



NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

**SEMESTRAL ASSESSMENT 1
2015**

BOOKLET A

**Date : 12 May 2015
Duration : 1 h 45 min**

Name : _____ ()

Class: Primary 5 ()

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet A consists of 22 printed pages including this cover page.

Section A (30 x 2 marks = 60 marks)

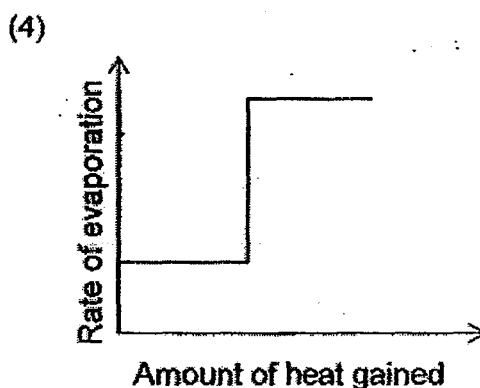
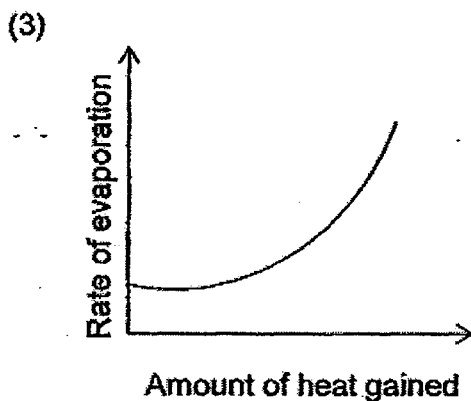
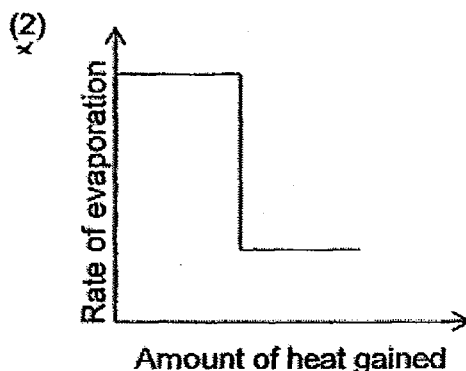
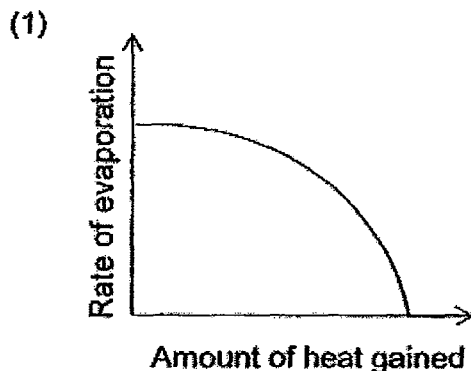
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.

1. The table below shows the melting point and boiling points of 4 substances E, F, G and H.

Substances	Melting Point ($^{\circ}\text{C}$)	Boiling Point ($^{\circ}\text{C}$)
E	70	99
F	23	67
G	47	120
H	15	36

At which temperature, will only two substances be found in the liquid state?

- (1) 22°C (2) 45°C
(3) 78°C (4) 100°C
2. Which one of the following graphs correctly represents the relationship between the rate of evaporation of a liquid and the amount of heat gained?



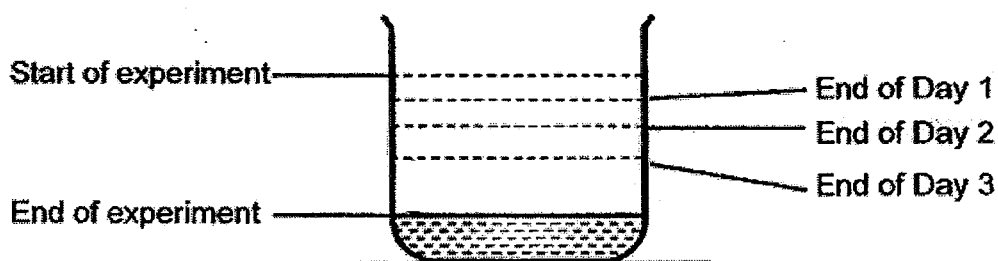
3. Mary wanted to conduct an experiment to find out if pesticide has an effect on the growth of duckweeds. She collected some water from ponds R and S and prepared 4 different set-ups A, B, C and D as shown below.

Set-ups	Water from Pond	Number of duckweeds	Amount of water (ml)	Amount of pesticides added (ml)
A	S	20	150	40
B	S	15	100	0
C	R	15	100	0
D	R	15	100	40

Which of these set-ups should Mary use to conduct a fair test for her experiment?

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

4. A beaker of water was left in the open for 4 days. There was no rainfall over the 4 days. The beaker was filled with water to the level indicated at the start of the experiment.

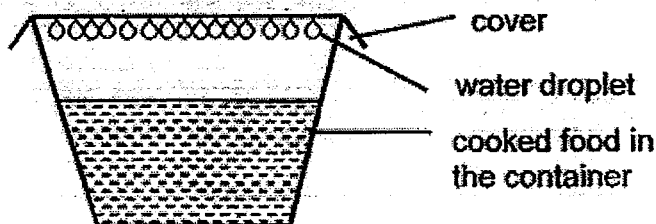


A line was drawn on the beaker to indicate the water level at the end of each day.

On which day was the rate of evaporation the highest?

- (1) Day 1
- (2) Day 3
- (3) Day 2
- (4) Day 4

5. Mrs Song packed a container of cooked food for her lunch break. Before she left for work, she observed that water droplets were formed under the cover in the enclosed container.



Which of the statement(s) below correctly explain(s) her observations?

- A The hot water vapour from the cooked food lost heat to the cooler cover and condensed to form water droplets.
- B The water vapour from the cooked food gained heat from the cover and condensed to form water droplets.
- C The cover gained heat from surrounding air to form water vapour, then it lost heat to the container and formed water droplets.
- D The hot water vapour outside the container lost heat to the cover and condensed to form water droplets.

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

6. The diagram below represents the processes that cause the changes in the state of water.



Which of the following is true about processes X and Y?

- A Heat is gained during both processes X and Y.
- B Heat is gained during process X but heat is lost during process Y.
- C The temperature of water remains the same during process Y while the temperature of ice increases during process X.
- D The temperature of the ice remains the same during process X and temperature of the water also remains the same during process Y.

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

7. Yen used a magnifying glass to observe a plant. It does not produce flowers at all but she noticed some brownish-black dots on the underside of the leaves. She also saw some of the same spots on the cracks of the wall beside the plant. After a few months, plants of the same species were seen growing from the cracks on the wall.

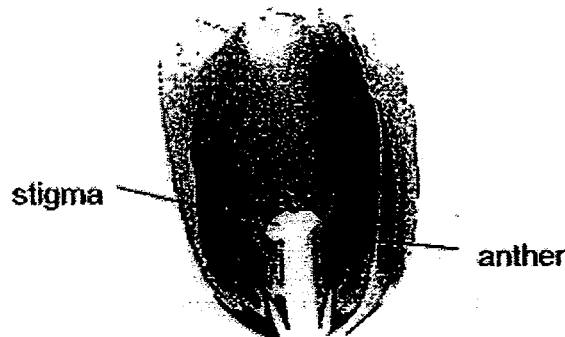
What could the brownish-black dots most likely be?

- (1) seeds (2) spores
(3) ovules (4) pollen grains

8. Plant W has fruits which are sweet, juicy and have many small seeds. Why is it useful for the plant to produce fruits with many seeds?

- (1) Many seeds make the fruits sweeter.
- (2) Many seeds are needed to produce one new plant.
- (3) Many seeds are needed during fertilisation to produce more fruits.
- (4) Many seeds increase the chances that they may grow into new plants when dispersed.

9. The diagram below shows the flower of plant X. The petals are brightly-coloured and nectar can also be found in the flower.



Based on the diagram and description above, how is this flower most likely pollinated?

- (1) wind and birds only (2) wind and insects only
- (3) birds and insects only (4) wind, birds and insects

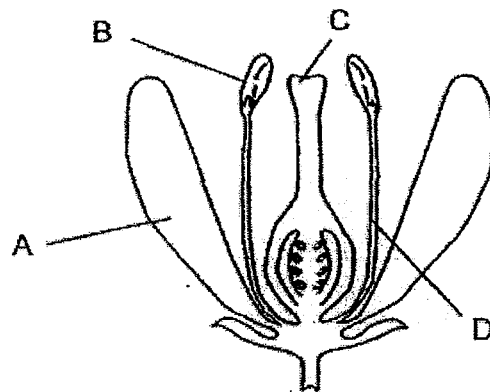
10. Rene wanted to find out if insects are attracted to certain colours of flowers. She decided to conduct her own experiment using 10 paper flowers.

Which of the following steps should she take to prepare her paper flowers to ensure a fair test?

- A Cut all the flowers to the same size
- B Add scent to all her flowers
- C Add scent to only 5 flowers
- D Cut 5 big flowers and 5 small flowers
- E Use 5 red flowers and 5 yellow flowers
- F Use 10 red flowers

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

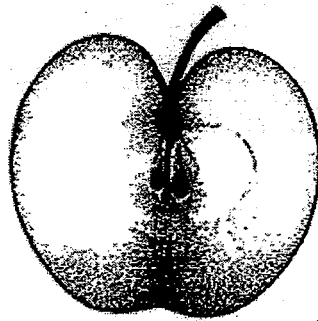
11. The diagram below shows different parts of a flower.



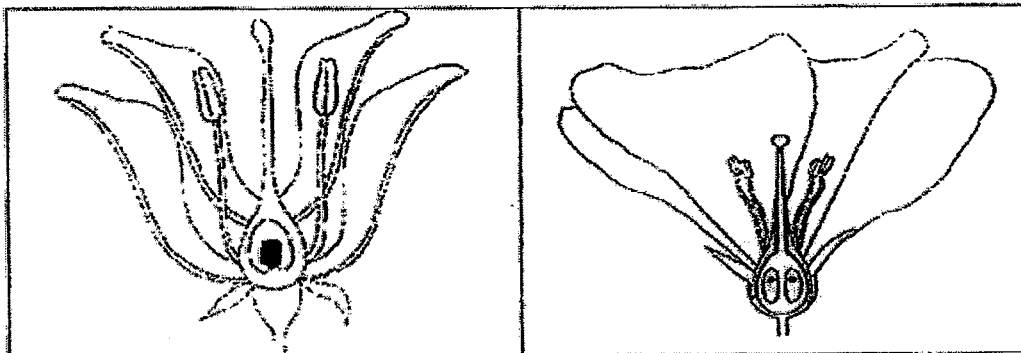
Which part is not necessary during wind-pollination?

