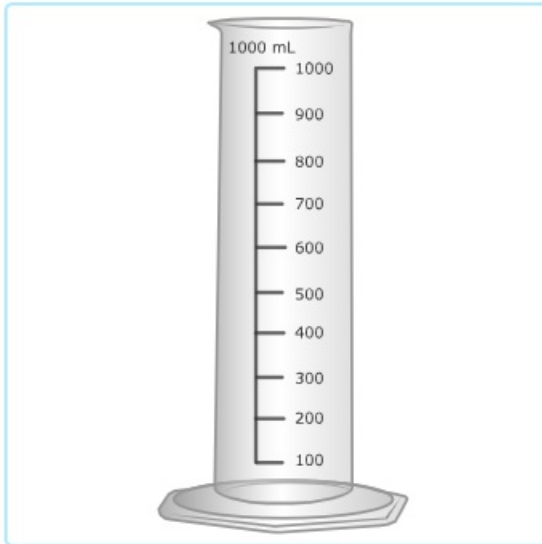
A



B



C



D

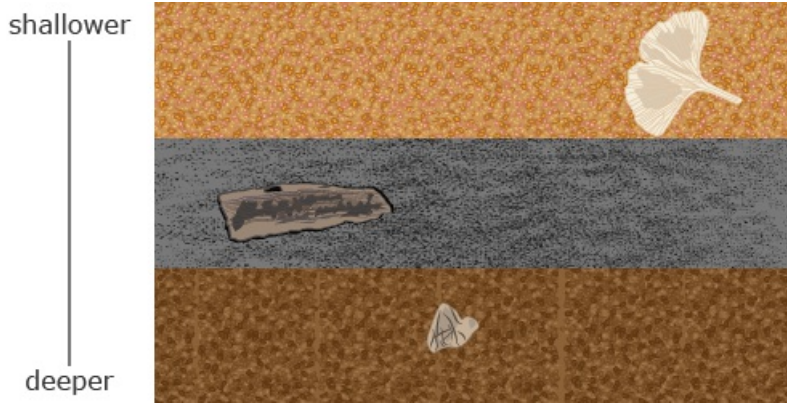
A. A

B. B

C. C

D. D

This diagram shows fossils in an undisturbed sedimentary rock sequence.



Which of the following fossils is older? Select the more likely answer.

- A. Ginkgo Leaf B. Mammal Tooth

What is the process of protecting crops from pests and diseases called?

- A. Irrigation B. Harvesting
 C. Pest control D. Fertilization

Which of the following is a non-metal that is a good conductor of electricity?

- A. Silicon B. Carbon
 C. Sulfur D. Phosphorus

What is the pressure exerted by a fluid in an open container at rest called?

- A. Hydrostatic pressure B. Atmospheric pressure
 C. Buoyant force D. Vapour pressure

Question: 30 of 50

QID: 21473

Marks: 1

What is the role of microorganisms in sewage treatment plants?

- A. Decomposing organic matter
- B. Producing electricity
- C. Increasing acidity
- D. Filtering water

Question: 31 of 50

QID: 21471

Marks: 1

Which of the following is a Rabi crop?

- A. Rice
- B. Wheat
- C. Maize
- D. Sugarcane

Question: 32 of 50

QID: 21454

Marks: 1

What is the purpose of a wildlife sanctuary?

- A. For cultivation of crops
- B. For the conservation of wildlife
- C. For recreational activities
- D. For industrial development



Corundum has the following properties:

- pure substance
- non-metallic luster
- not made by living things
- solid
- naturally occurring
- fixed crystal structure

Is corundum a mineral or a rock?

- A. Mineral B. Rock

What is the chemical process of rapid combustion accompanied by the production of heat and light called?

- A. Respiration B. Fermentation
 C. Combustion D. Photosynthesis

Which metal is alloyed with tin to make bronze?

- A. Iron B. Copper
 C. Zinc D. Aluminum

Question: 36 of 50

QID: 21451

Marks: 1

How is petroleum formed?

- A. From the remains of plants
- B. From the remains of marine animals
- C. From volcanic activity
- D. From sedimentary rocks

Question: 37 of 50

QID: 21470

Marks: 1

What is the function of the endocrine system?

- A. Control body movements
- B. Regulate growth and development
- C. Digest food
- D. Pump blood

Question: 38 of 50

QID: 21475

Marks: 1

What is the main product of complete combustion of hydrocarbons in the presence of sufficient oxygen?

- A. Carbon dioxide
- B. Carbon monoxide
- C. Methane
- D. Ethanol

Question: 39 of 50

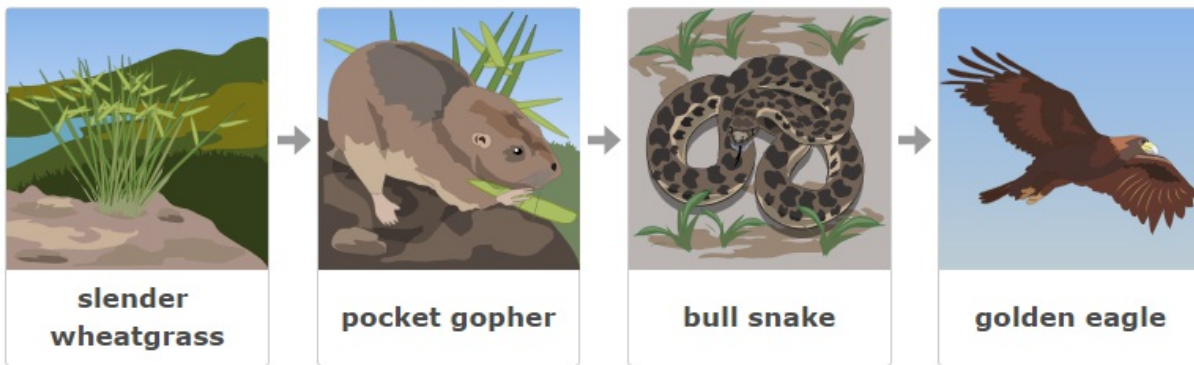
QID: 21459

Marks: 1

The echo of a sound is heard when the time gap between the original sound and the reflected sound is:

- A. Increasing
- B. Decreasing
- C. Constant
- D. Zero

A food chain is a model that shows how the matter eaten by organisms moves through an ecosystem. Below is a food chain from a grassland ecosystem in Wyoming.



