HENRY PARK PRIMARY SCHOOL

2012 PRELIMINARY EXAMINATION

PRIMARY 6 SCIENCE

Booklet A

Name: _____ ( )

Class: Primary 6 _____

	60

30 Questions
60 Marks

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

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

READ AND FOLLOW INSTRUCTIONS CAREFULLY.

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. Which of the following are characteristics of insects?

A: They have feelers.
B: They have six legs.
C: Their body is made up of 3 parts.

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

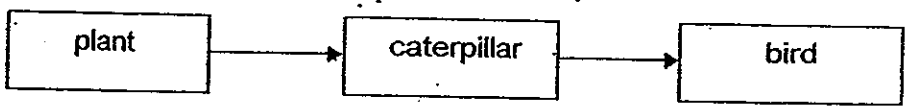
( )

2. Which one of the following comparisons between non-flowering plants and fungi is correct?

	Non-flowering plants	Fungi
(1)	can make food	cannot make food
(2)	can bear fruits	cannot bear fruits
(3)	can be pollinated	cannot be pollinated
(4)	can reproduce by spores	can reproduce by seeds

( )

3. The diagram below shows a food chain observed in a natural habitat.



State the energy source, producer and consumers in this food chain.

	Energy source	Producer	Consumer
(1)	sun	bird	plant, caterpillar
(2)	sun	caterpillar	plant, bird
(3)	sun	plant	caterpillar, bird
(4)	plant	caterpillar	bird

( )

4. Which of the following substances pass through the circulatory and digestive systems of the human body?

A: food
B: water
C: oxygen
D: nitrogen

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

5. Which of the following activities will contribute to global warming?

A: Burning of fossil fuels.
B: Planting crops on fertile land.
C: Chopping down of trees in forests.
D: Melting of ice at the caps of mountains.

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

6. Elias learned from his Science teacher that egg shells can be used as a fertiliser for plants and also keep pests away.

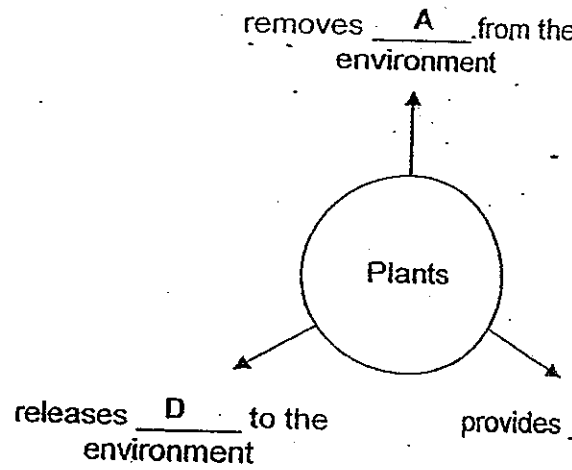
He carried out an experiment to find out if this is true with 2 similar types of potted plants.

Which of the following variables must Elias keep the same for both potted plants to ensure a fair test for his experiment?

A: Amount of water given to the plants
B: Temperature of water given to the plants
C: The location where the potted plants were put
D: Amount of egg shells on the surface of the soil

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

7. The diagram shows some uses of plants in a community.



Which of the following words represent A, B, C and D correctly?

	A	B	C	D
(1)	food	oxygen	carbon dioxide	shelter
(2)	carbon dioxide	food	shelter	oxygen
(3)	oxygen	shelter	carbon dioxide	food
(4)	shelter	oxygen	food	carbon dioxide

( )

8. Marcus found some animals in his school garden and recorded the number in a table as shown below.

Animals	Number of organisms
Snail	15
Lime butterfly	12
Millipede	10
Lime caterpillar	8
Earthworm	8
Woodlouse	5

What is the population size of the lime butterfly in the school garden?

(1) 12
(2) 20
(3) 28
(4) 58

( )

9. "Wonder Fresh" is a liquid that helps to keep flowers fresh for a longer period of time.

Mrs Goh wanted to investigate if this is true. She used 2 identical vases, X and Y, for her experiment.

The items in Vase X are shown in the table below. She also set up a control using Vase Y.

Vase	Rose from the same stock	Amount of 'Wonder Fresh' (ml)	Amount of tap water (ml)	Temperature of tap water (°C)
X	12	5	2500	30

Which one of the following tables shows how Mrs Goh set up the control experiment using Vase Y?

(1)

Vase	Rose from the same stock	Amount of 'Wonder Fresh' (ml)	Amount of tap water (ml)	Temperature of tap water (°C)
Y	12	0	2000	30

(2)

Vase	Rose from the same stock	Amount of 'Wonder Fresh' (ml)	Amount of tap water (ml)	Temperature of tap water (°C)
Y	12	0	2450	30

(3)

Vase	Rose from the same stock	Amount of 'Wonder Fresh' (ml)	Amount of tap water (ml)	Temperature of tap water (°C)
Y	12	0	2505	30

(4)

Vase	Rose from the same stock	Amount of 'Wonder Fresh' (ml)	Amount of tap water (ml)	Temperature of tap water (°C)
Y	12	5	2500	30

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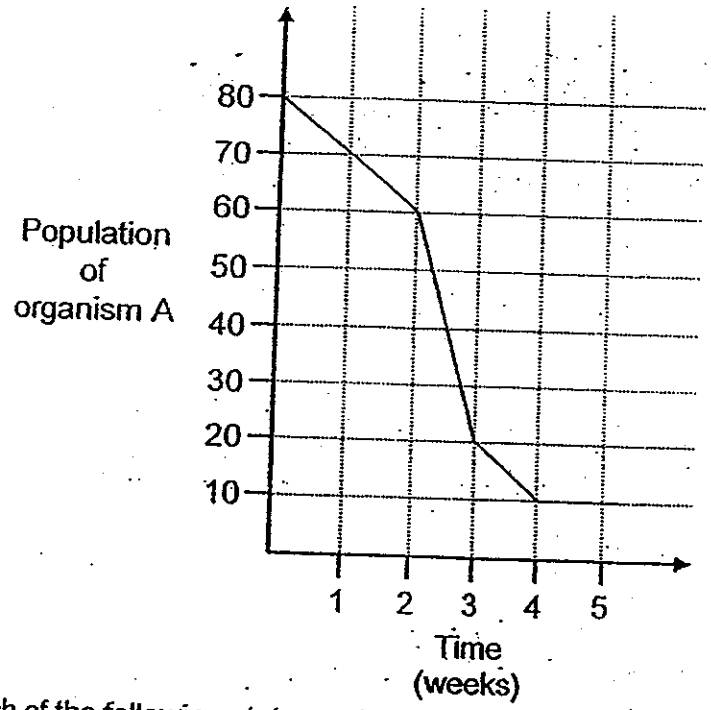
10. John introduced a population of organism A into his aquarium. The graph below shows how the population of organism A changes over a period of 5 weeks.



Which of the following statements are true about the population of organism A?

A: There is no increase in the population of organism A after four weeks.

B: There is a decrease in the population of organism A after four weeks.

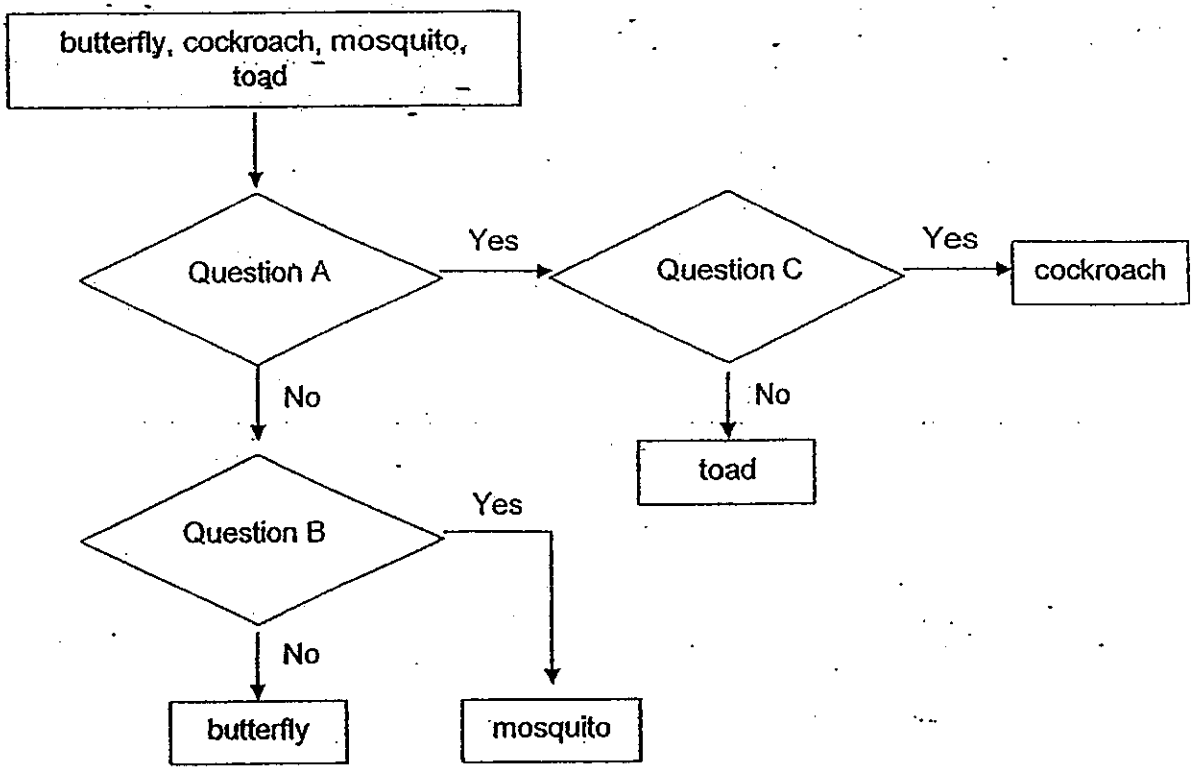
C: The population of organism A decreases more in the first two weeks than in the third week.

