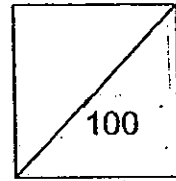




HENRY PARK PRIMARY SCHOOL
2010 SEMESTRAL EXAMINATION II
SCIENCE
PRIMARY 4

Duration of Paper: 1 h 45 min



Name: _____ ()

Parent's Signature

Class: Pr 4 _____

PART 1 (60 marks)

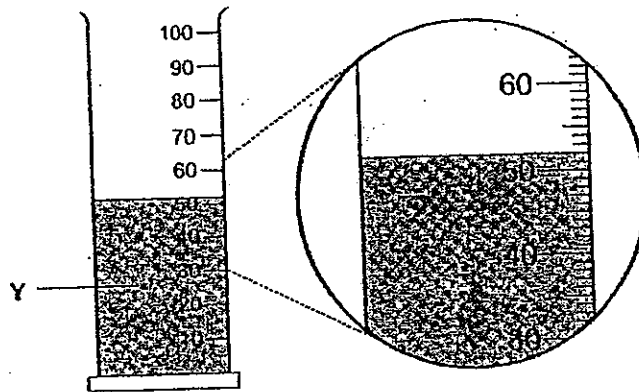
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Matter is anything that has mass and occupies space. Which one of the following is **NOT** matter?

- (1) Air
- (2) Shadow
- (3) Soil
- (4) Water

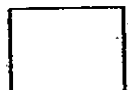
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2. In the diagram, what is the volume of liquid Y?

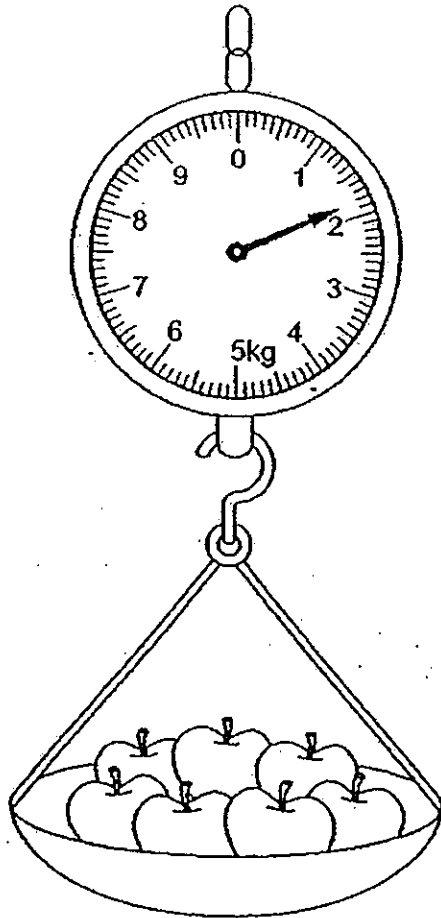


- (1) 50ml
- (2) 52ml
- (3) 62ml
- (4) 68ml

()



3. The reading on the weighing scale shows that the mass of the apples is _____ kg.

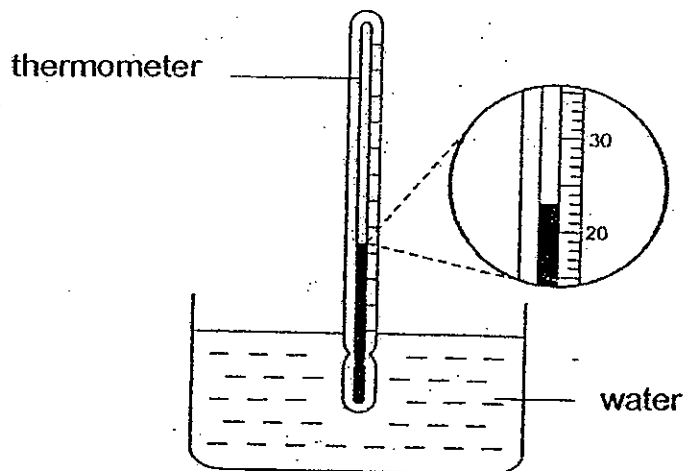


- (1) 1.6
- (2) 1.8
- (3) 2.0
- (4) 2.2

()



4. What is the reading of temperature from the following thermometer?



- (1) 3°C
- (2) 20.3°C
- (3) 23°C
- (4) 37°C

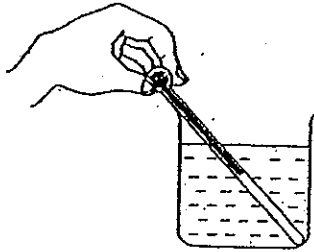
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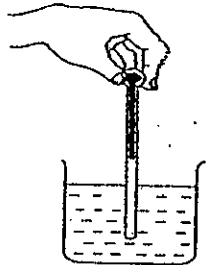
5. Christine wants to measure the temperature of hot water in a beaker.

Which one of the following diagrams shows the correct position of the thermometer when taking the temperature reading?

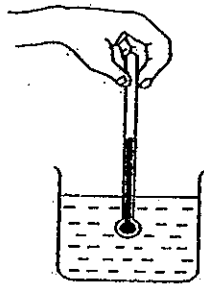
(1)



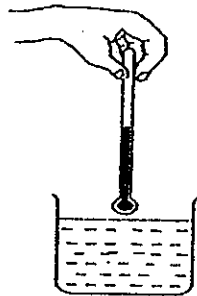
(2)



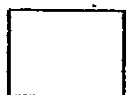
(3)



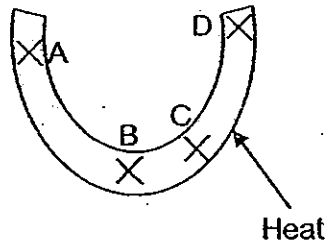
(4)



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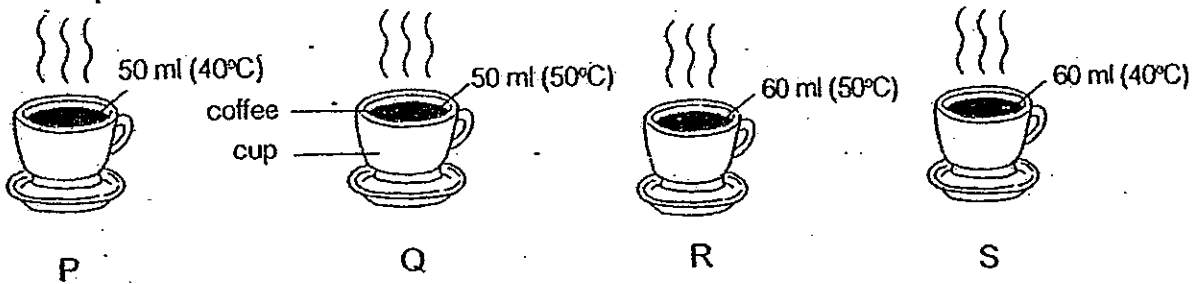
6. Equal amounts of wax are placed at different points of a metal arc. One point of the arc is heated as shown in the diagram below. Which position of the wax will be last to be melted?



- (1) A
- (2) B
- (3) C
- (4) D

()

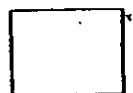
7. 4 cups of coffee were placed on a table as shown in the diagram below.



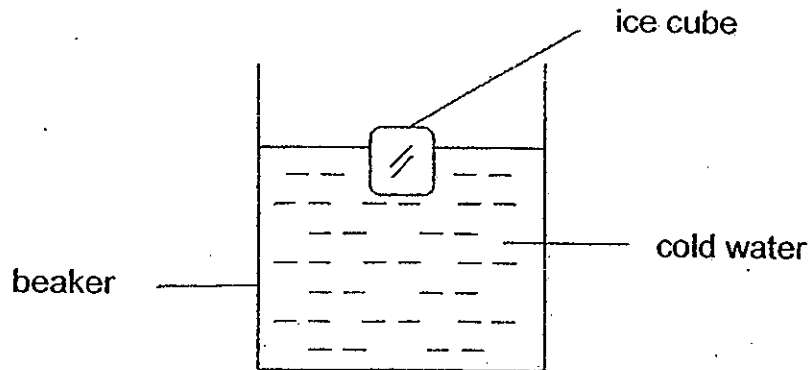
Which cup of coffee has the greatest amount of heat energy?

- (1) P
- (2) Q
- (3) R
- (4) S

()



8. Jazly wanted to find out what would happen when an ice cube is placed in cold water.



Which one of the following statements is correct?

