15

HENRY PARK PRIMARY SCHOOL

FIRST SEMESTRAL ASSESSMENT 2016

PRIMARY 5

SCIENCE

BOOKLET A (56 MARKS)

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers on the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5 ( )

Date: 12 May 2016

Total Time for Booklets A and B: 1 h 45 min

Booklet	Marks
A	
B	
Total (A+B)	

Parent's Signature: _____

Booklet A (56 marks)

For each question from 1 to 28, 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. Which of the following are similarities between the reproduction of flowering plants and animals?

A: Both involve reproducing from seeds.

B: Both involve male and female sex cells.

C: Both ensure the continuity of their own kind.

(1) A and B only

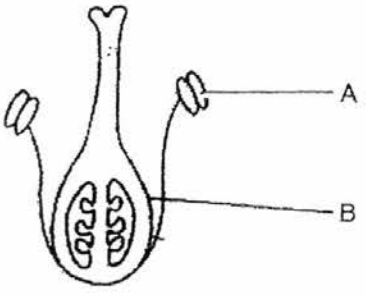
(2) A and C only

(3) B and C only

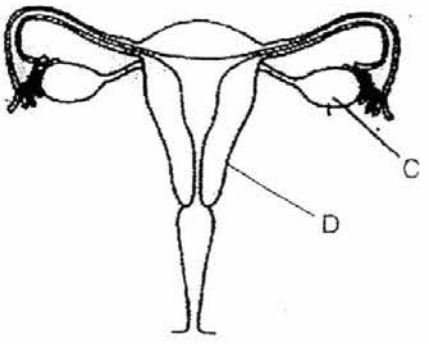
(4) A, B and C

( )

2. The diagrams below show the female reproductive parts of a flowering plant and human.



female reproductive parts in flowering plant



female reproductive parts in human

Which parts, A, B, C or D, perform similar functions in flowering plants and humans?

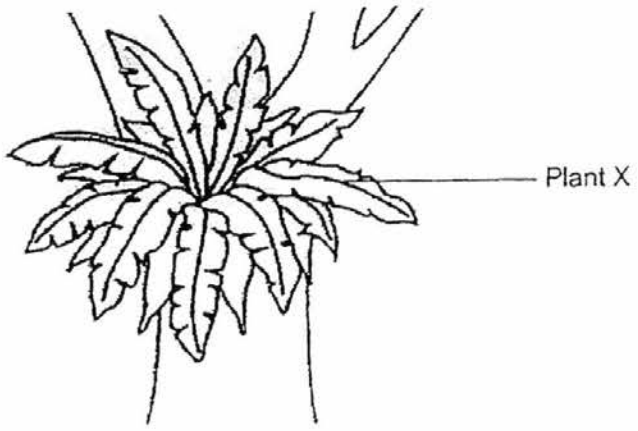
(1) A and C

(2) A and D

(3) B and C

(4) B and D

3. The diagram below shows a non-flowering plant X.



Which of the following about non-flowering plant X are correct?

A: It can make food.

B: It can be pollinated.

C: It can reproduce by spores.

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

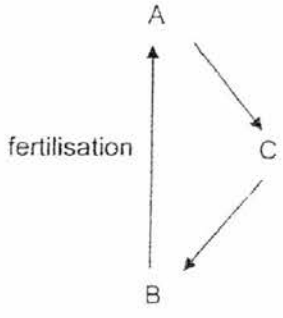
( )

4. The table below describes three stages (A, B and C) in the growth of a flowering plant. The stages, A, B and C are **not** in order.

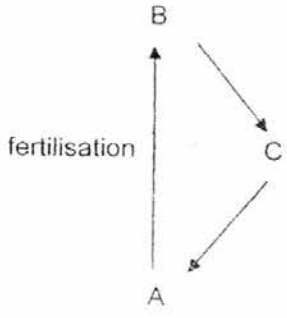
A	B	C
Plant bears flowers	Plant reaches adult stage	Plant produces seeds

Based on the table above, which one of the following diagrams shows correctly the growth of a flowering plant and when fertilisation occurs?

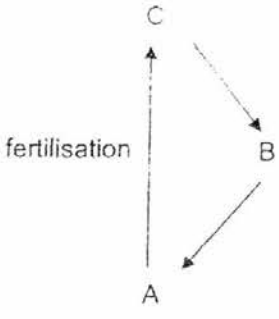
(1)



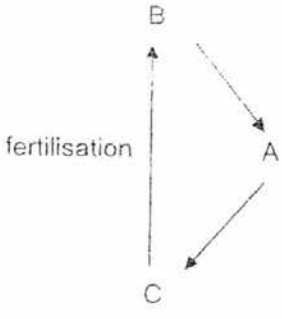
(2)



(3)

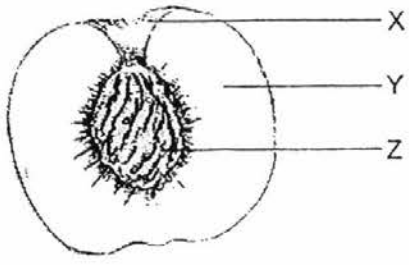


(4)



( )

5. The fruit below is dispersed by animals.



Which of the following help in this method of dispersal?

A: X is colourful and attractive.

B: Y is fleshy, sweet and juicy.

C: Z is stone-like and hard.

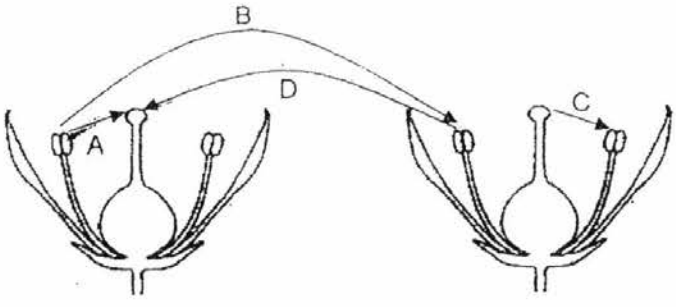
(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C ( )

6. The diagram below shows two flowers of the same species.



Which of the arrows, A, B, C and D, show pollination taking place?

(1) A and B

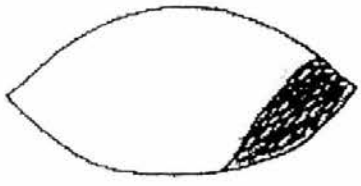
(2) A and D

(3) B and C

(4) B and D

( )

7. The diagram below shows a fruit that Celeste picks up along the beach.



She wants to find out whether the fruit is dispersed by water.

Which of the following actions are useful for her purpose?

A: Place the fruit in the water.

B: Drop the fruit from a height.

