

# KCPE 2004 SCIENCE

- After the incubation period the chick comes out of the shell by
  - the mother cracking the shell open using her beak
  - cracking the shell open using its beak
  - growing bigger thus forcing the shell to break
  - the shell cracking on its own
- Some curative drugs are also called
  - antibiotics
  - vaccines
  - stimulants
  - painkillers
- A jar used for measuring rainfall should be
  - narrow
  - wide
  - short
  - long
- Which one of the following statements about adaptations in animals is **NOT CORRECT**?
  - Cheetahs have sharp, curved claws to help them catch their prey.
  - Eagles have strong, curved beaks to help them cut and tear flesh.
  - Crocodiles have saw-like teeth to help them grip their prey firmly.
  - Snakes have fangs to hold their prey firmly.
- Which one of the following is formed first after fertilisation?
  - Foetus.
  - Embryo.
  - Zygote.
  - Sex cell.
- Which one of the following **DOES NOT** increase the strength of an electromagnet? Increasing the
  - number of coils
  - amount of current
  - size of soft iron
  - length of connecting wires
- A change in the force of gravity on an object will change its
  - mass
  - weight
  - volume
  - density
- In which one of the following machines is the effort equal to the load and the effort distance equal to the load distance?
  - Inclined plane.
  - Wheel and axle.
  - Lever.
  - Single fixed pulley.

- The force that acts on a given area is called
  - weight
  - gravity
  - pressure
  - friction
- Which one of the following properties of clay soil would greatly contribute to flooding in an area?
  - High capillarity.
  - Poor drainage.
  - Fine texture.
  - Stickiness.
- The main reason why sandy soil is mixed with cement in building is because it
  - drains well
  - has large air spaces
  - has large particles
  - mixes easily with cement
- When choosing a method of separating a mixture of a liquid and a solid it is important to consider the
  - density of the liquid
  - size of particles of the solid
  - density of the solid
  - solubility of the solid
- Which one of the following is **NOT** definite for liquids?
  - Shape.
  - Volume.
  - Mass.
  - Density.
- In feeding relationships, mice belong to the same group as
  - vultures
  - snakes
  - antelopes
  - lions
- The table below shows parts of the human digestive system and their functions.

Part	Function
Small intestine	Absorption of food
Stomach	Y
X	Absorption of water

Which one of the following options represents X and Y?

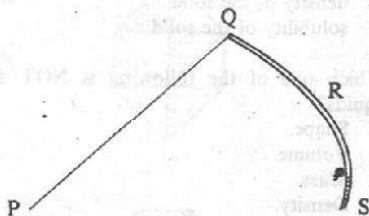
- | X                  | Y                           |
|--------------------|-----------------------------|
| A. Oesophagus      | Passage of food.            |
| B. Large intestine | Digestion of food.          |
| C. Rectum          | Storage of undigested food. |
| D. Mouth           | Taking in food.             |

16. The following were reasons given by pupils to explain why smoke rises. It
- (i) has hot air in it
  - (ii) is less dense
  - (iii) has particles suspended in air
  - (iv) is cloudy

Which TWO reasons are correct?

- A. (i) and (ii).
  - B. (iii) and (iv).
  - C. (ii) and (iii).
  - D. (i) and (iv).
17. A one metre long piece of wood floats on water while a one centimetre long piece of iron rod sinks. This is because of difference in
- A. length
  - B. material
  - C. weight
  - D. shape.

18. The diagram below represents a fishing rod with points labelled P, Q, R and S



When in use the fulcrum is at point

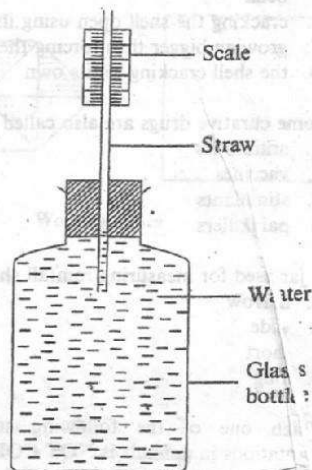
- A. P
  - B. Q
  - C. R
  - D. S
19. The table below shows observations made when four soil samples P, Q, R and S were mixed with water and then rolled out to make ribbons.

Soil sample	Characteristic
P	Held its shape.
Q	Cracked.
R	Could not be rolled.
S	Could not hold its shape.