D: The population of organism A decreases more in the third week than in the fourth week.

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

( )

11. Ian classifies some organisms using the chart as shown below.

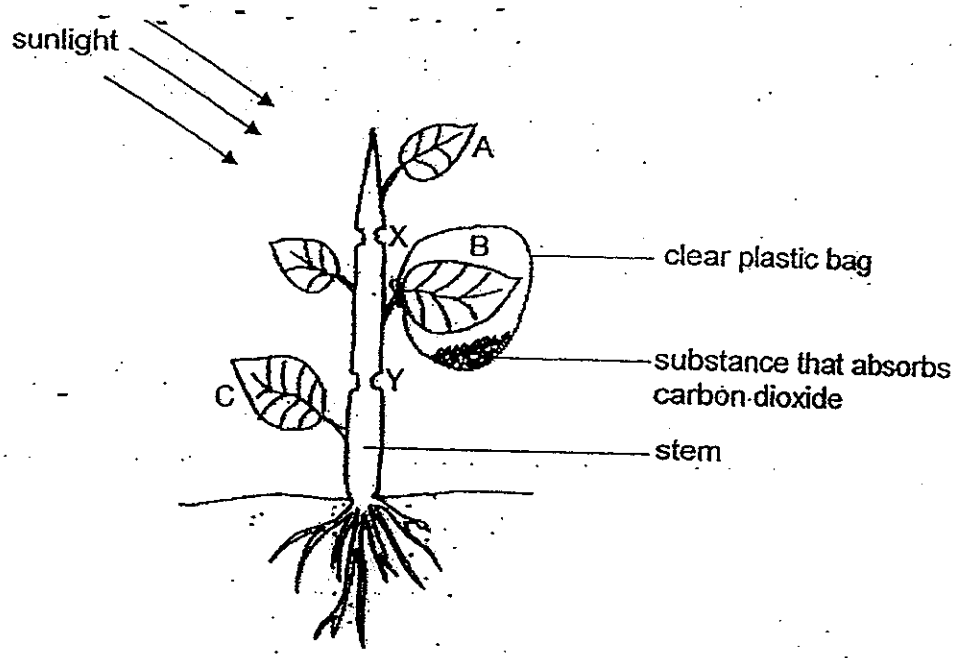


What are the questions for A, B and C?

	Question A	Question B	Question C
(1)	Part of life cycle in water?	Young look like the adult?	3-stage life cycle?
(2)	Young look like the adult?	3-stage life cycle?	Part of life cycle in water?
(3)	3-stage life cycle?	Part of life cycle in water?	Young look like the adult?
(4)	3-stage life cycle?	Young look like the adult?	Part of life cycle in water?

( )

12. In an experiment, a plant had been kept in the dark for 24 hours at first. It is then exposed to bright sunlight with 2 outer rings of the stem, X and Y removed. The water-carrying tubes in ring X were removed but those in ring Y remained in the stem.



After some time, 3 leaves, A, B and C were removed from the plant and were tested for starch using iodine solution.

Which one of the following sets of observation is correct for the leaves, A, B and C when they were tested for starch using iodine solution?

	Leaf		
	A	B	C
(1)	Iodine turns dark blue	Iodine turns dark blue	Iodine turns dark blue
(2)	Iodine remains brown	Iodine remains brown	Iodine turns dark blue
(3)	Iodine remains brown	Iodine turns dark blue	Iodine turns dark blue
(4)	Iodine remains brown	Iodine remains brown	Iodine remains brown

( )

13. Ivan used a data logger to measure the light intensity and temperature of air in 3 different habitats, A, B and C. He recorded the readings in the 2 tables as shown below.

Habitat	Light intensity (1000 lux)				
	8 am	10 am	12 pm	2 pm	4 pm
A	0.2	0.3	0.3	0.3	0.2
B	1.6	2.7	4.5	3.3	2.1
C	1.3	2.5	3.9	2.7	1.4

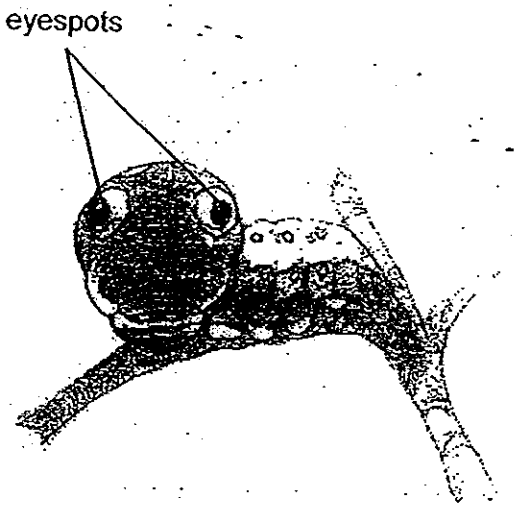
Habitat	Temperature of air (°C)				
	8 am	10 am	12 pm	2 pm	4 pm
A	28	29	29	29	27
B	30	32	34	33	32
C	30	31	32	32	31

Based on the readings in the tables, identify habitats A, B and C.

	Habitat		
	A	B	C
(1)	open field	garden	leaf litter
(2)	garden	open field	leaf litter
(3)	leaf litter	open field	garden
(4)	leaf litter	garden	open field

( )

14. The diagram below shows a caterpillar with eyespots on its body. These eyespots resemble the eyes of larger animals.

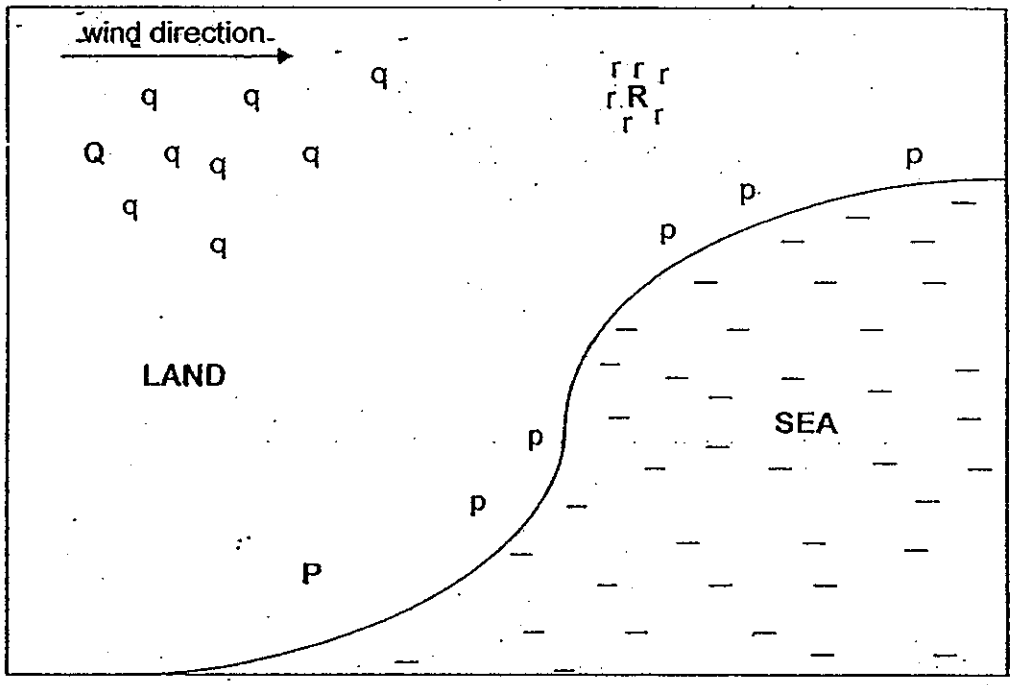


Which one of the following is correct about the purpose of these eyespots on the body of the caterpillar?