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

12. Study the diagrams of the cross-section of fruit M and the cross-sections of the ovaries for flowers A, B, C and D below.

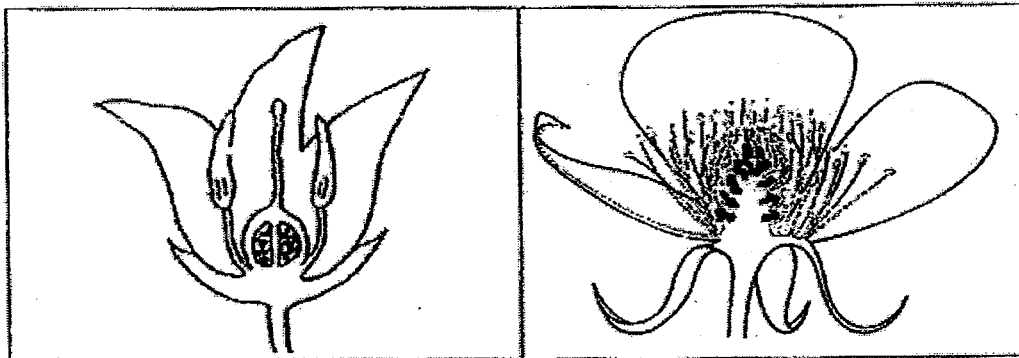


Fruit M



A

B



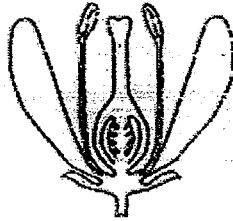
C

D

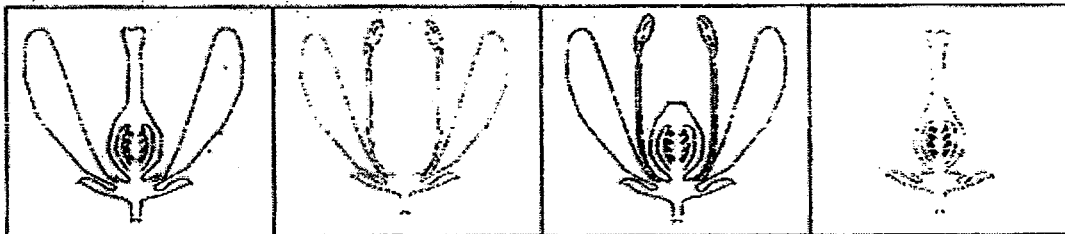
Based on the above diagrams, which flower(s) could most likely produce fruit M after pollination and fertilisation?

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

13. Jen found a flower as shown below.



She then plucked another 4 similar flowers from the same plant and removed the parts as shown below.



A

B

C

D

Which of these flowers may still develop into a fruit even though she had removed some of their parts?

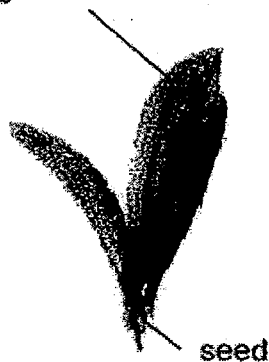
- (1) B only
(2) A and B only
(3) C and D only
(4) A, C and D only
14. Which one of the following statements is true?
- (1) The pollen grain fuses with the egg in the ovary.
(2) After fertilisation, the ovules will develop into seeds.
(3) The fusion of the male and female cells will form an egg.
(4) Fertilisation occurs when the pollen grain is transferred to the stigma.

15. It is observed that some birds feed on the fruits of plant X. The fruits contain many seeds and the birds pass out the undigested seeds in their droppings far away from the parent plant. How does this help plant X?

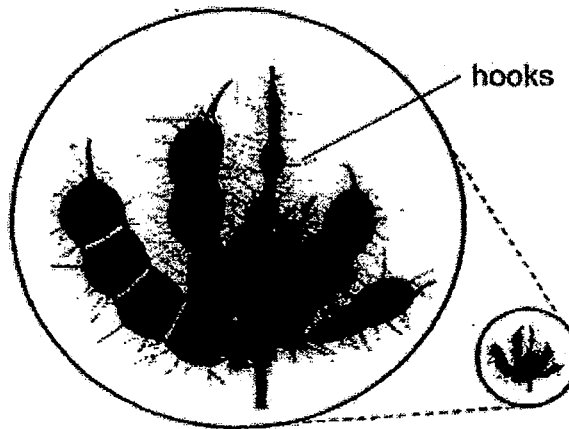
- (1) The plant will be able to produce more seeds.
- (2) The birds help to germinate the seeds before passing them out.
- (3) The birds will help to prevent the plant from reproducing when they swallow the seeds.
- (4) Young plants will not need to compete for space, sunlight, mineral salts and water with the adult plant.

16. Study the characteristics of the fruits shown below.

wing-like structure



Fruit A



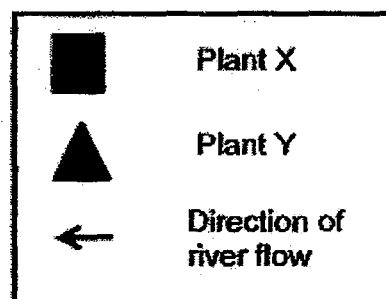
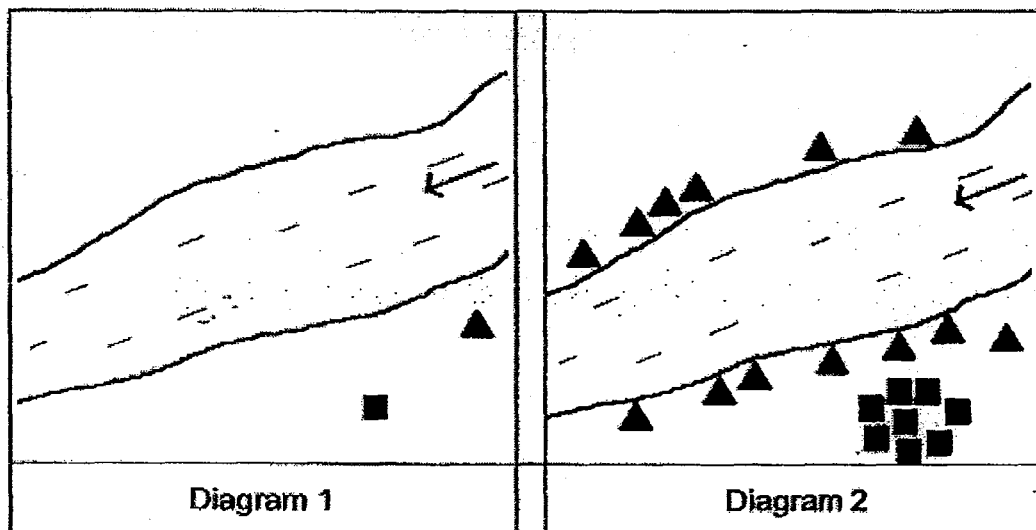
Fruit B

Actual size of
Fruit B

How are the seeds of fruits A and B most likely dispersed?

	A	B
(1)	wind	water
(2)	water	wind
(3)	wind	animals
(4)	animals	splitting

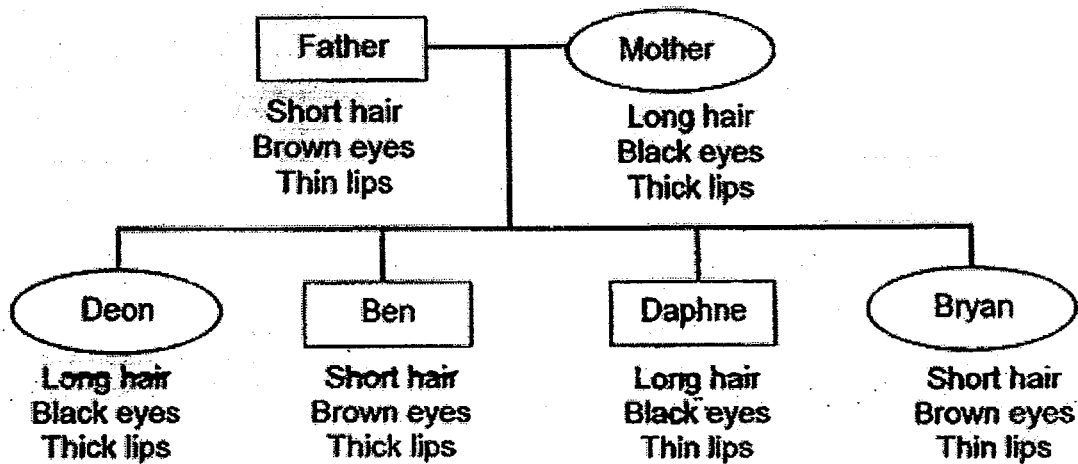
17. The diagrams below show part of a river where two types of plants are growing. Diagram 1 shows the location of the parent plants and Diagram 2 shows where their offsprings had been dispersed a few years later.



How had the fruits of each type of plant most likely been dispersed?

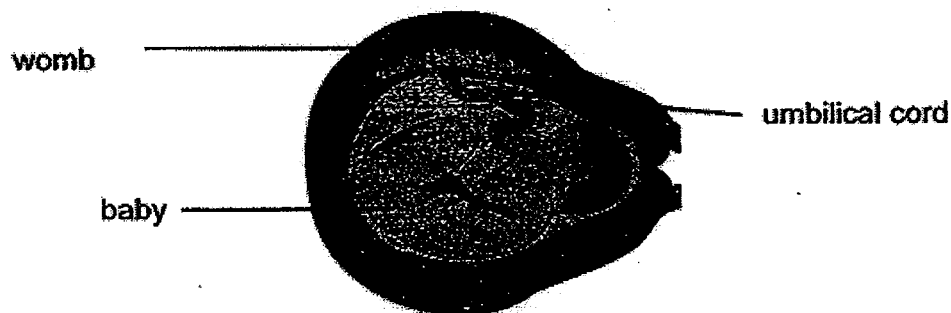
	Plant X	Plant Y
(1)	Splitting	Wind
(2)	Wind	Water
(3)	Splitting	Water
(4)	Animals	Splitting

18. Study the family tree below. A brief physical description of each family member is stated below each family member.



Which of the following children inherited only one characteristics from each parent?

