HENRY PARK PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2017

PRIMARY 6

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 6 ( )

Date: 25 August 2017

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

Booklet	Marks
A	
B	
Total (A+B)	

Parent's Signature: _____

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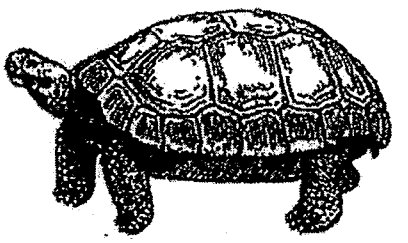
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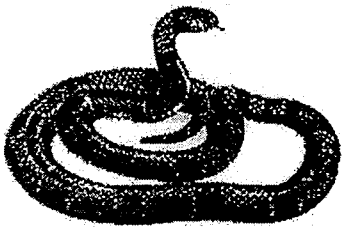
Booklet A (56 marks)

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.

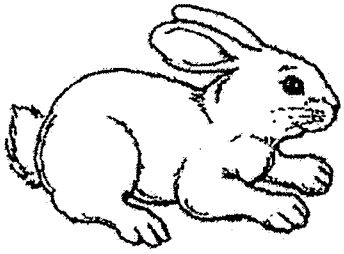
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1. Study the two groups of animals, A and B, below.





Group A





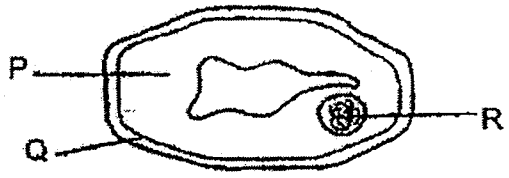
Group B

Which of the following describes the animals in groups A and B correctly?

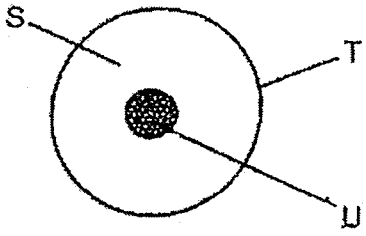
	Group A		Group B	
	Covered with scales	**Give birth to live young**	**Covered with scales**	**Give birth to live young**
(1)	No	No	No	Yes
(2)	Yes	No	No	Yes
(3)	No	No	Yes	Yes
(4)	Yes	Yes	No	No

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2. The diagrams below show two cells, X and Y.



Cell X



Cell Y

Which of the following statement(s) about cells X and Y is are correct?

A: Parts R and U control the activities in the cells.

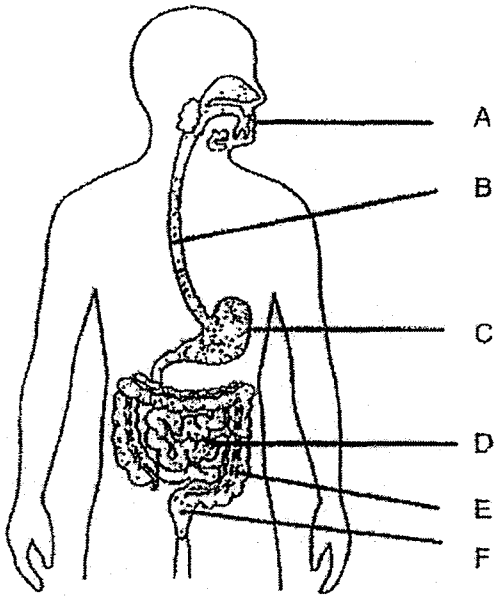
B: Parts P and S support and give the cells their shape.

C: Parts Q, S and T control the movement of substances in and out of the cell.

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

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3. The diagram below shows the human digestive system.

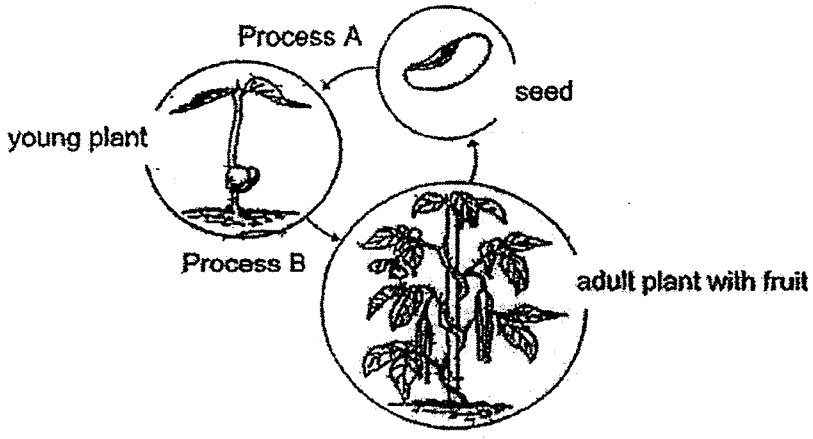


Which of the following correctly describes the function(s) of organs A to F?

	Organs that produce digestive juice	Organ involved in absorption of food	Organ(s) involved in absorption of water
(1)	A, B	E	F
(2)	A, C, D	D	E
(3)	A, B, C	D	E, F
(4)	A, C, D	E	F

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4. The diagram below shows processes A and B in the life cycle of a flowering plant.

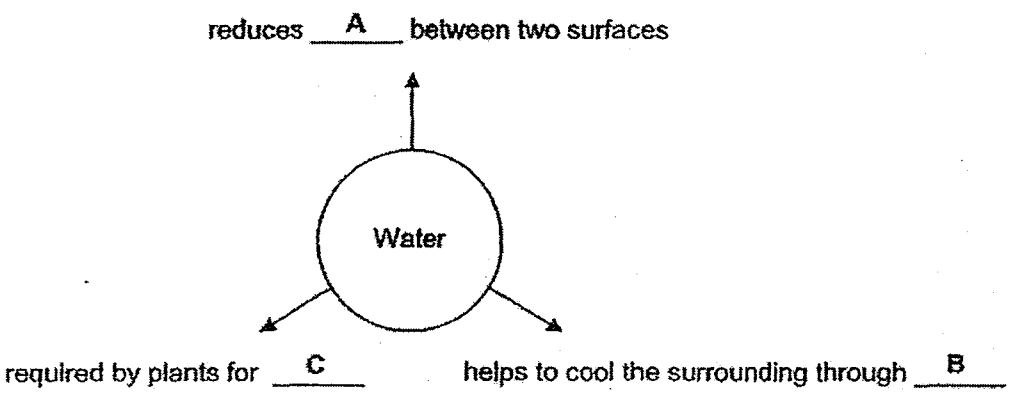


Which of the following identifies both processes A and B **wrongly**?

