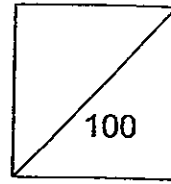




**HENRY PARK PRIMARY SCHOOL
2013 SEMESTRAL EXAMINATION 1
PRIMARY 5 SCIENCE**

Duration of Paper: 1 h 45 min



Name: _____ ()

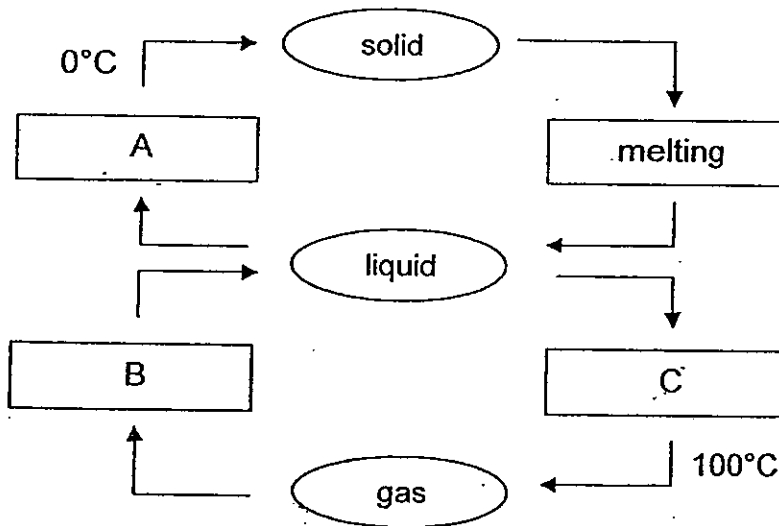
Parent's Signature _____

Class: Pr 5: _____

Booklet A (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.

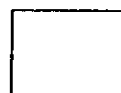
1. The diagram below represents the changes of state of water.



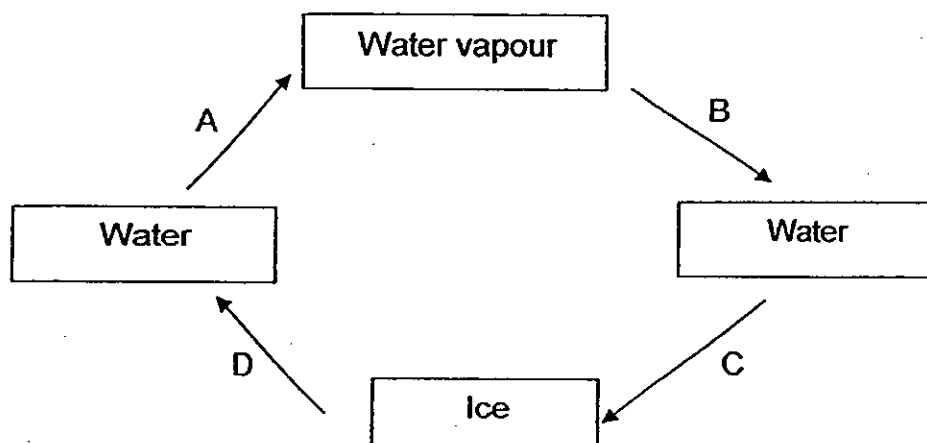
Which one of the following correctly describes the processes A, B, and C?

	A	B	C
(1)	freezing	evaporation	condensation
(2)	condensation	freezing	evaporation
(3)	freezing	condensation	boiling
(4)	condensation	evaporation	boiling

()



2. The diagram below shows water changing states through processes A, B, C and D.



The processes that involve heat gain are _____.

(1) A and D

(3) B and D

(2) B and C

(4) C and D

()

3. Study the table below on the melting points of substances A, B, C and D.

Melting Point (°C)			
A	B	C	D
5	23	11	16

Which of the following will be a liquid at 15°C?

(1) B only

(3) A, C and D only

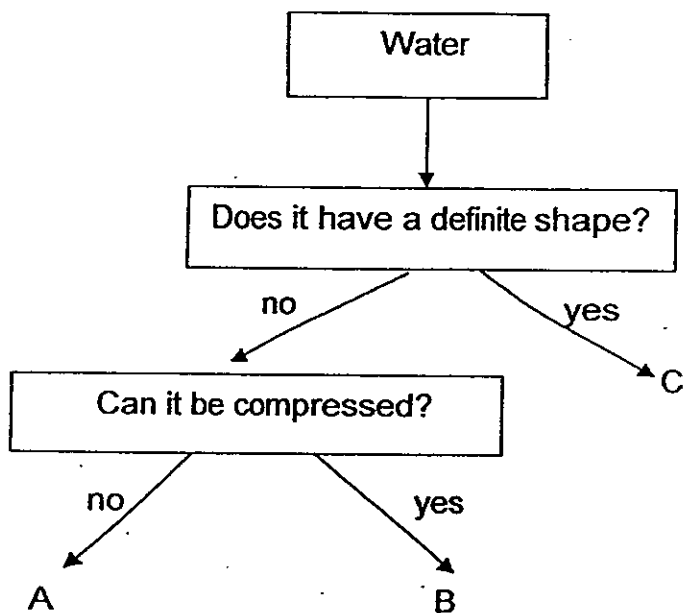
(2) A and C only

(4) B, C and D only

()

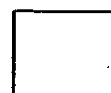


4. Study the flowchart on water below.



Which of the letters in the diagram represents steam and ice?

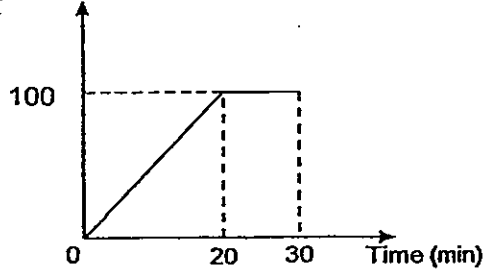
	Steam	Ice
(1)	A	C
(2)	B	C
(3)	C	A
(4)	C	B



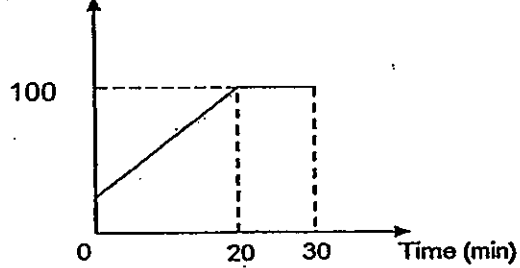
5. In a room, Elaine heated a beaker of tap water for 20 minutes until it started boiling. She continued boiling it for another 10 minutes.

Which one of the following graphs correctly shows the changes in temperature of water over the 30 minutes?

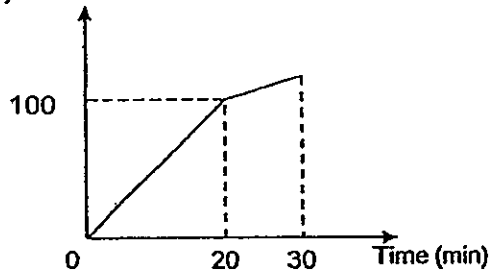
(1) Temperature ($^{\circ}\text{C}$)



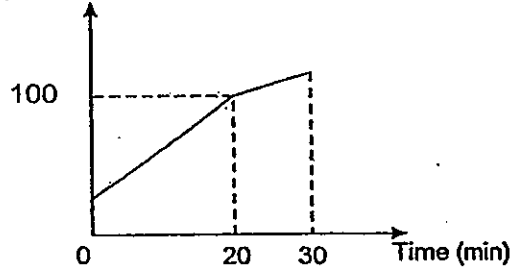
(3) Temperature ($^{\circ}\text{C}$)



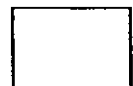
(2) Temperature ($^{\circ}\text{C}$)



(4) Temperature ($^{\circ}\text{C}$)



()



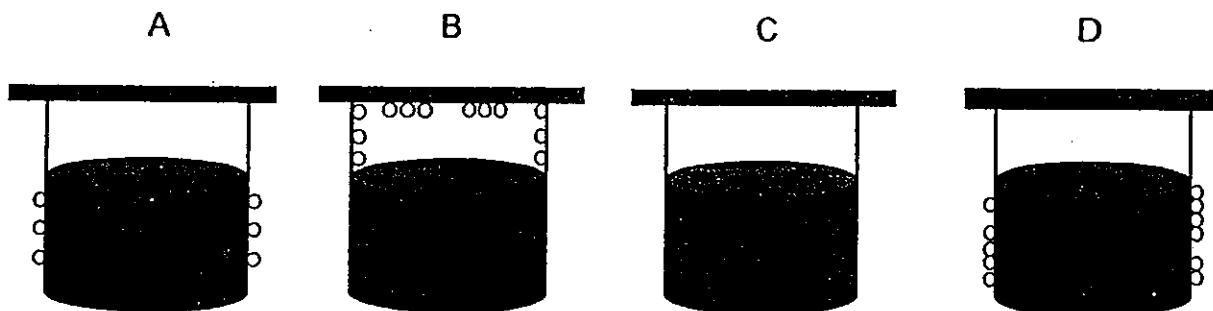
- 6 Jenny wants to investigate whether the temperature of the surroundings will affect the rate of evaporation of water. She added some water to 5 towels and left them to dry at locations shown below in the table.