- (1) Ice cube gains heat from the cold water
- (2) Ice cube loses heat to the cold water
- (3) Beaker gains heat from the ice cube
- (4) Beaker gains heat from the cold water

()

9. Which one of the following household appliances makes use of heat energy to do work?

- (1) Computer
- (2) Television
- (3) Electric Iron
- (4) Ceiling Fan

()



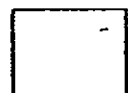
10. Gary carried out an experiment to find out how three different places in the school affect the rate of melting of an ice cube. He measured the time taken for an ice cube to melt completely in each place. He recorded his observations in the table below.

Places in school	Time taken for the ice cube to melt completely (minutes)
In the open field with sunlight	4
In the canteen	9
In an air-conditioned classroom	12

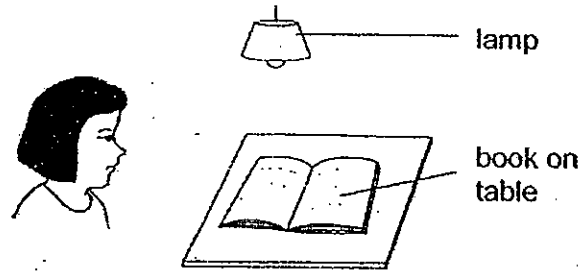
Which one of the following variables will affect the experiment **the least** if it is not kept the same?

- (1) Size of ice cube used for the experiment
- (2) Time when the experiment is carried out
- (3) Type of stopwatch used to record the time taken
- (4) Type of surface which the ice cube is placed during the experiment

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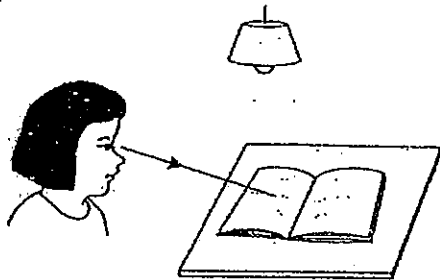


11. Look at the picture below.

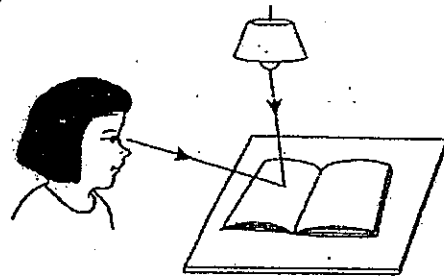


Which one of the following explains why Amanda can see the book on the table?

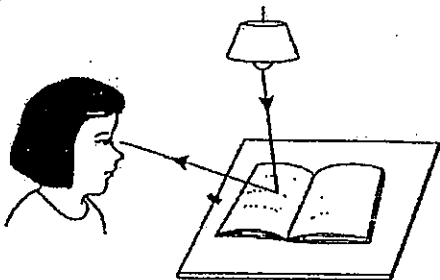
(1)



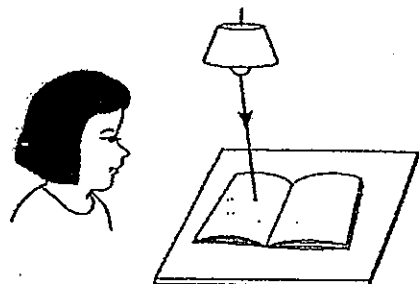
(2)



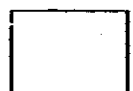
(3)



(4)



()



12. Which one of the following is not a source of light?

- (1) Stars
- (2) Firefly
- (3) Burning torch
- (4) Fluorescent light bulb

()

13. Pedestrians are usually advised to wear white or light-coloured clothes at night as white and light-coloured clothes _____

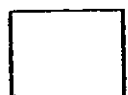
- (1) can reflect more light.
- (2) can absorb more light.
- (3) can conduct heat faster.
- (4) can give out their own light.

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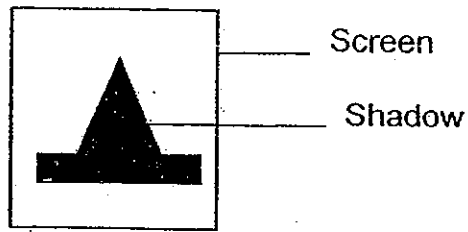
14. Shadows are formed because light _____

- (1) is not a matter
- (2) can be reflected
- (3) can be absorbed
- (4) travels in a straight line and is blocked

()



15. An object is placed in front of a light source and a shadow is formed on the screen as shown below.

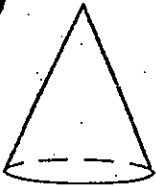


Which one of the following shows the object used to form the shadow?

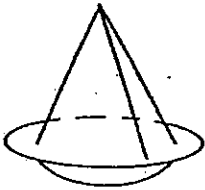
(1)



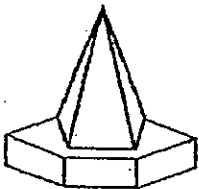
(2)



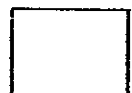
(3)



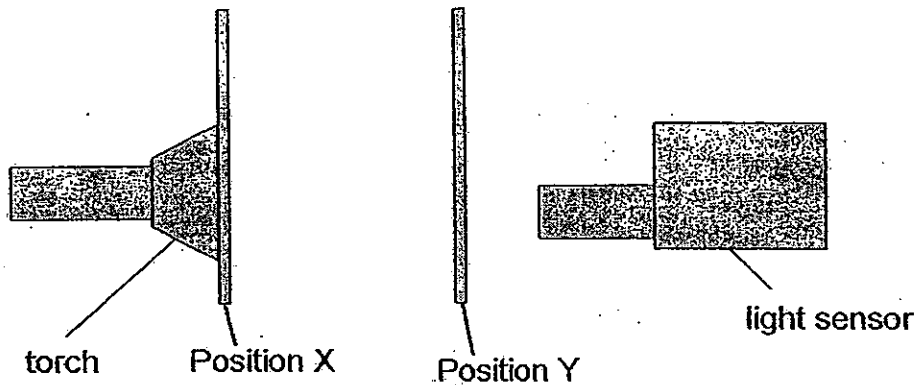
(4)



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16. Peter used a light sensor to detect the amount of light that passes through Material A, B, C and or D as shown in the diagram below. The higher the reading on the sensor means more light is able to pass through the material.



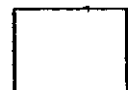
He recorded the data as shown in the table below.

Position X	Position Y	Reading on light sensor (units)
Material A	Material B	0
Material B	Material C	0
Material C	Material D	56
Material D	Material A	18

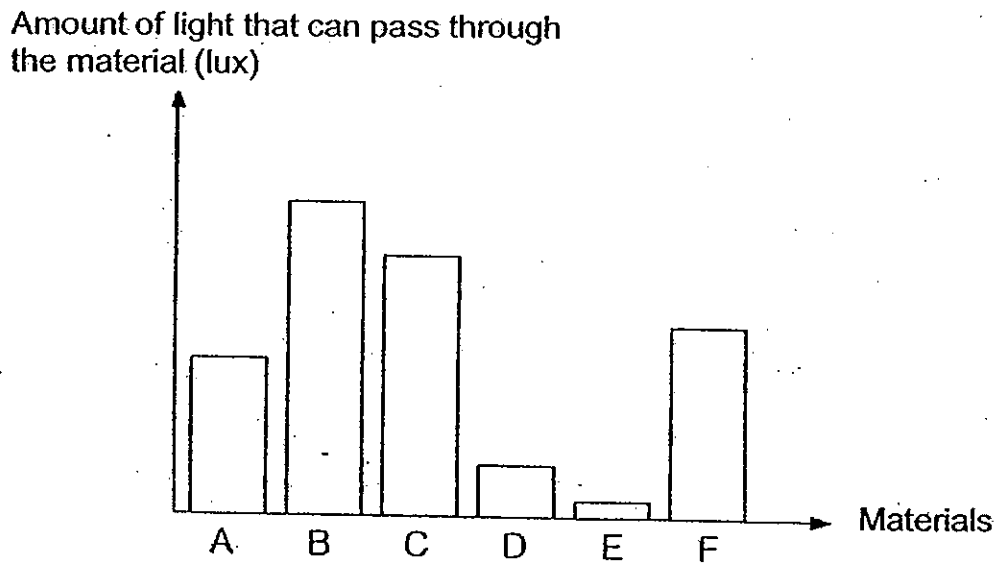
Which of the following is an opaque material?

- (1) Material A
- (2) Material B
- (3) Material C
- (4) Material D

()



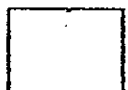
17. Jaylene conducted an experiment to measure the amount of light that can pass through six different materials. He used a light sensor to record the results in the graph shown below.