	Process A	Process B
(1)	Germination	Pollination
(2)	Germination	Fertilisation
(3)	Fertilisation	Germination
(4)	Seed Dispersal	Fertilisation

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5. The diagram shows some uses of water.



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

	A	B	C
(1)	friction	evaporation	photosynthesis
(2)	friction	photosynthesis	evaporation
(3)	friction	condensation	photosynthesis
(4)	gravity	evaporation	condensation

6. Which of the following activities do **not** harm the environment?

A: Writing on both sides of a paper.

B: Turning off the lights when not in use.

C: Bringing your own bag on shopping trips.

(1) A and B only

(2) A and C only

(3) B and C only

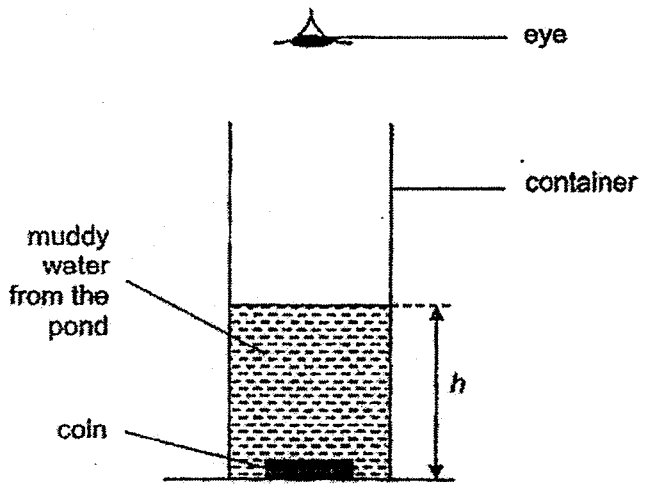
(4) A, B and C

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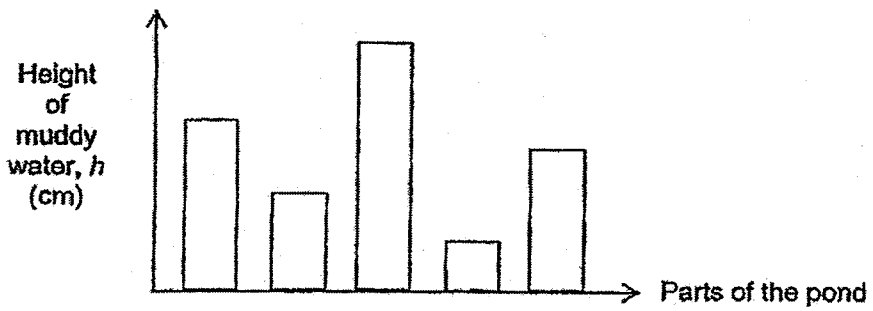
7. Aaron conducted an experiment using some muddy water from a pond.

He placed a coin at the bottom of a container and poured in the muddy water until the coin could no longer be seen, as shown in the set-up below.

Then, he recorded the height *h* cm of the muddy water.



Aaron repeated his experiment by taking muddy water from different parts of the pond and keeping all other variables the same. His results are shown below.



Aaron was trying to find out _____.

(1) from which part of the pond the coin was observed

(2) if the type of coin affects the amount of mud in the water

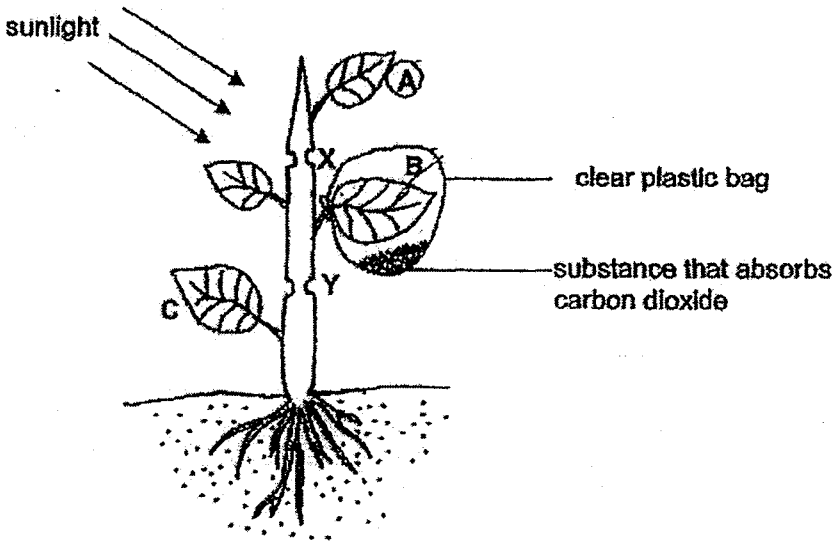
(3) which part of the pond has the most amount of mud in the water

(4) how the distance between the eye and the coin affects the amount of mud in the water

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8. In an experiment, a plant had been kept in the dark for 24 hours at first. It was then exposed to bright sunlight with two 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.



