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SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATIONS 2013

NAME: _____ ()

DATE: 22 AUGUST 2013

CLASS: PRIMARY 6SY / C / G / SE / P

Parent's Signature:

SCIENCE

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

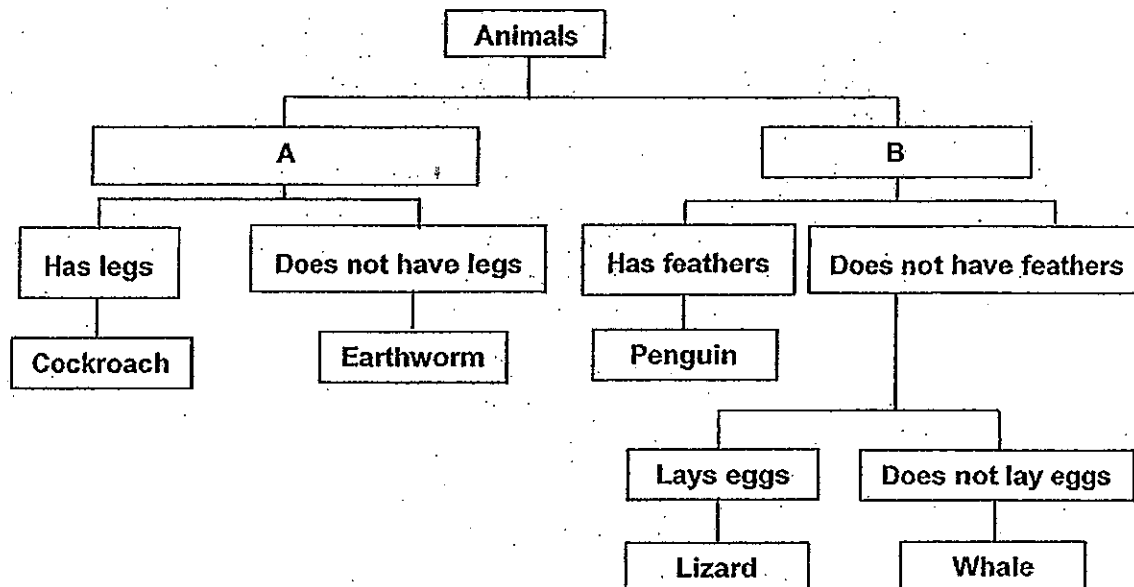
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Part I (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.

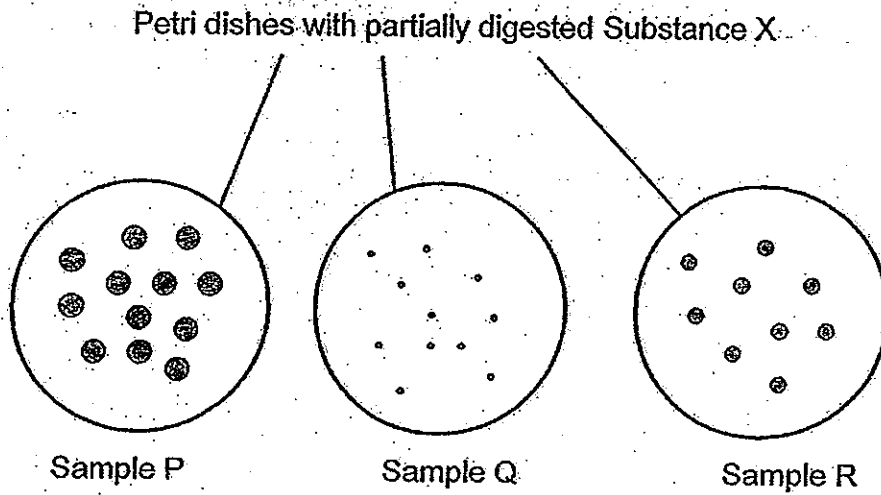
1. Study the classification chart below.



Which of the following best represent A and B?

	A	B
1)	Lays eggs	Gives birth
2)	Lives on land	Lives in water
3)	Does not have a backbone	Has a backbone
4)	3-stage life cycle	4-stage life cycle

2. Julie was given 3 samples of digested food as shown below.



Which of the following were the samples most likely to be taken from?