C: Open the fruit to see if the fruit has a fibrous part

(1) A and B only

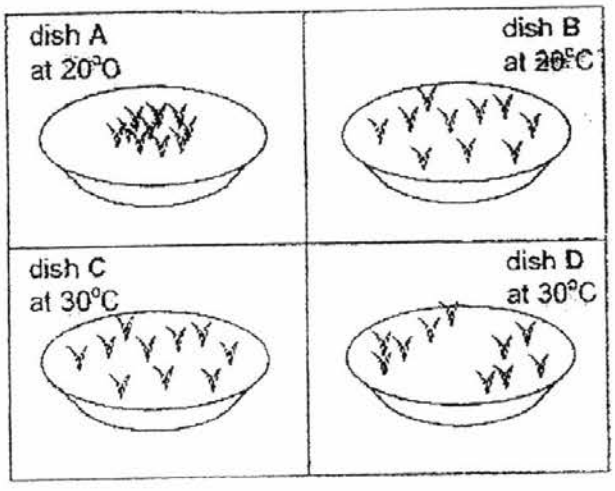
(2) A and C only

(3) B and C only

(4) A, B and C

( )

8. Joe wanted to investigate the effect of temperature on the growth of plants.



Each dish contains ten similar type of seedlings.

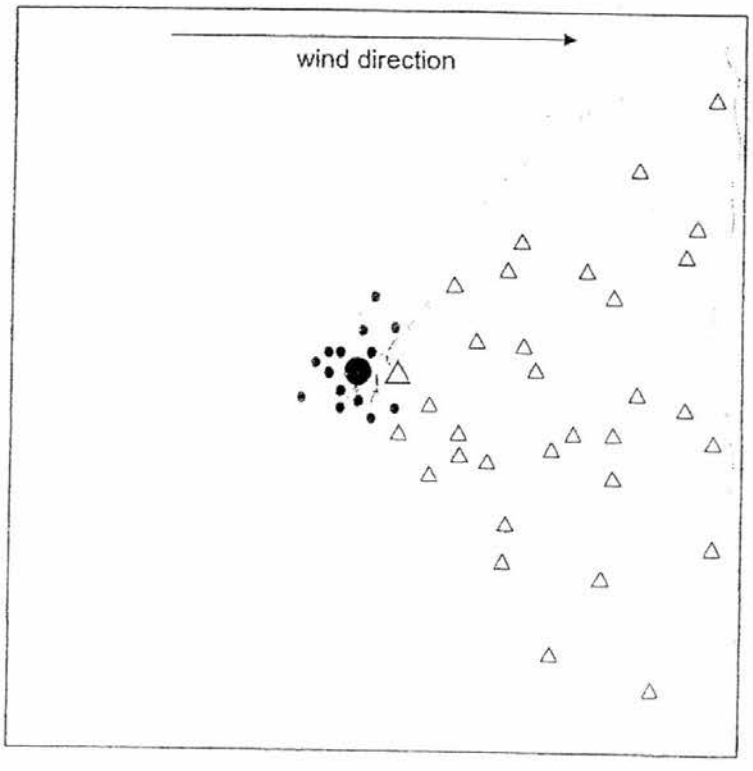
Joe wanted to conduct a fair test, so he chose dishes A and D for his investigation

Has he made a correct choice?

	Answer	Reason
(1)	No	The temperature of the dishes was not the same.
(2)	No	The spacing of the seedlings was not the same.
(3)	Yes	The number of seedlings used was the same.
(4)	Yes	The size of the dish used was the same.

( )

9. The diagram shows the dispersal patterns of two plants.



Key		
Parents	●	△
Seedlings	•	△

How are the seeds of these plants dispersed?

	Plant	
	●	△
(1)	animals	animals
(2)	wind	animals
(3)	splitting	wind
(4)	wind	splitting

( )

10. Jane carries out an experiment to find out how the mass of winged fruits affects the distance travelled from the parent plant.

Which of the following should she keep the same for a fair test?

A: Mass of seeds

B: Length of the wing-like parts

C: Height from which the seeds were dropped

D: Wind condition at the place where experiment was carried out

(1) A only

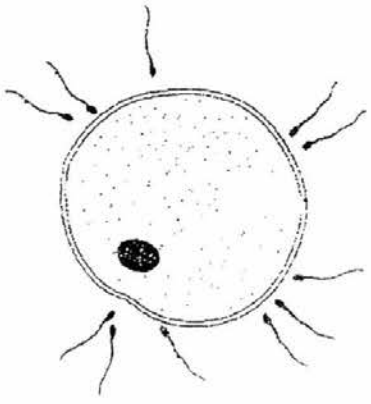
(2) B and C only

(3) A, C and D only

(4) B, C and D only

( )

11. The diagram below shows a human egg and some sperms.



Which of the following about the human egg and the sperms are correct?

A : The fertilised egg grows in the stomach.

B : Only one sperm is needed to fertilise the egg.

C : The sperm has a tail-like structure but not the egg.

(1) A and B only

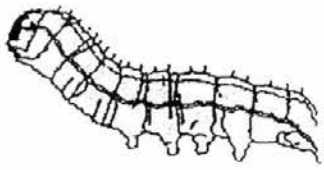
(2) A and C only

(3) B and C only

(4) A, B and C

( )

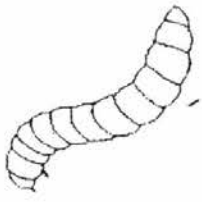
12. The diagram below shows a stage in the life cycle of a butterfly, where the animal feeds continuously.



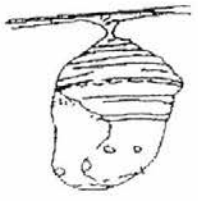
Which of the following diagrams shows the next stage in the life cycle of the butterfly?

(1)

(2)



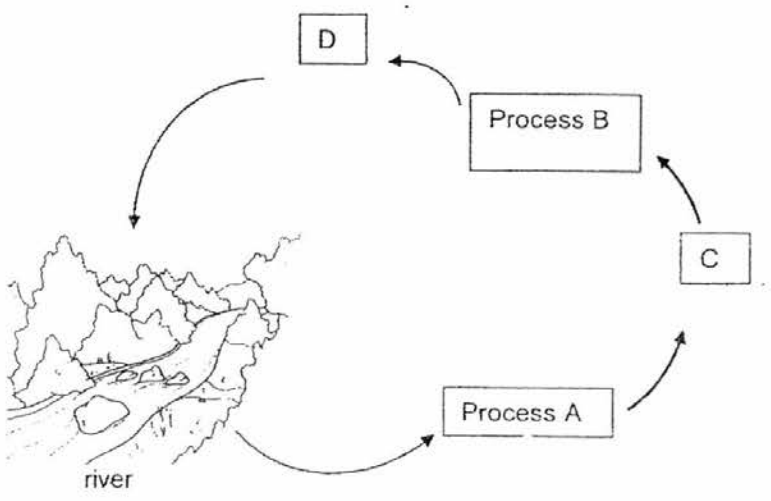
(3)



(4)

( )

13. The diagram below shows a water cycle.



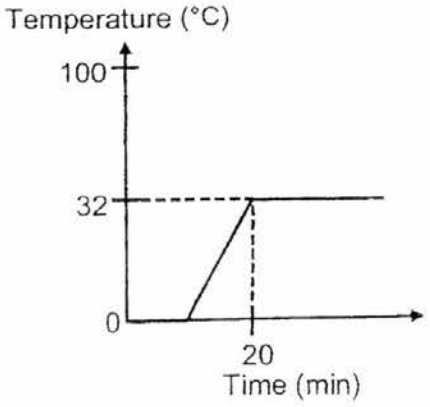
Which one of the following correctly describes A, B, C and D?