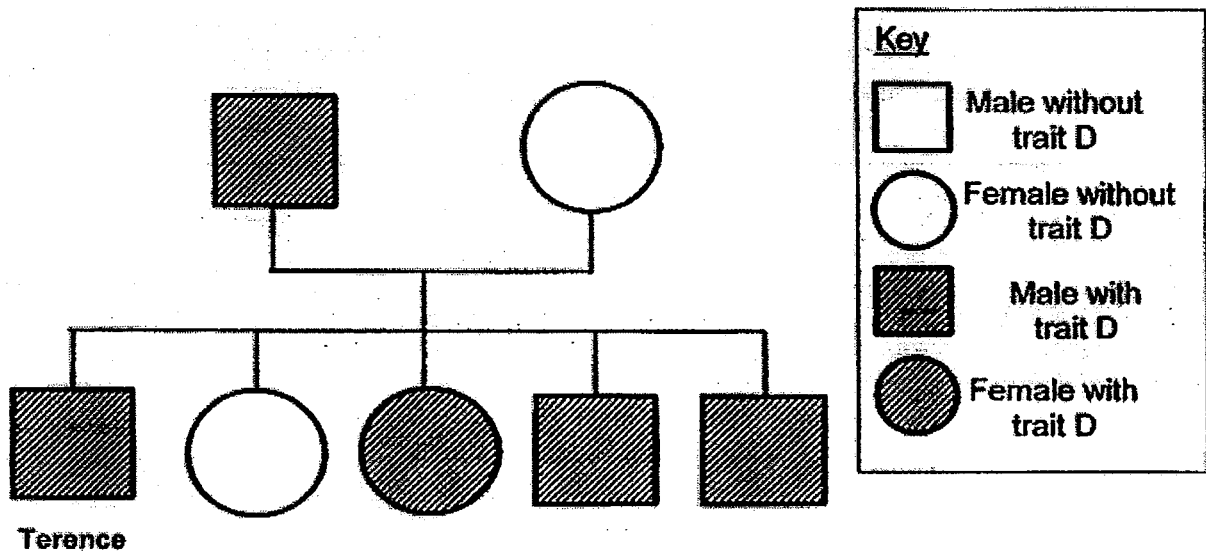
- (1) Deon and Bryan only (2) Ben and Daphne only
(3) Deon, Ben and Daphne only (4) Ben, Bryan and Daphne only
19. The diagram below shows a developing baby in its mother's womb.



Which one of the following statements about the developing baby is **wrong**?

- (1) The baby is developed from a fertilised ovary.
(2) The baby receives food through the umbilical cord.
(3) The baby is formed when the sperm fuses with an egg.
(4) The baby carries genetic information from both its parents.

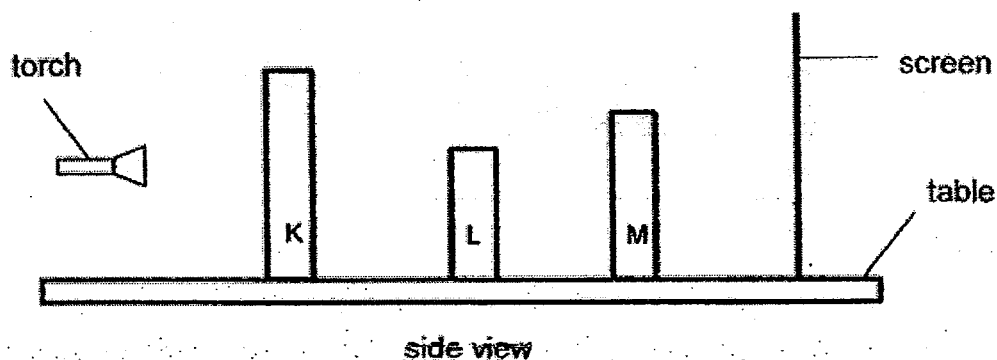
20. Trait **D** is passed down from the parents to their young. The diagram below shows Terence's family tree. Terence had been labelled in the family tree.



Which one of the statements about Terence's family is **correct**?

- (1) Terence and his 3 siblings have trait D.
- (2) Only the males in the family do not have trait D.
- (3) Terence's mother has passed down trait D to him.
- (4) Terence and one of his siblings do not have trait D.

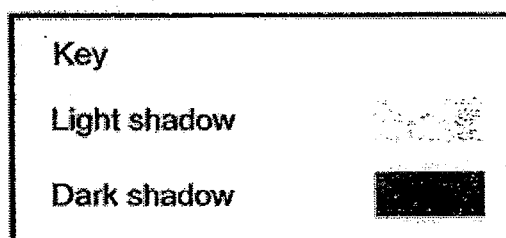
21. Three square objects at positions K, L and M were placed in a straight line on a table. Light was shone as shown below to obtain a shadow on the screen.



The table below describes the objects.

Object	opaque	translucent	transparent	height (cm)
K			√	6
L	√			3
M		√		4

Which one of the following shadows is most likely to be the one seen on the screen?



(1)



(2)



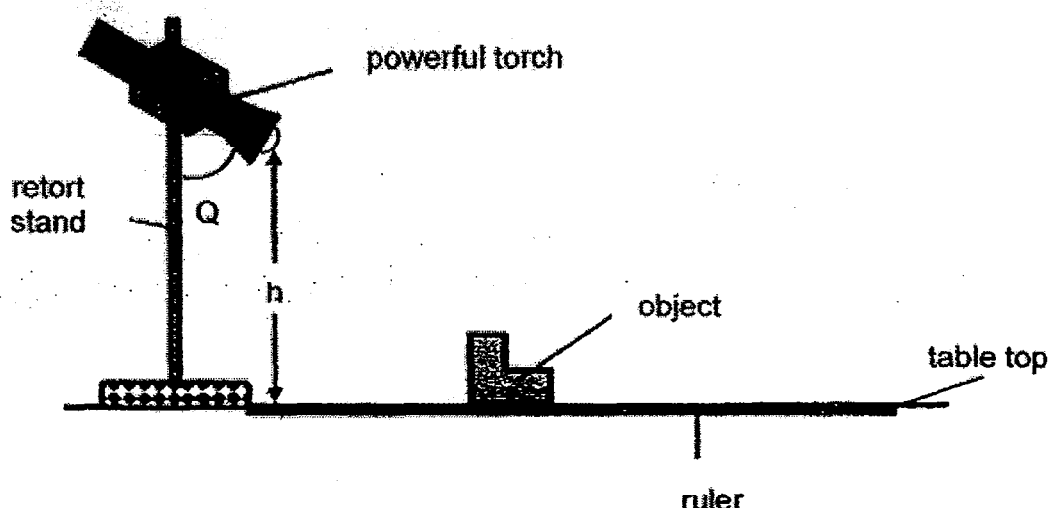
(3)



(4)



22. David used a powerful torch to shine at an object as shown below. He measured the length of the object's shadow every time he changed the distance between the object and the retort stand.

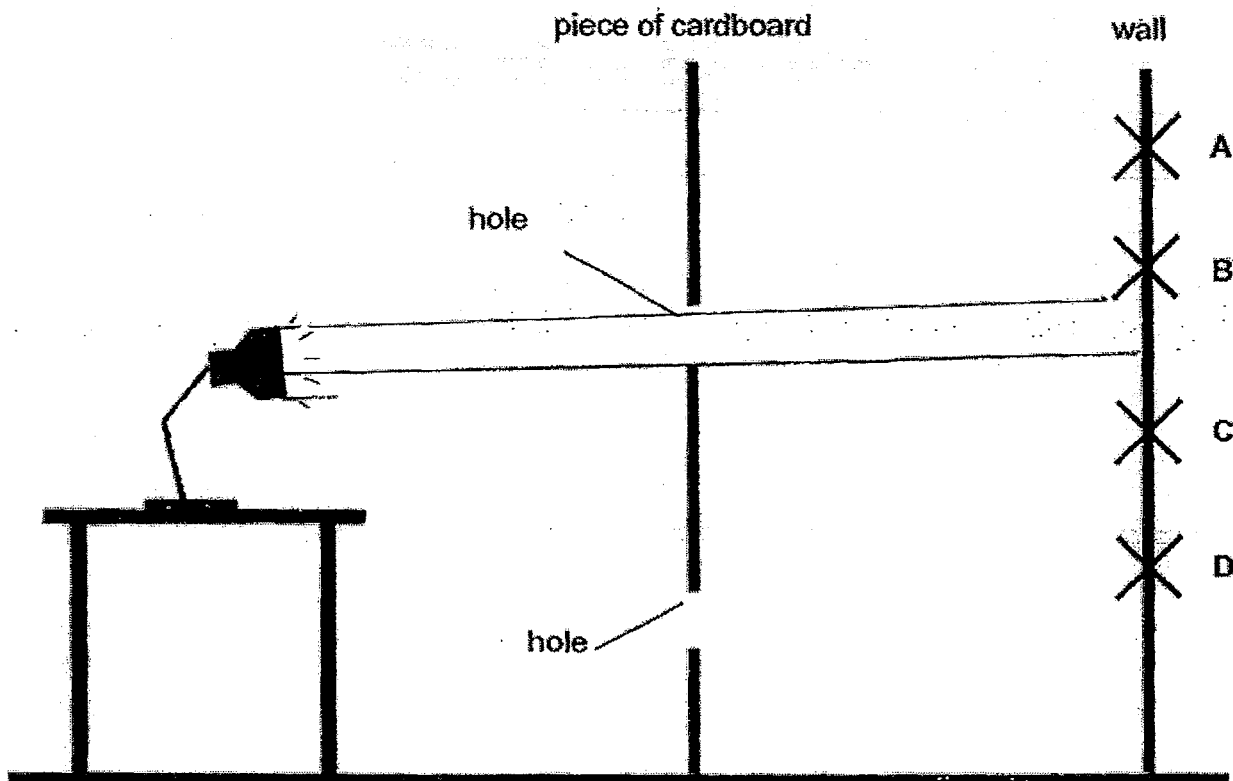


Which one of the following shows a possible aim of the experiment and the variables which should be kept constant?

A tick (✓) indicates that the variable is kept constant.

	Aim of experiment	Height of torch (h)	Angle of torch at the retort stand (Q)	Distance between the object and light source
(1)	To show how the angle of the torch at the retort stand affects the size of the object's shadow		✓	✓
(2)	To show how the angle of the torch at the retort stand affects the height of the object's shadow	✓		✓
(3)	To show how the distance of the object from the retort stand affects the length of the object's shadow		✓	✓
(4)	To show how the distance of the object from the retort stand affects the length of the object's shadow	✓	✓	

23. Siti sets up an experiment as shown below.

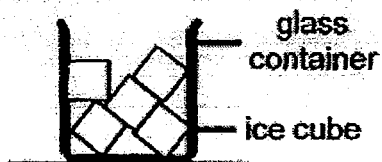


Light from the lamp passes through the holes in the cardboard and forms a bright spot on the wall.

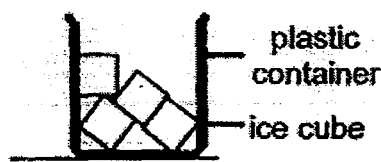
Which point on the wall would most likely be lit up by the light source?