	P	Q	R
1)	mouth	stomach	small intestine
2)	mouth	small intestine	stomach
3)	stomach	mouth	small intestine
4)	large intestine	small intestine	mouth

3. Study the classification table below.

Circulatory System	Respiratory System
Windpipe	Lungs
Heart	Veins
Blood	Nose

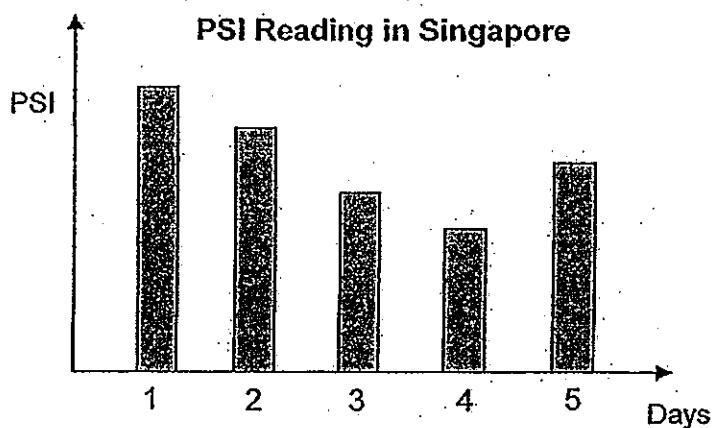
Which of the following have been **wrongly** classified?

- A: Heart C: Lungs
B: Veins D: Windpipe

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

4. Amy was very concerned over the haze situation that plagued Singapore recently. She decided to study the relationship between the number of hotspots (forest fires) in Sumatra and the level of PSI (Pollutant Standard Index), which is a measure of concentration of pollutants in the air, in Singapore. The table and graphs below show the number of hotspots and the PSI over 5 days.

Days	Number of hotspots in Sumatra
1	10
2	8
3	6
4	5
5	5

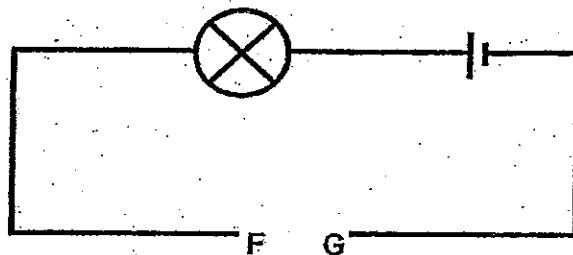


Based on the information above, which of the following statement/s is/are likely to be true?

- A: Smoke particles from forest fires decreases as the number of hotspots increases.
- B: As the number of hotspots decreases, the PSI reading generally decreases too.
- C: The increase in PSI reading on Day 5 was due to an increase in the number of hotspots.
- D: The wind could have carried more smoke particles from the forest fires in Sumatra on Day 5.

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

5. Melissa cut 4 pieces of wire, A, B, C and D, each of different length and thickness from the same material. The circuit diagram below shows how she set up the experiment.



She placed each of the wires, joining F to G and observed the brightness of the bulb. Then, she recorded her observation in the table below.

Wire	Length (m)	Thickness (mm)	Brightness of the bulb
A	1	1	Bright
B	1	2	Very bright
C	2	1	Not bright
D	2	2	Bright

Based on the information in the table, Melissa came up with the following conclusions for each pair of wires.

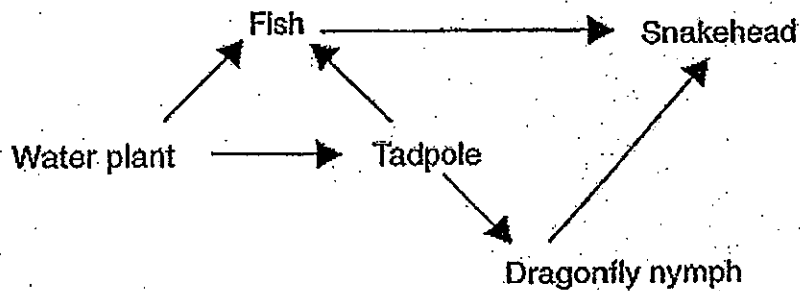
	Wires	Conclusion
W:	A, B	The thicker the wire is, the dimmer the bulb is
X:	B, C	The shorter the wire is, the brighter the bulb is
Y:	B, D	The longer the wire is, the brighter the bulb is
Z:	C, D	The thicker the wire is, the brighter the bulb is

Which of the following is/are correct?