	Process A	Process B	C	D
(1)	condensation	evaporation	water droplets	water vapour
(2)	evaporation	condensation	water vapour	water vapour
(3)	condensation	evaporation	water droplets	water vapour
(4)	evaporation	condensation	water vapour	water droplets

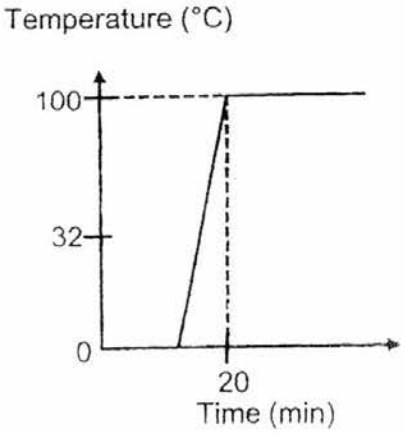
( )

14. Which one of the following graphs correctly shows the change in the temperature of ice that was left on a dish in a room for 60 minutes?

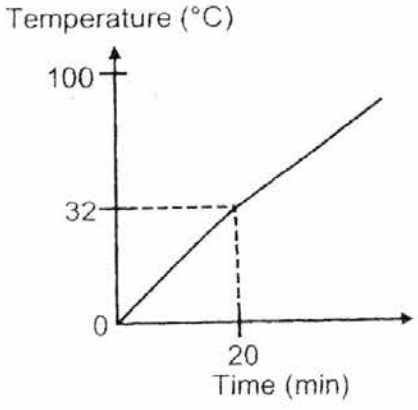
(1)



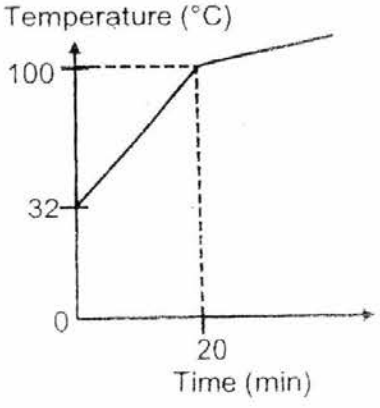
(2)



(3)



(4)

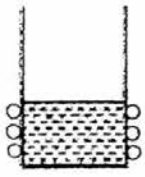


( )

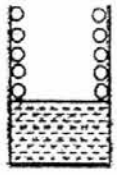
15. An experiment was set up to observe the condensation of water vapour.
Hot water at 85°C was poured into a glass beaker that was of room temperature.

Which one of the following diagrams correctly shows where water droplets would form after a short while?

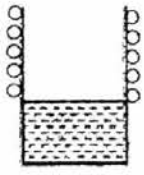
(1)



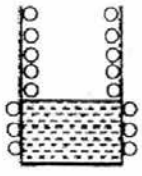
(2)



(3)

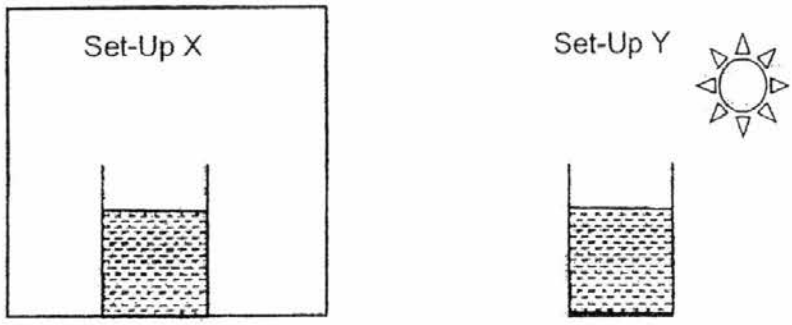


(4)



( )

16. Renee placed the same amount of water in two identical containers.
At the start of the experiment, she left them in two different locations as shown below.



After five hours, she compared the amount of water left in each container.

Which one of the following describes correctly the amount of water in set-up Y as compared to set-up X?

	Amount of Water Left in the container in Set-Up Y	Rate of Evaporation	Reason
(1)	Lesser	Faster	More heat
(2)	Lesser	Slower	Less heat
(3)	More	Slower	More heat
(4)	More	Faster	Less heat

( )

17. The following statements describe the stages in a water cycle.

A: Water droplets fall from clouds as rain.

B: Water vapour condenses into clouds.

C: Water evaporates from lakes, rivers, seas and oceans.

Which of the following shows the correct order of the water cycle?

(1) A, B, C

(2) C, A, B

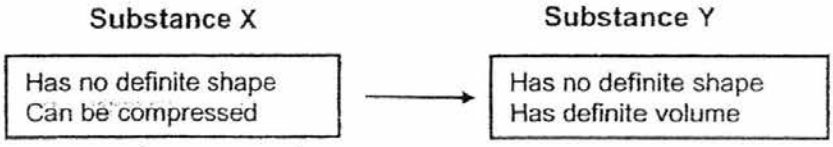
(3) B, C, A

(4) B, A, C

( )

18. Substance X and Substance Y are water in two different states.

The diagram below shows the properties of Substance X and Substance Y.



What process takes place as Substance X changes into Substance Y?