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

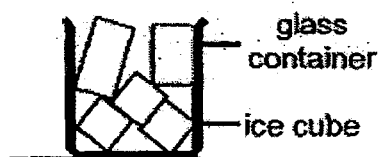
24. Kim and Parveen conducted an experiment to find out how the type of container would affect the rate of melting. They put their ice cubes in different containers of the same size before they started their experiment.



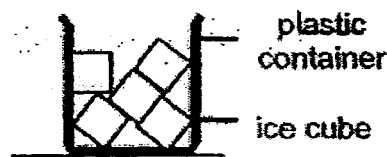
Set-up A



Set-up B



Set-up C

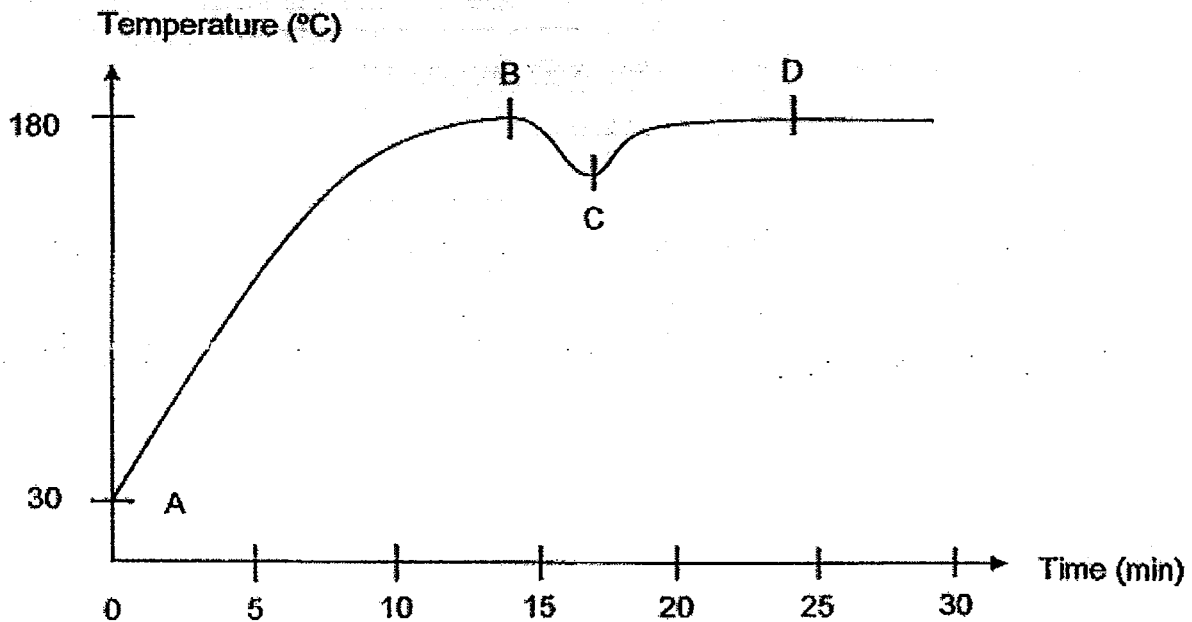


Set-up D

Which two set-ups should they choose for their experiment to be a fair one?

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

25. The graph below shows the temperature change in an oven before and during the baking of a loaf of bread.

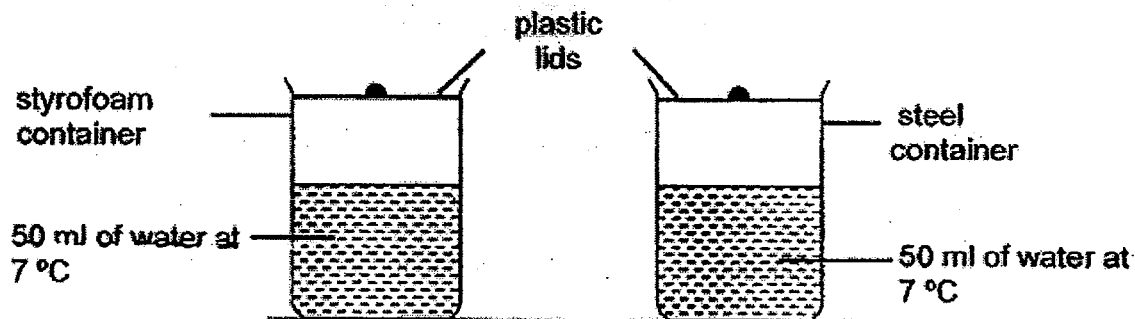


A bread recipe requires the baker to heat the oven to 180°C before baking the bread. Once the temperature reaches 180°C , the baker has to open the door and put the dough into the oven.

At which point on the graph was the oven door opened?

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

26. The diagram below shows a styrofoam container and a steel container of the same shape and volume. Both containers are covered with a plastic lid. The containers are filled at the same time with the same amount of water at 7°C and left in a classroom. The temperature of the water in each container is measured every five minutes.



The table below shows the temperature readings of the water in the styrofoam container.

Time (min)	0	5	10	15	20
Temperature of water ($^{\circ}\text{C}$)	7	10	12	14	18

Which one of the following best represents the most likely changes in the temperature of water in the steel container over 20 minutes?

- (1)

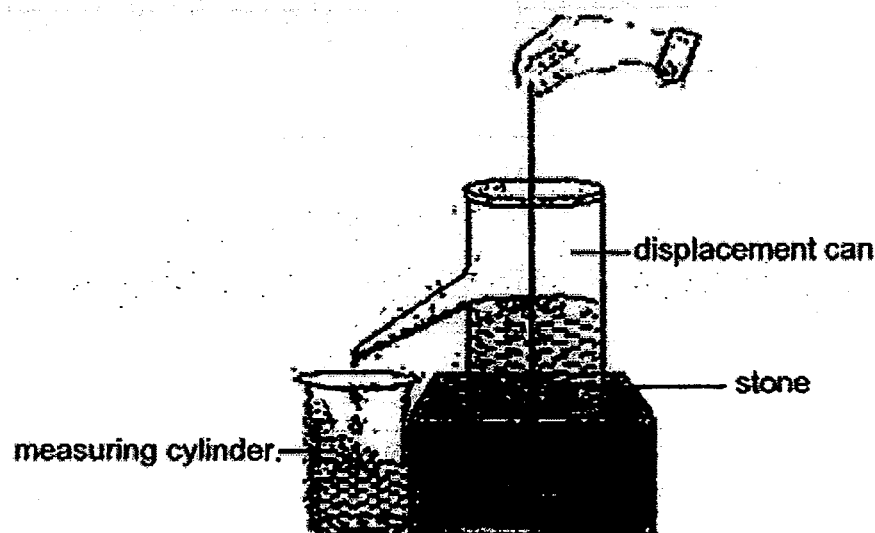
Time (min)	0	5	10	15	20
Temperature ($^{\circ}\text{C}$)	7	10	12	14	18
- (2)

Time (min)	0	5	10	15	20
Temperature ($^{\circ}\text{C}$)	7	15	19	22	25
- (3)

Time (min)	0	5	10	15	20
Temperature ($^{\circ}\text{C}$)	7	5	4	3	2
- (4)

Time (min)	0	5	10	15	20
Temperature ($^{\circ}\text{C}$)	7	8	9	11	13

27. Mrs Lim filled a displacement can with water. A stone was gently lowered into the can of water. Her pupils observed that some water had flowed into a measuring cylinder as shown in the diagram below. The amount of water collected in the cylinder was then measured.



Based on the results of the experiment, her pupils made the following conclusions:

- A Both the water and the stone have mass.
- B Water has a definite shape and volume.
- C The stone occupies space and has a definite volume.
- D Water has a definite volume and the stone occupies space.

Which properties of the water and stone stated above can be observed from her experiment?

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

28. Alvin hung two similar iron balls, S and T, on a balanced rod. Ball S was heated as shown in Diagram 1 below. He made some observations after conducting the experiment. The result of the experiment is shown in Diagram 2.

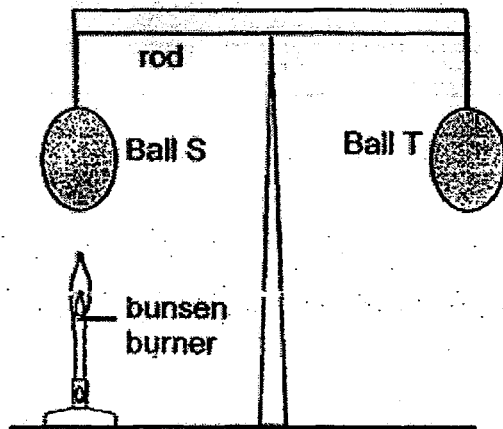


Diagram 1

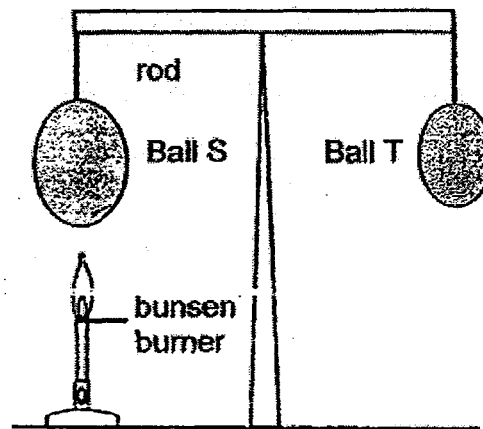
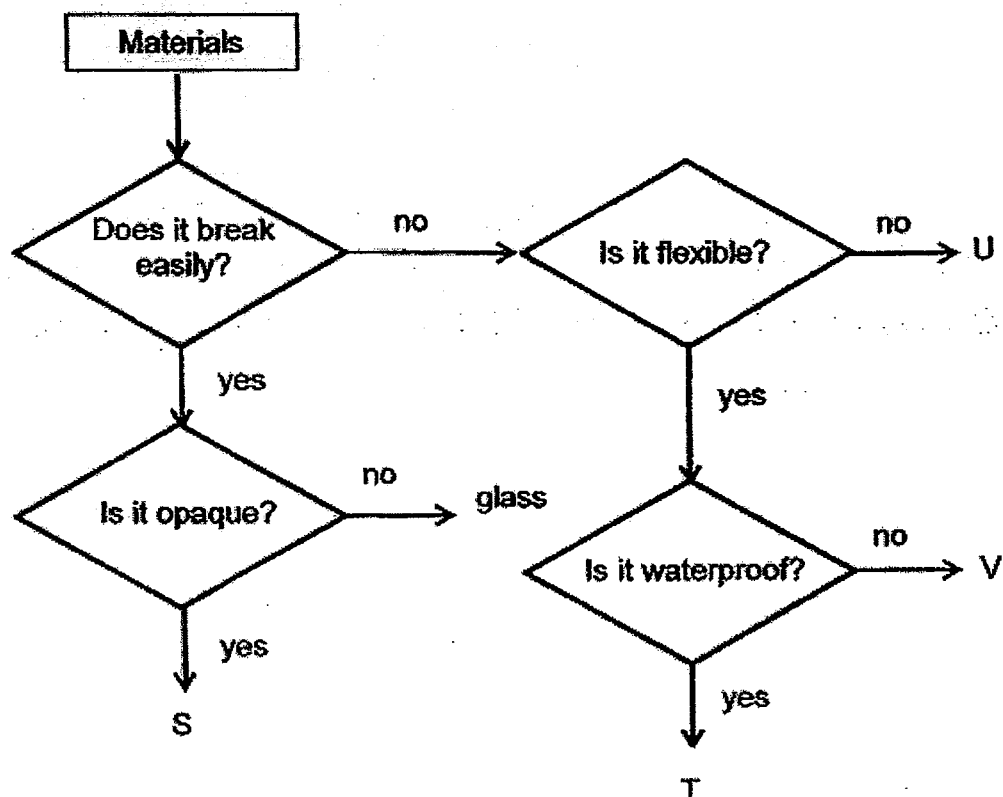