	Adaptation	Purpose
(1)	Camouflage	Obtaining food
(2)	Camouflage	Attracting preys
(3)	Copying the appearance of others	Attracting mates
(4)	Copying the appearance of others	Avoiding predators

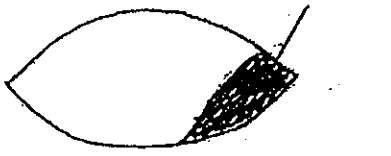
( )

15. The diagram below shows part of a land and sea and the dispersal patterns of 3 types of plants, P, Q and R, and their respective seedlings, p, q and r.

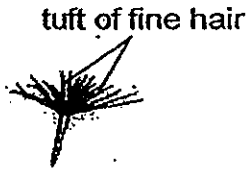


Which of the following diagrams A, B, C and D are likely the fruits of plants P, Q and R respectively?

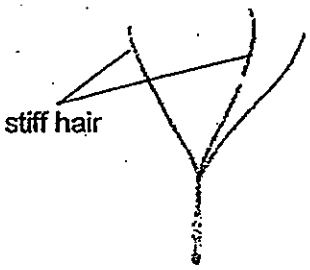
A:



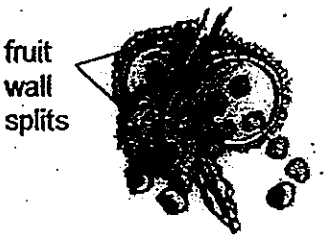
B:



C:



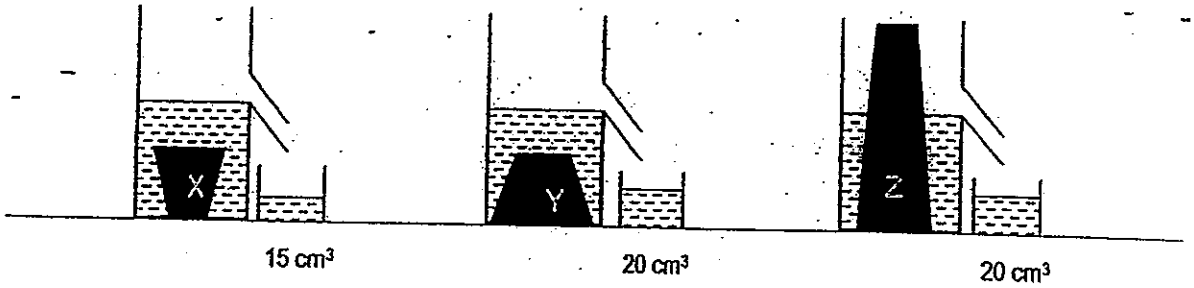
D:



	Plants		
	P	Q	R
(1)	A	B	C
(2)	A	B	D
(3)	B	A	C
(4)	C	B	D

( )

16. An experiment is conducted on 3 different objects (X, Y and Z).
Each object is placed into a container filled up to the spout. Excess water will flow out from the spout. The water flowing out is collected and measured as shown below.



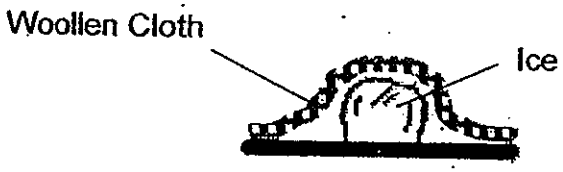
Which of the following can be concluded about the objects?

A: All 3 objects take up space.
B: Object Z has a greater mass than
C: Object Y has a greater volume than
D: Objects Y and Z have the same volume.

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

( )

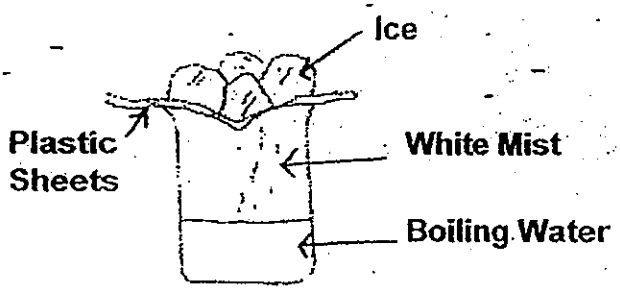
17. Which of the following accurately describes and explains what happens when we cover a piece of ice with a thick layer of woollen cloth?



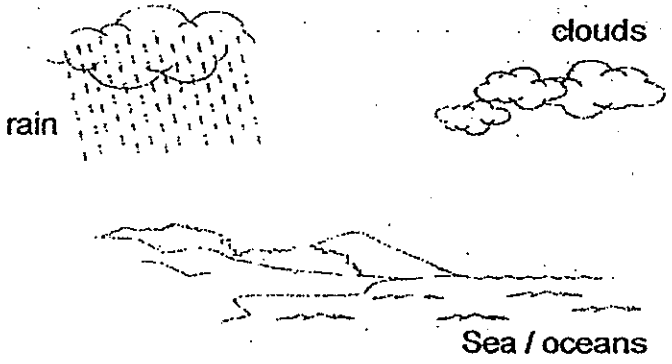
	What happens to ice	Explanation
(1)	Melts more slowly	Woollen cloth slows down heat loss from the ice
(2)	Melts more slowly	Woollen cloth slows down heat gain by the ice
(3)	Melts more quickly	Woollen cloth traps more heat to melt the ice
(4)	Melts more quickly	Woollen cloth quickens heat gain by the ice

( )

18. Mae prepared a set-up below to show how the water cycle works.



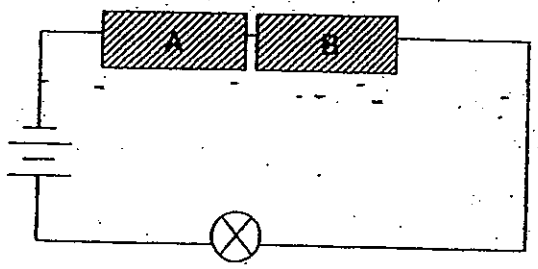
Which part of her set-up represents the clouds in the water cycle below?



(1) Ice
(2) White Mist
(3) Plastic Sheets
(4) Boiling Water

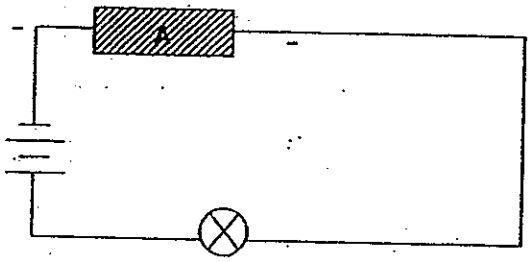
( )

19. Devi connected a circuit to Objects A and B as shown below.

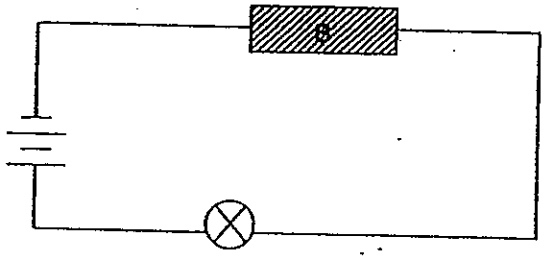


She found that the bulb does not light up and suspects that it is due to Object A. Which circuit should she use to confirm that Object A is the reason for the bulb not lighting?

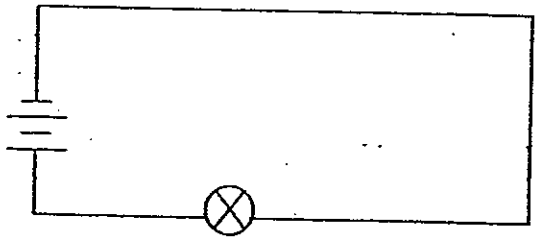
(1)



(2)



(3)



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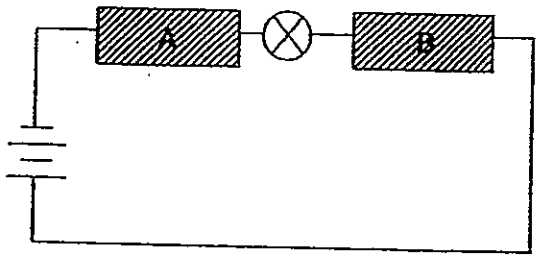
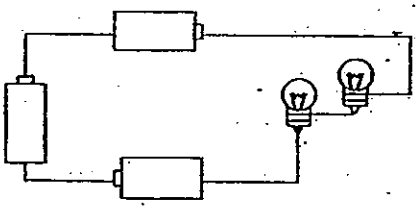


( )

20. Each circuit below uses identical bulbs and batteries.
Which one of the following circuits will the bulb be brightest?