(1) Boiling

(2) Freezing

(3) Evaporation

(4) Condensation ( )

19. Which of the following statements are **correct** about evaporation and boiling of water?

	Evaporation	Boiling
A.	Takes place on the surface of water	Takes place throughout the water
B.	Happens at all temperatures	Happens at 100°C
C.	Water loses heat during this process	Water gains heat during this process

(1) A and B only

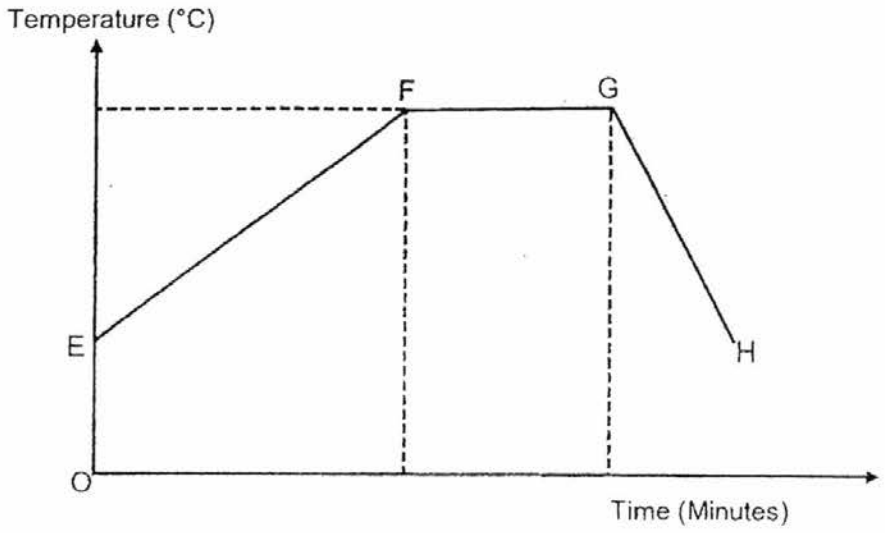
(2) A and C only

(3) B and C only

(4) A, B and C

( )

20. The graph below shows the changes in the temperature of water over a period of time.



Based on the graph above, which of the following correctly describes the reason for the changes in the temperature of water?

	From E to F	From G to H
(1)	Heat Gain	Heat Gain
(2)	Heat Loss	Heat Gain
(3)	Heat Gain	Heat Loss
(4)	Heat Loss	Heat Loss

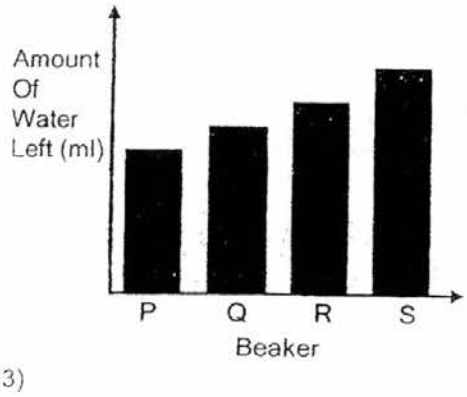
( )

21. Four identical beakers, P, Q, R and S, were each filled with the same volume of water. They were left in four places with different conditions for 5 hours as shown in the table below.

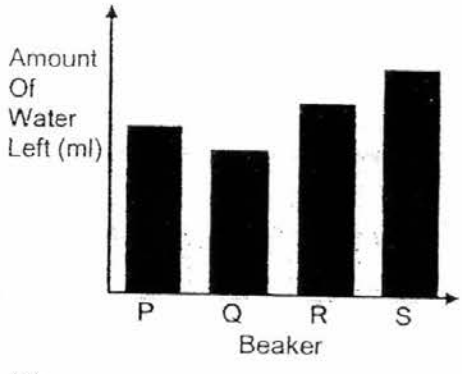
Beaker	P	Q	R	S
Conditions during the 5 hours	Sunny Not windy	Sunny Windy	Cloudy Not windy	Cloudy Windy

Which one of the following graphs shows the volume of the water left in the four beakers after 5 hours?

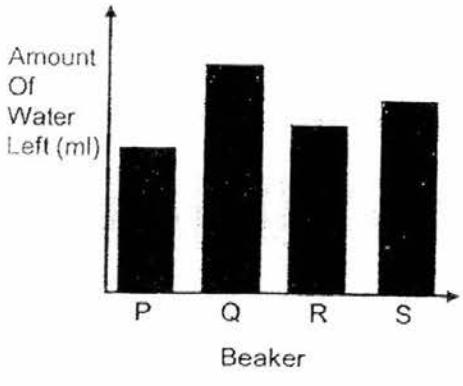
(1)



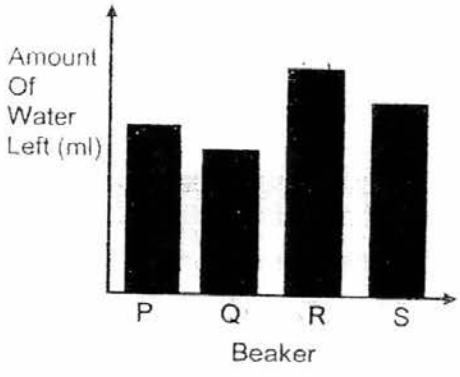
(2)



(3)



(4)



( )

22. Deforestation is harmful to our environment.

Which of the following is/are least likely caused by deforestation?

A: Less variety of animals

B: More oxygen in the air

C: More soil being washed away by rain

(1) A only

(2) B only

(3) A and B only

(4) A, B and C ( )

23. Which of the following actions results in bottle caps being found in the stomach of dead whales along the shore?

(1) Discarding of food wrappers along the shore.

(2) Littering of plastic bottles along the beach.

(3) Spillage of oil by tankers in the ocean.

(4) Washing of clothes in the river.

( )

24. Which of the following actions do <u>not</u> contribute to an increase in greenhouse gases?

A: Mary walks to school.

B: Ray drives his car to work.

C: Peter grows plants in the garden.

D: Nurul opens the windows on sunny days.

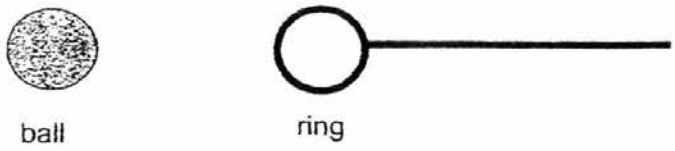
(1) A and B only

(2) A and C only

(3) A, C and D only

(4) B, C and D only ( )

25. The ring and the ball below are made of the same material.



ball ring

At room temperature, the ball was not able to pass through the ring.

Which of the following explains what Ali should do to the ring so that the ball is able to pass through it?

	Action	Reason
(1)	Put the ring in boiling water.	The ring expands.
(2)	Put the ring in boiling water.	The ring contracts.
(3)	Put the ring in the freezer.	The ring expands.
(4)	Put the ring in the freezer.	The ring contracts.

( )

26). Jerrell wants to find out which object, X or Y, has a greater volume.

He placed the objects into two empty similar cylinders, A and B. He then poured water to the same level as shown in Diagram 1.

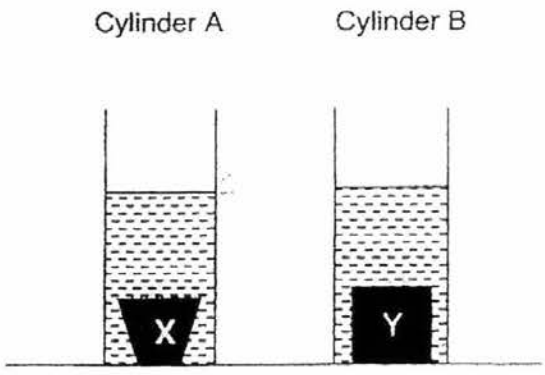


Diagram 1

He removed both objects carefully such that the least amount of water is dripped from the objects as shown in Diagram 2.