Towel	Material	Size	Location for drying	Amount of water added at the start of experiment
A	cotton	30 cm ²	in the house	400 ml
B	cotton	30 cm ²	open field	500 ml
C	cotton	50 cm ²	in the house	500 ml
D	polyester	50 cm ²	open field	500 ml
E	cotton	50 cm ²	open field	500 ml

Which of the following setups should she use for comparison?

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

7. Four identical containers, A, B, C and D, containing the same volume of water at different temperatures are placed on the same table as shown below.



○ - Water droplets

Which of the following shows the temperature of the water in the beakers from the lowest to the highest?

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



8. The following statements describe the stages in the water cycle.

A: Water flows from the highlands to river and sea.

B: Water droplets fall from clouds.

C: Clouds are formed by condensation of water vapour

D: Water evaporates from rivers, sea and land.

Arrange the statements to show the process of the water cycle.

(1) A, B, D, C

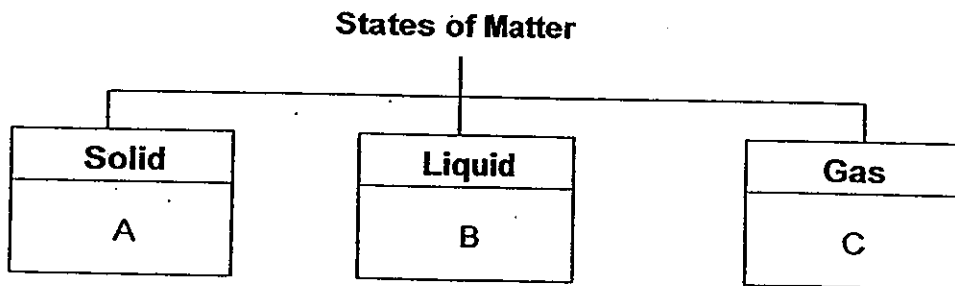
(3) C, D, B, A

(2) D, B, C, A

(4) B, A, D, C

()

9. Study the chart on states of matter below.



Which of the following box(es) should we place **clouds** in?

(1) B only

(3) A and B only

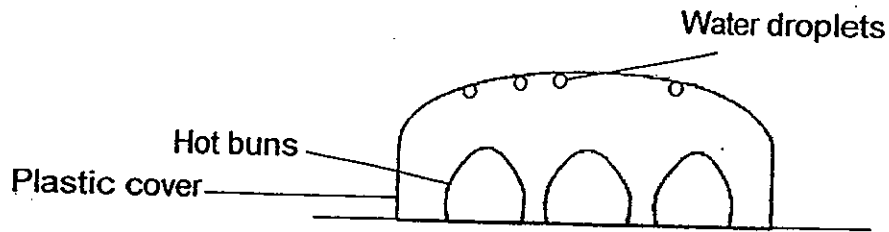
(2) C only

(4) A and C only

()



10. Peter placed some hot buns under a plastic cover on a table at room temperature of 28°C as shown below.



After 10 minutes, he found some water droplets on the underside of the plastic cover.

Based on his observation, which of the following statements explains how the water droplets were formed?

- A: Water vapour has evaporated from the hot buns.
- B: Water vapour has condensed on the underside of the plastic cover.
- C: Water vapour has gained heat from the underside of the plastic cover

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

11. Shufen was holding a metal spoon with a cube of ice. After some time, her fingers which were holding the spoon felt cold.

Which one of the following correctly explains why Shufen felt her fingers were cold?

- (1) The spoon lost heat to the ice and to her fingers.
 - (2) The spoon gained heat from the ice and from her fingers.
 - (3) The spoon gained heat from the ice and lost heat to her fingers.
 - (4) The spoon lost heat to the ice and her fingers lost heat to the spoon.
- ()



12. Which of the following actions are examples of water conservation?

A: Amy waters her plants with the water she used to wash her vegetables.

B: Jane takes a long bubble bath in her bath tub after school.

C: Singapore produces NEWater for drinking and other uses.

D: Jeremy decides that it is better to take more showers during hot days.

(1) A and B only

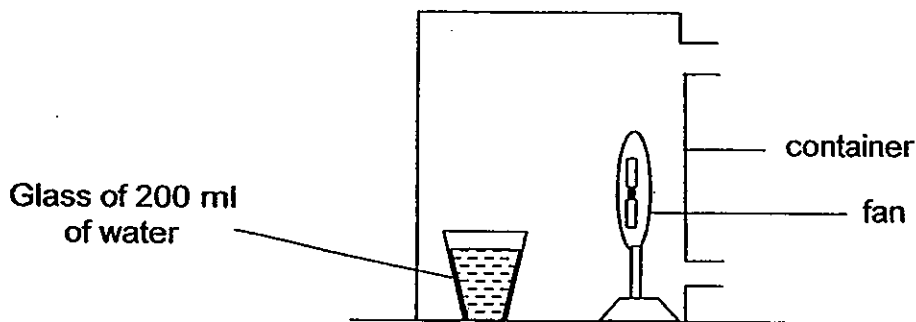
(3) B and D only

(2) A and C only

(4) C and D only

()

13. Dylan carried out an experiment using the set-up shown below, to find out how the amount of wind affects the rate of evaporation of water.



Dylan wants to have 3 set ups for this experiment.

Which of the following variables should Dylan change in each setup?

(1) The number of fans

(2) The size of the glass

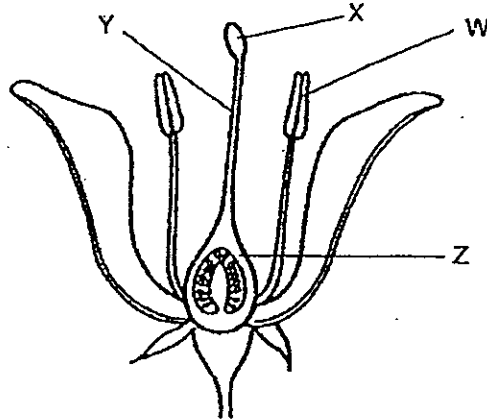
(3) The amount of water in the glass

(4) The time taken for water to evaporate completely

()



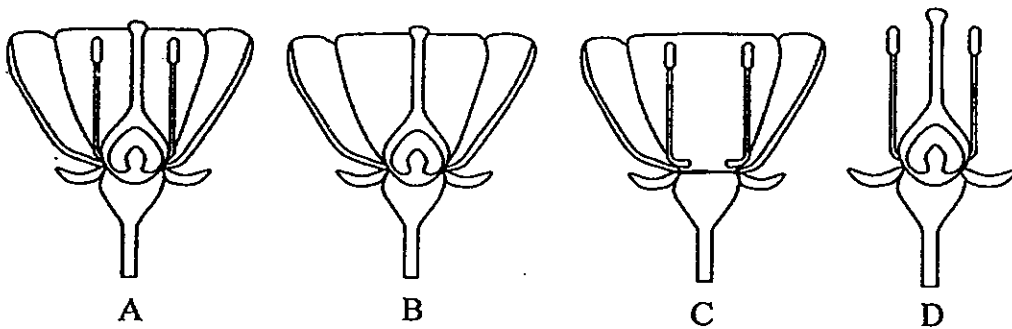
14. Study the diagram below that shows parts W, X, Y and Z of a flower:



Which of the following is correct?

	W	X	Y	Z
(1)	Stigma	Style	Ovary	Anther
(2)	Anther	Stigma	Style	Ovary
(3)	Anther	Stigma	Ovule	Style
(4)	Style	Anther	Ovary	Stigma

15. The diagram below shows flowers A, B, C and D. Pollen grains from flowers of the same type were dusted over each flower.

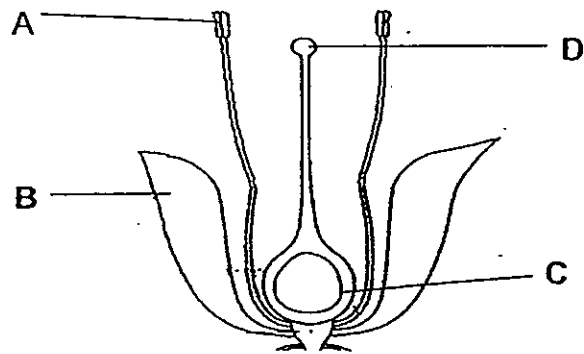


Which of the above flower(s) would most likely develop into a fruit?