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

Refer to the food web below and answer Questions 6 and 7.

The food web below shows the interaction among organisms in a large pond.

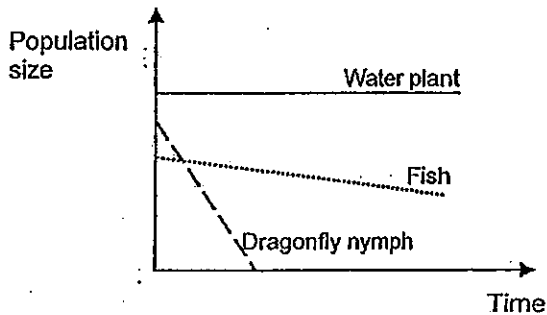


6. Which one of the following has the smallest population size?

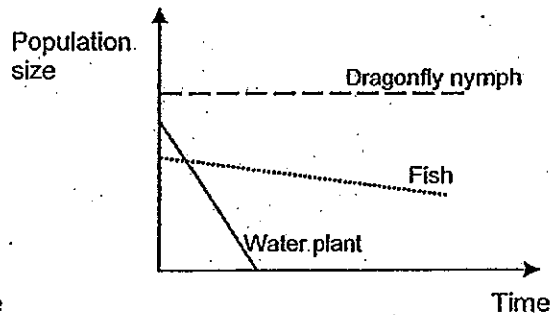
- | | |
|--------------------|----------------|
| 1) Fish | 3) Snakehead |
| 2) Dragonfly nymph | 4) Water plant |

7. A disease suddenly plagued the tadpole population and all of them died. Which of the following graphs best show the population sizes of water plant, dragonfly nymph and fish?

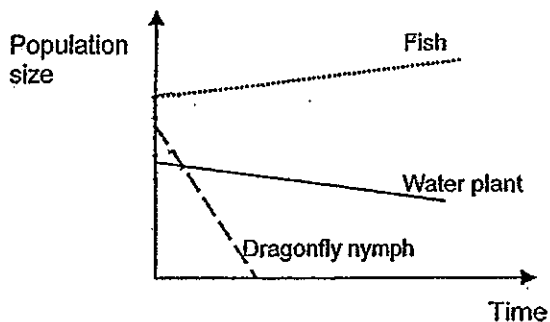
1)



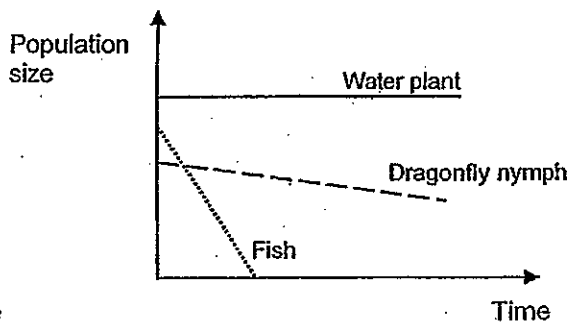
3)