Which one of the samples has the lowest capillarity?

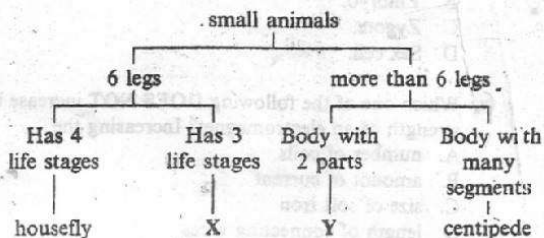
- A. P.
  - B. Q.
  - C. R.
  - D. S.
20. Which one of the following drugs causes drowsiness when abused?
- A. Cocaine.
  - B. Heroine.
  - C. Tobacco.

21. The diagram below represents an improvised liquid thermometer.



Which one of the following improvements would make the instrument measure smaller changes in temperature?

- A. Making the straw narrower.
  - B. Colouring the water.
  - C. Using a plastic bottle.
  - D. Using a larger bottle.
22. The chart below shows a simple classification of small animals.



Which animals are represented by X and Y?

- |              |        |
|--------------|--------|
| X            | Y      |
| A. Butterfly | Flea   |
| B. Wasp      | Crab   |
| C. Cockroach | Tick   |
| D. Mosquito  | Spider |
23. Which one of the following practices helps to conserve soil by preventing soil erosion?
- A. Crop rotation.
  - B. Use of manure.
  - C. Mulching.
  - D. Planting cover crops.

24. Which one of the following pairs of processes involves absorption of heat from the surroundings?
- Condensation and evaporation.
  - Freezing and condensation.
  - Melting and freezing.
  - Evaporation and melting.

25. The diagram below shows the beak of a certain bird.



The bird most likely feeds on

- insects
  - nuts
  - grains
  - flesh
26. Which one of the following sources of energy is non-renewable?
- Kerosene.
  - Firewood.
  - Solar.
  - Biogas.

27. If the size of the hole in a pinhole camera is increased, the image formed is
- enlarged
  - blurred
  - upright
  - not real

28. A stone at the bottom of a pond appears nearer the surface due to
- refraction
  - dispersion
  - diffraction
  - reflection

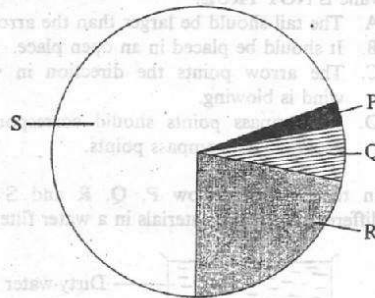
29. Which one of the following shows the correct order of the parts in the human eye through which light passes?
- Cornea → pupil → lens → retina.
  - Pupil → lens → cornea → retina.
  - Pupil → cornea → lens → retina.
  - Cornea → lens → pupil → retina.

30. Which one of the following parts of a passion plant is modified for climbing?
- Stem.
  - Branch.
  - Leaf.
  - Bud.

31. Which one of the following waste materials is not a product of excretion?
- Sweat.
  - Urine.
  - Carbon dioxide.
  - Faeces.

32. Which one of the following describes cross-pollination?
- The transfer of pollen grains from the anther to the stigma of the same flower.
  - The transfer of pollen grains from the anther to the stigma of different flowers on plants of different kinds.
  - The transfer of pollen grains from the anther to the stigma of another flower on the same plant.
  - The transfer of pollen grains from the anther to the stigma of different flowers on plants of the same kind.

33. The chart below represents approximate percentages of the components of air.

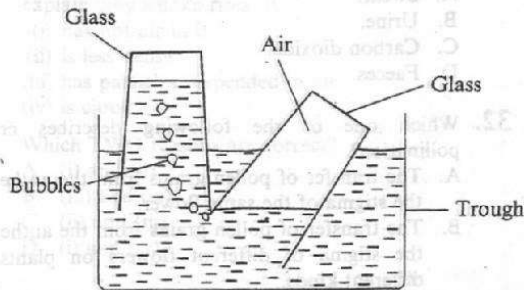


Which portion represents the gas that is necessary for burning?

- P.
- Q.
- R.
- S.