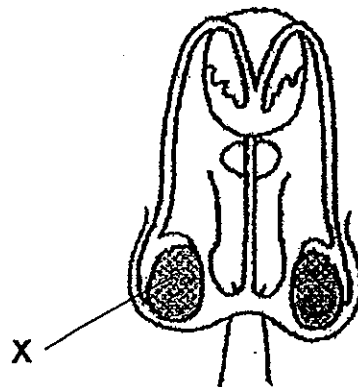
- (1) C only
 (2) B and C only
 (3) A and D only
 (4) A, B and D only



16. The diagrams below show parts of the reproductive systems of a flowering plant and a human.



reproductive system of a flowering plant



male reproductive system

Based on the diagrams above, which part of the flower, A, B, C or D, has a similar function as part X?

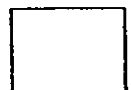
(1) A

(3) C

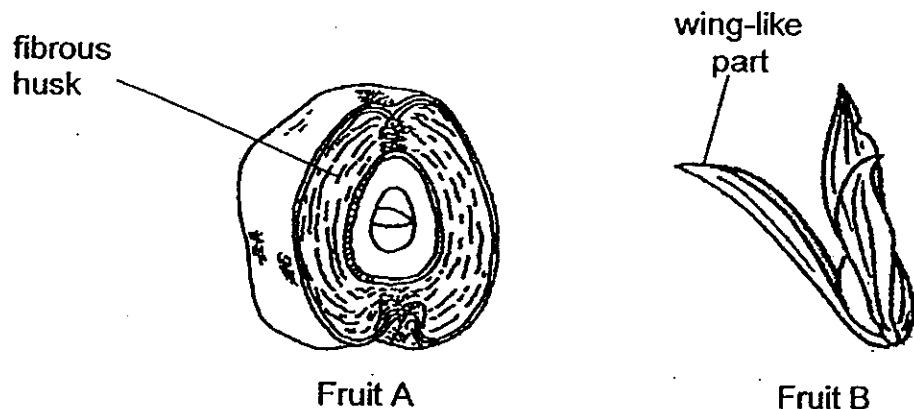
(2) B

(4) D

()



17. A and B are fruits from different plants.

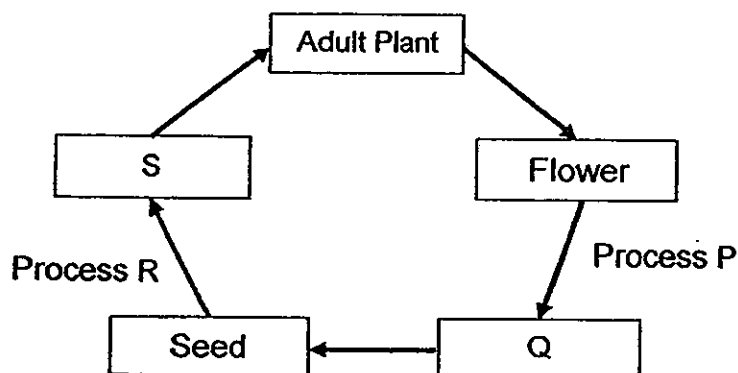


How are fruits A and B dispersed?

	A	B
(1)	Water	Animal
(2)	Splitting	Wind
(3)	Animal	Water
(4)	Water	Wind

()

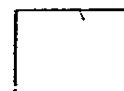
18. The diagram below shows the life cycle of a flowering plant.



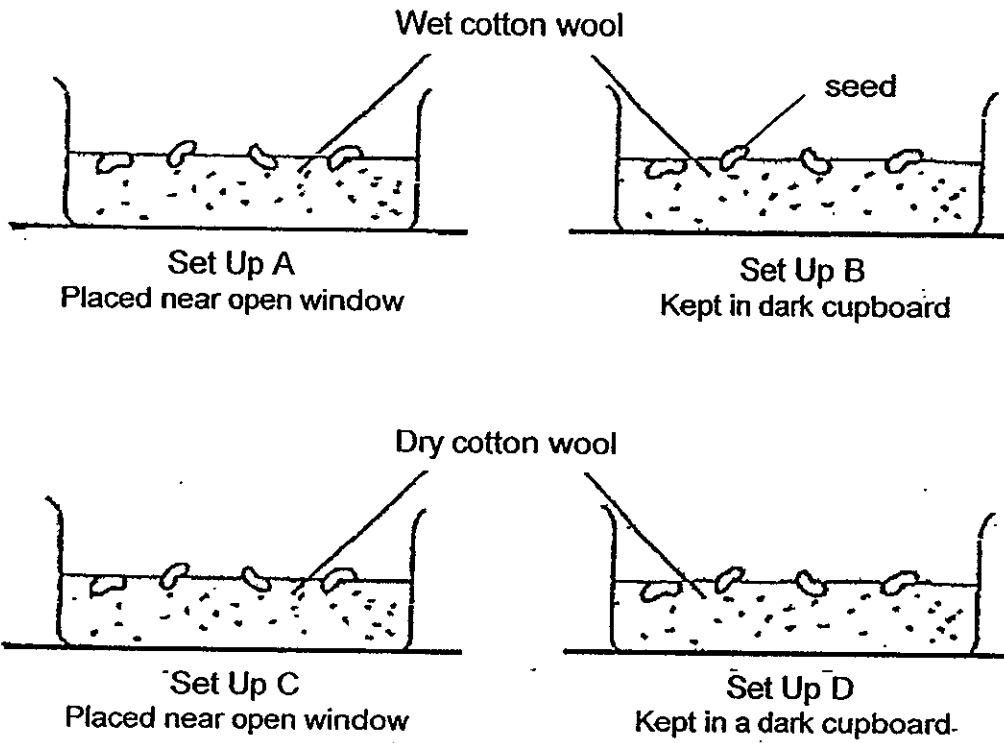
Which one of the following shows the correct representation of stages P, Q, R and S?

	P	Q	R	S
(1)	Germination	Fruit	Fertilisation	Seedling
(2)	Fertilisation	Seedling	Pollination	Fruit
(3)	Pollination	Seedling	Germination	Fruit
(4)	Fertilisation	Fruit	Germination	Seedling

()



19. Mary wants to find out what the conditions for germination are. She sets up the experiment below.



In which set-up(s) will the seeds germinate?

(1) B only

(2) A and B only

(3) A and C only

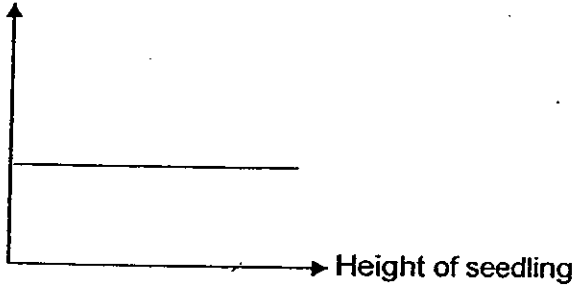
(4) A and D only

()

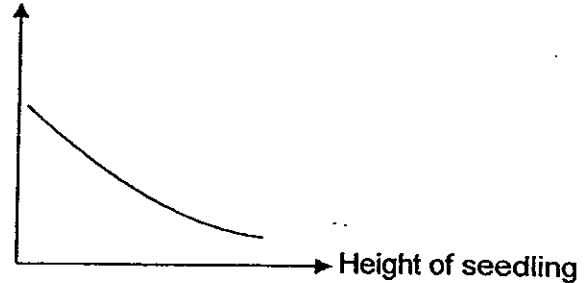


20. Which one of the graphs below shows the correct relationship between the mass of the seed leaves and the height of the seedling as it grows?

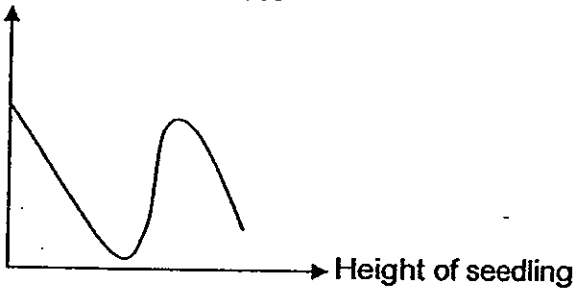
(1) Mass of seed leaves



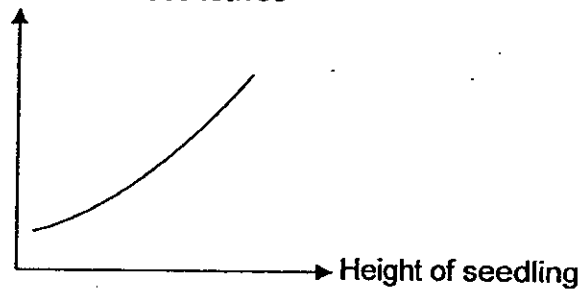
(3) Mass of seed leaves



(2) Mass of seed leaves



(4) Mass of seed leaves



()

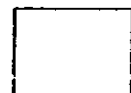
21. Aini went to the park and saw some plants. She classified the plants into two groups X and Y as shown in the table below.