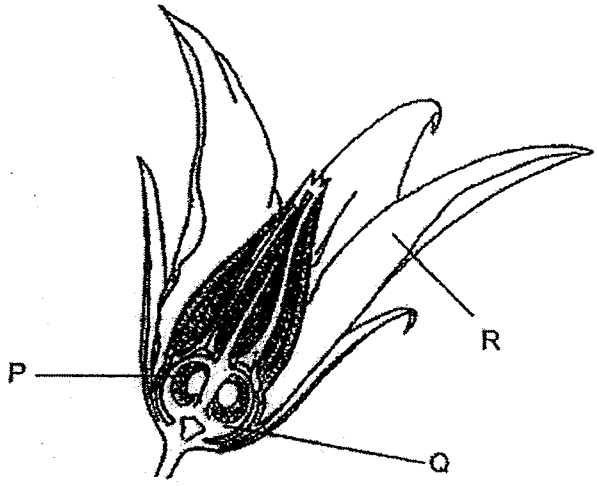
After some time, three leaves, A, B and C, were removed from the plant and were tested for starch using iodine solution.

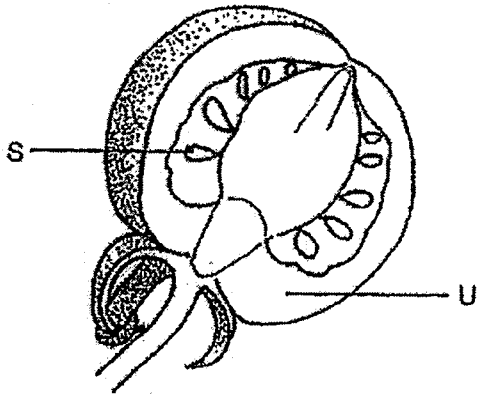
Which one of the following sets of observation is correct for the leaves, A, B and C, when they were tested for starch?

	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

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9. Study the diagram of a flower and the fruit below.





Which of the following statements are correct after fertilisation has taken place in the flower to form the fruit?

A: P develops into S.

B: Q develops into U.

C: R withers and falls off.

(1) A and B only

(2) A and C only

(3) B and C only

(4) A, B and C

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10. Substance P is a fertiliser that helps plants to grow healthily.

Jeremy wanted to find out how the amount of substance P added to the plants help them grow healthily.

He used three similar potted plants. Of the three potted plants he used for comparison, one of them was a control set-up.

Pot	Amount of water given (ml)	Amount of Substance P (g)	Surrounding temperature (°C)	Duration of experiment (days)
A	100	10	30	15
B	100	0	30	5
C	100	5	30	15
D	100	0	30	15
E	80	5	30	15

Which three of the above potted plants did Jeremy use for his experiment?

(1) A, B and C

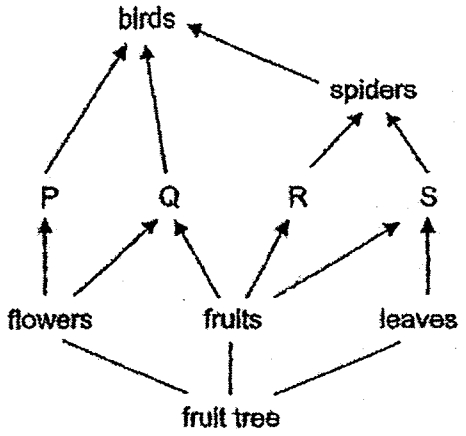
(2) A, C and D

(3) B, D and E

(4) C, D and E

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11. Study the food web below.



Which one of the organisms, P, Q, R or S, would be most affected if the flowers of the fruit tree are **not** pollinated and fertilised?

(1) P

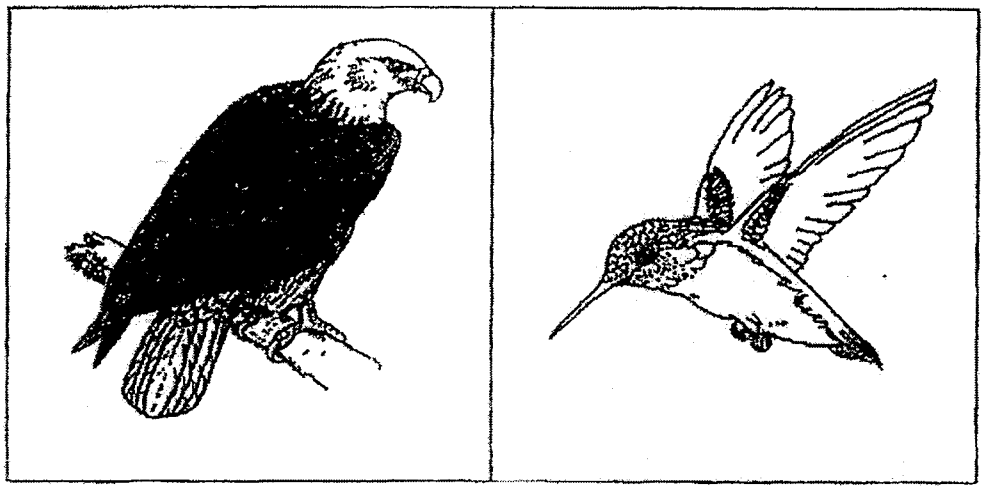
(2) Q

(3) R

(4) S

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12. The diagrams below show birds R and S.



Bird R

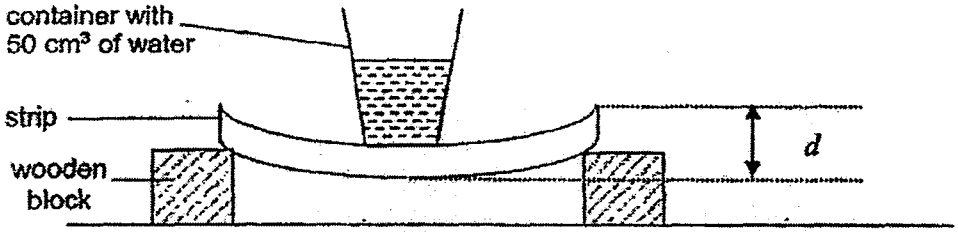
Bird S

Based on your observation of the birds, which one of the following is most likely eaten by birds R and S?

	Bird R	Bird S
(1)	fish	seeds
(2)	seeds	nectar
(3)	nectar	seeds
(4)	mouse	nectar

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15. Wei Ling set up an experiment as shown below to compare the flexibility of four similar strips, A, B, C and D, each made of a different material.