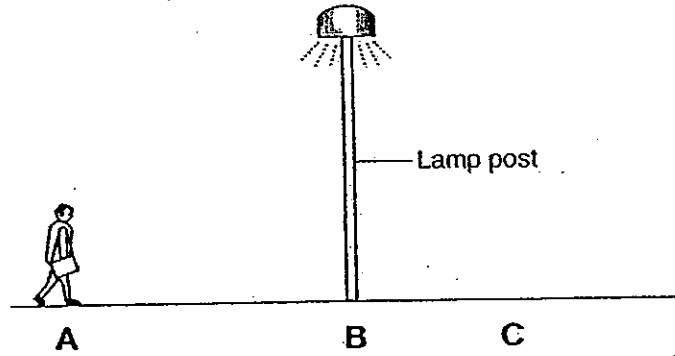
Based on the results given in the bar graph above, which of the following can be concluded?

- (1) Material B is opaque.
- (2) Material F forms a bigger shadow than Material D.
- (3) Material E forms a darker shadow than Material F.
- (4) Material B forms a sharper shadow than Material A.

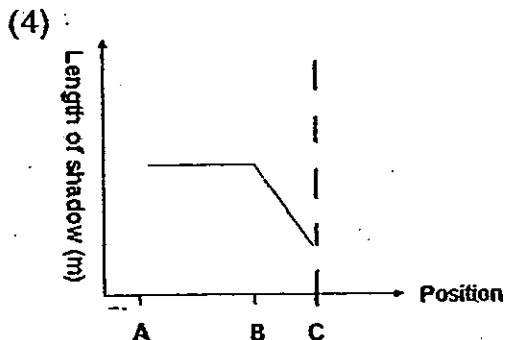
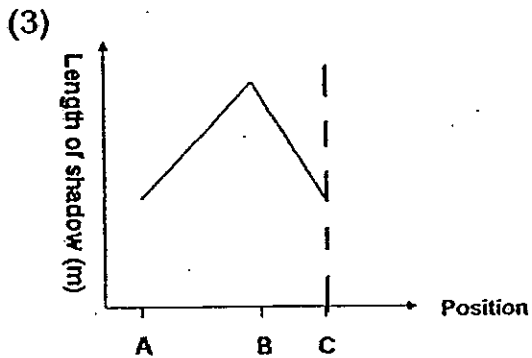
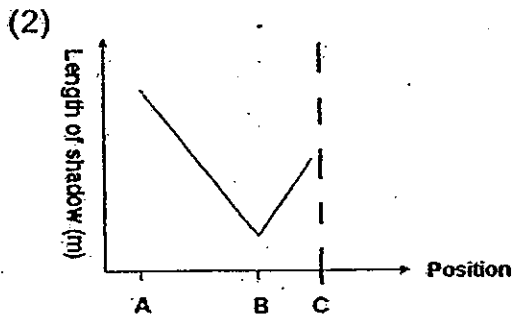
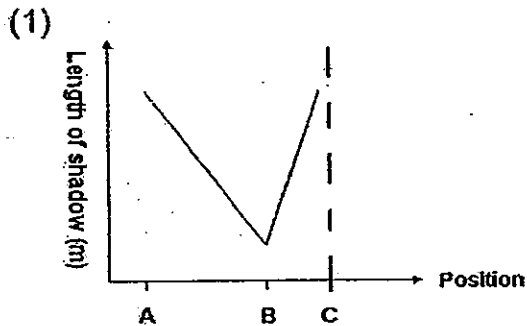
(. .)



18. John walked from A to C, passing by a lamp post at B.

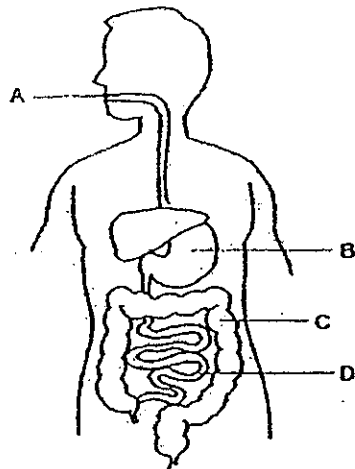


Which one of the following graphs correctly shows how the length of John's shadow changes from A to B?



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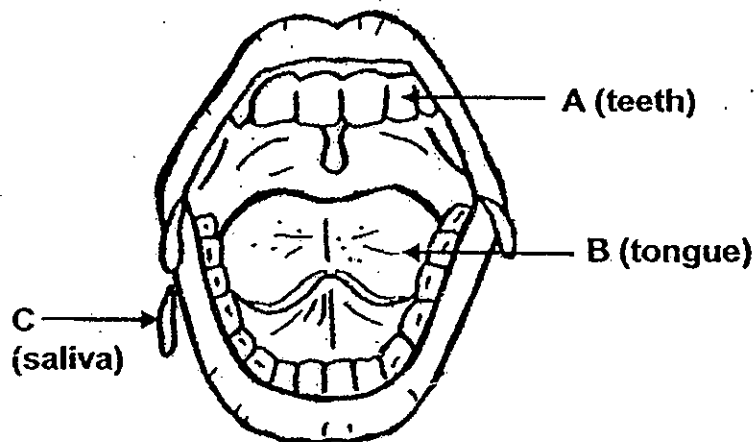
19. The diagram shows a human digestive system.
In which part(s) will digestion take place?



- (1) B only
- (2) B and D only
- (3) A, B and C only
- (4) A, B and D only

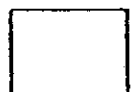
(. . .)

20. Which of the part(s), A, B or C help(s) in the process of digestion?

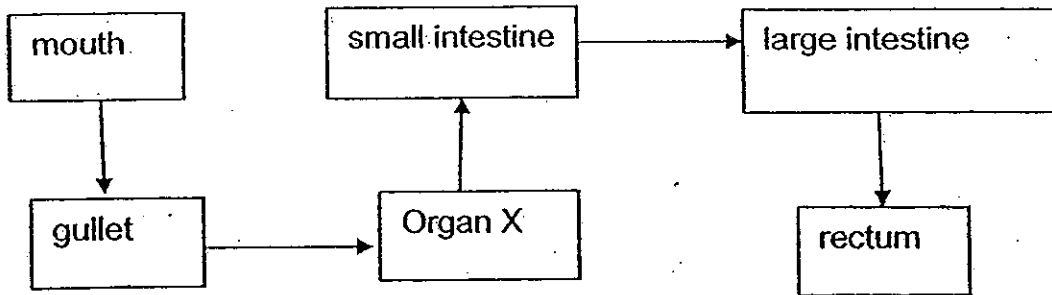


- (1) A and B
- (2) A and C
- (3) B and C
- (4) A, B, and C

(. . .)



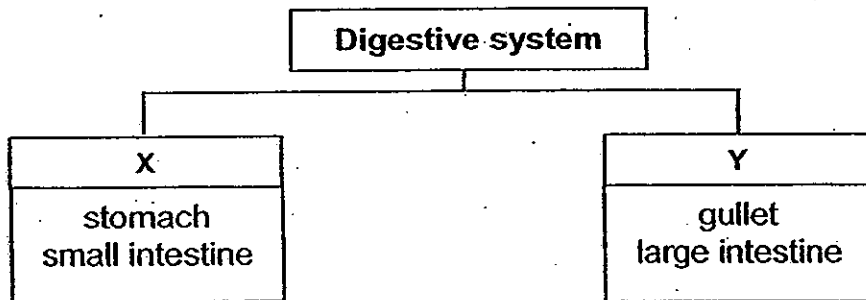
21. The diagram below shows how food travels in our body during digestion.



Which one of the following will happen if 'Organ X' is not working properly?

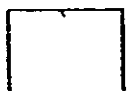
- (1) Water cannot be removed from undigested food.
- (2) Undigested food cannot be turned to solid waste.
- (3) Digested food cannot be absorbed into the blood stream.
- (4) More ^{digestive} ~~digested~~ juices cannot be added to break down the food to
 smaller ^{simpler} pieces.
 substances. ()

22. The table below shows how organs in the digestive system are classified.





Which of the following are suitable headings to replace X and Y?

	X	Y
(1)	Has muscles	Does not have muscles
(2)	Contains digestive juices	Does not contain digestive juices
(3)	Stores undigested food	Transports undigested food
(4)	Digested food absorbed into blood stream	Digestive ^{Digested} food not absorbed into blood stream ()



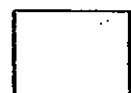
23. Diana placed 2 pots of plants in her garden. She measured the height of each plant after 1 week. The table below shows the set up for each plant.