(1)



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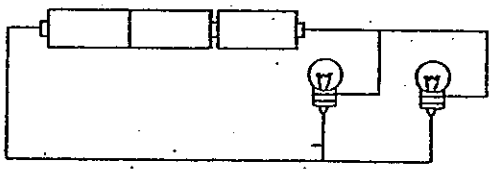
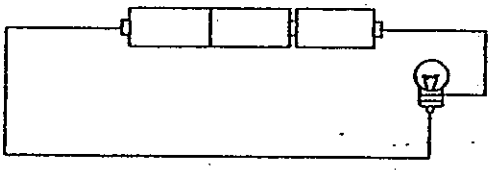
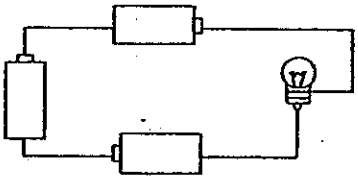


(3)



(4)



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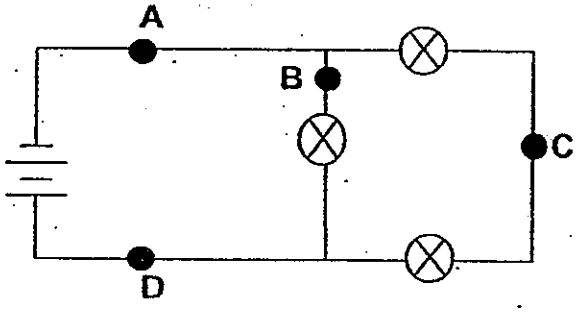
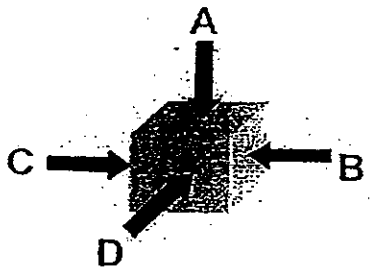
21. Anna sets up the circuit shown below. She wants only one bulb to light up when the switch is open. At which point (A, B, C or D) should she place the switch?



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

( )

22. A box is placed on the ground. A, B, C and D are directions in which a force may be applied.



What can be done so that the box remains stationary?

A: Apply force at A only
B: Apply equal amount of forces at A and D only
C: Apply equal amount of forces at B and C only

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

( )

23. The table below shows Mina's weight in different locations.

Locations	Mina's Weight (unit)
Earth	400 units
Moon	64 units
Jupiter	1000 units

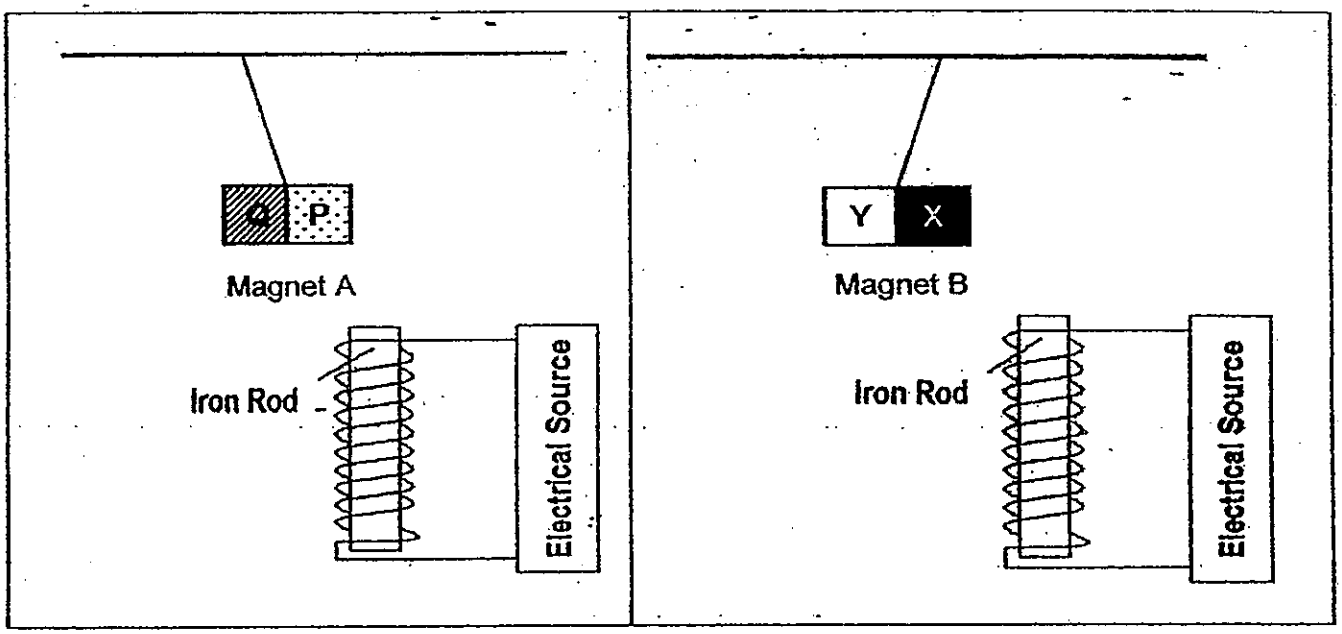
Which of the statements below are true?

A: Mina has a greater mass on Earth than on the Moon.
B: Mina experienced the greatest gravitational pull on Jupiter.
C: With the same amount of force, Mina can jump highest on the Moon.
D: Mina will need the most amount of force to lift an object on the Moon.

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

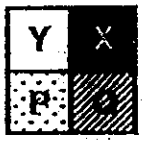
( )

24. An iron rod is connected to a closed circuit. Magnets A and B are hanging from a stand. The diagram below shows what happens when Magnets A and B are held close to the iron rod, one at a time.



What will most likely be the arrangement if Magnets A and B are placed together?

(1)



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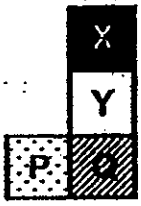
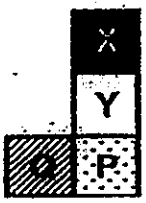


(3)



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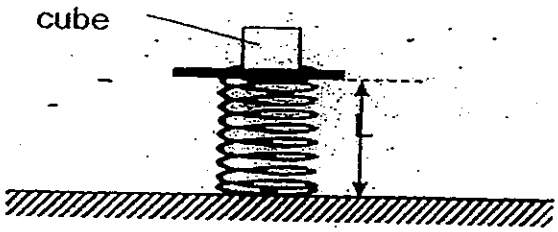
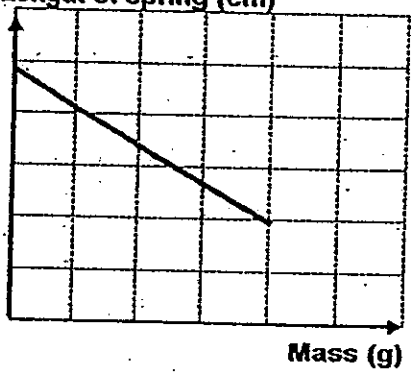
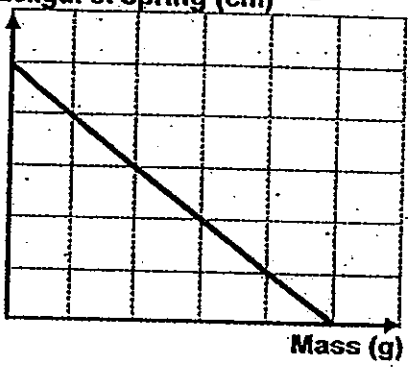
25. Tim conducted an experiment by adding cubes of different masses on a spring.



Which one of the following graphs shows accurately the changes in the length of the spring?