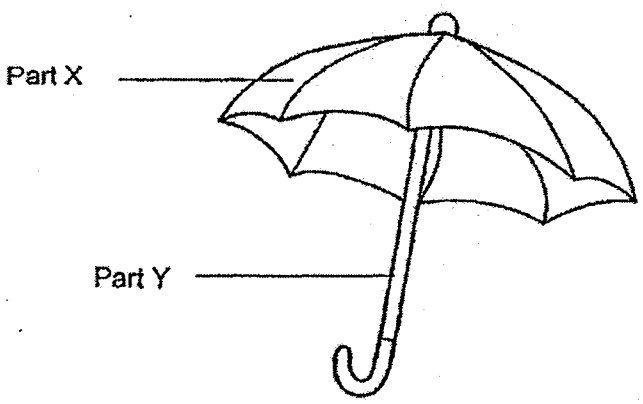


On each strip, she placed a container with 50 cm³ of water. The distance, *d*, between the highest and lowest points of the strip was measured.

Her results are shown below.

Strip	*d* (mm)
A	36
B	14
C	25
D	4

Based on the results of the experiment, which material is the most suitable to make part X and Y of the umbrella?



	Material	
	Part X	Part Y
(1)	C	D
(2)	D	A
(3)	A	B
(4)	A	D

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13 Ravi prepared four set-ups of seeds for an experiment shown in the table below

He added an equal amount of water to each set-up

Set-up	Type of condition	Presence of oxygen
E	Cold and Dark	Yes
F	Cold and Dark	No
G	Warm and Dark	Yes
H	Warm and Dark	No

What is/are the possible aim (s) of his experiment?

A: To find out if oxygen is needed for seeds to germinate.

B: To find out if warmth is needed for seeds to germinate.

C: To find out if the amount of light will affect germination of seeds.

(1) A only

(2) B only

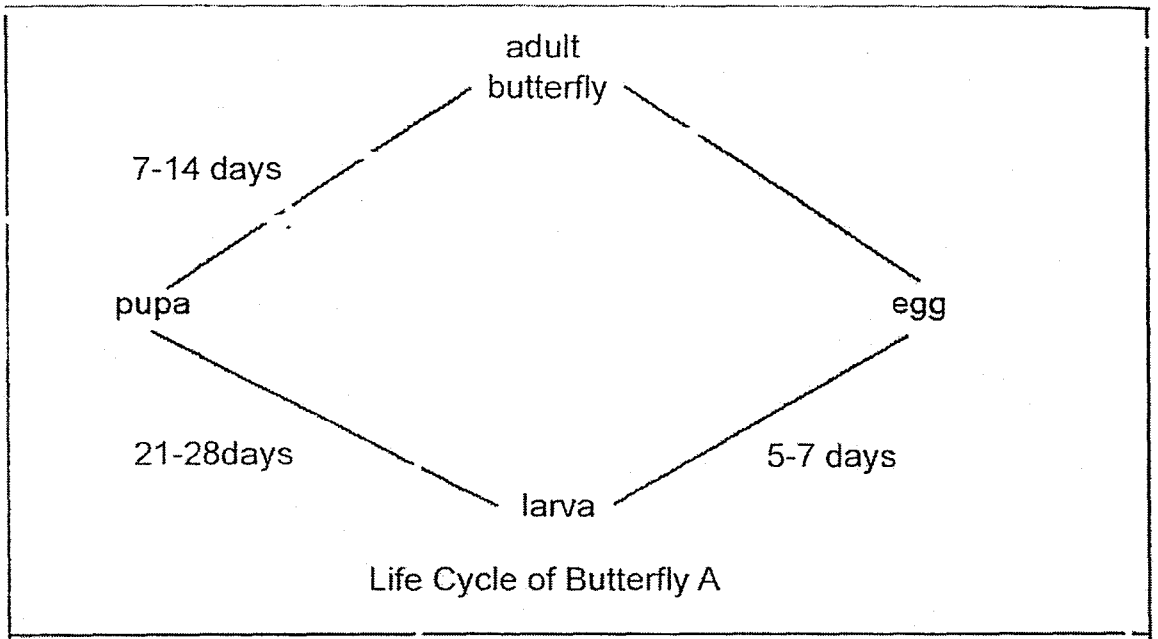
(3) A and B only

(4) A, B and C

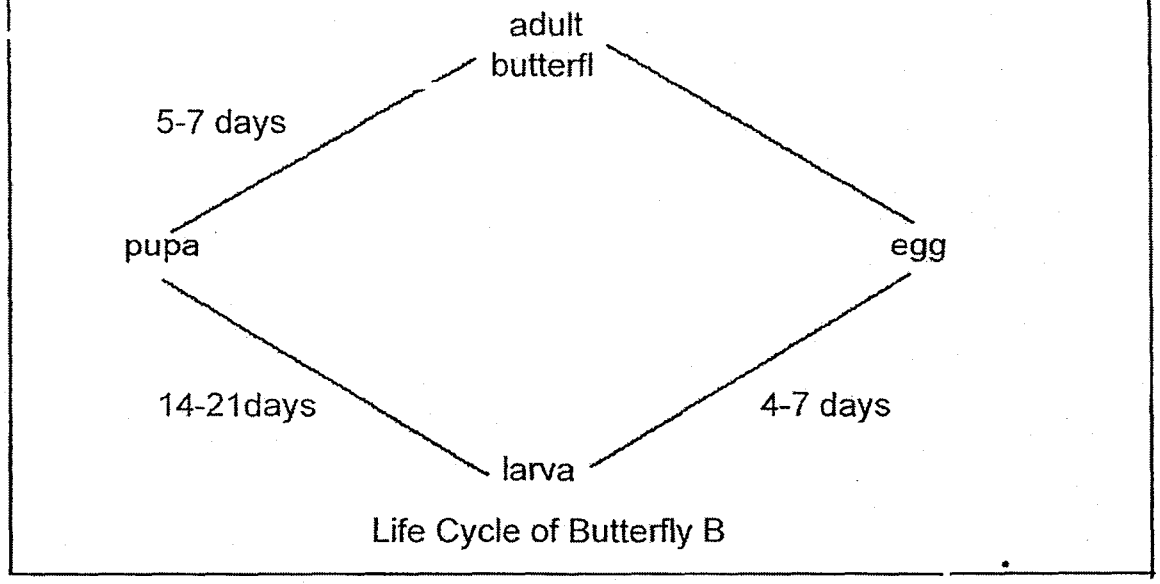
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14 The diagrams below show the life cycle of two types of bulterflies A and B living in the same area