Diagram 2

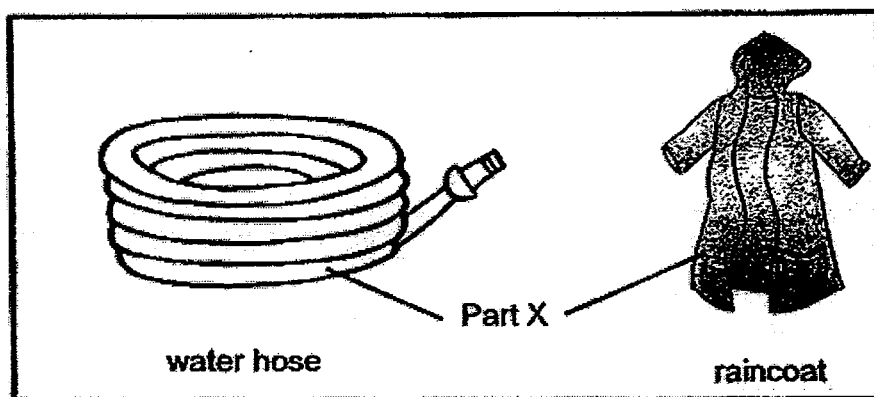
Based on the experiment, which one of the following statements is true?

- (1) Ball S lost heat and increased in volume.
- (2) Ball S gained heat and increased in mass.
- (3) Ball S and Ball T remained the same mass.
- (4) Ball S gained heat and decreased in volume.

29. The flow chart below shows the properties of different materials, S, T, U, V and glass.



Based on the information above, which one of the materials should be used to make part X of the objects shown below?



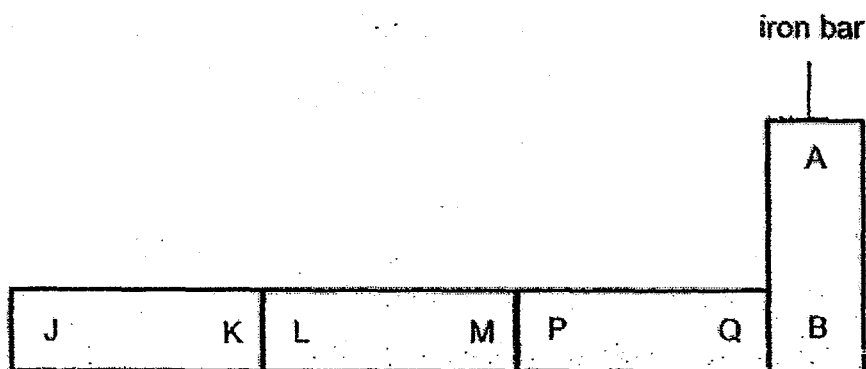
(1) S

(2) T

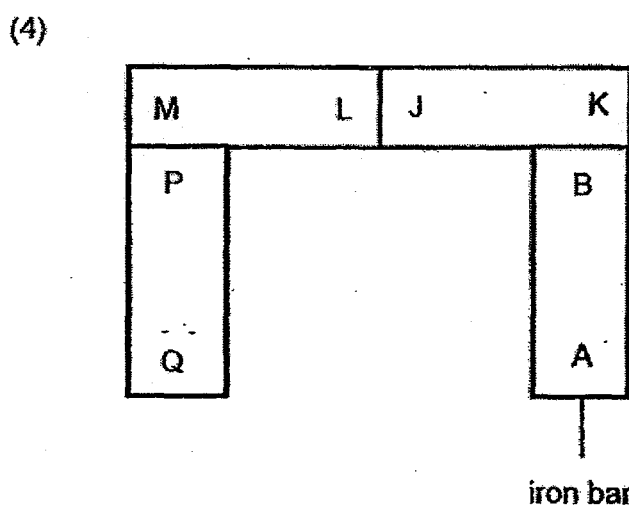
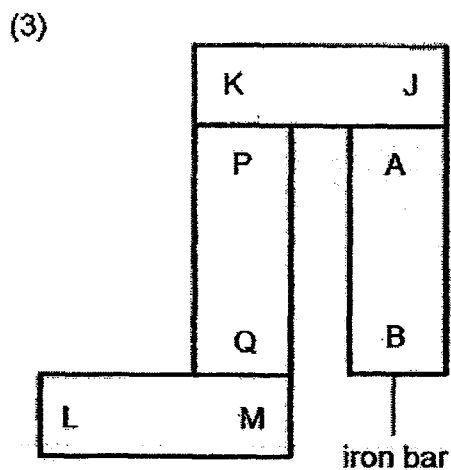
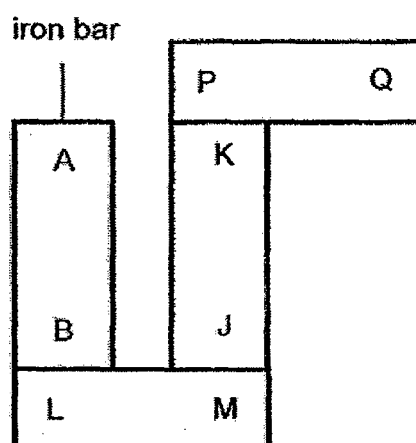
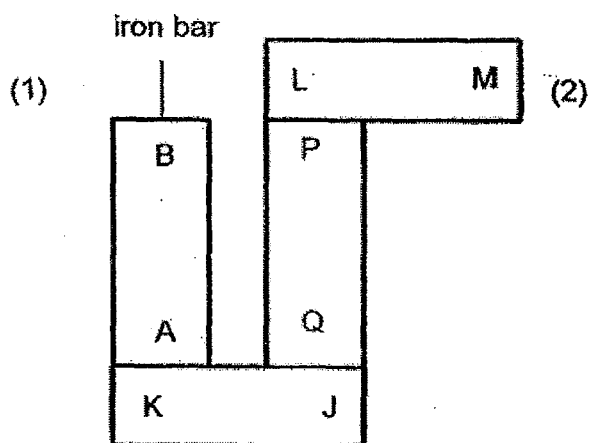
(3) U

(4) V

30. Taro set up 3 magnets JK, LM and PQ and an iron bar AB as shown in the arrangement below.



Which one of the following arrangements is possible?





NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

**SEMESTRAL ASSESSMENT 1
2015**

BOOKLET

Date : 12 May 2015

Duration : 1 h 45 min

Name : _____ ()

Class: Primary 5 ()

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Any query on marks awarded should be raised by 21st May 2015. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Parent's signature:

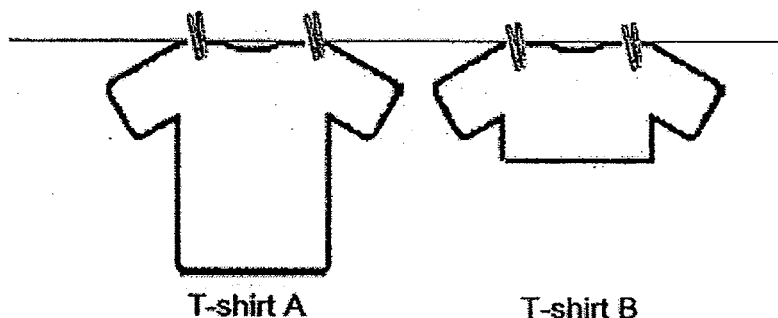
**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet B consists of 16 printed pages including this cover page.

Section B (40 marks)

Write your answers to questions 31 to 44 in the spaces provided.

31. Tammy washed T-shirts A and B and then hung them out to dry as shown below. Both T-shirts were identical in size and made of the same material. T-shirt B was folded in half before being hung.



- (a) Which T-shirt will most likely be dry first? Explain your answer. [1]

After hanging T-shirt A to dry, Tammy weighed the T-shirt every 15 minutes and recorded the results in the table below.

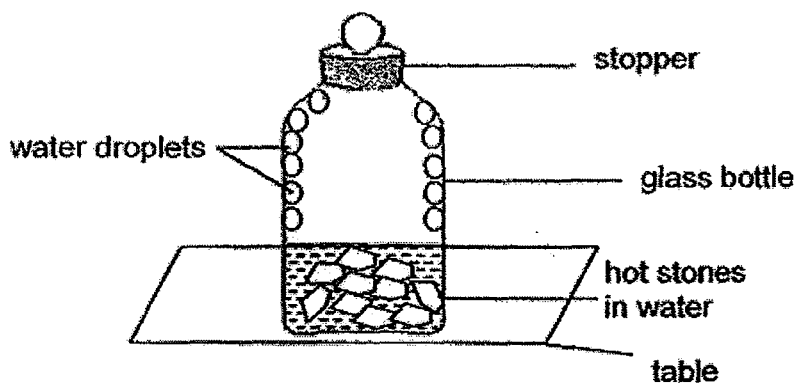
Time (min)	Mass of T-shirt A (g)
0	507
15	505
30	500
45	497
60	493
75	493
80 90	493

- (b) How long did the T-shirt take to dry? Explain your answer. [1]

- (c) Tammy repeated the experiment the next day. She used the same method to wash and dry T-shirt A. However, the time taken for T-shirt A to dry was slower than the previous day.

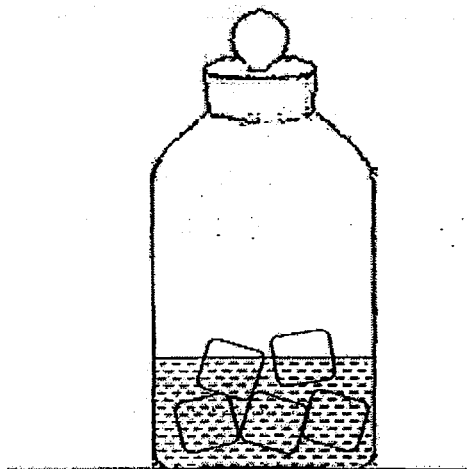
Give **one** other factor that affected the rate of evaporation to explain why it took a **longer** time to dry than the previous day. [1]

32. George heated some stones to 200°C and placed them in the glass bottle as shown below. He then placed the whole set-up on a table in the Science laboratory. After some time, he observed that water droplets were formed in the glass bottle.