(1)


(3)


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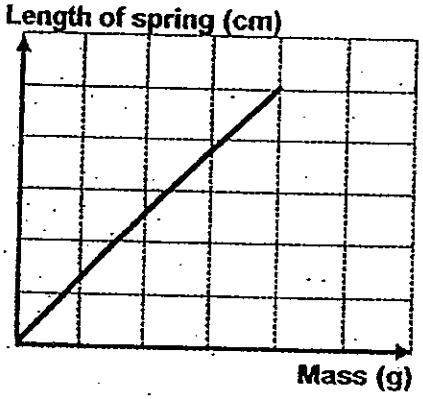

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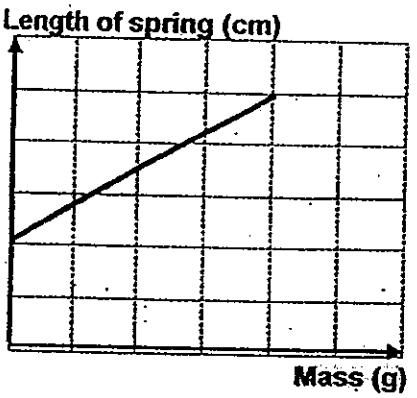
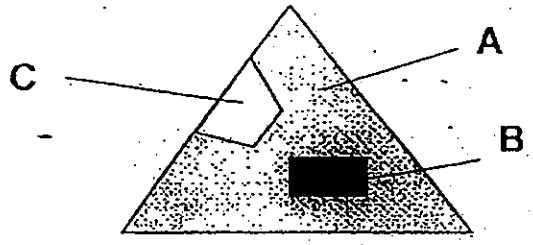


( )

26. The diagram below shows the shadow formed by an object made with 3 different materials (A, B and C).

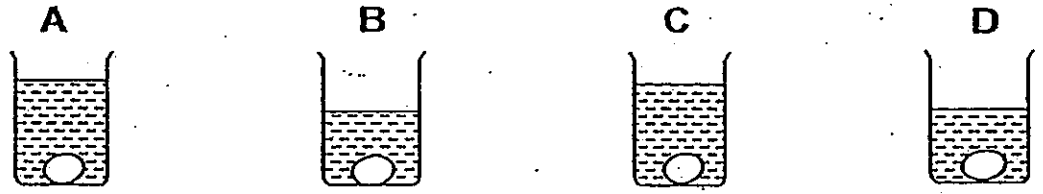


What could materials A, B and C be?

	A	B	C
(1)	Opaque	Translucent	Transparent
(2)	Translucent	Opaque	Transparent
(3)	Transparent	Translucent	Opaque
(4)	Translucent	Transparent	Opaque

( )

27. Breakfast Café prepares eggs for its customers using 4 identical containers of different amounts of hot water at different temperatures.



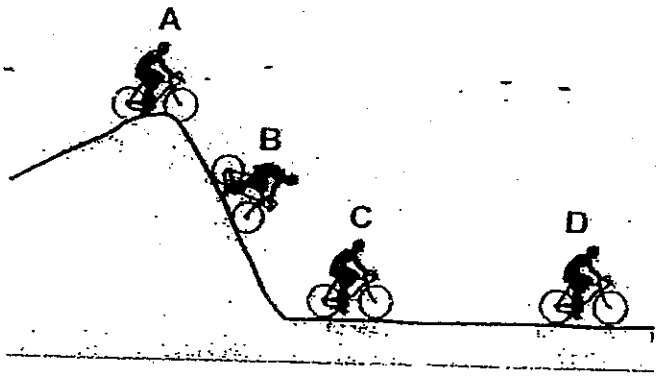
A	B	C	D
120 ml of water at 50°C	80 ml of water at 50°C	120 ml of water at 90°C	80 ml of water at 90°C

The egg in container _____ will be most well-cooked.

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

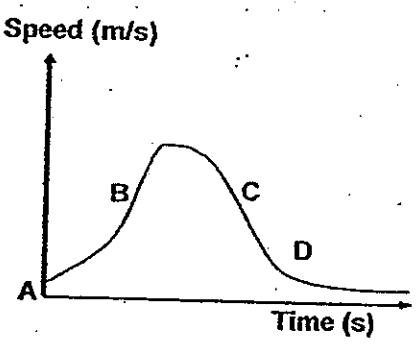
( )

28. A cyclist gets down a slope without peddling as shown below.

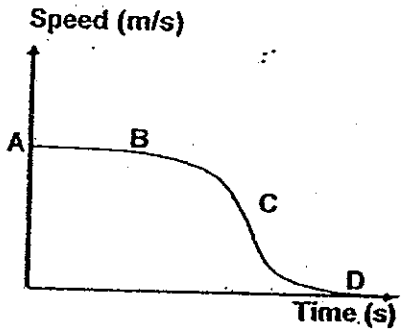


Which one of the following graphs most likely shows the changes in the speed of the cyclist from Point A to D?

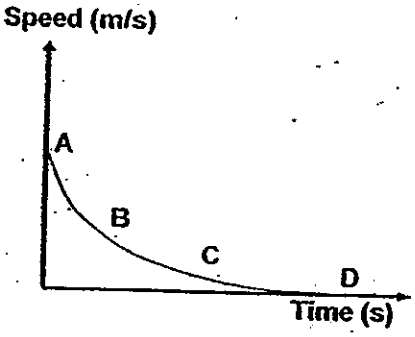
(1)



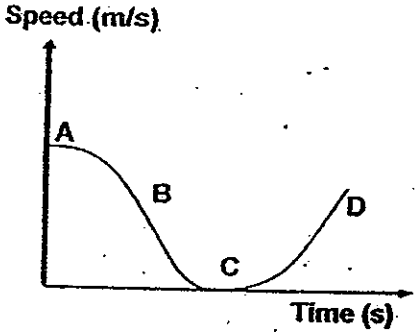
(3)



(2)

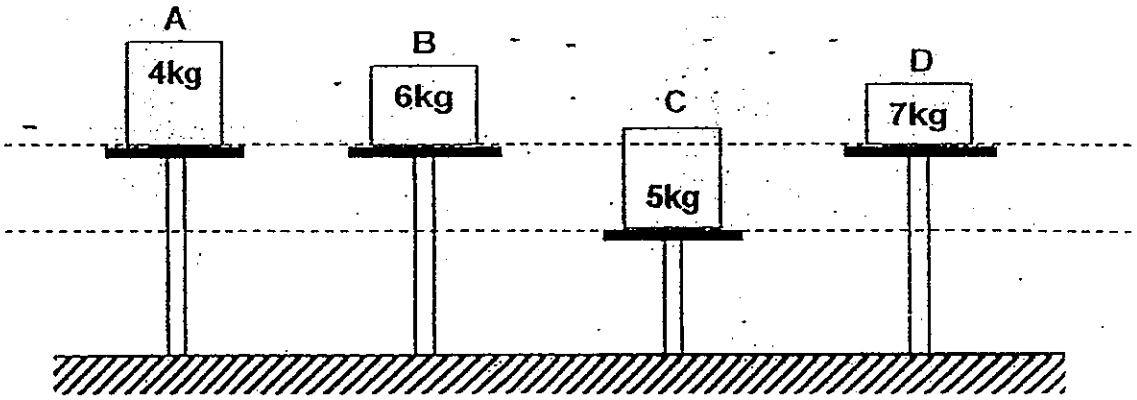


(4)



( )

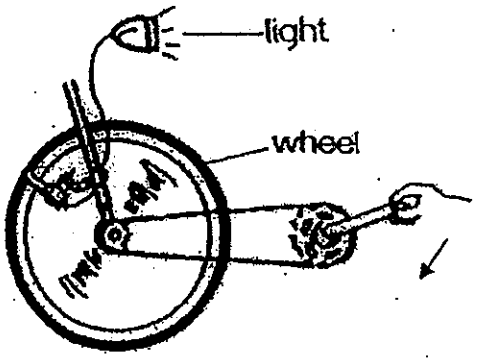
29. 4 boxes of different mass are placed on different stands.



Which box has the highest gravitational potential energy?

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

30. The diagram below shows a dynamo powered lamp on a bicycle.



When the wheels of a bicycle turn, the lamp will light up.
Which one of the following shows the correct energy conversion?

(1) kinetic energy →light energy →heat energy
(2) kinetic energy →electrical energy → light energy →heat energy
(3) kinetic energy →electrical energy → light energy + heat energy
(4) electrical energy → kinetic energy → light energy + heat energy ( )

End of Booklet A

HENRY PARK PRIMARY SCHOOL

2012 PRELIMINARY EXAMINATION

PRIMARY 6 SCIENCE

Booklet B

/40

Name: _____( )

Class: Primary 6_____

14 Questions
40 Marks

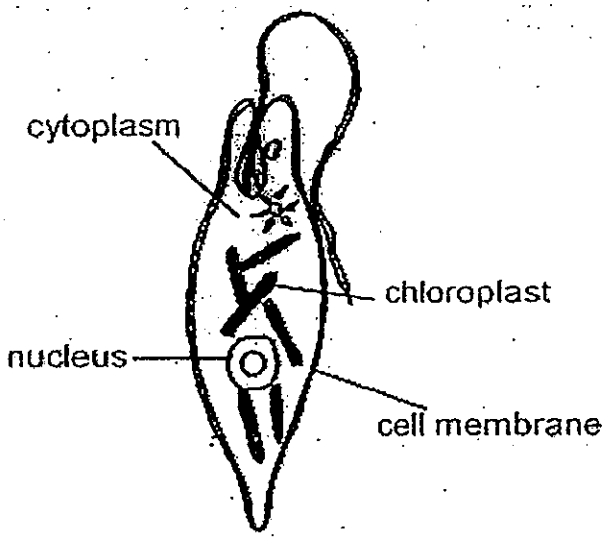
Total Time for Booklet A and B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

READ AND FOLLOW INSTRUCTIONS CAREFULLY.