These butterflies do not reproduce in the colder months between September and March



Life Cycle of Butterfly A



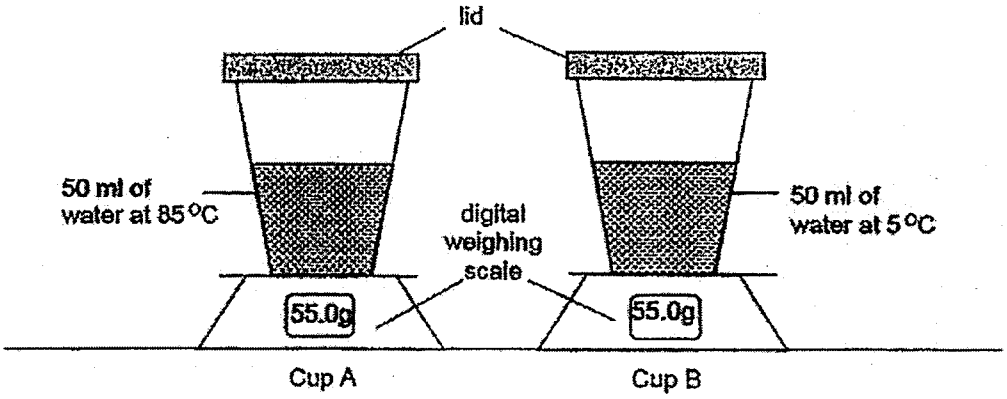
Life Cycle of Butterfly B

From the given information, it is most likely that_____

(1) no butterflies will be found alive in September
(2) the adult butterfly A will live longer than the adult butterfly B
(3) the egg of butterfly A will hatch faster than the egg of butterfly B
(4) butterfly A will take a longer time to complete its life cycle than butterfly B

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16. Jonathan poured 50 ml of water into two identical cups, A and B. He weighed the two cups of water using similar digital weighing scale.



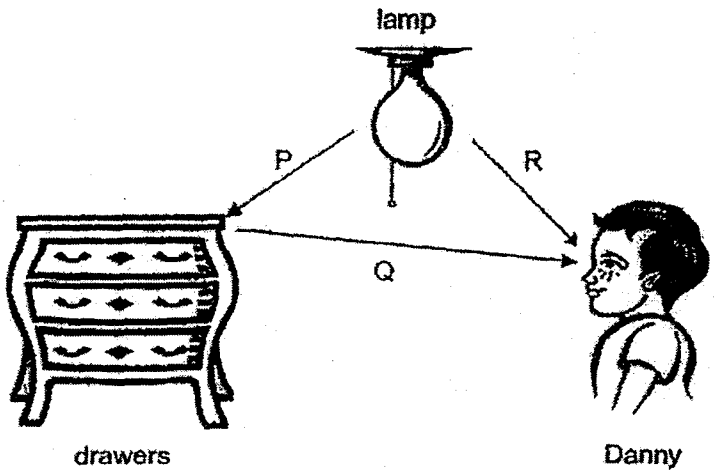
After half an hour, he observed that water droplets were formed on the lid on both cups.

Which of the following correctly shows the mass of the cups after half an hour?

	Mass of the cup after half an hour (g)	
	Cup A	Cup B
(1)	55.0	55.0
(2)	55.0	55.5
(3)	55.5	55.0
(4)	55.5	55.5

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17. The arrows P, Q and R show the direction of light in the diagram below.



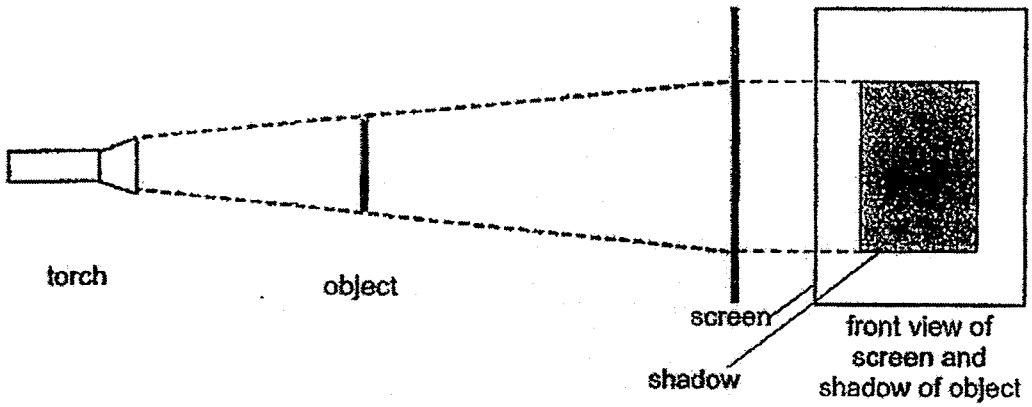
When Danny switched on the lamp in his room, he could see the lamp and the drawers.

Which arrow(s) best explain(s) why Danny could see the lamp and the drawers?

	Lamp	Drawers
(1)	R	P and Q
(2)	P	R and Q
(3)	P and R	Q
(4)	Q and R	P

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18. John set up an experiment as shown below.



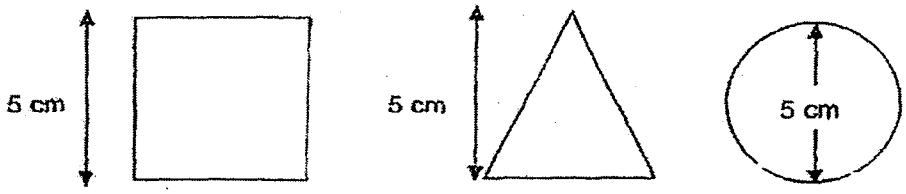
What should John do to make the shadow on the screen smaller?