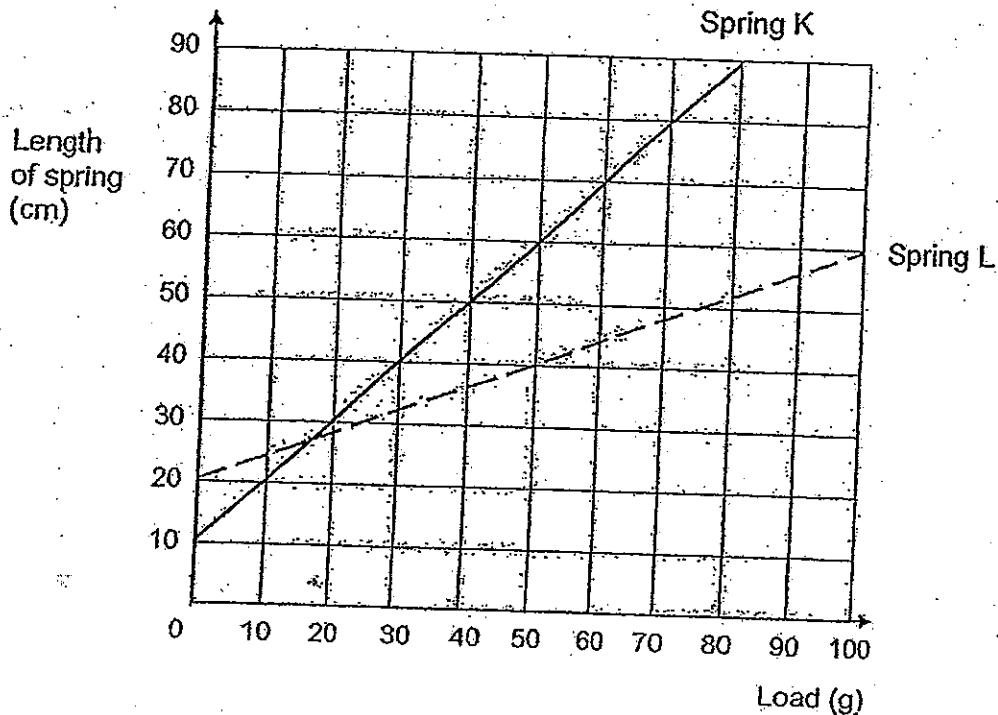
2)



4)



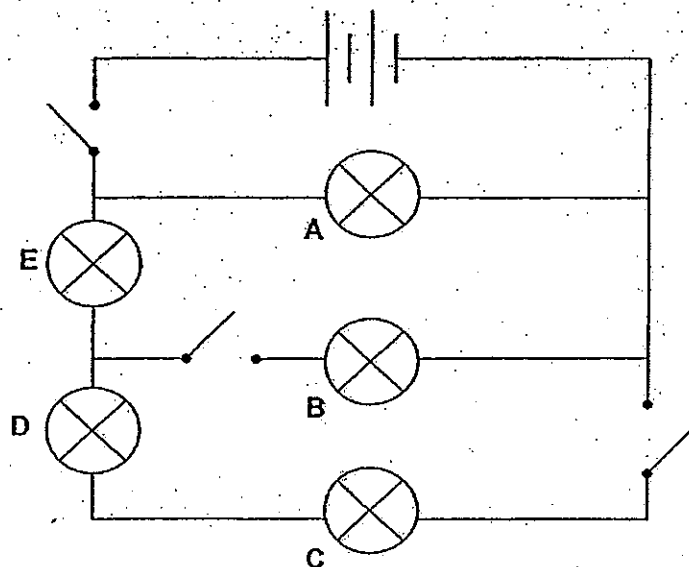
8. Zed carried out an experiment with 2 springs, K and L. He hung various loads on the 2 springs and measured their corresponding lengths. He then recorded the results and plotted the graphs as shown below.



Based on the graph above, which one of the following conclusions is true about Springs K and L?

- 1) Spring L extended by 35cm when a load of 40g is hung on it.
- 2) Given the same load, Spring K stretched more than Spring L.
- 3) When a load of 60g is hung on Spring K, it stretched by 70cm.
- 4) The original length of Spring K is longer than the original length of Spring L.

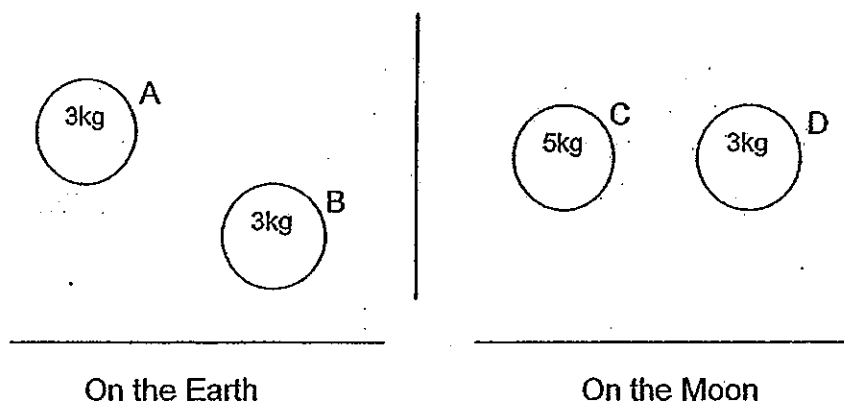
9. Study the circuit diagram below.