Variables	Pot A	Pot B
		
Type of soil	Sandy soil	Garden soil
Amount of water given each day	100ml	100ml
Amount of fertiliser added	10g	10g

Diana was trying to find out if the growth of a plant is affected by the _____

- (1) type of soil
- (2) amount of sunlight
- (3) amount of fertiliser given
- (4) amount of water given daily

()



24. Kelly prepared four similar containers A, B, C and D. She placed the same amount of cotton wool and five bean seeds in each container. The containers were placed in different places with different conditions as shown in the table below.

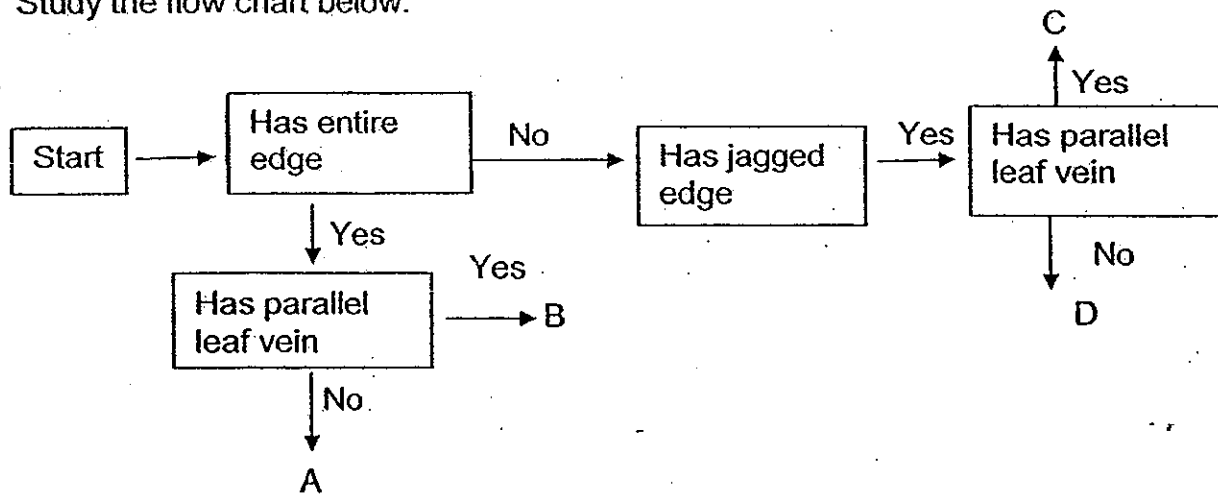
Based on the information, which container would have seedlings after 1 week?

	Container	Air	Water	Sunlight	Location of the containers
(1)	A	Yes	No	Yes	In an open area
(2)	B	No	Yes	Yes	In a sealed container
(3)	C	Yes	Yes	No	On the kitchen table
(4)	D	Yes	Yes	No	In the freezer

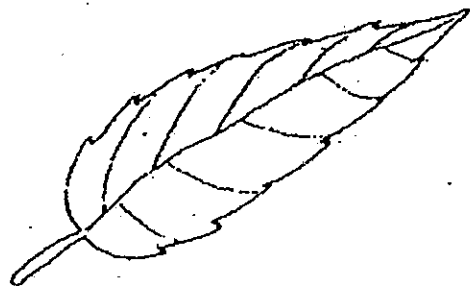
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25. Study the flow chart below.

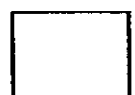


Which of the following A,B, C or D best represents the leaf below?

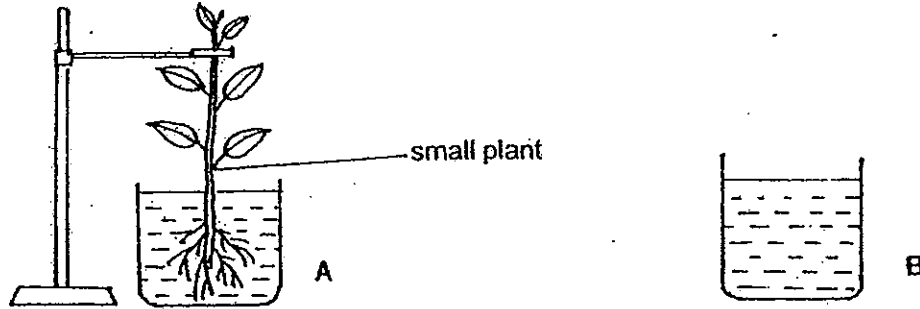


- 1) A
- 2) B
- 3) C
- 4) D

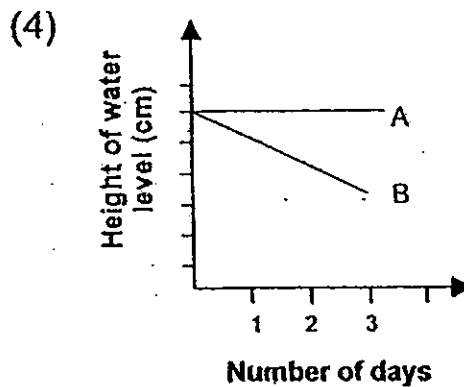
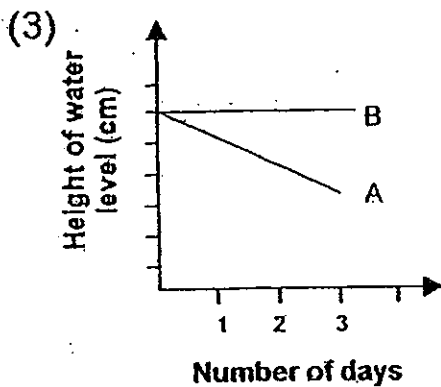
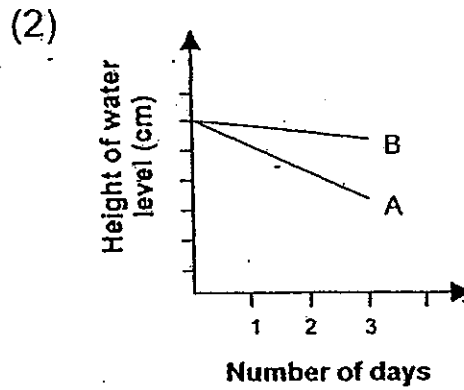
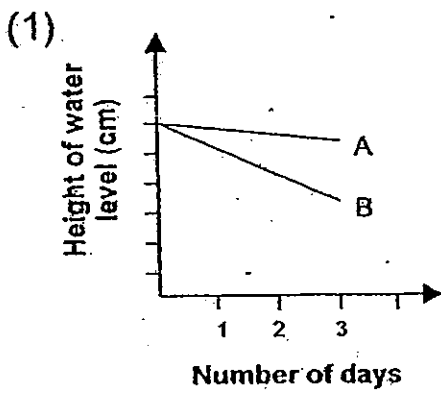
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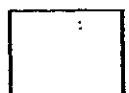
26. Two identical beakers were labelled A and B. 300cm^3 of water was poured into each beaker. A small plant was placed in Beaker A. Both beakers were left in a shady place. The height of the water level in each beaker was recorded every day. After 3 days, the results were presented in a graph.



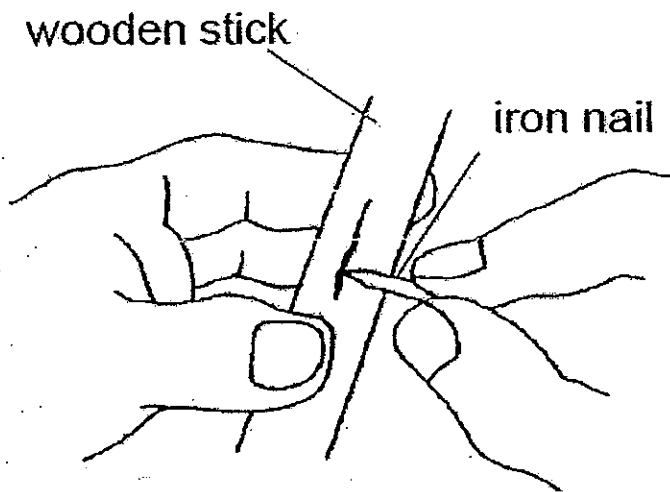
Which one of the following graphs correctly shows the changes in the water levels in both beakers?



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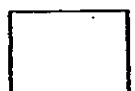
27. Sammy can easily scratch a wooden stick with an iron nail.



This shows that the iron nail is _____ than the wooden stick.