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

31. The diagram below shows a single-celled organism X which can be found living in fresh water ponds.



Organism X

Use the information in the diagram to answer the following questions.

a) A structure shown in Organism X suggests that it is more likely to be a plant cell than an animal cell. *(1m)*

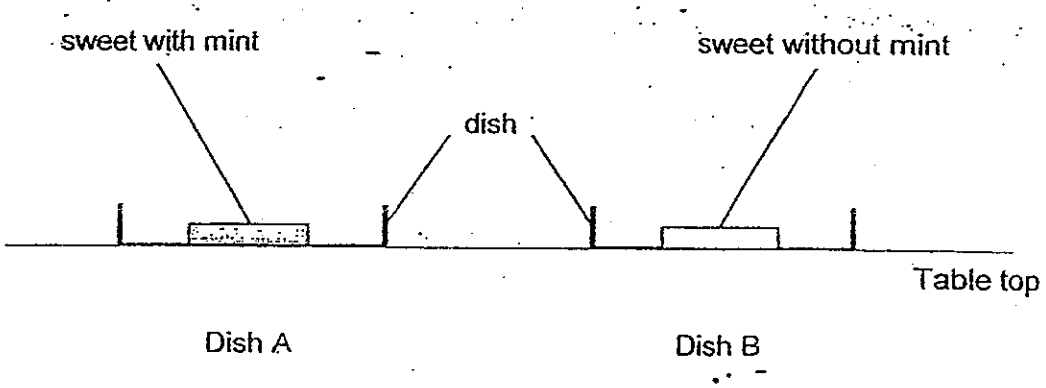
What is this structure?

_____

b) State one structure of a typical plant cell that is **not** present in Organism X. *(1m)*

_____

32. Bala conducted an experiment to investigate which type of sweets ants prefer. He used two identical dishes, A and B, and placed each type of sweets in each dish as shown below. The dishes were placed on a table in the kitchen.



At 9 am, Bala removed the ants from the sweets after counting them. He repeated this method of counting ants at 12 pm and 3 pm respectively.

The results were recorded in the table below.

Dish	Type of sweets	Number of ants counted at		
		9 am	12 pm	3 pm
A	Sweet with mint	20	21	22
B	Sweet without mint	21	22	20

a) State a variable that is kept the same and **not** mentioned in Bala's investigation. *(1m)*

_____

b) Why did Bala remove the ants after counting them at each of the time interval? *(1m)*

_____

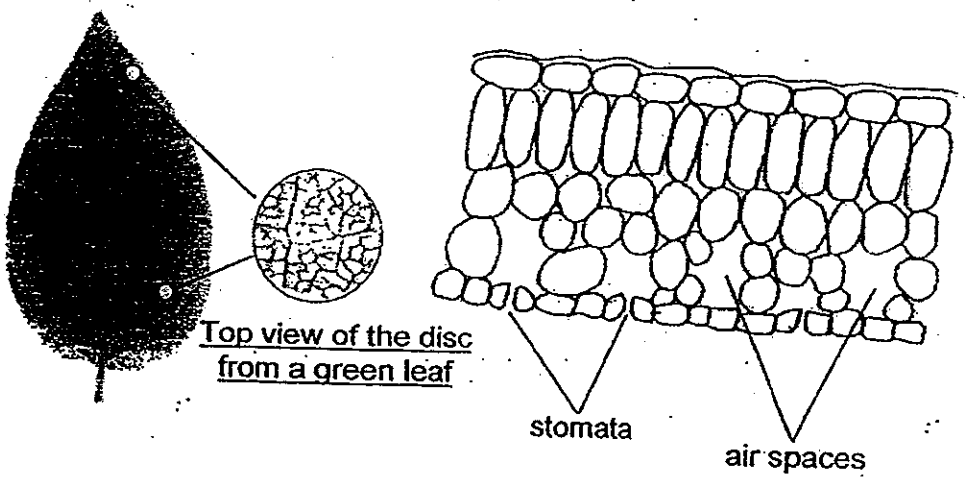
c) Based on Bala's experimental results, what can he conclude about the type of sweets ants prefer? *(1m)*

_____

_____

33. Zen carried out an experiment to find out the effect of different concentrations of carbon dioxide on the rate of photosynthesis.

He plucked some green leaves from a plant and then used a hole puncher to punch 20 identical discs out of them. The disc and the enlarged cross section of the disc are shown below. Air in each of the discs was removed.



Top view of the disc from a green leaf

Enlarged cross section of the disc from a green leaf

The results of his experiment are shown in the table below.

Beaker	A	B	C	D
Number of discs in each beaker	5	5	5	5
Amount of water in each beaker (ml)	80	80	80	80
Concentration of carbon dioxide in the water in each beaker (%)	0	10	20	30
Time for the discs to float to the surface (sec)	1200	323	173	133
Rate of photosynthesis (units per sec)	8000	31000	58000	75000

a) What is the relationship between the concentration of carbon dioxide and the rate of photosynthesis? *(1m)*

_____

_____

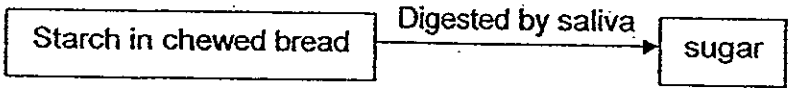
Question 33 continued

b) At the start of the experiment, the discs were found at the bottom of each of the beakers. When light was provided, the discs floated to the surface of the water. *(2m)*

Explain why the discs floated to the surface of the water when light was provided.

34. Jaral carried out an experiment to find out if bread is better digested with saliva if it is chewed for a longer period of time. She cut up a piece of bread into pieces of equal size. Then, she chewed each piece of bread for 5 seconds and then tested the chewed bread for starch.

The reaction of the chewed bread and saliva is shown below.

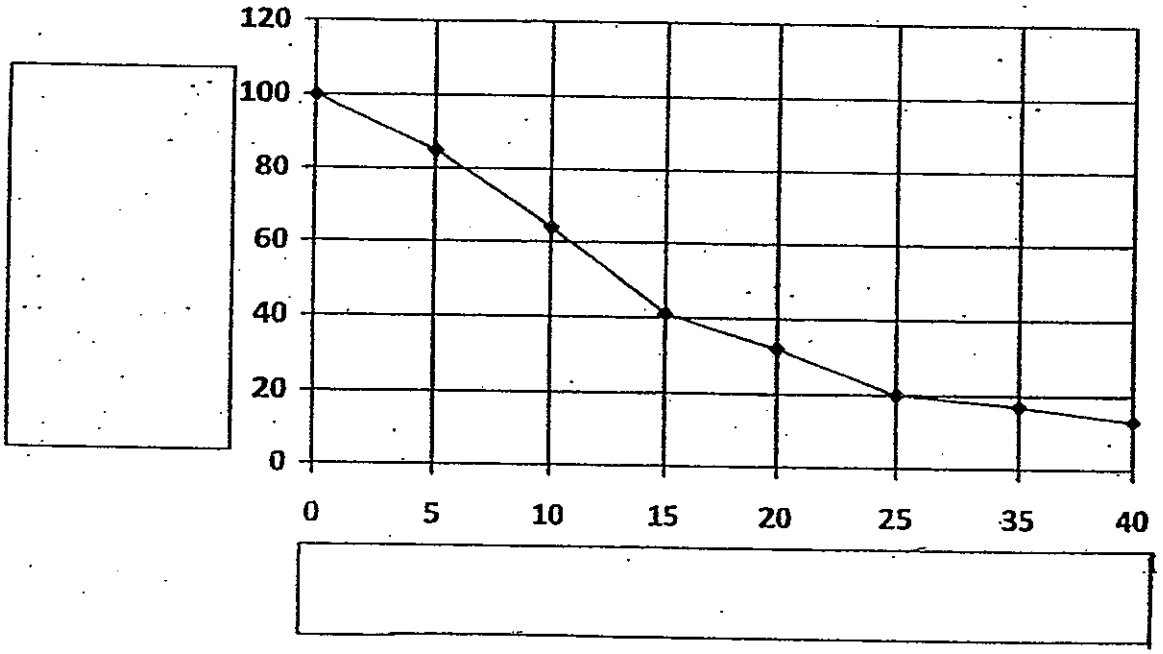


Jaral repeated the experiment by increasing the time she chewed each piece of bread and then tested it for starch.