A: Move the torch nearer to the object.
B: Move the screen nearer to the object.
C: Move the screen further from the object.
D: Move the torch further away from the object.

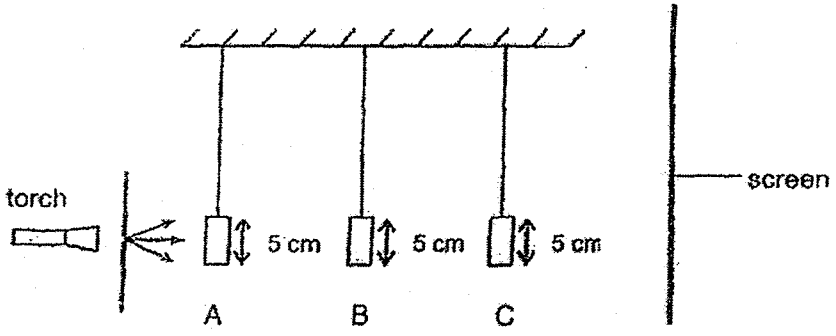
(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

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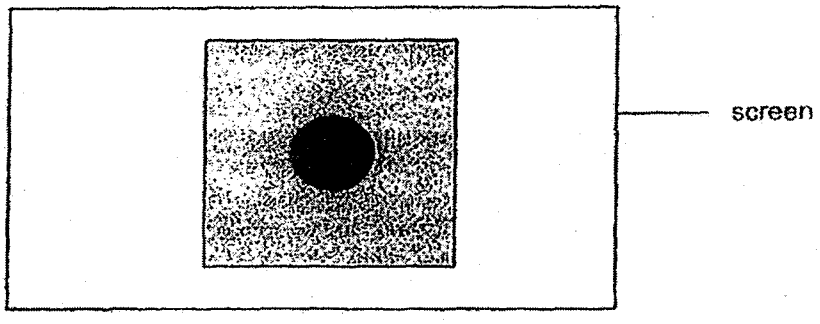
19. The diagrams below show three shapes, a square, a triangle and a circle, each made of a different material.



The diagram below shows the side view of the three shapes hung at different positions, A, B and C.



The shadows cast on the screen are shown below.



Which of the following statements are correct?

A: The square is nearer to the torch than the circle.
B: The triangle does not allow light to pass through.
C: The square allows more light to pass through than the circle.

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

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20. The table below shows the melting and boiling point of four substances, W, X, Y and Z.

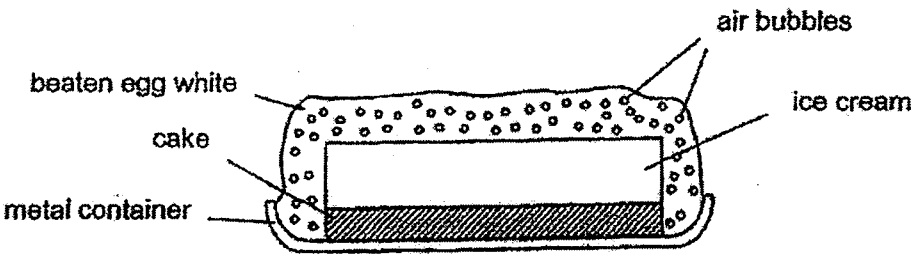
Substance	Melting point (°C)	Boiling point (°C)
W	10	78
X	0	100
Y	44	280
Z	110	180

Which of the substances, W, X, Y and Z, is/are liquid(s) at 30°C?

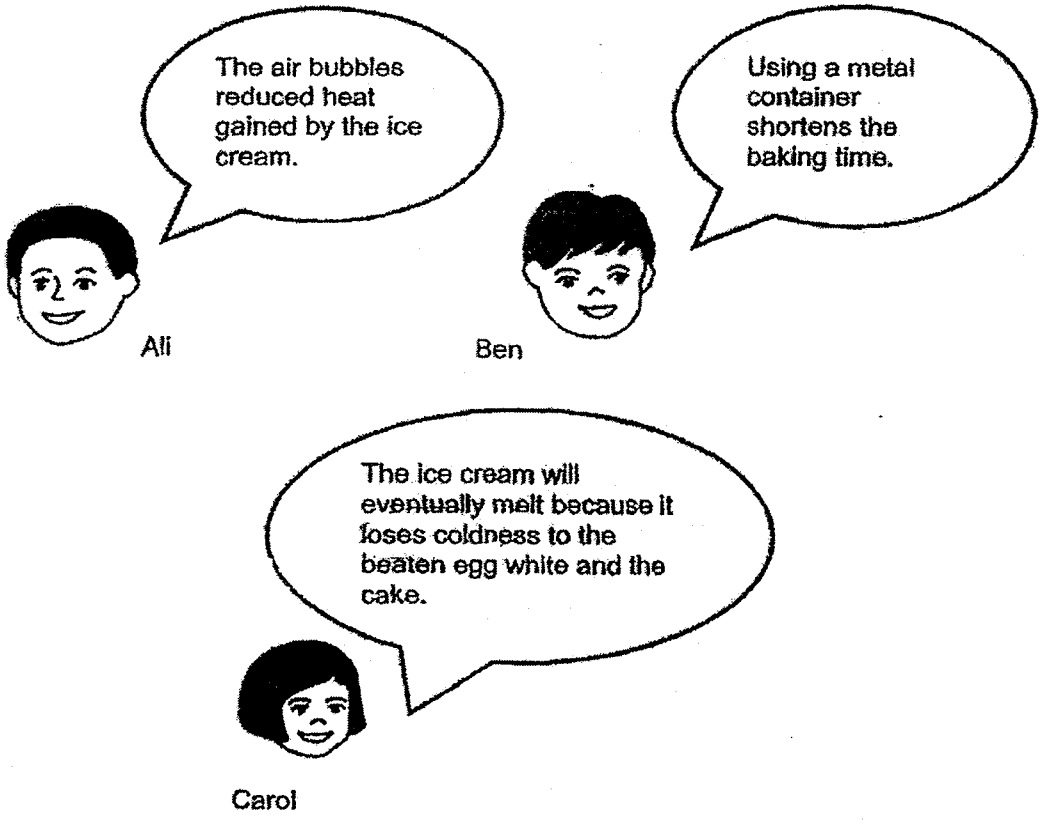
(1) W only
(2) W and X only
(3) X, Y and Z only
(4) X, W, Y and Z

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21. Mrs Heng baked an ice cream dessert shown below for 10 minutes.