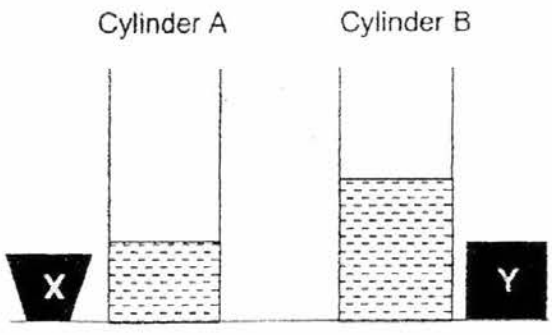


Diagram 2

Which of the following correctly explains Jerrell's conclusion for the above experiment?

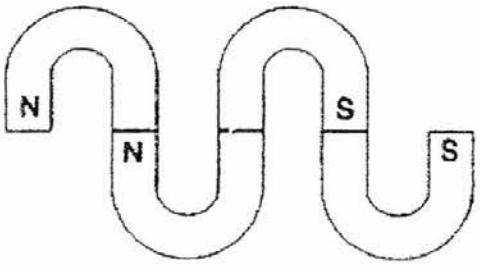
	Object with a greater volume	Explanation
(1)	X	Volume of water left in A is less than that in B
(2)	X	Volume of water left in B is ~~more~~ less than that in A
(3)	Y	Volume of water left in A is less than that in B
(4)	Y	Volume of water left in B is ~~more~~ less than that in A

( )

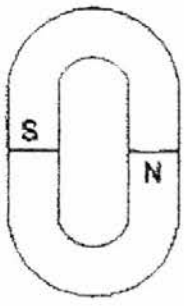
27. Mala used some U-shaped magnets to form different shapes.

Which one of the following shapes cannot be formed?

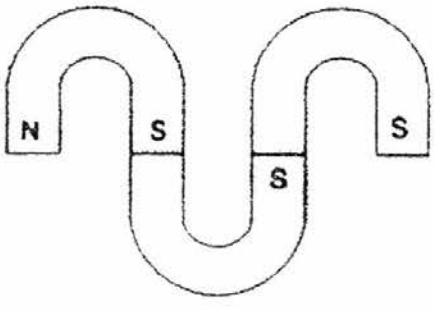
(1)



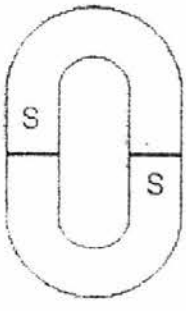
(2)



(3)



(4)



( )

28 . Jane wants to make a diving springboard as shown below at a swimming pool.

The table below shows some characteristics of four materials, A, B, C and D.

Material	Strong	Flexible
A	✗	✓
B	✓	✗
C	✗	✗
D	✓	✓

(✓ - has the characteristic, ✗ - does not have the characteristic)

Which one of these materials, A, B, C or D, is most suitable for making part X of the springboard?

(1) A

(2) B

(3) C

(4) D

( )

End of Booklet A

HENRY PARK PRIMARY SCHOOL

FIRST SEMESTRAL ASSESSMENT 2016

PRIMARY 5

SCIENCE

BOOKLET B (44 MARKS)

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

Name: _____ ( )

Class: Primary 5 ( )

Date: 12 May 2016

Total Time for Booklets A and B: 1 h 45 min

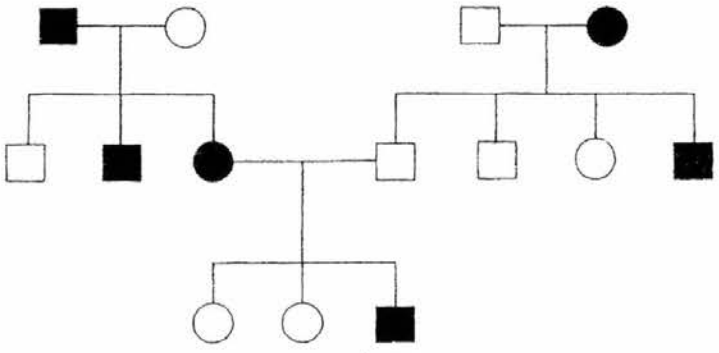
Marks for Booklet B: _____

Booklet B (44 marks)

Write your answers to questions 29 to 40 in the spaces given.

---

29. Study the family tree of Jovan below. The family tree shows the members who are tongue rollers and non-tongue rollers.



Key :

■ male tongue roller

● female tongue roller

□ male non-tongue roller

○ female non-tongue roller

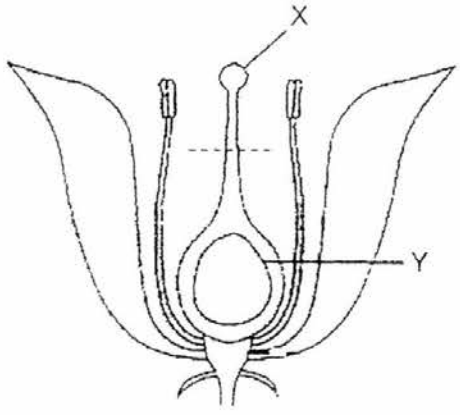
The following statements are about the family tree of Jovan.

(3m)

Write '**T**' if the statements are true and '**F**' if the statements are false.

	Statements	T or F
(a)	Jovan's mother is a tongue roller.	
(b)	Jovan's mother has a brother who is a tongue roller.	
(c)	There are more male non-tongue rollers than female non-tongue rollers in Jovan's family.	

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



a) Identify the parts labelled, X and Y. *(2m)*

Part X : _____

Part Y : _____

b) Two processes are required to take place for part Y to develop into a fruit. However, when part X is cut off along the dotted line, part Y is still able to develop into a fruit. *(2m)*

Explain why this is so.

_____

_____

c) Without removing any parts of the flower, suggest **another** way to prevent this flower from becoming a fruit. *(1m)*

_____

_____

31. Kieron carried out three experiments with some seeds and cotton wool under different conditions as shown in the table below.