The table below shows the results of her experiment.

Experiment	A	B	C	D	E	F	G	H
Time each piece of bread was chewed (s)	0	5	10	15	20	25	35	40
Percentage of starch left in the chew bread	100	85	64	41	32	20	17	13

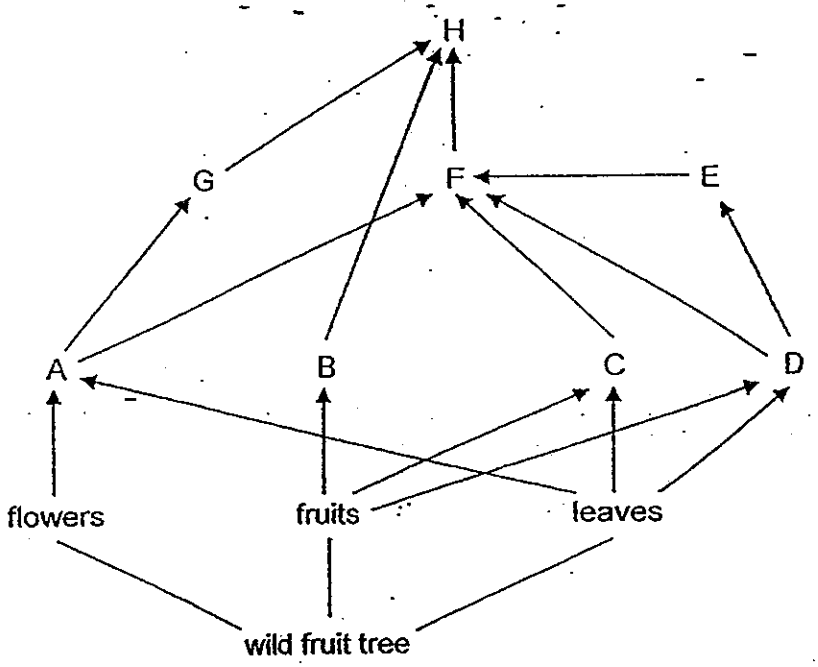
She plotted a graph to show the results of her experiment as shown below.



a) Fill in the boxes on the axes above to show the relationship between 'Time each piece of bread was chewed' and 'Percentage of starch left in the chewed bread'. *(2m)*

b) Which experiment acts as a control? *(1m)*

35. The diagram shows the relationship of organisms A to H in a food web on a wild fruit tree.



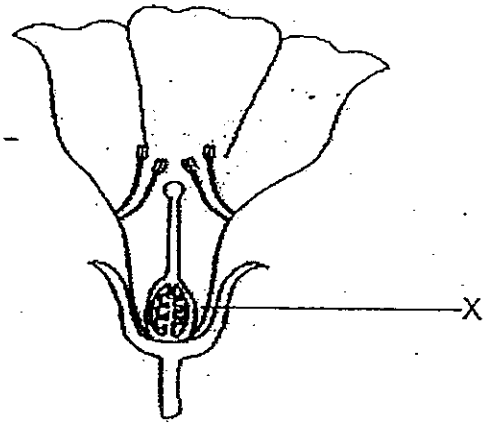
a) Which organism would be most directly affected if the flowers of the wild fruit tree were **not** pollinated? *(1m)*

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

c) Fungi and bacteria are decomposers.

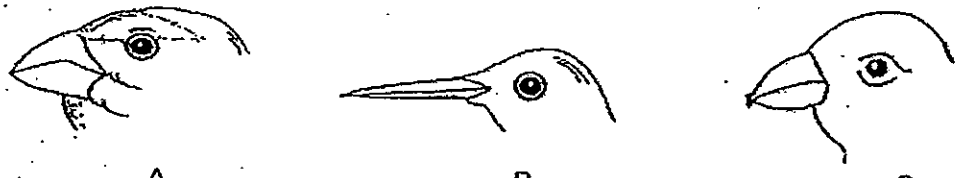
In what way are decomposers important to the wild fruit tree when organisms A to H die? *(1m)*

36. Study the diagram below that shows the cross section of a flower.



a) Explain why the flower is likely to be pollinated by animals. *(2m)*

b) The diagram below shows 3 birds A, B and C with different types of beaks.



The nectar of this flower is found below X. Based on your observation, state which bird, A, B or C, is more likely to feed on the nectar of this flower. Give a reason for your answer. *(2m)*

37. In an experiment, 2 identical cars, X and Y, were parked under direct sunlight in a car park. All the windows of Car X were wound down while all the windows of the Car Y were wound up. The temperature of air inside each car was measured hourly from 9 am to 12 pm.

The table below shows the temperature readings of the air in the 2 cars.

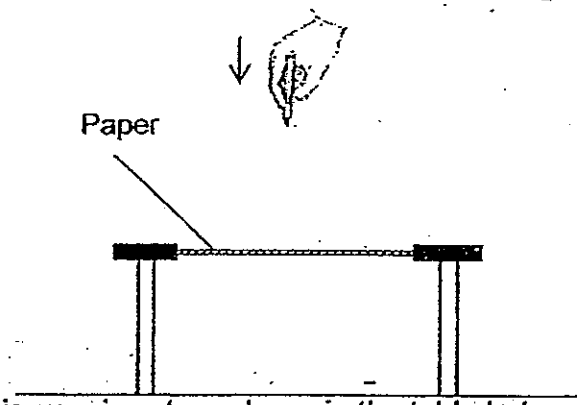
Reading	Temperature of air (°C)			
	9 am	10 am	11 am	12 pm
Set A	29	33	38	42
Set B	29	32	36	40

a) Which set of readings, A or B, will more likely represent the temperature of air in Car Y? Explain your answer. *(2m)*

b) A gas in the Earth's atmosphere is responsible for global warming. This gas behaves in a similar way like the windows of Car Y. *(1m)*

Name the gas and explain how it is similar.

38. Joe set up an experiment to rank different types of paper according to their strength. He clamped each piece of paper and pierced a hole through it with a ballpoint pen using the same amount of strength. Based on how difficult it was to pierce the hole, he ranked the strength of the different types of paper.



The results of his experiment are shown in the table below:

Type of Paper	Level of difficulty in piercing through with ballpoint pen
Paper A	Easiest to Pierce
Paper B	
Paper C	
Paper D	Most Difficult to Pierce

a) Which type of paper should Joe use to make carrier bags for gifts? Give a reason for your answer. *(1m)*

_____

_____

_____

b) Can Joe make use of the result of this experiment to find a type of paper that is suitable for wiping away water spills? Give a reason for your answer. *(1m)*

_____

_____

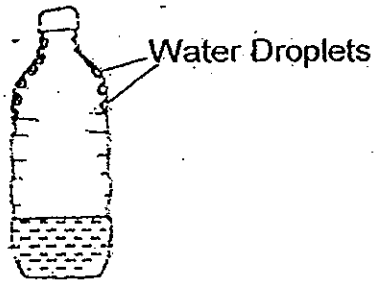
_____

c) What should Joe do to ensure that the results of his experiment are reliable? *(1m)*

_____

_____

39. Lee has some water left in his mineral water bottle. He left it on the field after a football game. When he went to get his bottle, he observed water droplets on the inner surfaces of the bottle.



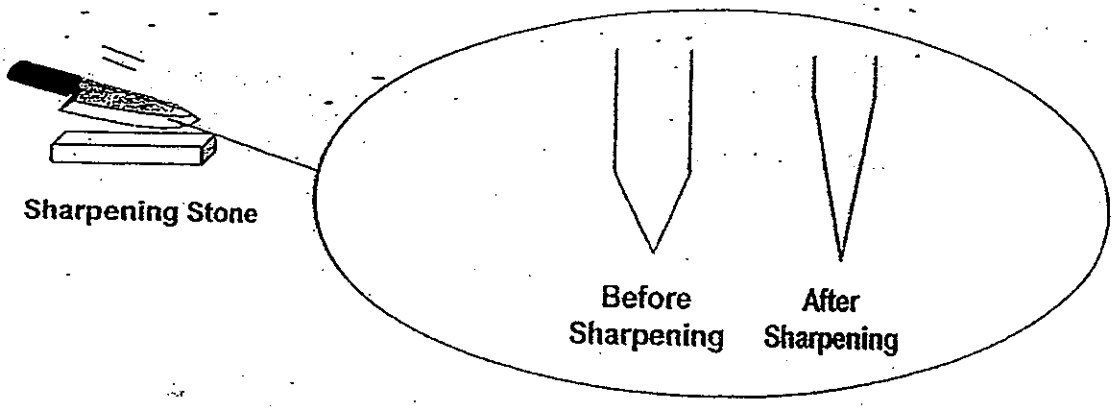
a) Explain how the water droplets formed on the inner side of Lee's bottle. *(2m)*

b) What will happen to the amount of water droplets in his bottle if he had left it in an air-conditioned room? *(1m)*

40. After using a hair dryer, Kim realised that her hair felt warm and had dried up more quickly.

Explain how a hair dryer helps dry Kim's hair more quickly. *(2m)*

41. To ensure that the knife is sharp enough, its users have to sharpen it by rubbing it on a sharpening stone. The diagram below shows a cross-section view of the knife blade before and after sharpening.