If all the switches are closed, which bulb/s, when fused, result/s in only 3 bulbs lighting up?

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

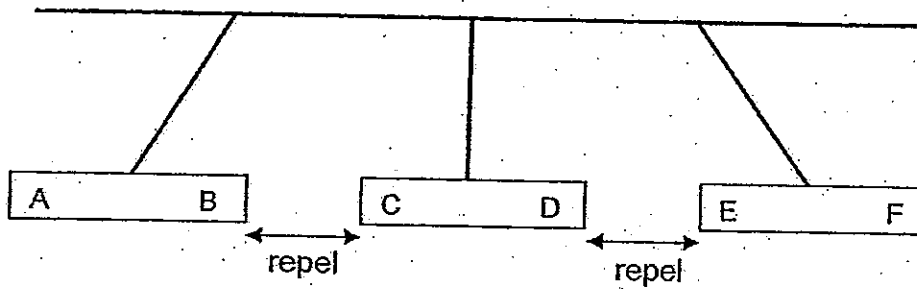
10. Study the diagram below. The gravity of the moon is less than the gravity of the Earth.



Which one of the following statements is true?

- 1) Ball A has more weight than Ball D.
- 2) Balls A and C have the same mass.
- 3) Ball A has more gravitational force acting on it than Ball B.
- 4) Balls B and D have the same gravitational force acting on them.

11. Bernard set up the experiment below involving 3 magnets.



He then predicted some reactions between some of the poles of the 3 magnets if they were brought close together and presented his predictions in the table below.

	Poles of magnets	Reaction
V:	A and D	Attract
W:	A and F	Attract
X:	B and E	Attract
Y:	C and E	Repel
Z:	D and F	Repel

Which of Bernard's predictions is/are correct?

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

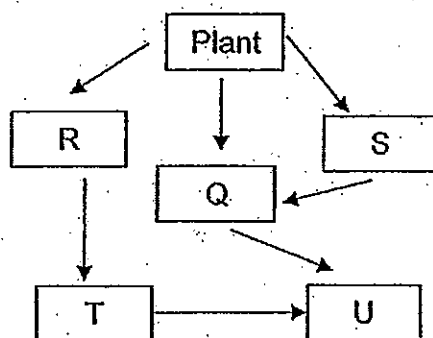
12. Rosalie and her friends went to a garden to observe the animals and plants in it. Below are her observations.

Organisms	Number observed
Snail	8
Butterfly	12
Sparrow	4
Sparrow chicks	7
Caterpillar	15
Hibiscus plant	5
Snail eggs	10
Mango tree	2

How many populations are present in this community?

- 1) 5
- 2) 8
- 3) 31
- 4) 63

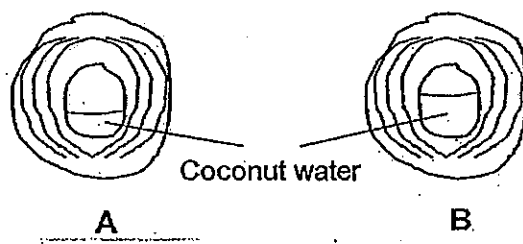
13. Study the food web below:



Based on the above food web, which of the following is correct?

	Herbivore	Carnivore	Omnivore
1)	R	Q	U
2)	R	S	T
3)	S	T	Q
4)	S	U	T

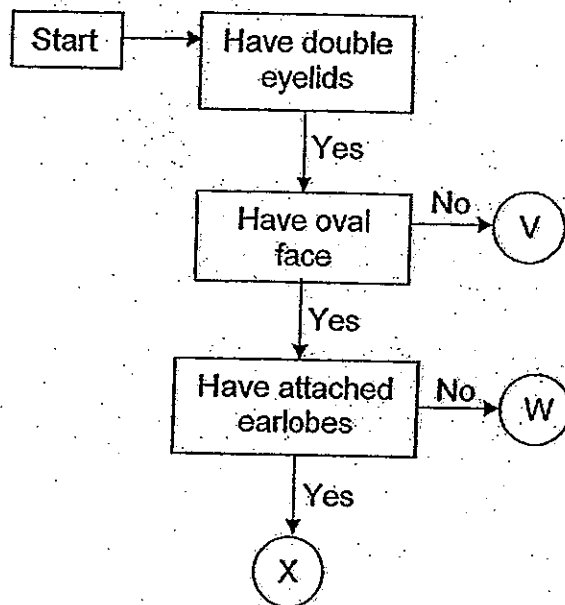
14. Below are cross-sections of 2 similar coconuts that contains different amounts of coconut water.