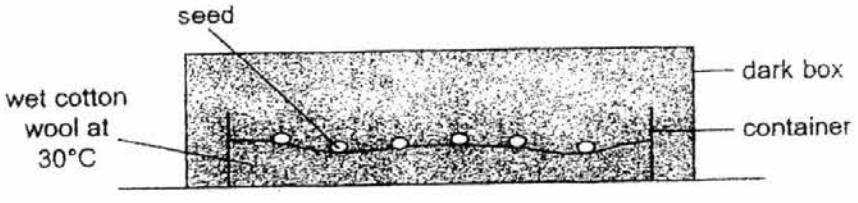
Experimental Set-up	Conditions	Results
P	• Wet cotton wool • In the presence of light • Temperature of 30°C	Seeds germinated
Q	• Wet cotton wool • In the presence of light • Temperature of 5°C	Seeds did not germinate
S	• Dry cotton wool • In the presence of light • Temperature of 30°C	Seeds did not germinate

a) Based on the table above, list down 2 conditions that are necessary for the seeds to grow into seedlings. *(2m)*

Condition 1 : _____

Condition 2 : _____

b) The diagram below shows another experiment where the seeds are kept in the dark. *(2m)*



Suggest two possible reasons why the seeds germinated.

Reason 1 :

_____

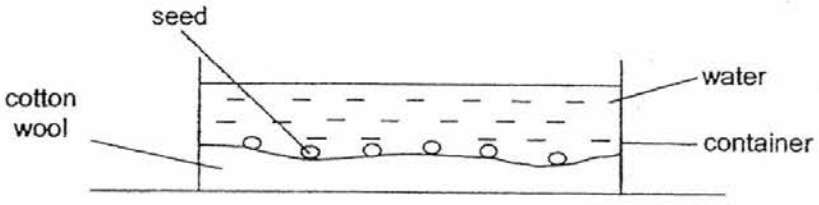
_____

Reason 2 :

_____

_____

c) In the next experiment, the seeds are submerged in water in a lighted place at 30°C. *(1m)*

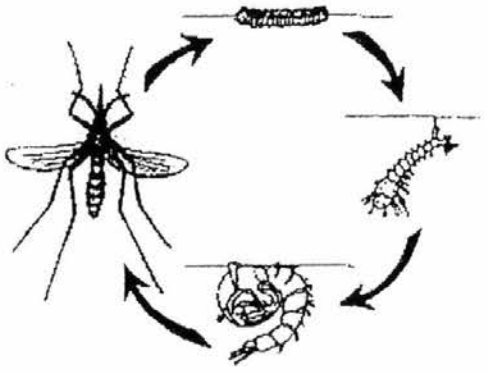


The seeds were able to germinate. Explain why.

_____

_____

32. Amir studied the life cycle of organism M as shown below.



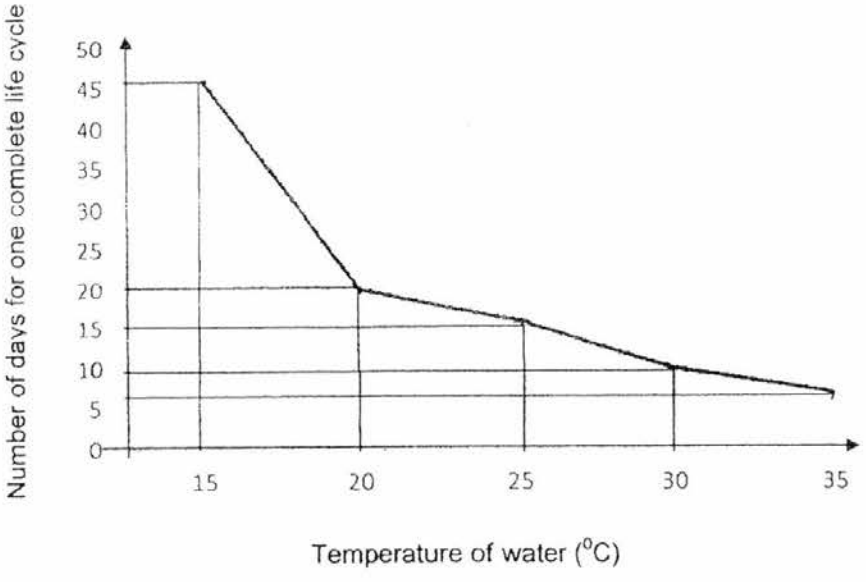
Life Cycle of organism M

a) Name **another** animal that has four stages in its life cycle. *(1m)*

_____

Amir studied the effect of the temperature of water on the life cycle of organism M.

The graph below shows the results of his study.

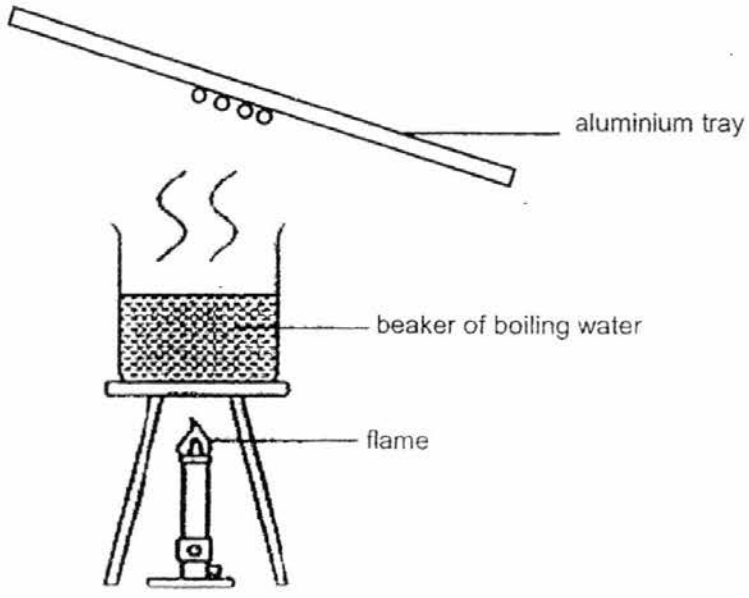


b) Based on the graph, how would the temperature of water affect the number of days taken for one complete life cycle of organism M? *(1m)*

_____

_____

33. In the set-up below, some water was heated in a beaker. After ten minutes, water droplets started to form on the aluminium tray as shown below.



a) Explain how the water droplets were formed. *(2m)*

_____

_____

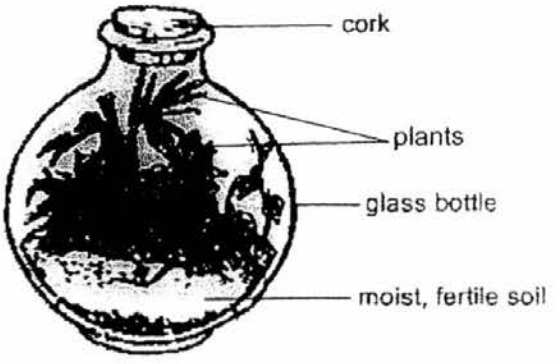
b) After half an hour, May observed that less water droplets formed on the aluminium tray.

Give a reason for her observation. *(2m)*

_____

_____

34. The diagram below shows a sealed bottle garden. It is placed near a window where the plants receive light from the sun.