- (1)harder
- (2)heavier
- (3)more flexible
- (4)stronger

()



28. Iron is used to make nails because iron _____.

(1) is shiny

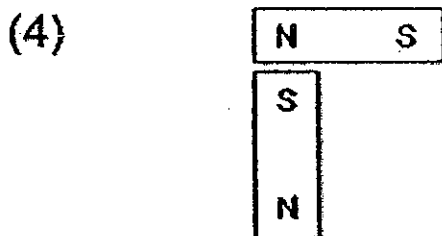
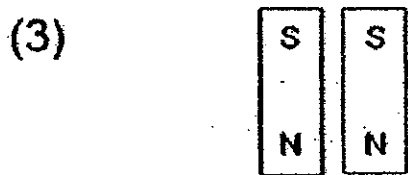
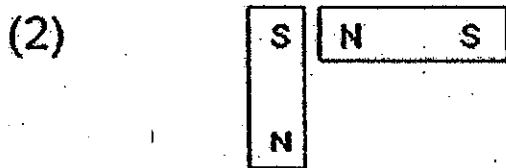
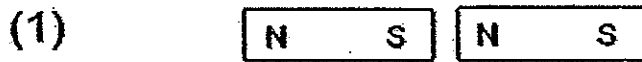
(2) is strong

(3) sinks in water

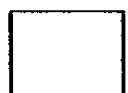
(4) conducts heat well

()

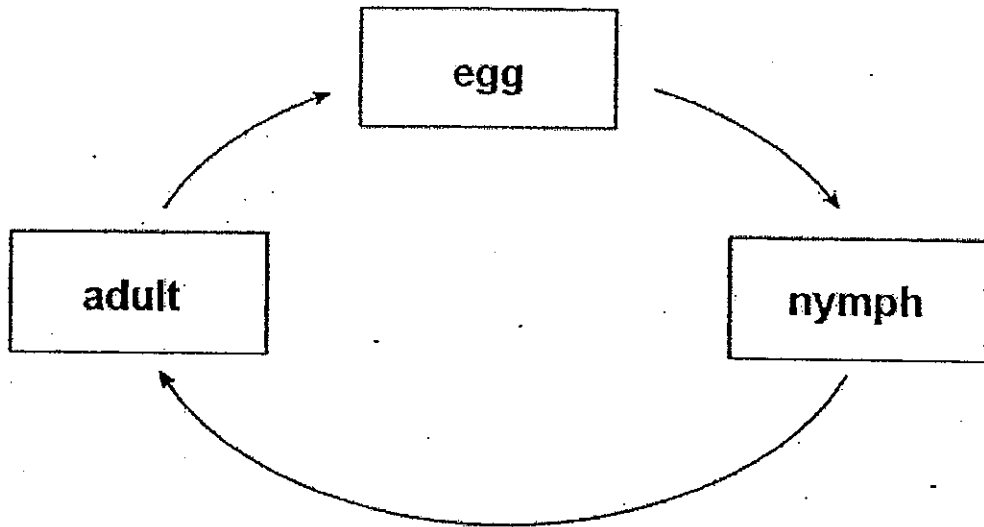
29. In which one of the following will the two magnets push each other away?



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30. The diagram below shows the life cycle of an animal.

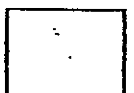


Which animal is likely to have the life cycle as shown above?

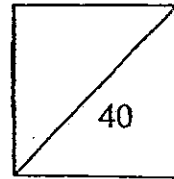
- (1) Beetle
- (2) Butterfly
- (3) Chicken
- (4) Cockroach

(1)

End of Part 1



**HENRY PARK PRIMARY SCHOOL
2010 SEMESTRAL EXAMINATION II
SCIENCE
PRIMARY 4**



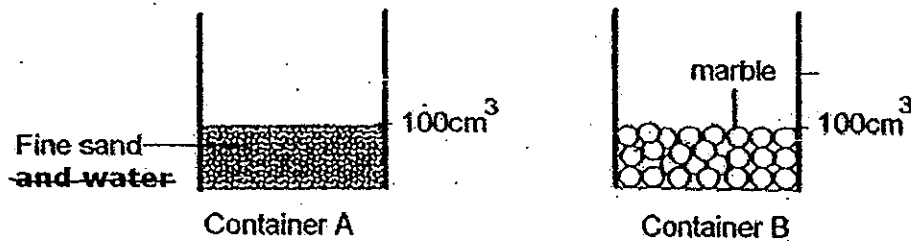
Name: _____ ()

Class: Pr 4 _____

PART 2 (40 marks)

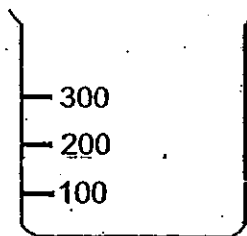
Write your answers to questions 31 to 46 in the spaces given.

31. The diagrams below show two containers, A and B, containing 100cm^3 of fine sand and 100cm^3 of marbles respectively.



Nikita poured the sand from Container A into Container B. She shook Container B until the mixture is settled.

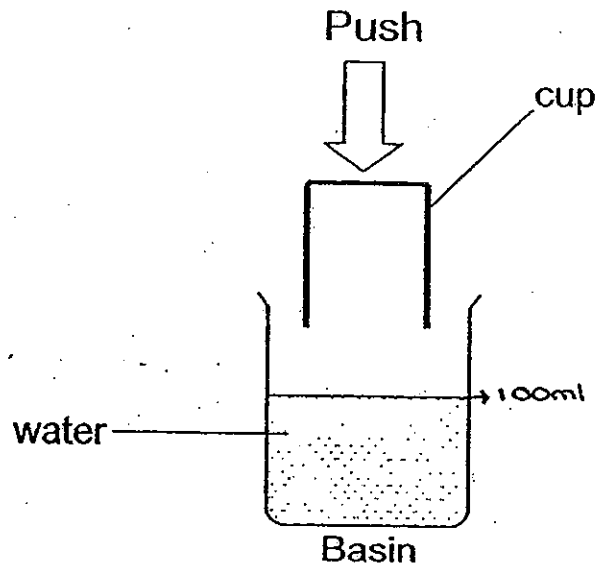
- a) Draw a line to indicate the new level that Nikita will see in Container B. (1m)



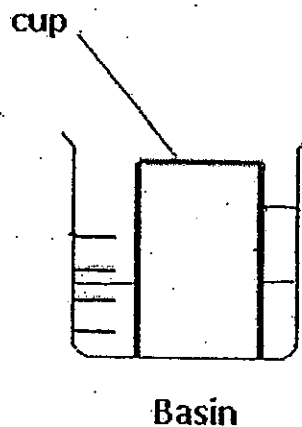
- b) Give a reason for your answer in (a). (1m)



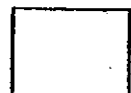
32. Ziqin carried out the investigation below. She filled a basin with water and pushed a cup in until it touched the bottom of the basin.



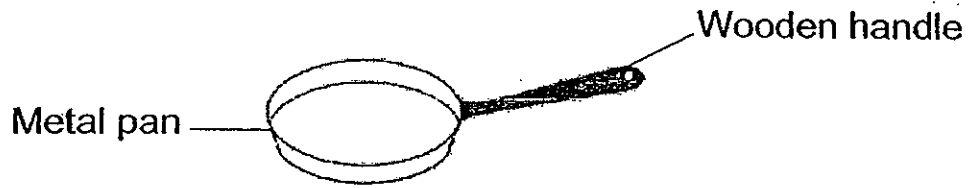
- a) In the diagram below, draw the change in the water level that Ziqin will see in the basin and the cup after she has pushed the cup in. (1m)



- b) Does the water fill the cup completely when the cup is pushed into the water? Explain your answer. (1m)

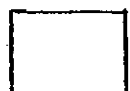


33. The diagram below shows a frying pan.

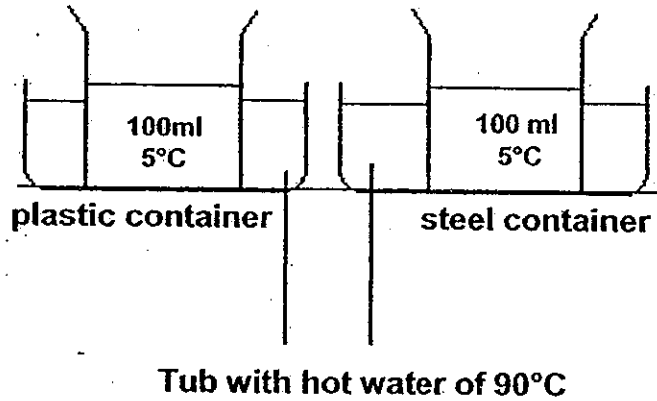


a) The handle is made of wood because it is a _____ conductor of heat. (1m)