Use the information in the food chain to fill in the blanks below.

The producer in this food chain is the _____. It is eaten by the _____

- A. slender wheatgrass, pocket gopher
 B. pocket gopher, bull snake
 C. slender wheatgrass, bull snake
 D. golden eagle, pocket gopher

Lightning occurs due to the discharge of static electricity between

- A. Clouds and the ground
 B. Two clouds
 C. Earth and the Sun
 D. Stars and the Earth

Where does fertilization take place in humans?

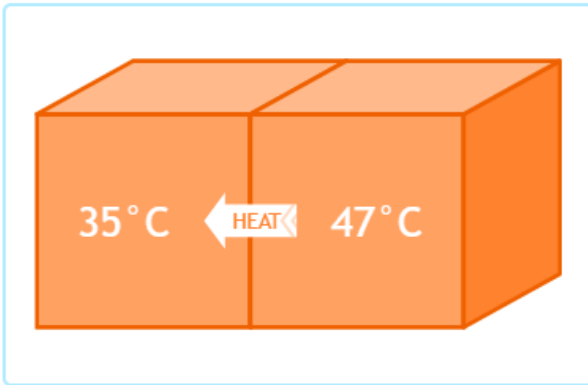
- A. Ovary
 B. Fallopian tube
 C. Uterus
 D. Vagina

What is the term for the rapid, uncontrolled flow of water over the land surface?

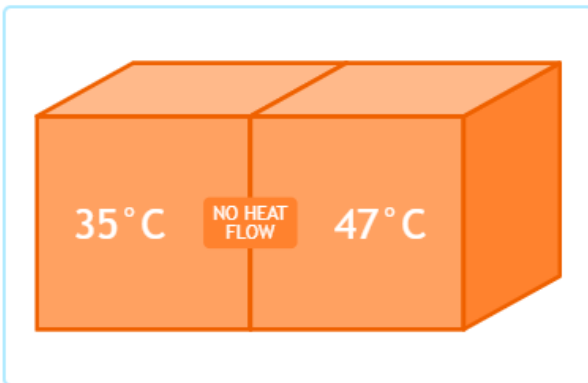
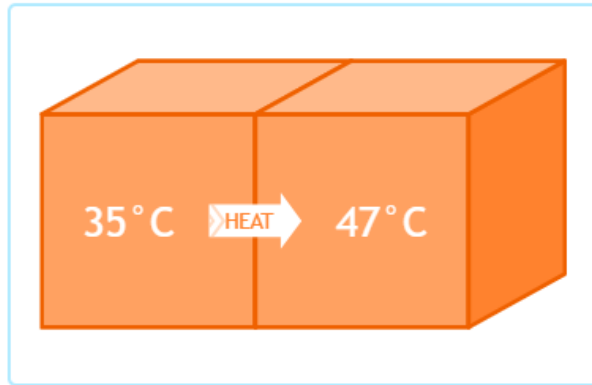
- A. Erosion
 B. Flood
 C. Drought
 D. Tsunami

Two solid blocks are heated to the temperatures shown. The blocks are placed so they touch. Which diagram shows the direction heat will flow?

A



B



C

- A. A
 C. C

- B. B
 D. both A & B

People often think of temperature as how hot or cold something is. But what exactly is temperature?



Temperature is a measure of kinetic energy. Every substance is made up of particles. The temperature of a substance is related to the kinetic energies of these particles. If a substance is hot, its particles tend to have a large amount of kinetic energy.

The particles in a substance have kinetic energy because they are moving. The particles are constantly in motion, even if the substance does not appear to be moving.

Select the statements that are true for a rubber ball shown above. This rubber ball contains many small, moving particles.

- A. The particles that make up the ball are moving even when the ball is not.
- B. The temperature of the ball depends on the kinetic energies of the particles that make up the ball.
- C. All A, B and C are true
- D. If the ball is cold, its particles tend to have a small amount of kinetic energy.

Question: 46 of 50

QID: 21469

Marks: 1

Which of the following is a thermoplastic polymer?

- A. PVC
- B. Bakelite
- C. Melamine
- D. Phenol

Question: 47 of 50

QID: 21478

Marks: 1

Which force opposes the motion of objects through air?

- A. Tension
- B. Gravity
- C. Air resistance
- D. Buoyancy

Question: 48 of 50

QID: 21462

Marks: 1

What happens to the speed of light when it passes from air to glass?

- A. Increases
- B. Decreases
- C. Remains the same
- D. Depends on the color

Question: 49 of 50

QID: 21457

Marks: 1

Which organ in the human body produces insulin?

- A. Liver
- B. Pancreas
- C. Kidney
- D. Heart

Question: 50 of 50

QID: 21439

Marks: 1

Statement: Every student who studies hard passes the exam. Conclusion: Alex passed the exam, so he must have studied hard.

- A. True
- B. False
- C. Cannot be determined
- D. Partially Correct

-- END OF QUESTION PAPER --