The ice cream did not melt when it was taken out of the oven.
Three children, Ali, Ben and Carol, each made a statement about the ice cream dessert as shown below.

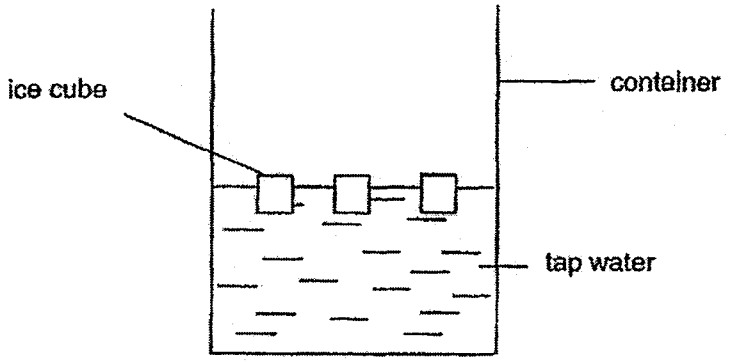


Which of the above children are correct?

(1) Ali and Ben only
(2) Ali and Carol only
(3) Ben and Carol only
(4) Ali, Ben and Carol

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22. Mary was conducting an experiment shown below in the Science room which had a temperature of 32°C. She measured the temperature of the water each time after adding three ice cubes.



Her results are shown below.

Number of ice cubes added	Temperature of water in container (°C)
0	32
3	28
6	22
9	15
12	9
15	5
18	4

Based on the experiment, which of the following statements is correct?

(1) The surrounding air gained heat from the water.

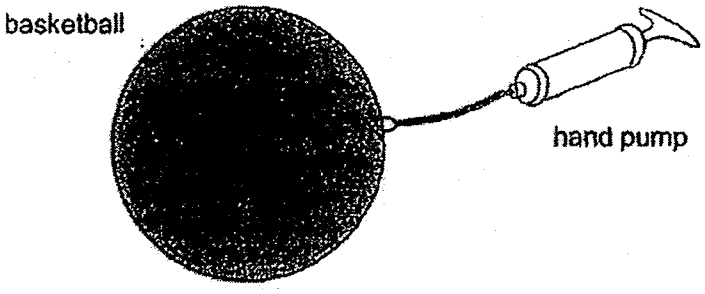
(2) The ice cubes have lost all the heat to the water.

(3) The water loses more heat as more ice is added to it.

(4) The water freezes when more than 18 ice cubes are added.

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23. Matthew used a hand pump to pump more air into the basketball shown below. He observed that the size of the basketball remained the same.



Which of the following statements are correct as Matthew pumped more air into the basketball?

A: Air can be compressed.
B: The volume of air increases.
C: The mass of air increases.
D: The mass of air remains the same.

(1) A and C only

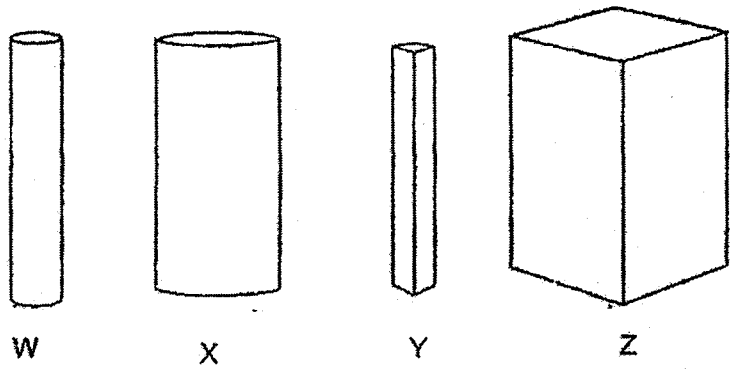
(2) A and D only

(3) B and C only

(4) B and D only

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24. Rina had four magnets, W, X, Y and Z, as shown below.



To compare the strength of the magnets, Rina took each of the magnets and placed them near a pile of iron pins.

The table below shows the number of iron pins that was attracted by the magnets, W, X, Y and Z, from different distances.

Magnet	Distance between magnet and iron pins (cm)	Number of iron pins attracted
W	3	9
X	3	11
Y	5	12
Z	3	12

Which of the following statements about magnets W, X, Y and Z are correct?

A: Z is stronger than X.

B: Y is stronger than Z.

C: W is the weakest magnet.

(1) A and B only

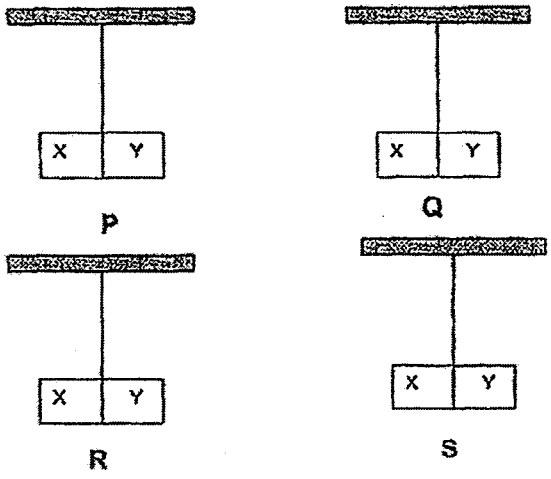
(2) A and C only

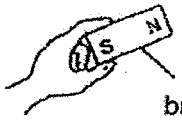
(3) B and C only

(4) A, B and C

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25. Ravi hung 4 metal bars, P, Q, R and S, from horizontal rods as shown below.





bar magnet

He brought the north pole of a bar magnet near end X and then end Y of each metal bar.