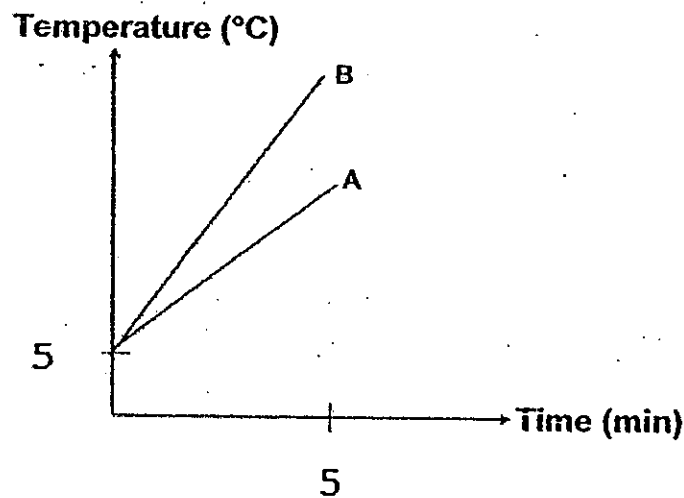
b) The pan is made of metal because it is a _____ conductor of heat. (1m)



34. The diagram below shows two similar containers. One is made of plastic while the other is made of steel. Each container has 100ml of water at 5°C. Both containers are placed into a tub of hot water. The temperature of the hot water is 90°C.



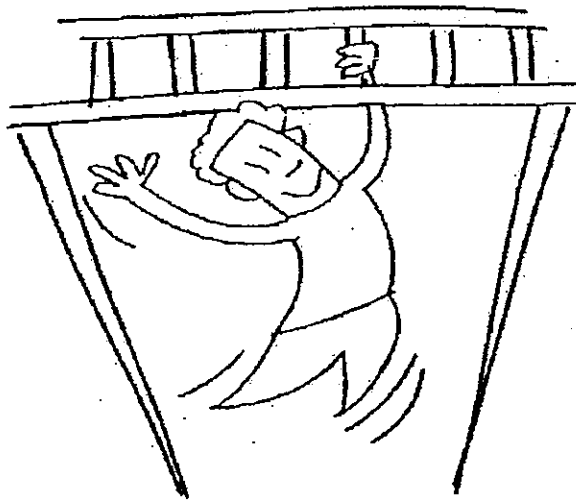
The temperature changes for the water in both containers for the first 5 minutes are recorded in the graphs shown below.



- a) Which line (A or B) shows the changes in the temperature of the water in the steel container? (1m)



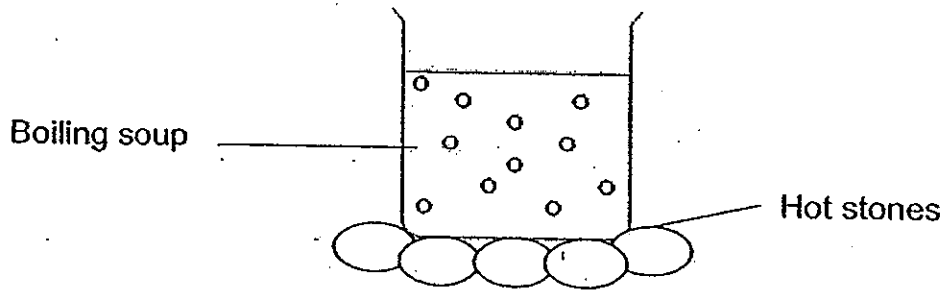
b) Metal is a suitable material for making monkey bars because it is strong. (1m)



Using information in (a), explain why it is not suitable to place the monkey bars in areas directly under sunlight.



35. Jason went for a steamboat dinner. The waitress placed his pot of soup onto some hot stones as shown in the diagram below. Soon, the soup started to boil but there was no fire.



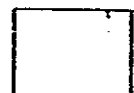
a) Describe how Jason's soup obtains energy to boil.

(1m)

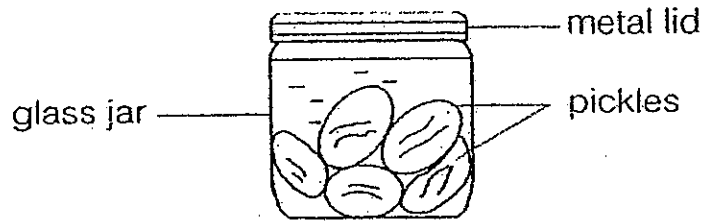
When the waitress added more soup to the pot, she also had to replace the stones with another set of freshly heated stones.

b) Why does the waitress need to replace the stones with freshly heated ones?

(1m)



36. Sam could not unscrew the metal lid on a jar of pickles as shown below.



- a) Describe how Sam could unscrew the metal lid more easily using only a basin of ice cubes. (1m)

- b) Explain how the method in (a) enables Sam to unscrew the lid easily. (1m)

- c) Sam's sister claimed she could unscrew the lid easily using a basin of hot water instead. Explain how it would work. (1m)



37. A pole is placed in front of a flight of stairs. A light is shone onto the pole as shown in the diagrams below.

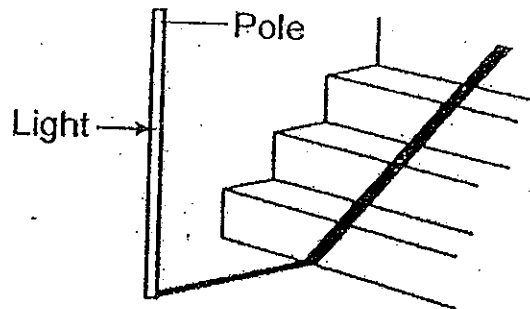


Diagram 1

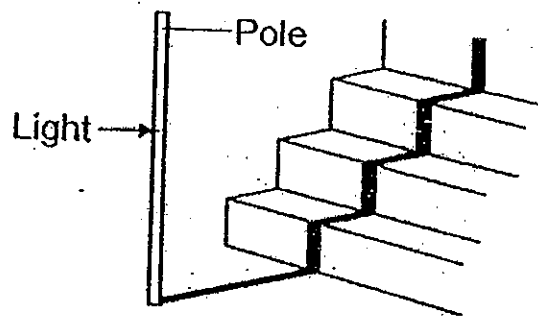
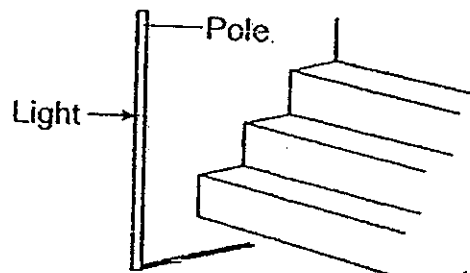


Diagram 2

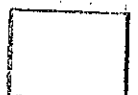
- a) Which one of the above diagrams correctly show the shadow as it falls across the steps? (1m)

Diagram _____

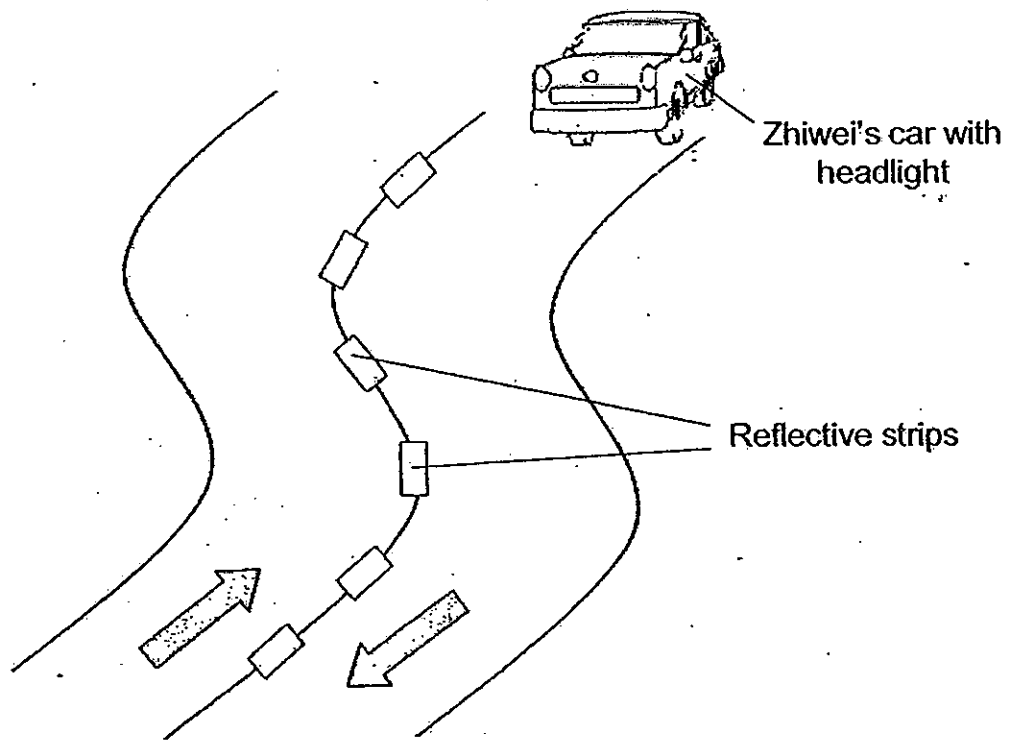
- b) Look at the diagram below.