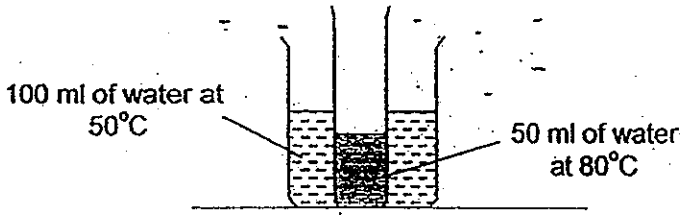


Cross-section of Knife

a) Explain how sharpening causes the change in the shape of the knife blades. *(1m)*

b) After sharpening for a short while, the knife blade and stone becomes warm. What can be done to prevent the blade and stone from getting warm too quickly? *(1m)*

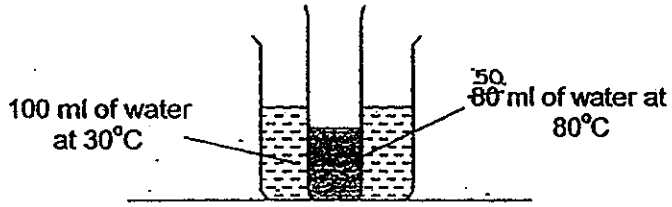
42. A test tube containing 50ml of water at 80°C is placed in a beaker of 100ml of water at 50°C.



Set-up 1

a) Predict what happens to the temperature of the water in the beaker after 2 minutes. Give a reason for your prediction. *(2m)*

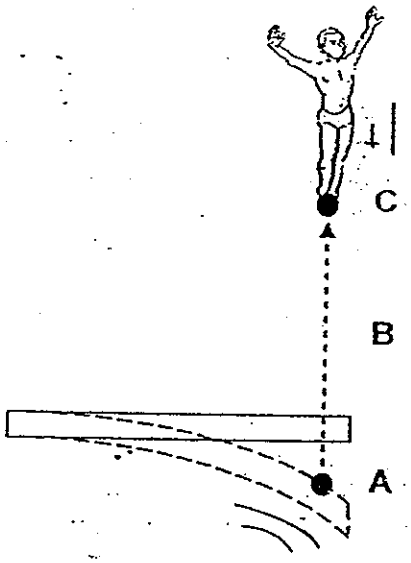
b) In another similar set-up (Set-up 2), the beaker is replaced with the same amount of water at 30°C.



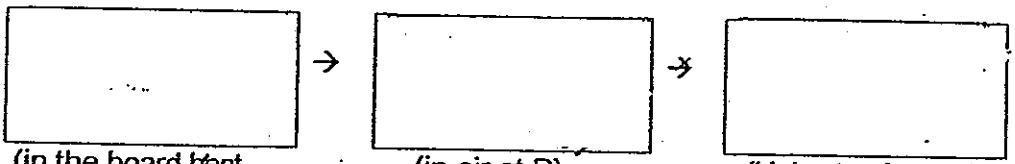
Set-up 2

In which set-up, 1 or 2, will the water in the test tube lose heat faster? Give a reason for your answer. *(1m)*

43. Before making a dive, a diver needs to jump and push from his diving board downwards to point A.

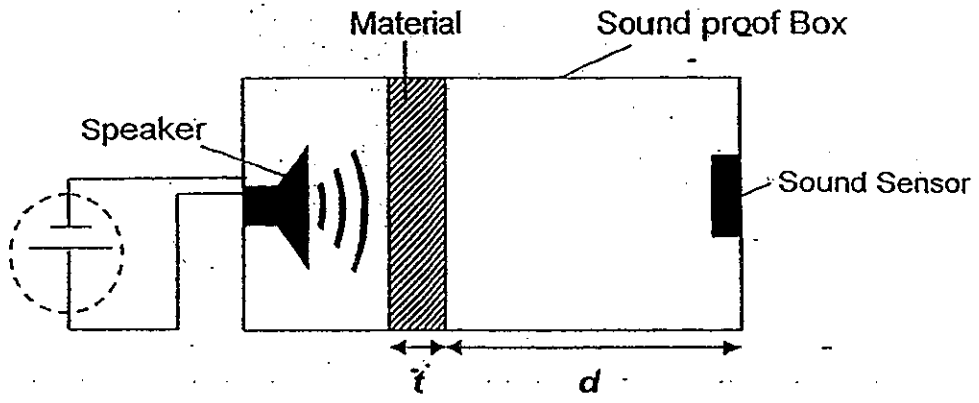


a) Fill in the boxes below to show how energy is converted from the moment the diver pushes his diving board down to point A until he reaches the highest point at C. *(1m)*



b) What should the diver do if he wants to reach a point higher than C? Explain your answer. *(2m)*

44. An experiment is carried out to compare the ability of different materials (plastic or wood) in blocking sound.
The experiment is conducted by placing each material separately in identical sound proof boxes. The same sound sensors and speakers are used in all the experiments.



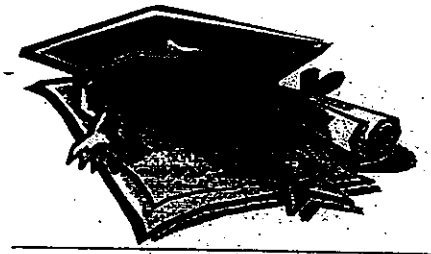
Box	Material	*t* (cm)	*d* (cm)
A	Plastic	5	10
B	Plastic	3	10
C	Plastic	3	5
D	Wood	5	10
E	Wood	5	5

a) Which 2 boxes should he use to ensure a fair test? Why? *(2m)*

b) Suggest what can be done to part of the circuit, circled in dotted line, to increase the loudness of the speaker. *(1m)*

End of Booklet B

Setters: Mr Tan JN & Mrs SiaSL



ANSWER SHEET

EXAM PAPER 2012

SCHOOL : HENRY PARK
SUBJECT : PRIMARY 6 SCIENCE

TERM : SA2

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

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

31)a)Chloroplast. **b)Cell wall.**

32)a)Temperature of sweets.
b)Bala wanted to repeat the experiment a few more times to ensure the results are reliable.
c)Ants have no preference between sweets with mint and without mint.

33)a)The greater the amount of concentration of carbon dioxide, the greater the rate of photosynthesis.
b)Photosynthesis takes place producing oxygen that fills up the air spaces in the disc.

34)a)

Percentage of starch left in the chewed bread.	Time each piece of bread was chewed (s)

b)Experiment A.

35)a)Organism B.

b)After fertilization, the flowers will turn into fruits, organism B only feeds on the fruits of the wild fruit tree.

c)When organisms A to H die and is being decomposed, water, mineral salts and carbon dioxide is left which allows the wild fruits tree to take in.

36)a)The stigma and anthers of the flower is inside the ring of petals, the flowers depends on the petals to attract to pollinate the flower. Pollens will be deposited when animals reach in for food.

b)Bird B. It has a thin and long beak to reach the nectar below X.

37)a)The temperature of air is higher than the one in Set-up B as the car with all the windows wound up does not allow heat to escape.

b)Carbon dioxide. It traps the sun's heat on Earth.

38)a)It is the strongest as it is most difficult to pierce through.

b)No, he did not measure how much water each paper absorbs.

c)Repeat the experiment a few times.

39)a)The water in his bottle gained and evaporated from the sun and water vapour lose heat and condensed at the cooler surface of the bottle.

b)The amount of water droplets in his bottle will decrease.

40)Wind and heat from hot dryer increase the rate of evaporation.

41)a)Friction between store and blade cause knife blade to wear out.

b)Sharpen the knife slowly.

42)a)Temperature will increase, water in beaker gain heat from water in test tube.

b)It has the greater temperature difference.

43)a)Elastic potential energy→gravitational potential energy→kinetic energy

b)Push diving board to below A so that greater elastic potential energy to convert to higher kinetic energy.

44)a)Boxes A and D. t (cm)and d (cm) has to be constant for both boxes as the aim of the experiment is to compare the ability of different materials in blocking sound.

b)Add another batter in series.