He recorded the observations made in the table below.

Metal bar	Observations	
	North pole and end X	North pole and end Y
P	attracted	repelled
Q	attracted	attracted
R	no reaction	no reaction
S	repelled	attracted

He wrote the following statements after the experiment.

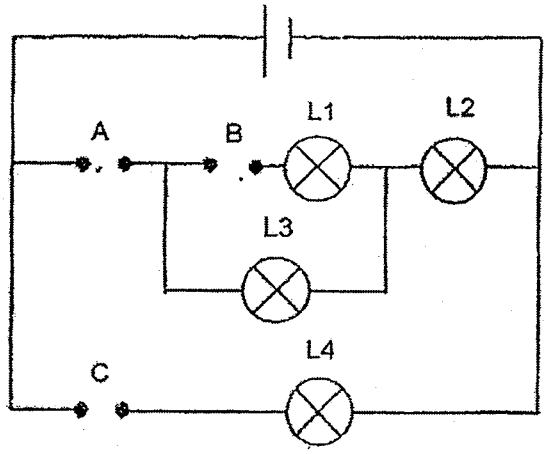
A: Metal bar P is made of magnetic material.
B: Metal bar R can be made into an electromagnet.
C: End X of metal bars P and S will repel each other.
D: Both ends X and Y of metal bar P will attract metal bar Q.

Which of the above statements are correct?

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

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26. Lee Cheng had three rods, P, Q and R, made of different materials. She placed them in various positions, A, B and C, of the circuit shown below.



The results of the experiment were shown in the table below. When any of the lamps, L1, L2, L3 or L4, lit up during the experiment, a tick (✓) was placed in the box.

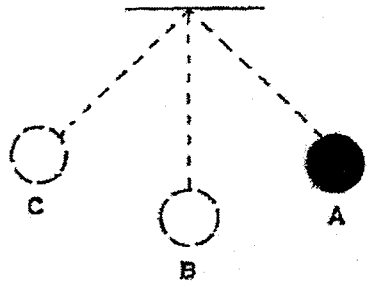
Positions where rods were placed			Lamp			
A	B	C	L1	L2	L3	L4
P	Q	R	✓	✓	✓	

Which of the following would show the correct result if the rods, P, Q and R, were placed at different positions?

	Positions where rods were placed			Lamp			
	A	B	C	L1	L2	L3	L4
(1)	P	R	Q			✓	✓
(2)	Q	R	P		✓	✓	✓
(3)	R	Q	P	✓			✓
(4)	Q	P	R		✓	✓	

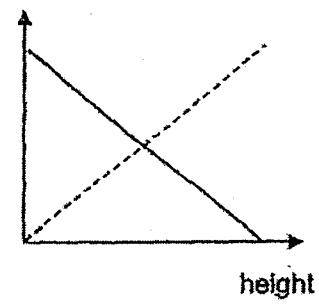
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27. A ball tied to a string swings from A to B and then C as shown in the diagram below.

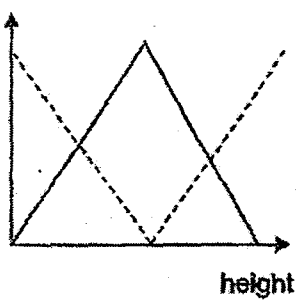


Which one of the following graphs shows correctly the change in potential energy and kinetic energy of the ball with height?

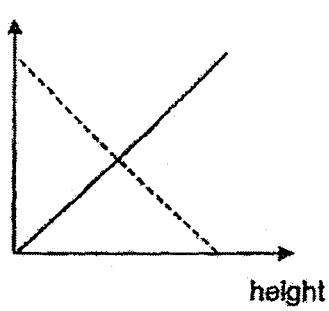
(1)



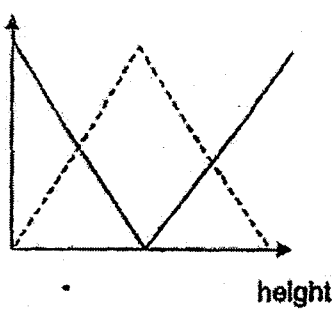
(2)



(3)



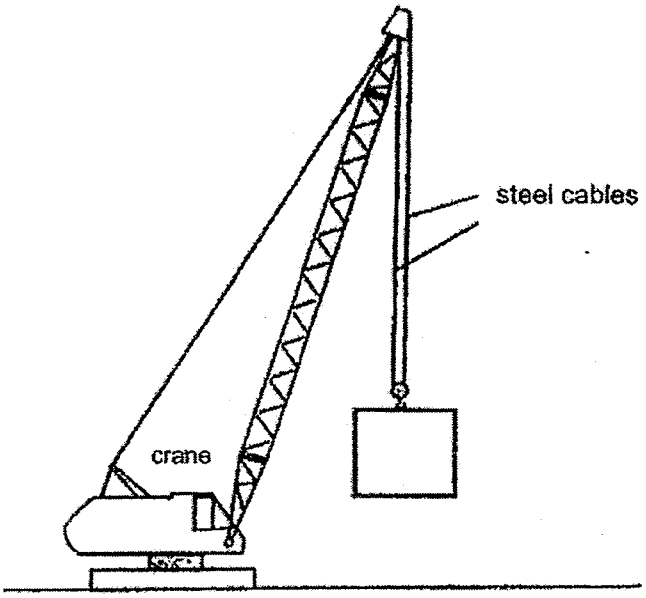
(4)



Key:
——— Potential energy
------- Kinetic energy

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28. The diagram below shows a crane lifting a heavy object.



What is / are the force(s) acting on the steel cables?

A: frictional force
B: gravitational force
C: elastic spring force

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

END OF BOOKLET A

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ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : HENRY PARK

SUBJECT : SCIENCE

TERM : PRELIM

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

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