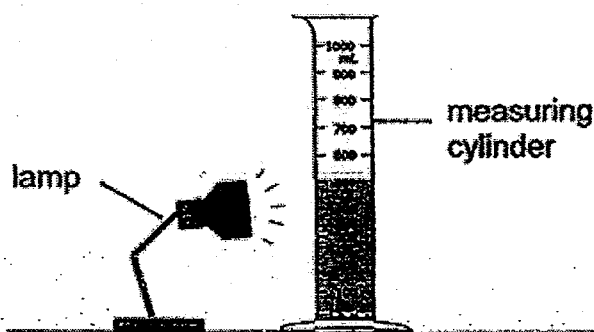


- (a) Based on the above diagram, explain how the water droplets were formed in the bottle. [2]

- (b) In the diagram below, draw George's observation on the glass bottle if he replaced the hot stones with ice cubes. [1]



33. Siva wanted to find out how the amount of light present would affect the amount of water evaporated. He prepared a set-up as shown below.



He then recorded the results in a table as shown below.

Intensity of light (lux)	Amount of water left in the measuring cylinder (ml)
100	450
120	440
140	430
160	420
180	410

- (a) Based on the results above, what is the relationship between the intensity of light and rate of evaporation of water? [1]
- _____
- _____
- (b) Name one variable that was changed in the experiment. [1]
- _____
- (c) Siva repeated the experiment using the same set-up above. However, he placed the set-up under a fan that was switched on. Explain why this is not a fair test. [1]
- _____
- _____

34. The table below gives some information about plants A, B and C.

	Plants		
	A	B	C
Presence of ovules		✓	✓
Dispersed by wind	✓	✓	
Dispersed by splitting			✓

- (a) Give an example of plant B and state its method of reproduction. [1]

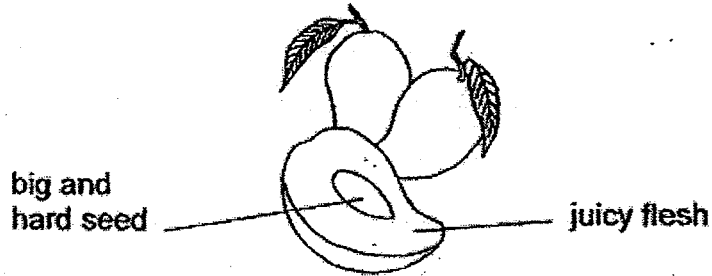
- (b) Fifi suggested a mushroom as an example of 'A'.
Explain why she is wrong. [1]

- (c) Sam counted the number of young plants that was found a certain distance from the parent plants B and C.

	Distance from parent plant				
	1m	2m	3m	4m	5m
No. of young plants B	4	6	5	3	2
No. of young plants C	8	2	0	0	0

Based on the information above, state one advantage of the method of dispersal for plant B as compared to plant C. [1]

35. The fruit of plant Y is juicy and contains a seed that is big and hard.

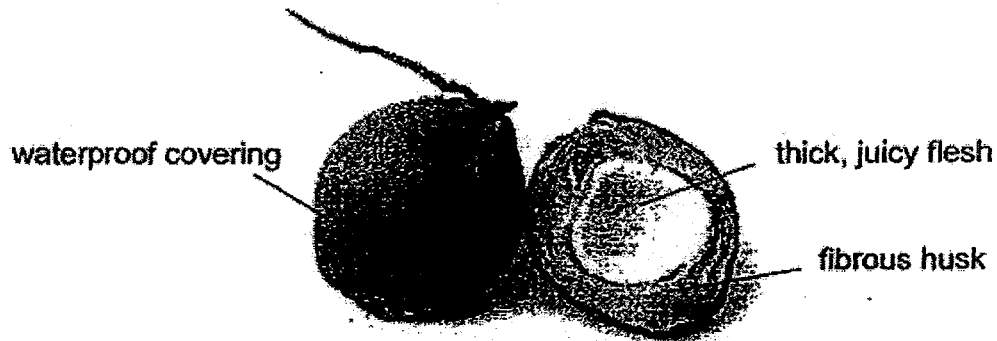


Fruit of plant Y

- (a) What is the most likely method of dispersal for the seeds of this fruit? [1]

- (b) Based on your answer in (a), describe how the seeds can be dispersed away from the parent plant. [1]

36. Study the diagram of fruit Z below.



Fruit Z

- (a) Based only on the diagram, identify two characteristics that enable fruit Z to float on water. [1]

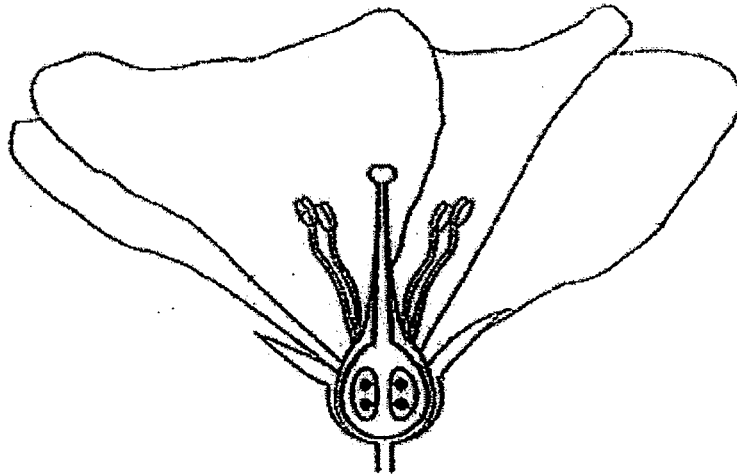
(i) _____

(ii) _____

The adult plants of fruit Z were grown along the roadside in a park. Young plants can be seen growing closely beside the parent plants.

- (b) What would happen to the young plants after a few months? Give a reason for your answer. [1]

37. The diagram below shows the cross-section of a flower.



On the diagram above, label the parts with P, Q, R and S based on the functions below. [2]

P	attract pollinators
Q	grows into a fruit after fertilisation
R	become seeds in the developed fruit
S	structure that produces the pollen grains

38. The diagram below shows Flower Q growing on a plant in Mr Tan's garden.



Flower Q

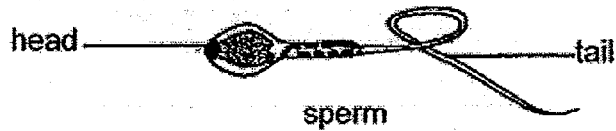
- (a) Mr Tan saw Flower Q and touched part X. He found some powdery substances on his fingers after that. What are the powdery substances most likely to be? [1]

- (b) He put one pot of this plant in his well-lit and air-conditioned office. After a few months, there were fruits growing on the plants.

- (i) How were the pollen grains transferred from the anther to the stigma of this flower? [1]

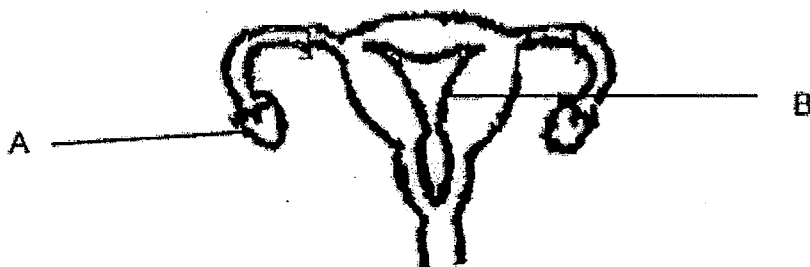
- (ii) With reference to the characteristics of the flower shown above, describe how the flowers in his office could have been pollinated. [2]

39. The diagram below shows a human reproductive cell.



- (a) Which part of the sperm helps it to reach the female egg? [1]

- (b) Study the diagram of the female reproductive system below. [2]



- (i) Identify parts A and B. [1]

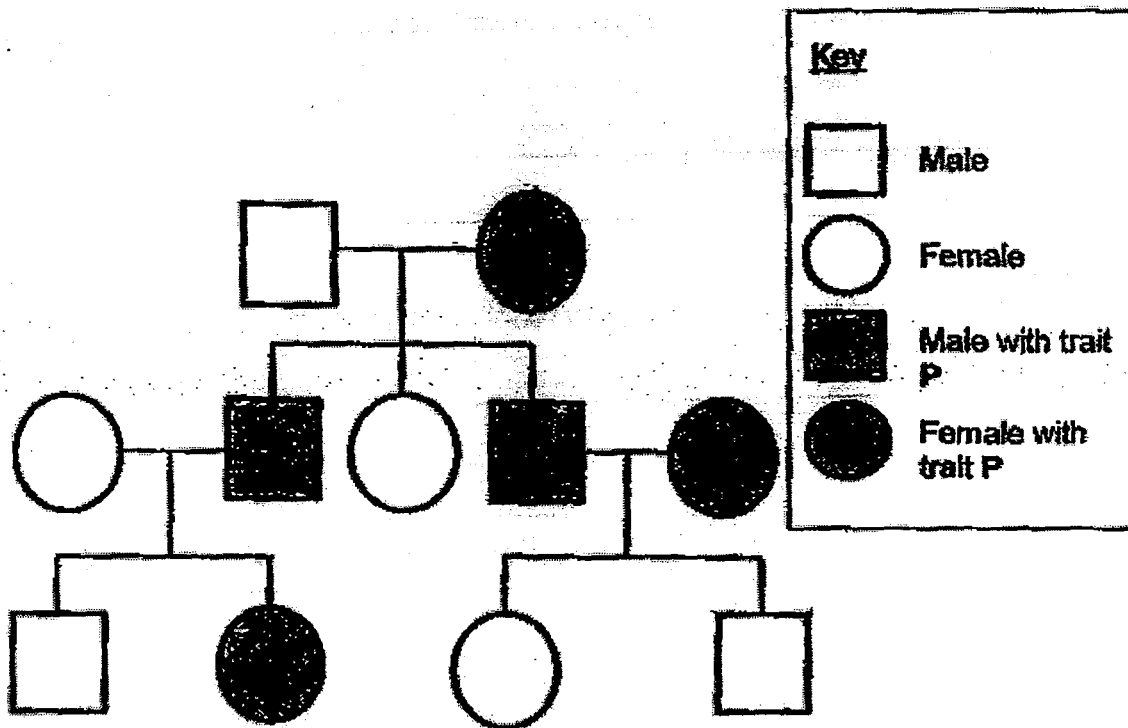
A : _____

B : _____

- (ii) In which part, A or B, of the female reproductive system, is the female egg produced? [½]