X	Y
Apple	Maidenhair Fern
Durian	Staghorn fern
Banana	Moss
Mango	Bird's nest fern

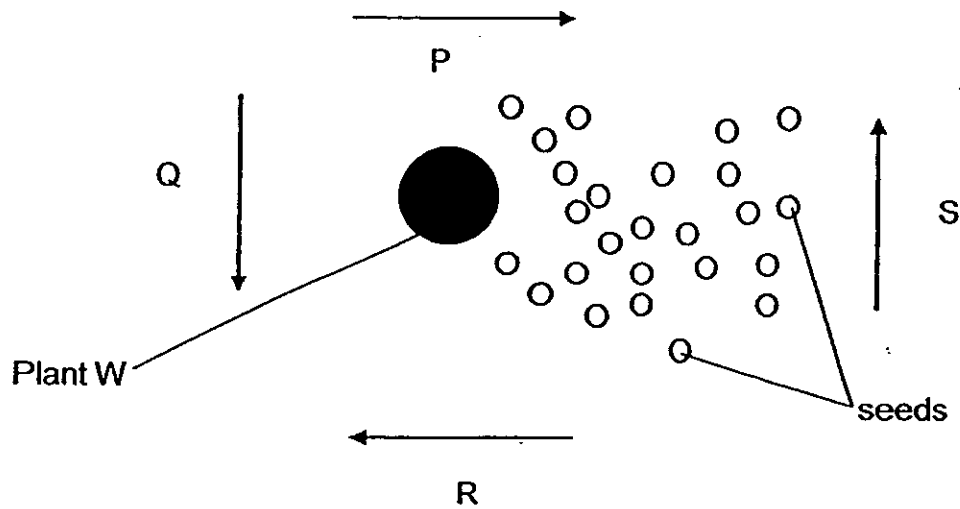
What can the headings X and Y be?

	X	Y
(1)	Land plants	Water plants
(2)	Flowering plants	Non-flowering plants
(3)	Water plants	Land plants
(4)	Reproduce by spores	Reproduce by seeds

()



22. The diagram below shows the dispersal of seeds of Plant W by wind.



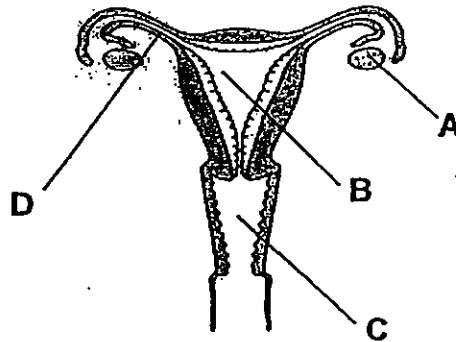
Which arrow(s) show(s) the direction of the wind during the seed dispersal?

- (1) P only
- (2) S only

- (3) R only
- (4) Q and R only

()

23. The diagram below shows the female reproductive system in humans.



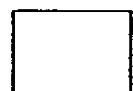
Female reproductive system

Where does the fertilized egg develop into a baby?

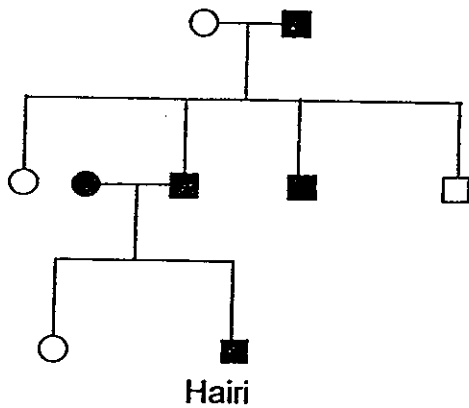
- (1) A
- (2) B

- (3) C
- (4) D

()



24. Study the family tree below.



Key

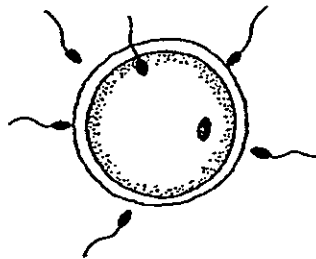
- Female
- Male
- Female tongue roller
- Male tongue roller

Which of the following statements about Hairi's family tree is true?

- (1) Hairi's sister is a tongue roller.
- (2) Both Hairi's parents are tongue rollers.
- (3) Both Hairi's grandparents are tongue rollers.
- (4) Hairi's father has a sister who is a tongue roller.

()

25. The diagram below shows the process of fertilization of a human egg.



4 statements were made on the above fertilization process.

Which of the following statements are true?

- A: Fertilization takes place inside the female's body.
- B: The fertilized egg develops into a baby in the ovary.
- C: Fertilization takes place when the sperm fuses with the egg.
- D: More than one sperm is needed to fertilise an egg.

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

()

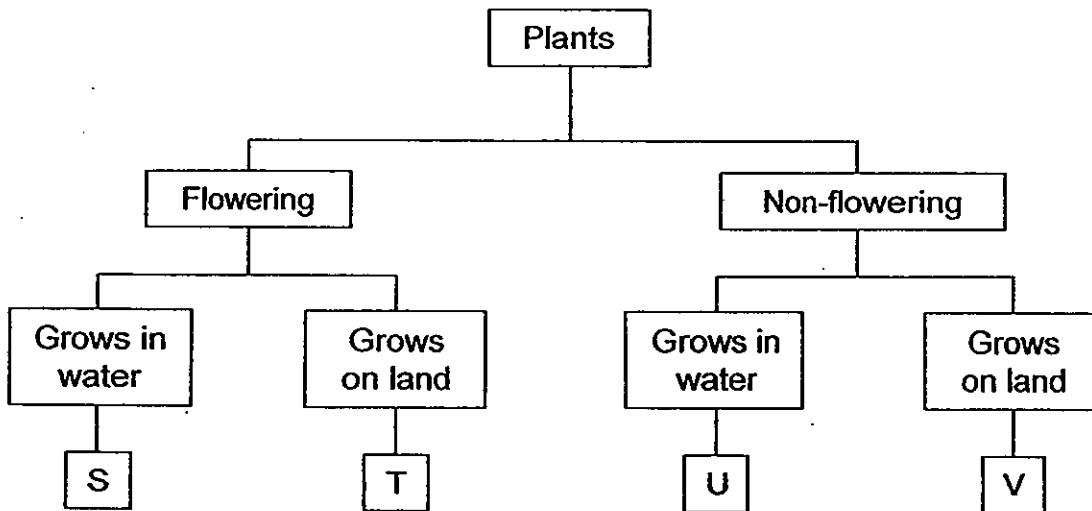


26. Nelson studied 4 plants, A, B, C and D, and recorded his observations in the table below.

A tick (✓) shows that the plant has the characteristic and a (X) shows that it does not.

Plants	Characteristics	
	Bears fruit	Grows on land
A	✓	✓
B	✓	X
C	X	✓
D	✓	✓

Study the classification chart below.



In which box, S, T, U or V, can Plant D be placed in?

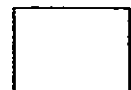
(1) S

(3) U

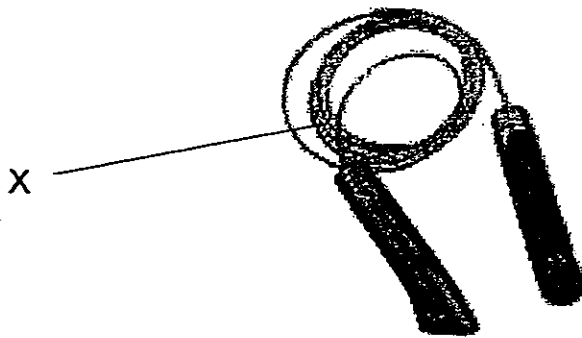
(2) T

(4) V

()



27. Meilan is able to roll up her skipping rope shown below because the material used to make part X is _____.

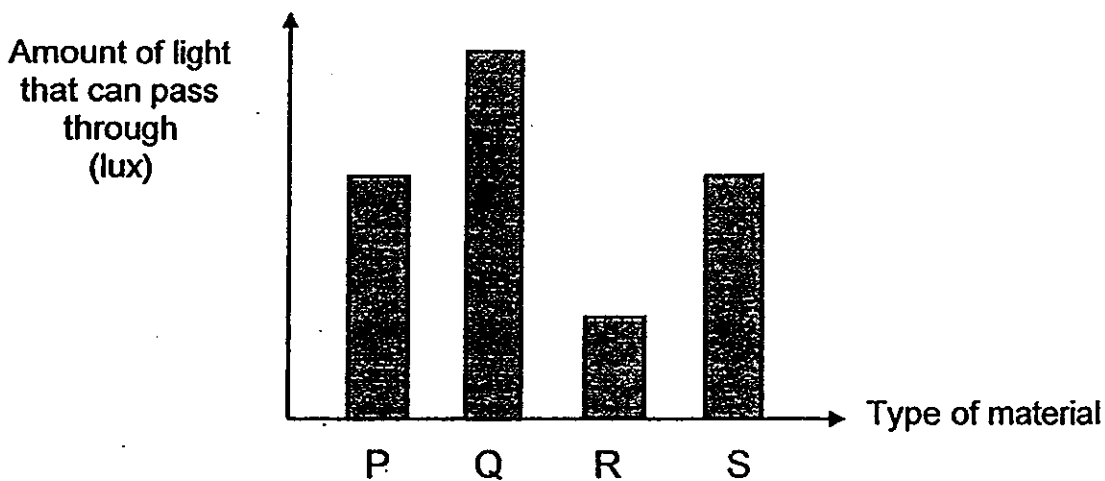


Skipping rope

- (1) hard (3) strong
 (2) light (4) flexible ()

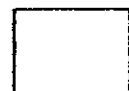
28. Mrs Tay wants to sew a set of curtains that can block out the most light for her bright room. She wants to choose a suitable material for making the window curtains.