Which of the following is correct?

	Coconut that travels further from parent plant	Reason
1)	A	It is less buoyant because it contains little water.
2)	B	It is more buoyant because it contains a lot of water.
3)	A	It is more buoyant because it contains more air.
4)	B	It is more buoyant because it contains less air.

15. The following flowchart shows the traits of Mr and Mrs Ong's 3 children. They are represented by the letters V, W, X.

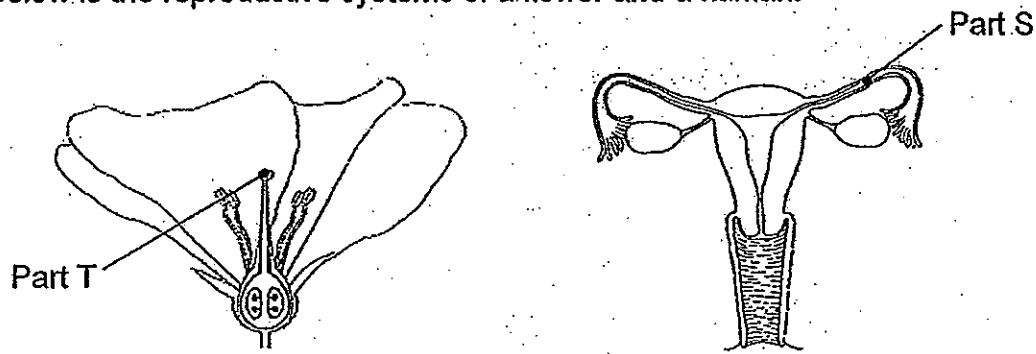


Both Mr and Mrs Ong have double eyelids and attached earlobes. However, Mr Ong has a square face while Mrs Ong has an oval face.

Which of the following is definitely correct?

	W	X
1)	Inherited some of Father's traits	Inherited all of Mother's traits
2)	Inherited none of Father's traits	Inherited all of Mother's traits
3)	Inherited some of Mother's traits	Inherited all of Father's traits
4)	Inherited none of Mother's traits	Inherited all of Father's traits

16. Below is the reproductive systems of a flower and a human.



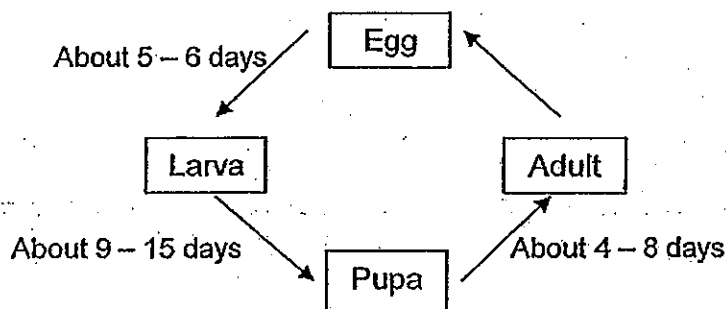
Farisha made the following statements about both reproductive systems.

- A: Pollination occurs in both systems.
- B: Both have female reproductive parts.
- C: Part S has the same function as Part T.
- D: The human womb has the same function as the ovule.

Which of Farisha's statement/s do you agree with?

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

17. Below is the life cycle of Organism J.

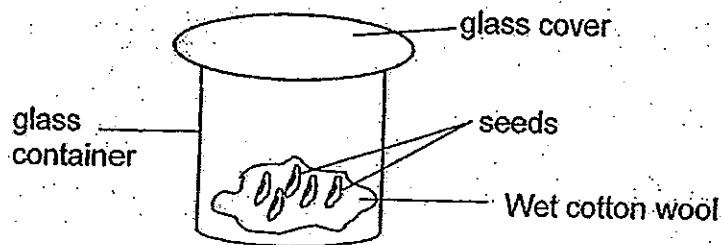


Organism J reproduces most quickly in cold climate – the young develops into adults within the shortest time. Recently, some population of Organism J was found in Singapore.