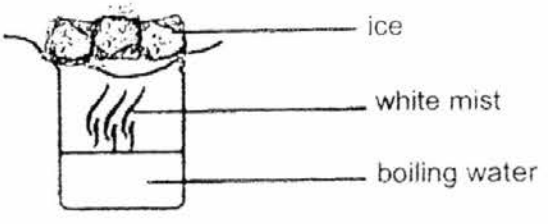


a) Explain how the plants were able to obtain water to survive for some time. *(2m)*

_____

_____

b) The set-up below shows how the water cycle works.



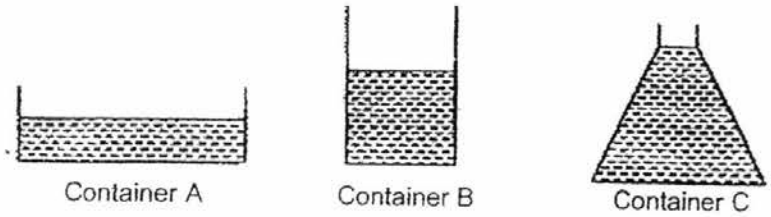
Which part of the set-up represents the 'clouds' in the water cycle above?

Explain your answer. *(2m)*

_____

_____

35. Susan conducted an experiment to find out if the exposed surface area of water would affect the rate of evaporation of water. She poured an equal amount of water into three different containers, A, B and C, as shown below.



Container A Container B Container C

a) Put a tick (✓) in the box where the variable is kept the same. *(2m)*

Variable	Kept the same in the experiment
Duration of experiment	
Material of container	

b) Name the **changed** variable in this experiment. *(1m)*

_____

c) Susan measured the amount of water left in each container after 2 hours. *(1m)*

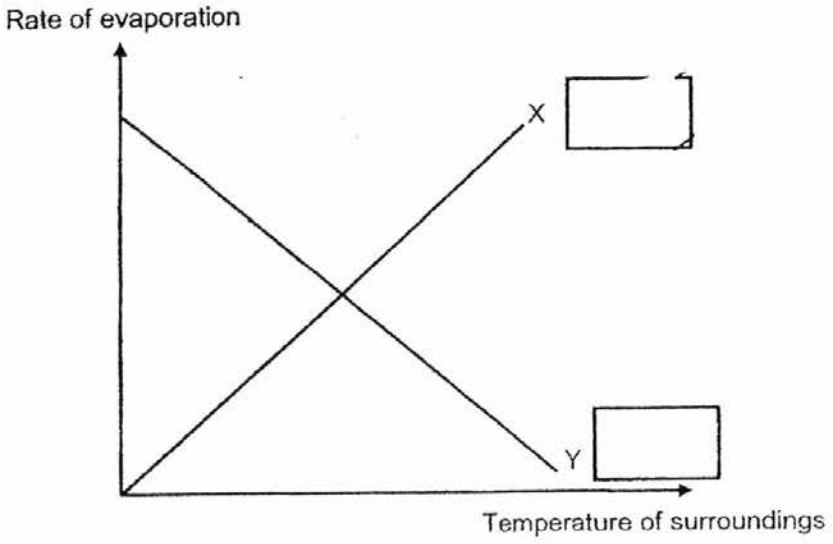
She found the amount of water left to be **36 ml**, **80 ml** and **165 ml**.

Write the correct amount of water (36 ml, 80 ml and 165 ml) in the correct boxes below.

Container	Volume of water (ml)	
	At the start of experiment (ml)	After 2 hours (ml)
A	200	
B	200	
C	200	

d) The graph below shows the relationship between the temperature of the surroundings and the rate of evaporation. *(1m)*

Tick (✓) the box that shows the correct relationship between the temperature of the surroundings and the rate of evaporation.



36. The average temperature of surrounding air in Country S is increasing steadily.

The table below shows the temperature of surrounding air in Country S from 2002 to 2014.

	2002	2006	2010	2014
Temperature of surrounding air (^{0}C)	26.3	26.5	?	26.9

a) What was the temperature of the surrounding air in Country S in 2010? *(2m)*

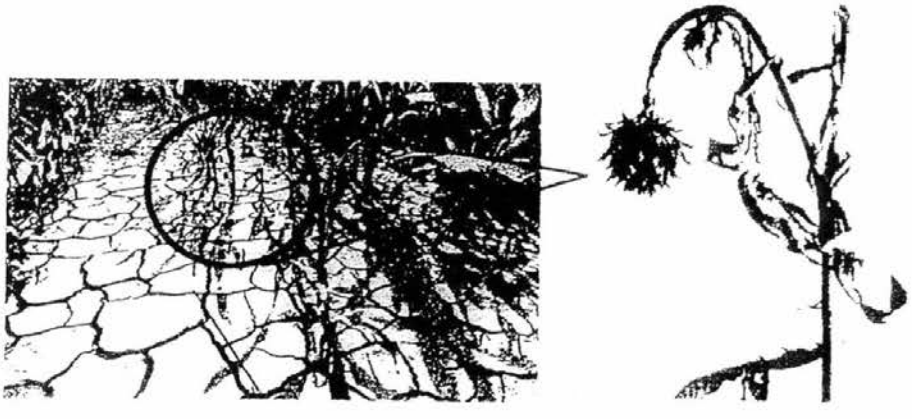
Temperature in 2010 : _____ ^{0}C

Explain how this increasing trend is likely to affect the plants and animals in Country S.

_____

_____

The picture below shows wilted crops and dry soil in a neighbouring country of Country S.



Dry soil **Wilted crop**

b) Suggest a possible reason for the wilted crops and dry soil. *(1m)*

_____

_____

37. Sean conducted an experiment and his set-ups are shown in Diagram 1. The test-tubes were sealed with stoppers. He poured the same amount of coloured water at room temperature into both test- tubes. The water rose to the same levels in the glass tubes.

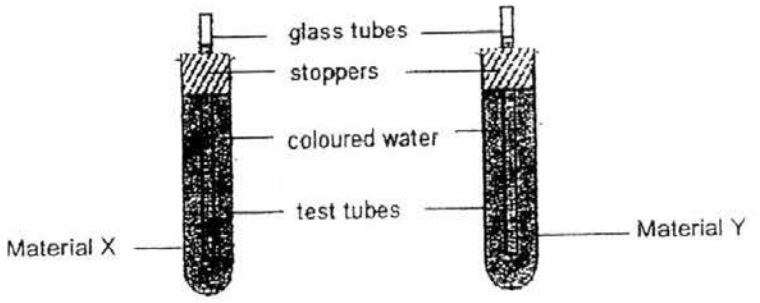


Diagram 1

Sean wanted to find out what material X and material Y are. He placed the test tubes in a trough of hot water at the same time.