The graph below shows the amount of light that can pass through each type of material, P, Q, R and S.

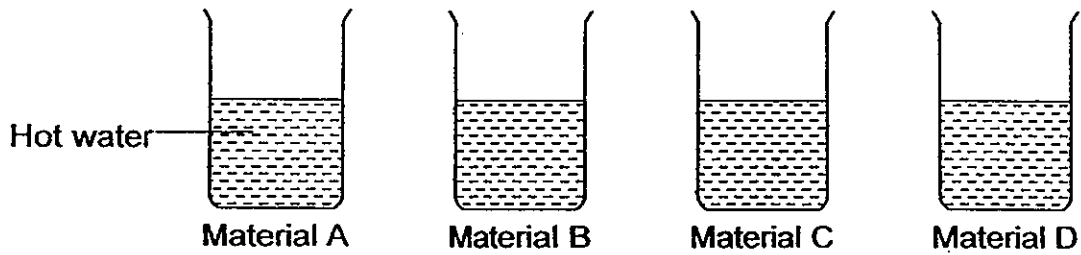


Which of the following materials is the most suitable for making the window curtains?

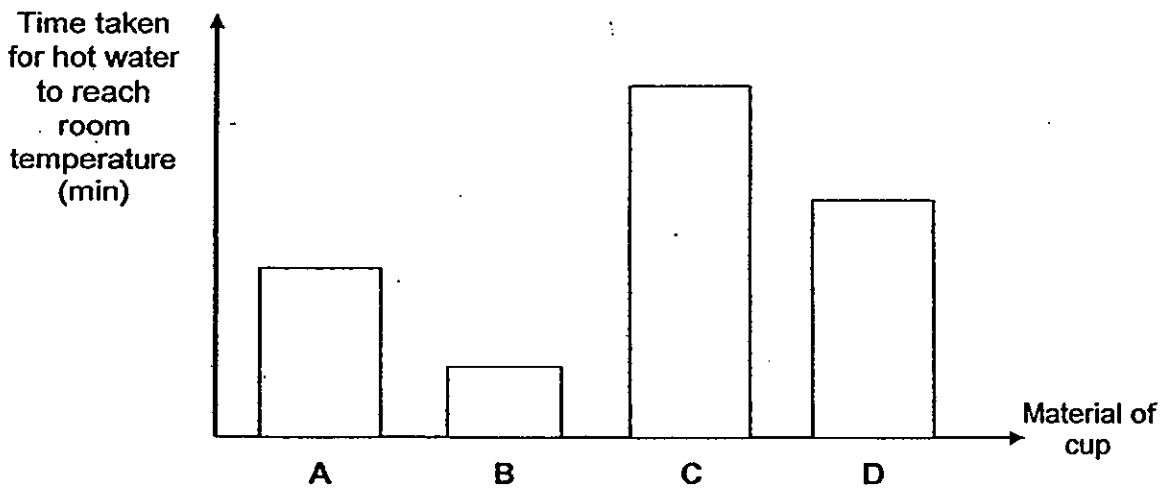
- (1) P (3) R
 (2) Q (4) S ()



29. Bala has 4 cups made of 4 different materials, A, B, C and D. The cups are of the same size and thickness. He put an equal amount of hot water in each cup. He placed all the cups in the classroom.



Bala recorded the time taken for the hot water to reach room temperature in each cup in the graph below.



Bala wanted to choose one of the materials to keep his cold drinks cold for long periods of time.

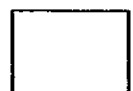
Which of the following materials is the **most** suitable material?

(1) A

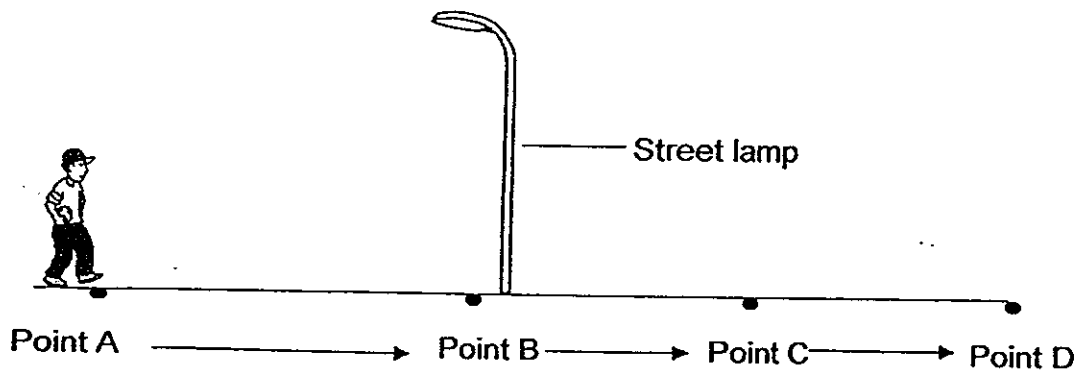
(3) C

(2) B

(4) D



30. One night, Ben was walking past a street lamp from point A to point D as shown in the diagram below.



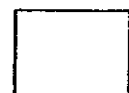
If the only light source in that area was only the street lamp, at which point will Ben's shadow be the shortest?

- (1) A
(2) B

- (3) C
(4) D

()

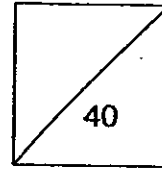
End of Booklet A







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2013 SEMESTRAL EXAMINATION 1
PRIMARY 5 SCIENCE

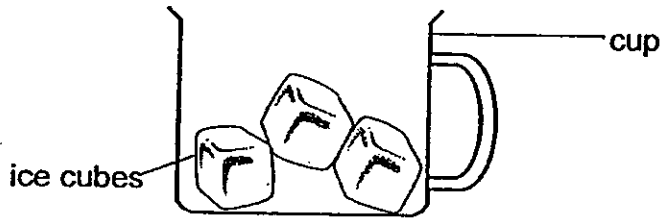


Name: _____ ()

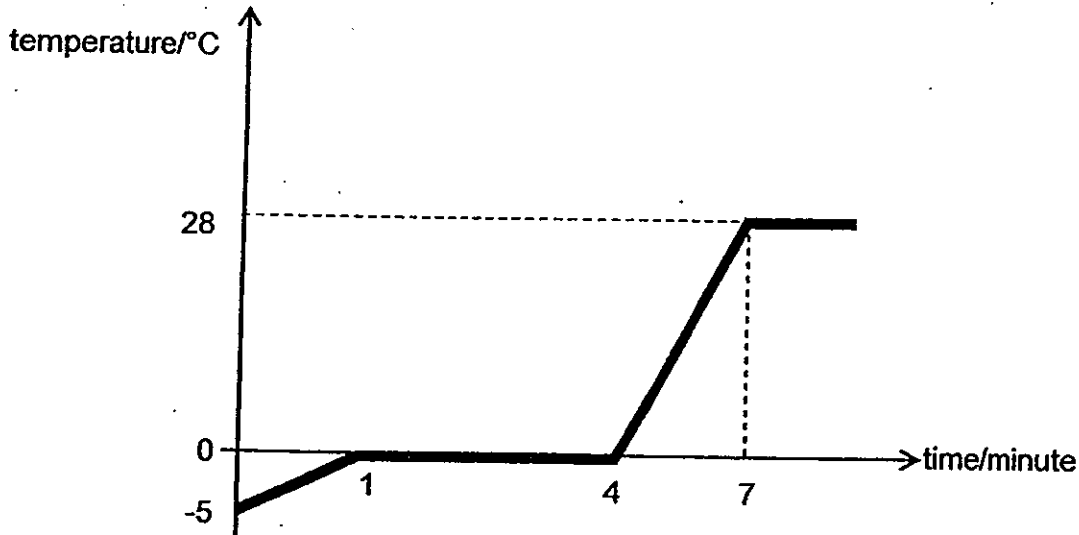
Class: Pr 5 _____

Booklet B (40 marks) Write your answers to questions 31 to 44 in the spaces given.