- (iii) In which part, A or B of the female reproductive system, does the fertilized egg develop? [½]

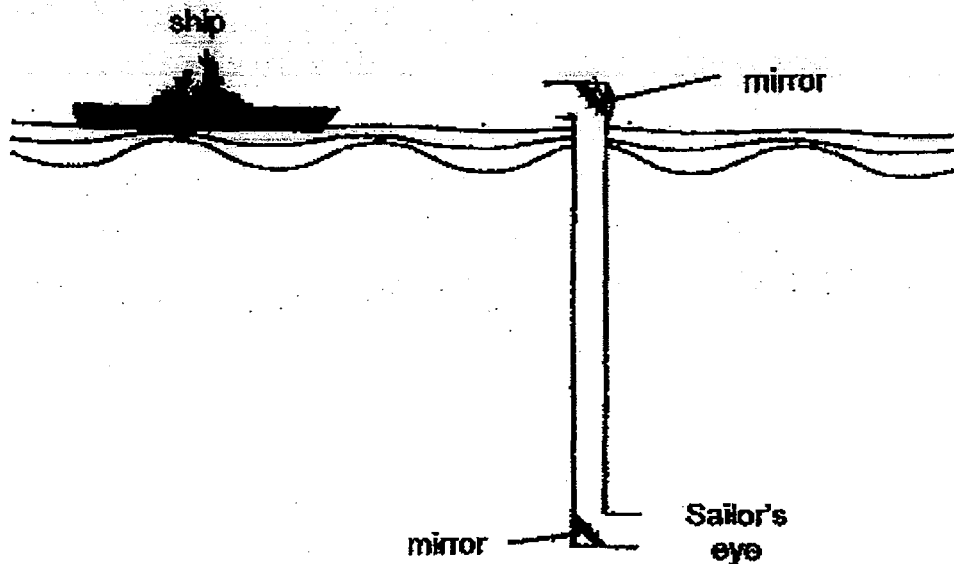
(c) Study the family tree below.



Mr and Mrs Mohan have trait P but their son does not.
Mark their son with a cross "X" on the family tree.

[1]

40. The diagram below shows how a sailor in a submarine made use of a periscope to detect the presence of a ship.



- (a) In the diagram above, draw the light ray to show how the periscope allowed the sailor to see the ship. [1]

- (b) Explain why the sailor was able to see the image of the ship more clearly during the day than at night. [1]

- (c) When two mirrors of the periscope were replaced with 2 pieces of thin clear glass, would the sailor still be able to see the ship clearly? Give a reason for your answer. [1]

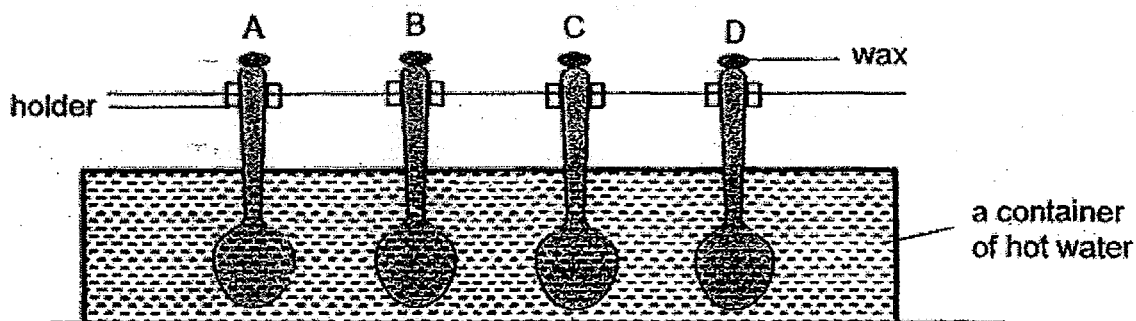
41. Ben carried out an experiment using four identical cups containing the same amount of liquid X at 60°C . He wrapped each cup with a different material, A, B, C and D, and recorded the temperature of the liquid X in each cup after 10 minutes. The results are shown in the table below.

Material used to wrap the cup	Temperature after 10 min ($^{\circ}\text{C}$)
A	34
B	40
C	29
D	50

- (a) Based on the results, which material is the best conductor of heat (A, B, C or D)? Give a reason for your answer. [1]

- (b) Which material, A, B, C or D, would you choose to wrap a block of ice to prevent it from melting quickly? Explain your answer. [2]

42. Zon had 4 spoons made of materials A, B, C and D. He coated the ends of each spoon with the same amount of wax. Parts of the spoons were then placed in a container of hot water at the same time as shown below.



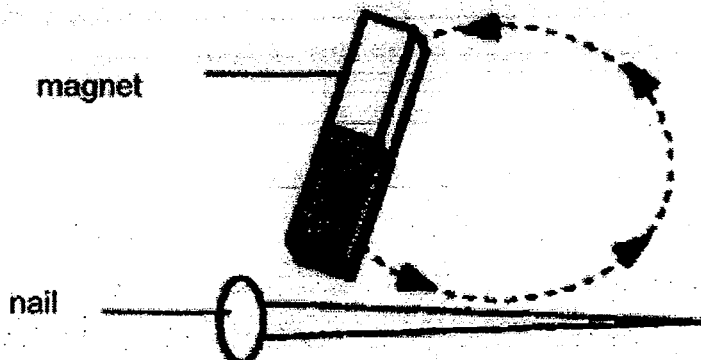
The time taken for the wax to melt was recorded in the table below.

Material	Time taken for the wax to melt (min)
A	5
B	10
C	6
D	14

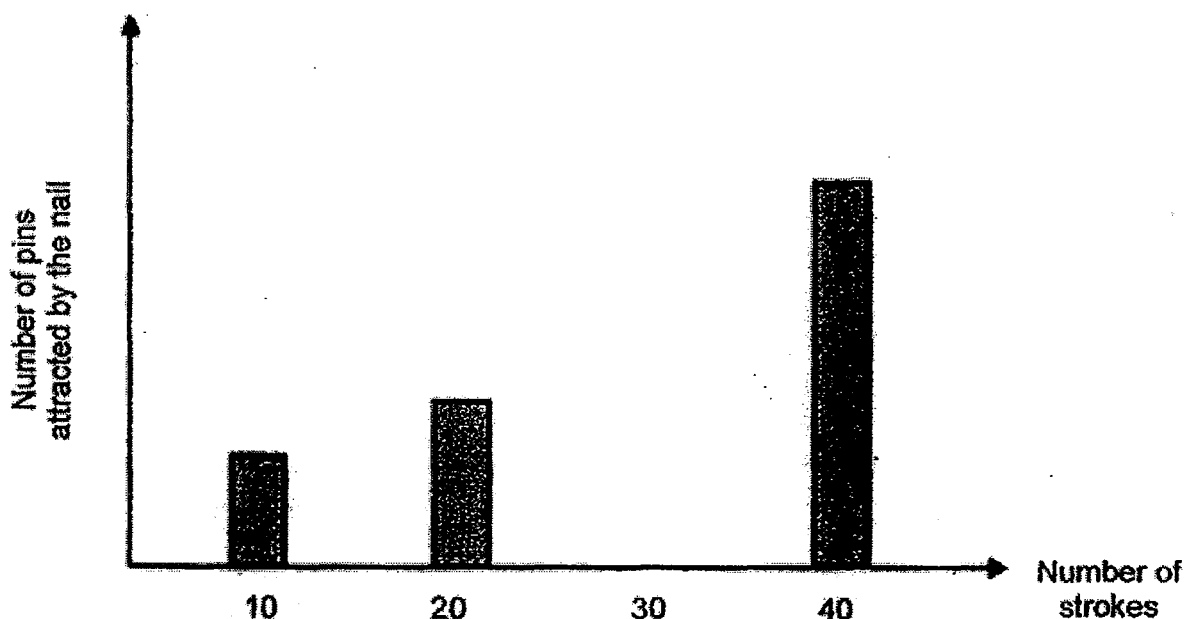
- (a) Explain why the wax on the spoons melted after some time. [1]

- (b) Which material, A, B, C or D, would be best for making the handle of a cooking pot? Explain your answer. [1]

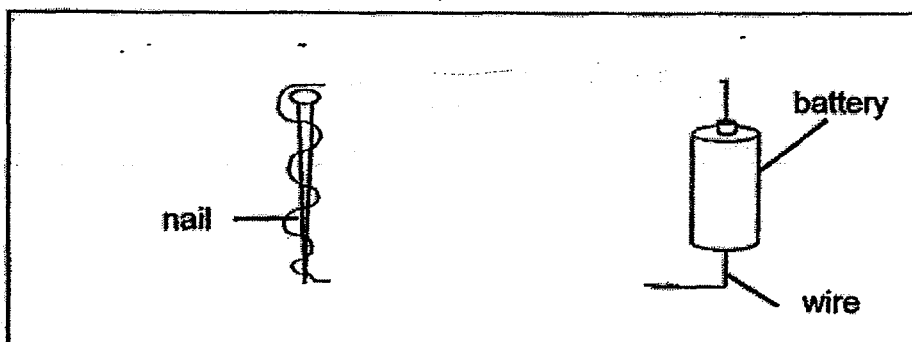
43. Sam carried out an experiment to find out if the number of strokes a nail receives from a magnet affects the number of pins the nail is able to attract.



The graph below shows the results of Sam's experiment.



- (a) Complete the graph above by drawing the estimated number of pins the nail would attract if Sam stroked it 30 times with a magnet. [1]
- (b) A nail can be made into a temporary electromagnet by connecting it to a battery. Complete the drawing of the wires below to show how the nail can be magnetised. [1]



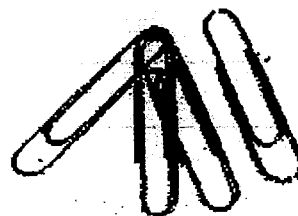
44. Shawn wanted to find out whether a bar magnet or a magnetised steel nail is a stronger magnet. He was given a bar magnet, a magnetised steel nail and some paper clips.



bar magnet



magnetised steel nail



paper clips

- (a) Using only the materials provided, write down the steps that Shawn should take to conduct his experiment. [2]

Steps	Method
1	
2	
3	
4	
5	Repeat the experiment 3 times.