- Without moving the poles, what should be done to cast ~~a~~ ^{the} shadow in this diagram? (1m)

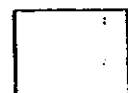


38. Zhiwei was driving his car along a road at night with no street lamps. Luckily, he could still see his way using the reflective strips on the road along the way.

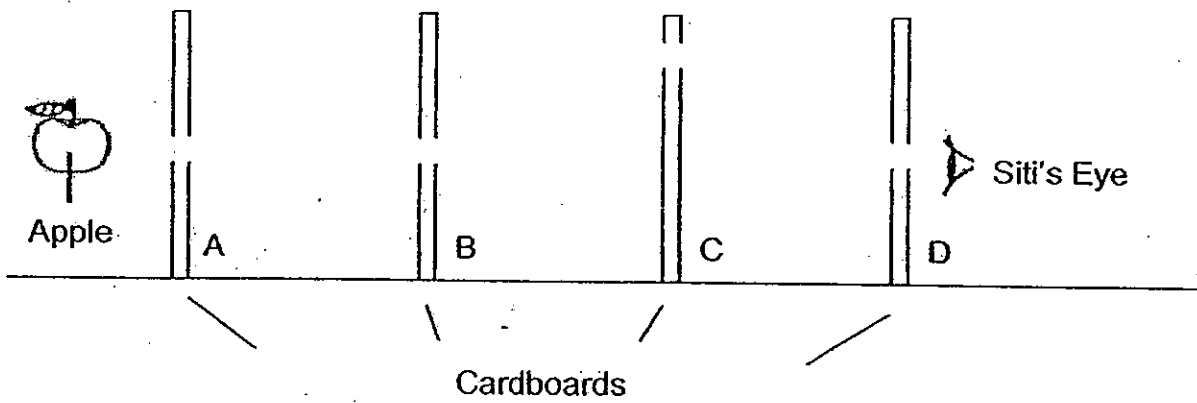


- a) What is the main source of light for Zhiwei to see the reflective strips on the road? (1m)

- b) Explain how Zhiwei is able to see the reflective strips. (2m)

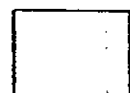


39. Cardboard A, B, C and D are placed in a straight line as shown in the diagram below. Siti is looking through the holes of the cardboards.



- a) Will Siti be able to see the apple on the other side of the cardboards? (2m)
Explain why.

- b) Which cardboard must she replace with a piece of glass in order to see the apple at the other end? Explain why. (2m)



40. a) Identify the organs of the human digestive system and describe their functions. (2m)

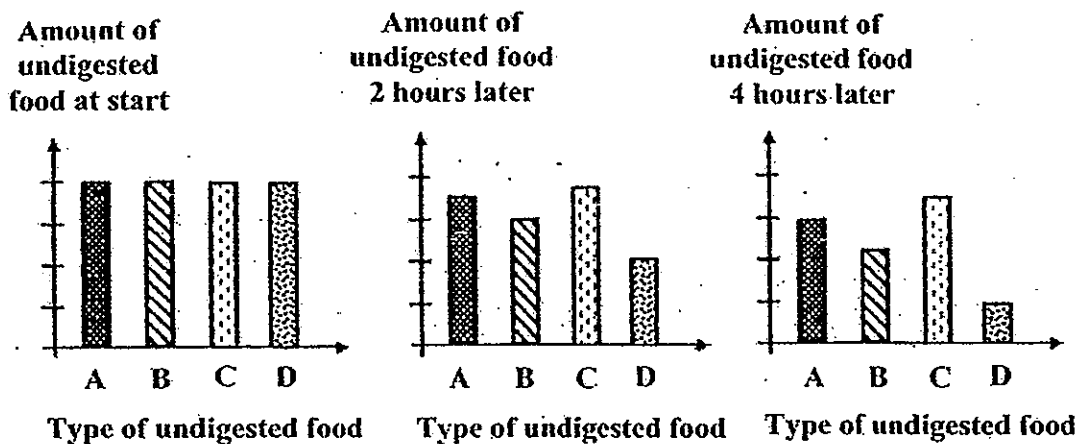
Choose the correct words from the box to answer the questions below.

gullet large intestine mouth
 small intestine stomach

Digestion first takes place: _____

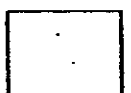
Digestion is completed : _____

- b) The graphs below show the changes in the amount of four different types of undigested food, A, B, C and D in our digestive system over a period of time.

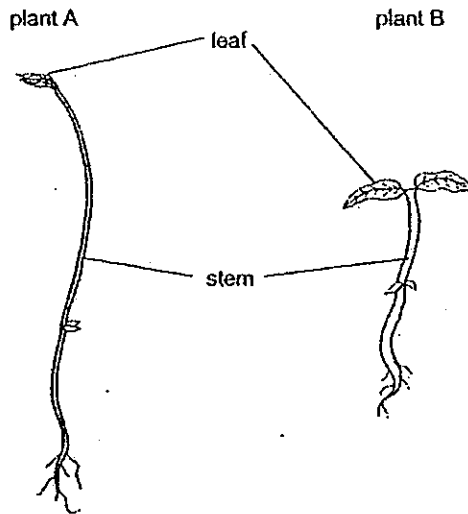


- bi) Based on the information given in the graphs, which type of undigested food is most difficult to digest? (1m)

- bil) Give a reason for (bi). (1m)



41. The diagram below shows two plants.

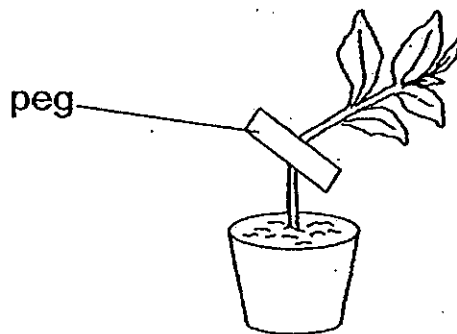


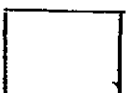
a) What is one difference between the stem of plant A and the stem of plant B? (1m)

The stem of plant A is _____ than the stem of plant B.

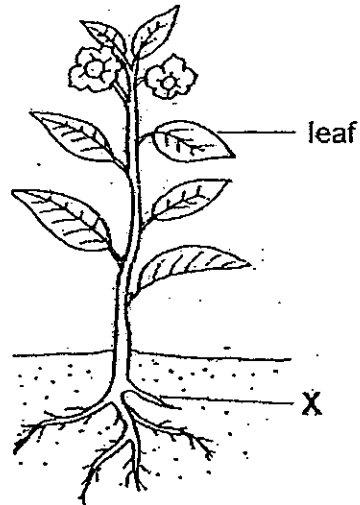
b) The leaves help both plants to make _____ in the presence of light. (1m)

c) The diagram below shows a plant with its stem clipped tightly with a peg. It died after some time. Why? (1m)





42. The diagram below shows a plant.

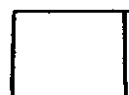


a) Label the Plant Part X. (1m)

X: _____

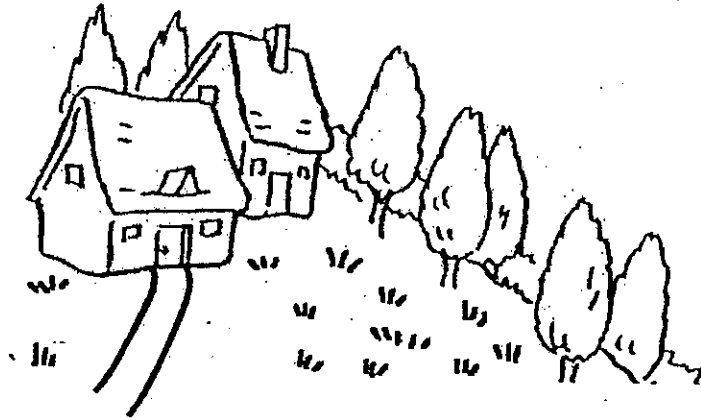
b) One substance that the plant part X takes in is _____