31. Andy conducted an experiment in the Science room as shown in the diagram below.



He measured and recorded the temperature of the ice cubes at 1 minute interval and drew a graph shown below to show the changes in temperature.



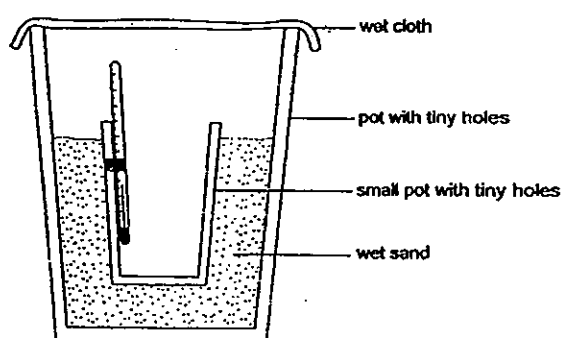
- a) Name the process taking place between the 1st and 4th minute. (1m)
Give a reason for your answer.



Question 31 continued

- b) Write down the temperature of the surroundings of the Science room. (1m)

32. Han Seng wanted to investigate the effect of evaporation on the temperature of the surrounding air. He sets up the experiment as shown below.



He placed the set-up in a dry place and recorded the temperature of the air inside the small pot. The results are shown below.

time (minutes)	temperature of air inside small pot (°C)
0	30
10	28
20	27

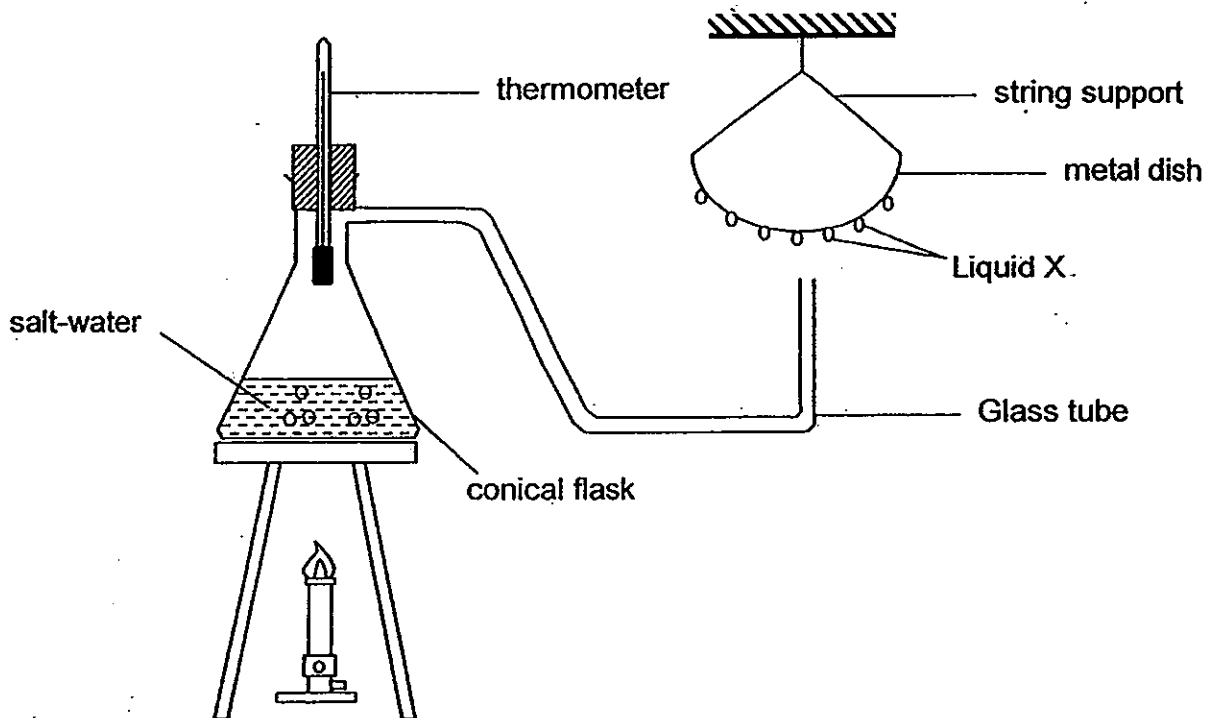
- a) Explain the decrease in the temperature of air inside that was observed. (2m)



Question 32 continued

- b) What can be concluded from this experiment? (1m)

33. The diagram below shows an experimental set-up that represents the water cycle. The salt-water in the conical flask is boiling.



- a) Name liquid X which is formed on the metal dish. (1m)

- b) Which part of the set up above represents the clouds in the water cycle? (1m)



Question 33 continued

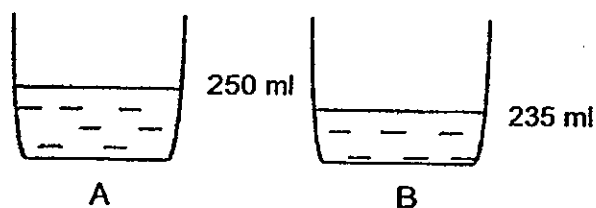
- c) What can be added to the metal dish in order to increase the amount of liquid X formed on the underside of the metal dish? (2m)

Give a reason for your answer.

34. 2 identical containers, A and B, were filled with 300ml of water.

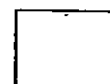
Container A was placed in a classroom while Container B was left outdoors under the sun.

After a few hours, it was noticed that both containers showed a decrease in water level. The amount of water remaining in each container is shown below.



- a) Name the variable that is changed in the above experiment. (1m)

- b) Explain why the rate of evaporation of water was faster in Container B than in Container A. (1m)



Question 34 continued

- c) A 3rd container, C, was filled with 300 ml of water and placed together with Container B in the sun as shown below.



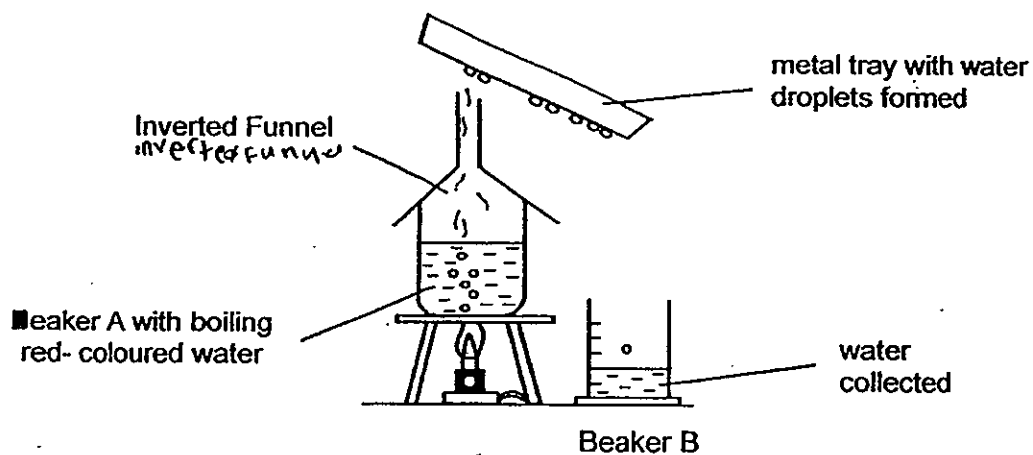
C

The rate of evaporation of water in Container C was faster than in Container B. Explain why. (1m)

- d) Write down one other factor that could increase the rate of evaporation of water. (1m)



35. The following diagram shows an experiment setup involving coloured water.



a) What is the colour of water collected in Beaker B? (1m)

b) State one **similarity** and one **difference** between the process of **boiling** (of water) and the process of **evaporation** (of water). (2m)

Similarity:

Difference:



36. The following table shows the comparison between sexual reproduction in humans and in flowering plants.

Complete the table below by writing the correct word in each blank.