- (b) Explain why Shawn has to repeat Step 5 three times for the above experiment. [1]

- (c) If Shawn replaced the paper clips with some copper coins and repeated the whole experiment, what would he observe? Explain your answer. [1]

[1]

Answer Key

EXAM PAPER 2015

SCHOOL : NANYANG

SUBJECT : P5 SCIENCE

TERM : SA1

ORDER CALL : MR GAN @ 92998971 92475053 86065443 91684487

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	4	4	1	4	2	4	3	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	1	4	2	4	3	3	2	1	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	4	2	2	2	2	3	3	2	2

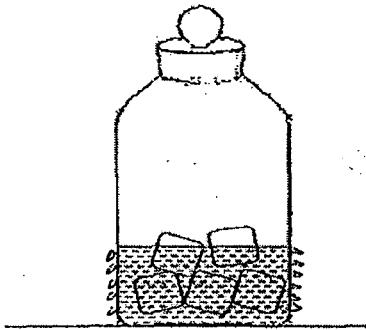
31)a)T-shirt A. There is more exposed surface area of T-shirt A than T-shirt B, thus T-shirt A will gain faster from the surrounding air than T-shirt B and will dry up faster.

b)The T-shirt took 60 minutes to dry. The mass of the T-shirt remained the same after 60 minutes which meant no more water could be evaporated to reduce the mass of the T-shirt.

c)There were no wind on that day while on the other day, there was wind.

32)a)The water in the glass bottle gained heat from the hot stone and evaporated. The hot water vapour then came into contact with the cooler inner surface of the glass bottle and lost heat to the cooler surface of the glass bottle. It the condensed forming water droplets.

b)



33)a)The higher the intensity of light, the faster the rate of evaporation of water.

b)The intensity of light.

c)There will be more than one variable in the experiment. Thus,Siva will not be able to ensure if the amount of water evaporated was due to the amount of light present and not because of fan.

34)a)Plant B reproduce by seeds/ by sexual reproduction.

b)A is a plant while mushroom is a fungi.

34)c)The young of plant B is dispersed further from the parent plant than the young of plant C. Thus not as many young of plant B have to compete with the parent for water, sunlight, mineral salts and space as compared to the young of plant C.

35)a)It is most likely dispersed by animals.

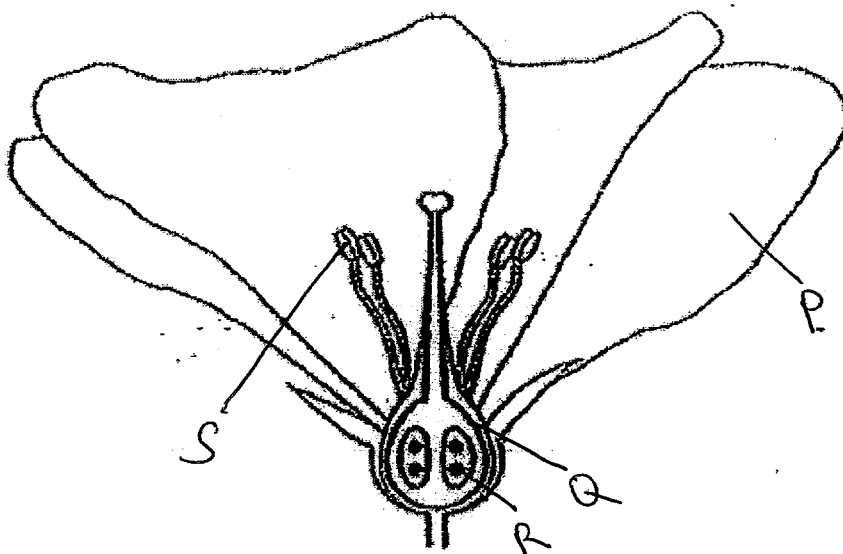
b)The animal which eat the fruit will also swallow the seed. It will then move away from the parent to another place and then will pass out the undigested seed.

36)a)i)It has a waterproof covering and does not allow any water to enter.

ii)It has a fibrous husk which can trap air.

b)The young plants will not grow healthily. The young plants will have to compete with the parent plant for water, sunlight, mineral salts and space.

37)



38)a)They are most likely pollen grains.

b)i)The wind from the air-conditioner blew the pollen grains from the anther to the stigma.

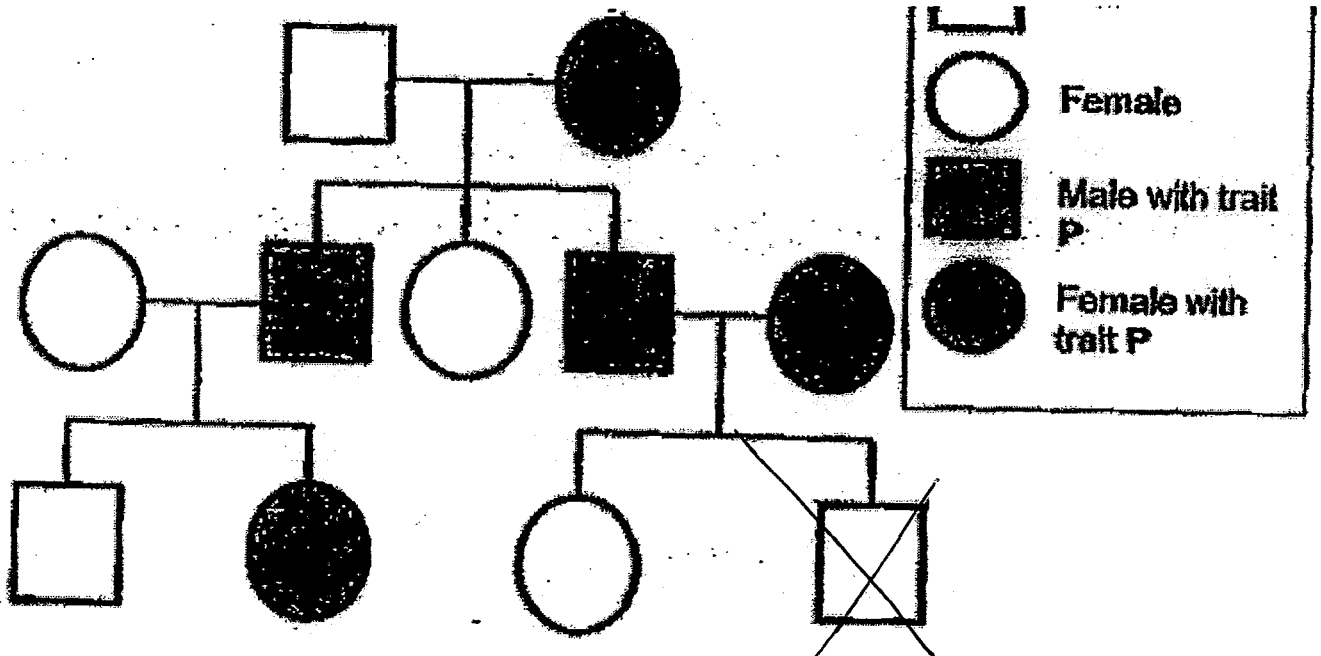
ii)As the anthers and stigmas were hanging outside the petals,the moving air/wind from the air-conditioner is able to help to carry the pollen grains from the anther to the stigma of the flower.

39)a)The fail.

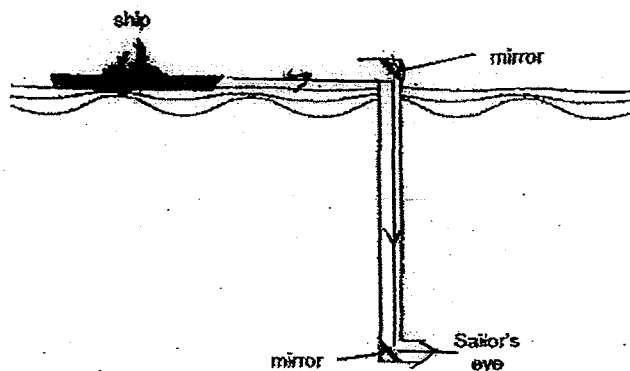
b)i)A)Ovary B)Womb

ii)Part A. iii)Part B.

c)



40)a)



b) More light during the day was reflected by the ship into the sailor's eye in the day than in the night.

c) No. The light will pass through the piece of clear glass and it will not be able to reflect the light into the sailor's eyes.

41)a) Material C. The temperature of water which was wrapped by material C was the lowest among all materials after 10 minutes.

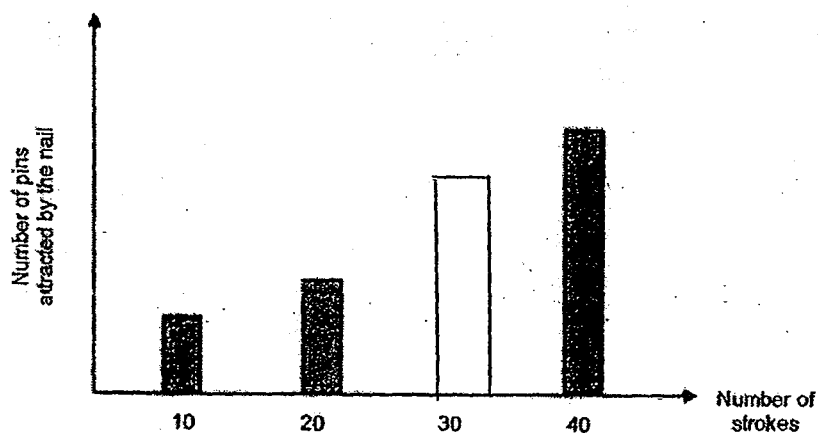
b) The temperature is the highest after 10 minutes which shows that it is the poorest, so it will not gain heat so quickly.

42)a) The spoons conducted the heat from the hot water to the wax, thus the wax would gain heat and melt.

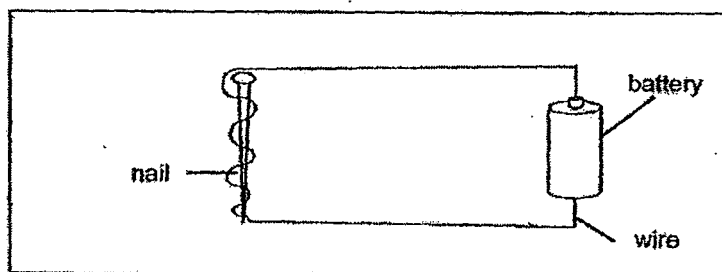
b) The time taken for the wax to melt is the slowest/poorest conductor of heat which means it will conduct heat to the hand the slowest.

43)a)

The graph below shows the results of Sam's experiment.



43)b)



44)a)1)Place the paper clips, one by one at the pole of the bar magnet.

2)Record the number of paper clips that pole can attract.

3)Repeat step 1 and 2 with the magnetized steel nail.

4)Compare the number of paper clips that are attracted by the bar magnet and the magnetized steel nail.

b)It is to ensure that the results of the experiment are more reliable.

c)He could not be able to observe anything. The copper coins are not magnetic material. Thus the bar magnet and the magnetized steel nail would not be able to attract.