(1m)

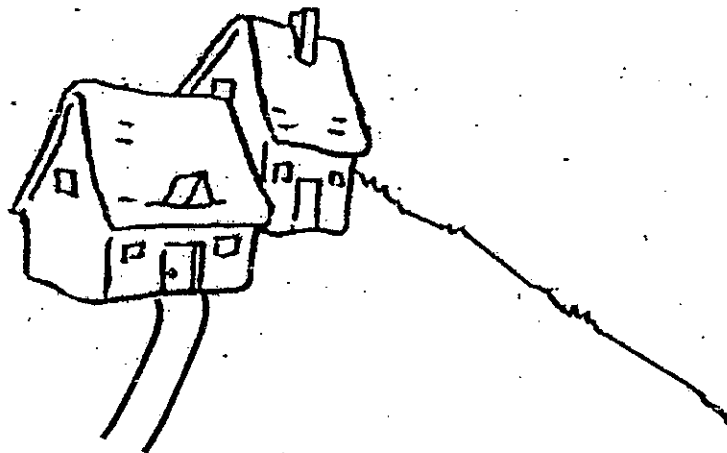


- c) The owners of the houses in Picture A planted many plants on the slope but the owners of the houses in Picture B did not plant any plants on the slope at all. (1m)

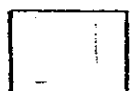
Picture A



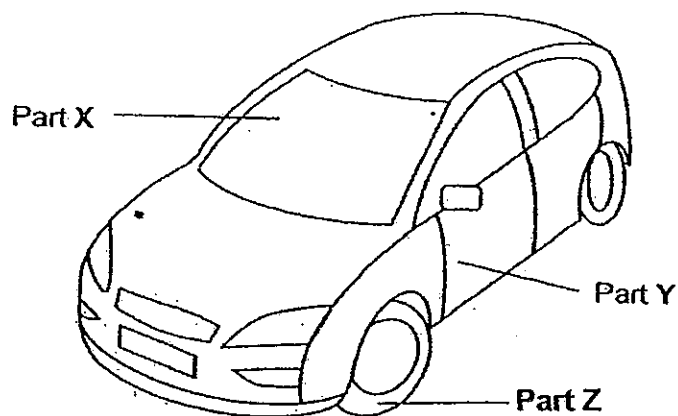
Picture B



Explain how planting plants on slope prevents soil from being washed onto the roads.



43. The diagram below shows a car.



a) Part X is made of glass because it allows _____ to pass through so that the driver can see the road. (1m)

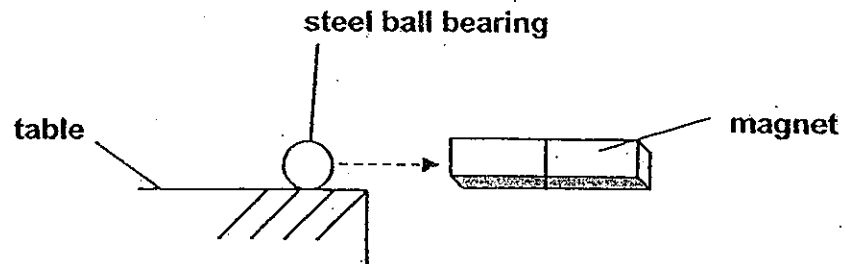
b) Part Y is made of _____ because Y has to be strong. (1m)

c) Name a suitable material to make Part Z. (1m)

d) Give a reason to support your answer in (c). (1m)



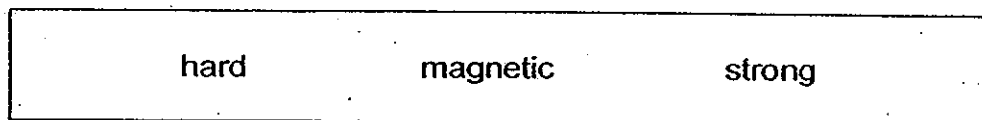
44.



Joleen places a magnet near a steel ball bearing. The ~~iron~~ ^{Steel} ball bearing moves towards the magnet.

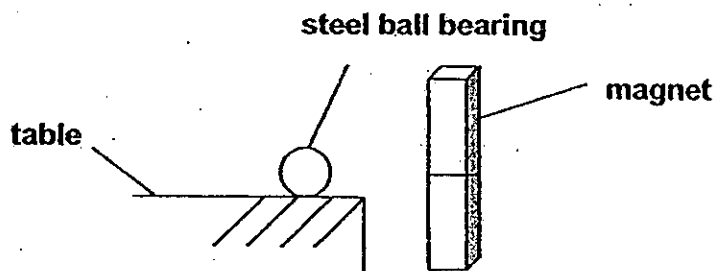
a) The magnet exerts a _____ on the steel ball bearing. (1m)

b) Choose the correct word from the box to answer the question below. (1m)



Joleen's observation shows that steel is a _____ material.

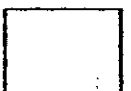
Joleen then held the magnet upright as shown below and realises that the magnet was no longer able to attract the steel ball bearing.

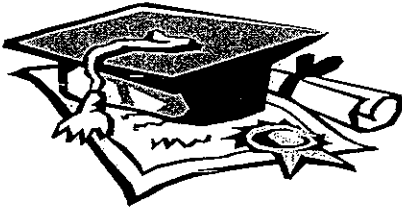


c) What can Joleen conclude about the strength of magnets? (2m)

End of Part 2

Setters: Ms Kwok HM and Ms Wong KF





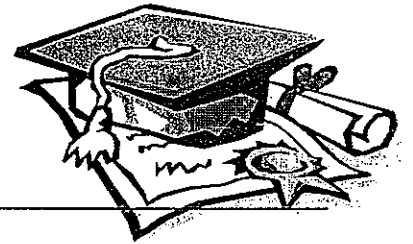
ANSWER SHEET

EXAM PAPER 2010

SCHOOL : HENRY PARK PRIMARY

SUBJECT : PRIMARY 4 SCIENCE

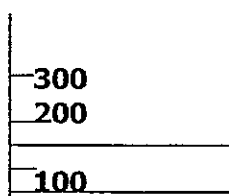
TERM : SA2



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
2	2	2	3	3	1	3	1	3	3	3	4	1	4	4	2	3

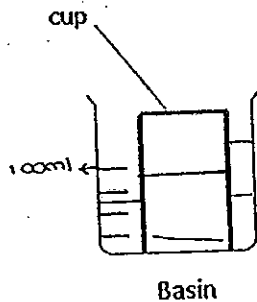
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	4	4	4	4	1	3	4	2	1	2	3	4

31a)



31b) the fine sand occupies the space between the marbles.

32a)



32b) No, it does not. The cup has air which occupies space and does not allow the water to fill the cup completely.

33a) poor 33b) good

34a) Line B

34b) Metal is a conductor of heat and it will gain the heat and burn your hands.

- 35a) the soup gained heat from the hot stones.
- 35b) The old stones would have lost heat to the soup and they need new stones for the additional soup.
- 36a) Sam could place the glass jar in the basin of ice cubes.
- 36b) The glass jar would contract and there would be a gap between the lid and the jar.
- 36c) She could place the metal lid in the basin of hot water and it would expand.
- 37a) Diagram 2
- 37b) The position of the light source is moved higher to that of the object.
- 38a) Zhiwei's car headlight allow Zhiwei to see the reflective strips.
- 38b) The light from the car is reflected to the reflected strips to his eyes.
- 39a) The holes of the cardboards are not in a straight line and light can only travel in a straight line.
- 39b) Cardboards C. Light can travel through the glass.
- 40a) mouth
Small intestine
- 40bi) Undigested food C
- 40bii) The amount of undigested food remains the most after 4 hours in the end.
- 41a) thinner 41b) food
- 41c) Water and mineral salts cannot be transported from the roots to all parts of the plant to make food.
- 42a) Roots 42b) water
- 42c) The roots of the grass holds the soil together.
- 43a) light 43b) metal 43c) Rubber 43d) It is waterproof
- 44a) Magnetic force 44b) magnetic 44c) Magnets are strongest at its poles.

----- End -----