(2m)

	Humans	Flowering Plants
Where the male sex cell is produced	Testes	(ai) _____
Where the female sex cell is produced	(aii) _____	Ovary
After fertilisation	The fertilised egg will develop into a (bi) _____	The ovary will develop into (bii) _____

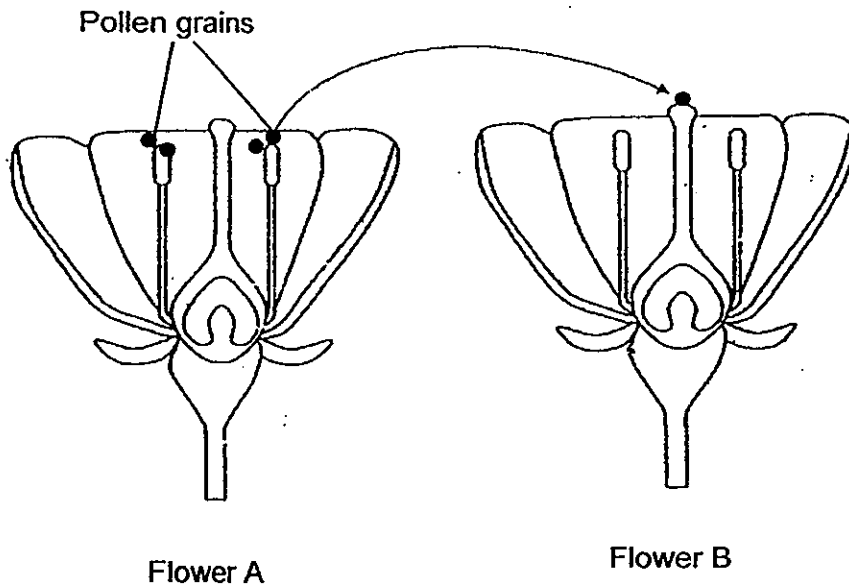
(c) Write 1, 2, 3 and 4 in the boxes to show the correct sequence of the process of fertilisation in human reproduction.

(1m)

A baby develops and grows in the womb.	
A sperm fuses with the egg.	
The fertilised egg starts going through cell division.	
Sperms travel into the female reproductive organ.	



37. The diagram below shows a process, indicated by the arrow, which takes place in some plants.



a) Name the process that is taking place. Describe what happens during this process. (2m)

Flower C is small, dull in colour and has no scent.

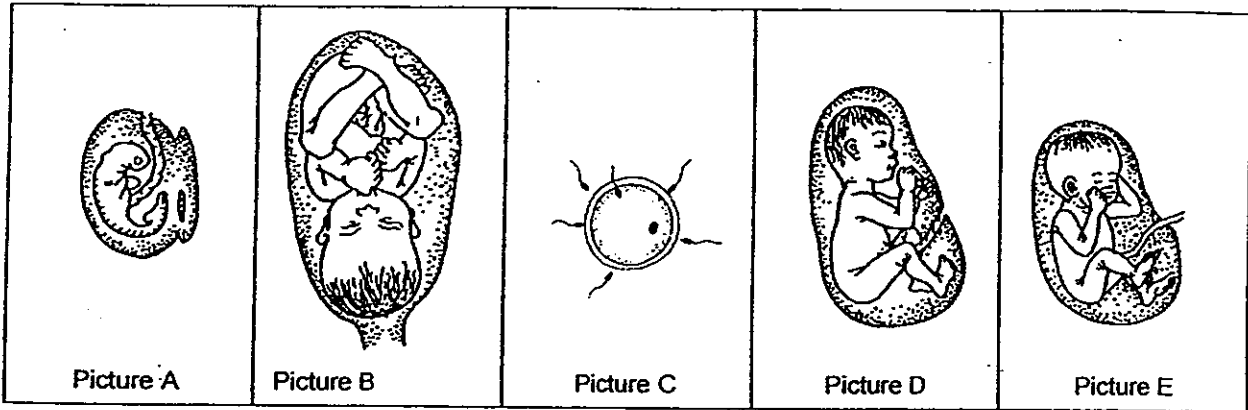


Flower C

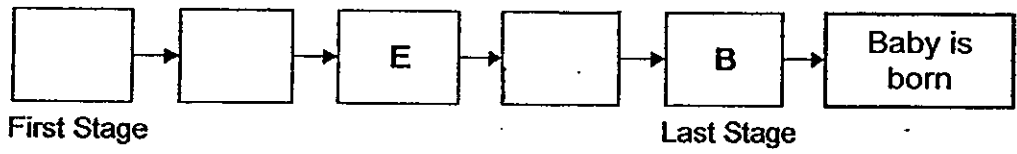
b) The male parts of Flower C are hanging out from the flower. How does this help the plant to reproduce? (1m)



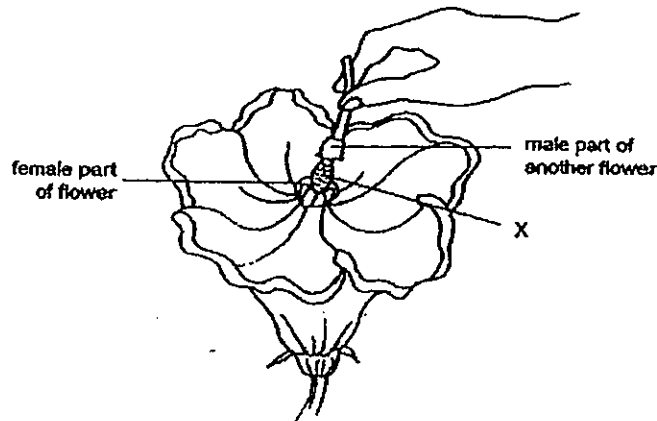
38. The pictures below show the different stages of development for a human baby.



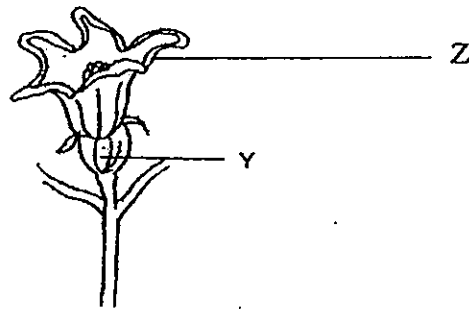
Arrange the pictures in correct order by adding letters A, C and D below. (2m)



39. Mr Lim has a flower with only the female reproductive part. To fertilise this flower, he rubbed the male reproductive part of another flower from the same plant onto this female part as shown in the diagram below.



The male part of the flower contains a substance X which is needed for sexual reproduction.



One week later, Part Y started to swell.

- a) What is Substance X? (1m)

- b) Name the process that took place in Part Y. (1m)

- c) What will happen to Part Z as Part Y started to swell? (1m)



40. Daniel carried out an experiment to find out which is the most suitable temperature for green beans to germinate.

He put 4 similar set-ups, each in a different place, as shown in the table below.

Set-ups	A	B	C	D
Place	freezer	fridge	classroom	oven
Temperature of surrounding air (°C)	- 12	3	29	80
Number of days taken to germinate	Did not germinate at all	4	1	Did not germinate at all

- a) State the variable that Daniel has changed in this experiment. (1m)

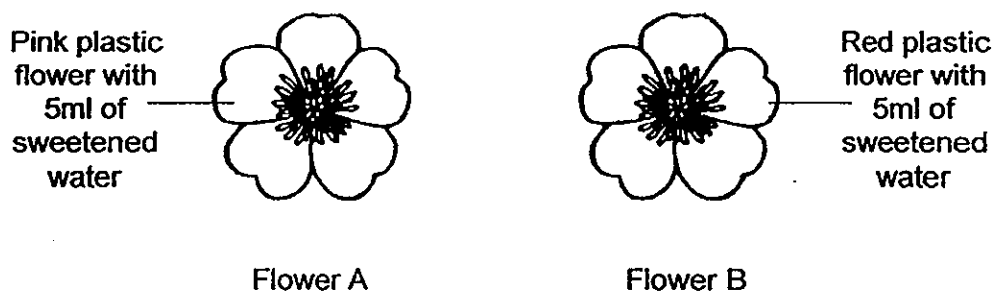
- b) Based on the results, what can Daniel conclude for this experiment? (1m)



41. David carried out an experiment to find out if bees are attracted to sweetened water.

He used 2 similar plastic flowers of different colours and sprayed each of them with 5 ml of sweetened water as shown below.

The plastic flowers were left in an open garden for 5 hours.



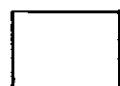
His teacher, Mrs Tan, told him that his experiment was **not** a fair one.

a) State 2 changes David has to make to his set-up to ensure a fair experiment. (2m)

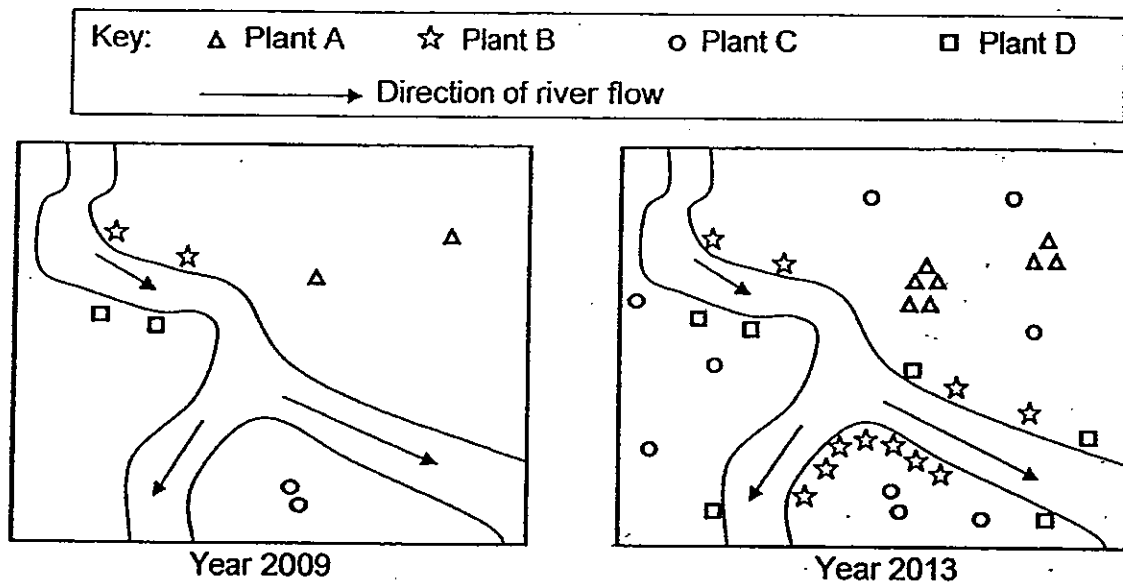
(i)