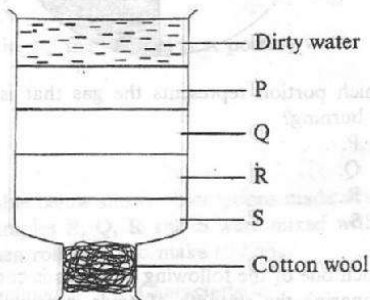
34. Which one of the following activities is correct when comparing the strength of acids in fruit juices? To ash solution add
- indicator and then fruit juice drop by drop
  - fruit juice and then indicator drop by drop
  - equal amount of fruit juice and then indicator drop by drop
  - equal amounts of indicator and fruit juice

35. The diagram below represents a set up that is used to demonstrate a certain property of air.



The demonstration shows that air

- A. is dissolved in water  
 B. has weight  
 C. occupies space  
 D. exerts pressure
36. Which one of the following statements about a wind vane is **NOT TRUE**?
- A. The tail should be larger than the arrowhead.  
 B. It should be placed in an open place.  
 C. The arrow points the direction in which the wind is blowing.  
 D. Its compass points should correspond to the geographical compass points.
37. In the diagram below P, Q, R and S represent different layers of materials in a water filter.



Which materials are represented by P, Q, R and S?

- | P              | Q           | R           | S           |
|----------------|-------------|-------------|-------------|
| A. charcoal    | fine sand   | coarse sand | pebbles     |
| B. fine sand   | charcoal    | pebbles     | coarse sand |
| C. pebbles     | coarse sand | fine sand   | charcoal    |
| D. coarse sand | charcoal    | pebbles     | fine sand   |

38. Which one of the following materials **CANNOT** be recycled?
- A. Rubber tyres.  
 B. Glass bottles  
 C. Candle wax.  
 D. Saw dust.

39. Which one of the following pairs of machines consists of levers only?

- A. Pliers and wedge.  
 B. Crowbar and nutcracker.  
 C. Screw and scissors.  
 D. Bottle opener and knife.

40. Clothes on a clothesline took too long to dry. The weather was most likely

- A. dry and calm  
 B. cold and windy  
 C. dry and cold  
 D. cold and calm

41. Standard five pupils observed a flower with brightly coloured petals in their compound. Which one of the following is likely to be the other characteristics of that flower?

- A. Feathery stigma and few pollen grains  
 B. Large pollen grains and feathery stigma  
 C. Sticky stigma and few pollen grains  
 D. Light pollen grains and sticky stigma

42. Which one of the following statements about blood circulation is **TRUE**?

- A. Aorta receives oxygenated blood from the left auricle.  
 B. Oxygenated blood from the lungs is received by the aorta.  
 C. Pulmonary vein takes oxygenated blood to the lungs.  
 D. Pulmonary artery receives deoxygenated blood from the right ventricle.

43. Which one of the following is a part of the embryo of a seed?

- A. Micropyle.  
 B. Endosperm.  
 C. Radicle.  
 D. Cotyledon.

44. Which one of the following is **NOT** important to consider when taking medicine?

- A. The dose.  
 B. The date of manufacture.  
 C. Duration to complete dose.  
 D. How to store the medicine.

45. Which one of the following characteristics is **TRUE** for both plants and animals? They

- A. Move, use carbon dioxide.  
 B. Make their food, grow.  
 C. Reproduce, transpire.  
 D. Excrete, respond to changes in the environment.

46. Which one of the following practices is used for controlling pollution in soil, water and air?
- Avoiding dumping cans and plastic materials.
  - Treating chemical waste from factories.
  - Burning rubbish in metallic or concrete structures.
  - Avoiding excess use of fertilizers.
47. In which of the following cases is friction both an advantage and a disadvantage?
- Dragging a heavy box along the floor.
  - Moving parts of a machine.
  - Climbing up a hill.
  - Drawing water from a well using a rope.
48. Coins were arranged in a pile as shown in the diagram below.



When the coin at the bottom was knocked out suddenly using a ruler, it moved out leaving the pile intact.

- The pile remained intact because of
- friction.
  - gravity.
  - inertia.
  - weight.
49. An inclined plane makes work easier by
- changing direction of effort.
  - increasing effort distance.
  - decreasing load distance.
  - decreasing the load.
50. Which one of the following is NOT important when comparing solubility of solids in a liquid?
- Amount of the solid.
  - Size of containers used.
  - Temperature of liquid.
  - Amount of liquid.

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