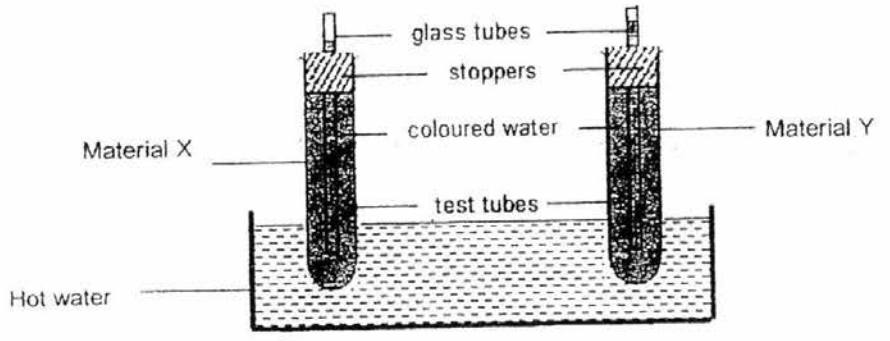


Diagram 2

Diagram 2 shows the water level in each glass tube after 2 minutes.

a) State the difference in the water level in the two glass tubes. *(1m)*

_____

_____

b) What is the purpose of placing the test tubes in hot water? *(1m)*

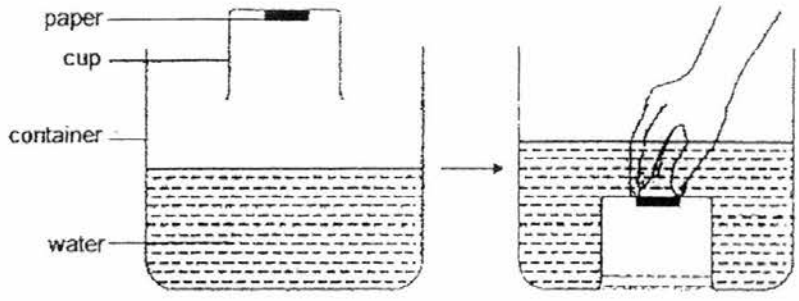
_____

c) Which material is a **poorer** conductor of heat? Explain why.

_____

_____

38. Megan stuck a paper in an inverted cup and pushed it into a container of water as shown below.



a) Explain why there was a rise in water level in the container after the cup was pushed in. *(2m)*

_____

_____

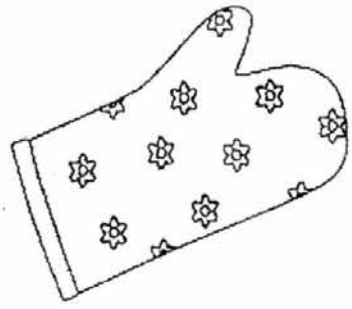
b) Megan observed that the paper in the cup was **not** wet in the container. *(2m)*

Explain why.

_____

_____

39. The picture below shows a mitten. It is used to remove hot trays from ovens.



a) Based on the function of the mitten stated above, what is an important property of the material suitable for making the mitten? *(1m)*

_____

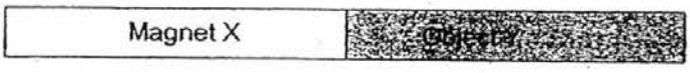
_____

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

_____

_____

40. Cheryl observed that magnet X and Object Y were attracted as shown below.

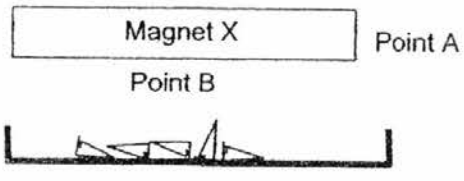


a) Give a reason why Cheryl is **not** able to conclude that Object Y is a magnet. *(1m)*

_____

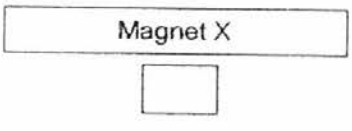
_____

In another experiment, Cheryl placed magnet X near five paper clips as shown below.



b) The number of paper clips attracted to Point A is given.

State in the box below the number of paper clip/s that Magnet X would attract at Point B. *(1m)*



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

_____

_____

End of Booklet B

Setters:
Mr Tan Joo Nam
Mdm Cecilia Quah
Mrs Priscilla Heng

YEAR : 2016
LEVEL : PRIMARY 5
SCHOOL : HENRY PARK PRIMARY
SUBJECT : SCIENCE
TERM : SA1

Booklet A

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

Booklet B

Q29a True

Q29b True

Q29c False

Q30a Part X : Stigma
Part Y : Ovary

Q30b Pollination and fertilisation has taken place.

Q30c Cover Y.

Q31a Condition 1 : Water
Condition 2 : Moisture/Warmth

Q31b Reason 1 : The seeds can still germinate without light.
Reason 2 : There are water, air and warmth needed for germination.

Q31c The seeds can take in (dissolved) oxygen from the water.

Q32a Butterfly

Q32b The lower the temperature of water, the longer the number of days for one complete life cycle of organism M.

Q33a The water in the beaker gained heat and evaporated. The water vapour touched the cooler surface of the aluminium tray, lost heat and condensed into water droplets.

Q33b The tray gained heat and less water vapour condensed on it.

Q34a The water from the soil evaporated to form water vapour. It touched the cooler inner surface of the bottle, lost heat and condensed into water droplets which fall back into the soil.

Q34b White mist. It is formed when the water vapour comes into contact with the cooler surrounding air, lose heat and condense into water droplets.

Q35a

Variable	Kept the same in the experiment
Duration of experiment	✔
Material of container	✔

Q35b Exposed surface area of water.

Q35c

Container	Volume of water (ml)	
	At the start of experiment (ml)	After 2 hours (ml)
A	200	36 ml
B	200	80 ml
C	200	165 ml

Q35d Tick : X ✔

Q36a Temperature in 2010 : 26.7 °C

Plants and animals will decrease in number / die as Country S gets hotter / surrounding temperature increases.

Q36b There was a lack of rain / water.

Q37a The water level in the glass tube on the right (Material Y) is higher than the water in glass tube on the left (Material X).

Q37b The coloured water in the glass tubes will gain heat and expand.

Q37c Material X. The water level in X glass tube is lower than the water level in Y glass tube. The coloured water in X did not gain heat faster than Y.

Q38a	The air insider the cup took up space in the water, pushing the water in the container upwards.
Q38b	Air inside the cup occupies the space, so water does not have space in the cup to enter to reach the paper.
Q39a	It is a poor conductor of heat.
Q39b	The mitten conducts heat to the hand slowly.
Q40a	Only magnets can repel other magnets. As Cheryl did not test if object Y could repel Magnet X, she cannot conclude that Object Y is a magnet.
Q40b	2
Q40c	Magnetism is strongest at the poles of the magnet.