(ii)

b) After David makes the changes to his set-up, what variable should he measure to draw a conclusion on his experiment? (1m)



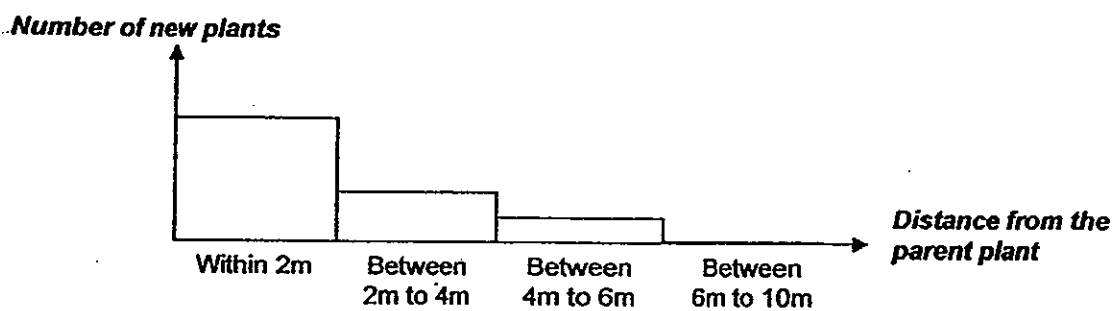
42. The diagrams below show the growth of plants A, B, C and D in an area over 4 years.



(a) Classify plants A, B, C and D by writing down the correct letters in the table below. (2m)

Dispersed by water	Dispersed by splitting	Dispersed by animals

(b) Plant X is dispersed by splitting. The graph below shows the number of seedlings of plant X that can be found growing away from the parent plant.

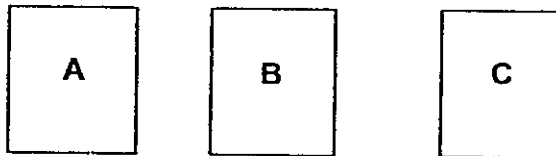


Question 42 continued

Based on the graph above, what is the relationship between the number of new plants and the distance from the parent plant for Plant X?

(1m)

43. Tom wants to find out which material, A, B or C is the hardest. He used 3 similar sheets, made of different materials, A, B and C as shown below.



He used the same amount of strength to scratch each sheet 8 times with an iron nail and recorded the results in the table below.

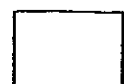
Material	Number of scratches on the material
A	3
B	8
C	5

Use the results given in the table above to answer the following questions.

- a) Which material, A, B or C, is the hardest? Explain your answer. (1m)

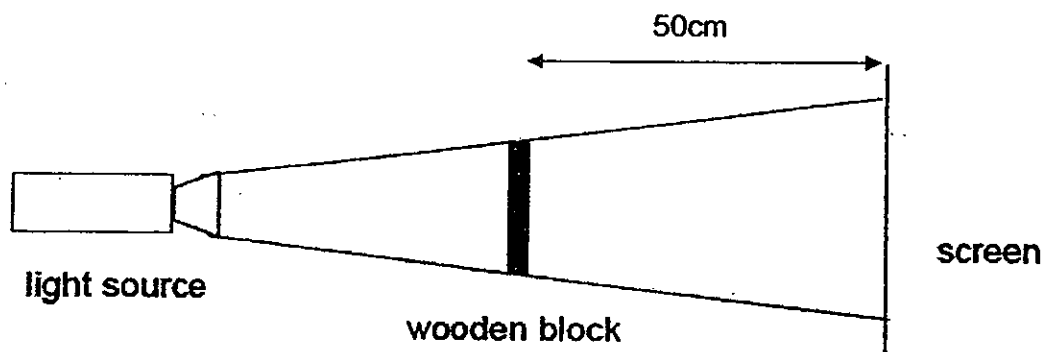
- b) Tom scratched another similar sheet of material, D, with the iron nail 8 times. He observed 6 scratches on material D.

Which materials from table above are harder than Material D?



44. Tim wanted to find out if the distance between the wooden block and the screen will affect the size of the shadow cast on the screen.

He placed a wooden block in front of a light source to cast a shadow on a screen 50 cm away. The light source was not moved during the experiment.



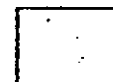
He moved the wooden block 10 cm closer to the screen when he repeated the experiment. He measured the height of the shadow formed.

The following measurements were taken.

Distance between wooden block and the screen (cm)	Height of shadow formed (cm)
50	22.3
40	18.2
30	14.9
20	X
10	11.2

- a) What is the value of X from the table above? (1m)

- b) Based on the results, what is the relationship between the distance of the wooden block from the screen and the height of the shadow? (1m)



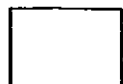
Question 44 continued

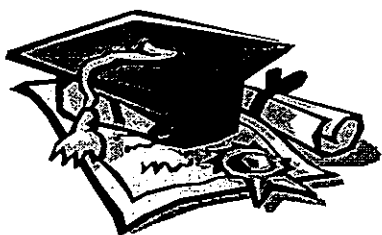
- c) The wooden block was replaced by another material, X, of the same (1m)
size and thickness. The shadow formed was of the same size but more
blurred and of a lighter shade than the shadow formed by the wooden
block.

What does this tell about the property of material X?

End of Booklet B

Setters: Mr Nicholas Sin & Ms Michelle Tan





ANSWER SHEET

EXAM PAPER 2013

SCHOOL : HENRY PARK PRIMARY SCHOOL

SUBJECT : PRIMARY 5 SCIENCE

TERM : SA1

ORDER CALL : MR GAN @ 9299 8971 . 86065443

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

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

Booklet B

Q31

a) Melting. The temperature remained constant at 0°C from the 1st to 4th minute. / Melting point is at 0°C .

b) 28°C

Q32

a) Water from the wet sand and wet cloth evaporates. It absorbs heat/ gains heat from the surrounding air.

b) Evaporation of water causes a decrease in the temperature of surrounding air.

Q33

a) Water droplets

b) Liquid X

c) Ice cubes. When water vapour touches the cooler metal dish, it loses heat more as ice is cold; hence it condenses into liquid X, which is water droplets.

Q34

a) The location of the experiment.

b) The temperature of surrounding air is higher in B than A.

- c) The exposed surface area of the water of Container C was larger than that of Container B. The larger the exposed surface area of water, the faster the rate of evaporation.
- d) A low level of humidity.

Q35

- a) Colourless
- b) Both processes gain heat.
- c) The process of boiling happens throughout the water but the process of evaporation happens only at the surface of the water.

Q36

- a) i) Anther
ii) Ovary
- b) i) baby
ii) fruit
- c)

A baby develops and grows in the womb	4
A sperm fuses with the egg	2
The fertilised egg starts going through cell division	3
Sperms travel into the female reproductive organ	1

Q37

- a) Pollination. The pollen grain from the male anther is transferred to the stigma of the female.
- b) The male parts of Flower C are hanging out from the flower, the pollen grains from the male parts can be shaken off easily and carried by the wind.

Q38) C → A → E → D → B → Baby is born

Q39

- a) Pollen grains
- b) Fertilization
- c) Part Z will start to wither and drop out.

Q40

- a) The temperature of surrounding air.
- b) The most suitable temperature for green beans to germinate is 29°C.

Q41

- a) i) David should change both of the flowers to either pink or red plastic.
ii) David should put plain water on one of the flowers, and the other still keeps the same, sweetened water.
- b) The number of bees visiting to the flower of sweetened water and the flower with plain water.

Q42

a)

Dispersed by water	Dispersed by splitting	Dispersed by animals
B, D	A	C

- b) The further the distance from the parent plant for Plant X, the lesser number of new plants.

Q43

- a) A. It has the least number of scratches on it.
b) A, C

Q44

- a) 12.8cm
b) The further the distance between the wooden block and the screen, the longer the height of the shadow.
c) It is translucent.