Which one of the following best represents the duration Organism J takes to develop from the larva to adult stage while in Singapore?

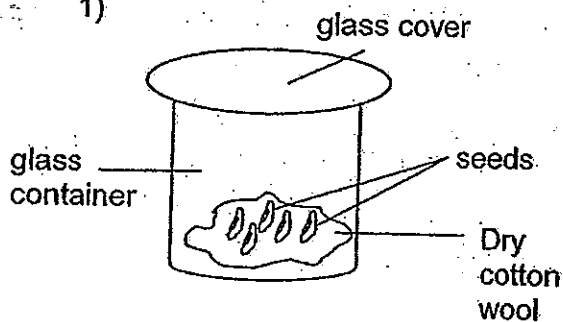
- | | |
|-------|-------|
| 1) 9 | 3) 21 |
| 2) 13 | 4) 29 |

18. Tina wanted to find out if the light is required for seed germination. She was given the following set up.

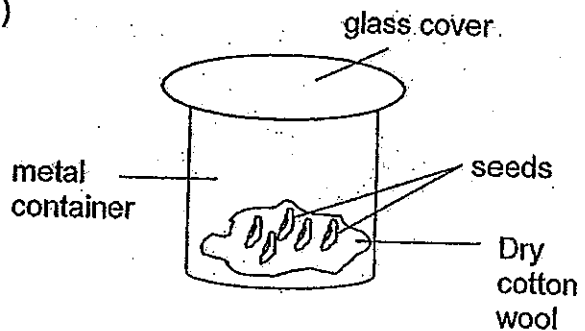


Which one of the following set ups would be the appropriate control set-up for Tina to test out her aim?

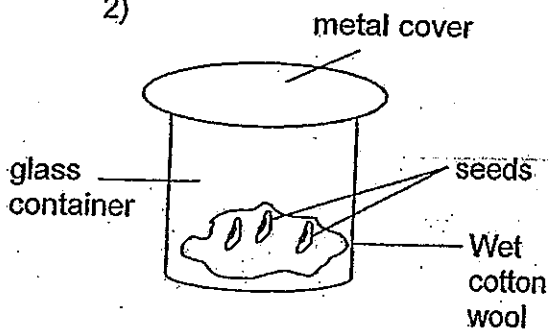
1)



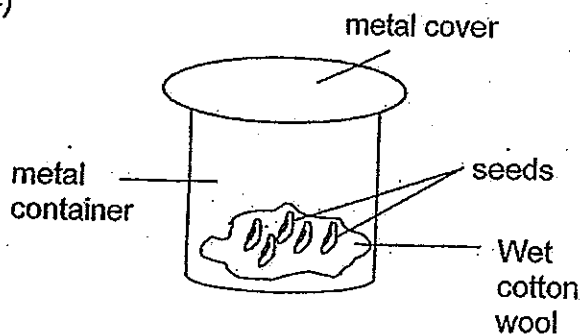
3)



2)



4)



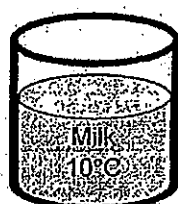
19. The table below shows the melting and boiling point of 2 substances, L and M.

Substance	Melting Point ($^{\circ}\text{C}$)	Boiling Point ($^{\circ}\text{C}$)
L	-53	250
M	19	529

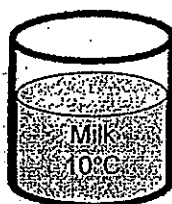
Which of the following shows the correct state of substances L and M at 0°C and 400°C respectively?

	State of Substance L		State of Substance M	
	0°C	400°C	0°C	400°C
1)	Solid	Solid	Liquid	Liquid
2)	Solid	Gas	Liquid	Gas
3)	Liquid	Gas	Solid	Liquid
4)	Liquid	Liquid	Solid	Gas

20. Equal amounts of chilled milk at 10°C is poured into thick metal and thick plastic cups of the same size and shape. They are placed on a dining table.



Metal

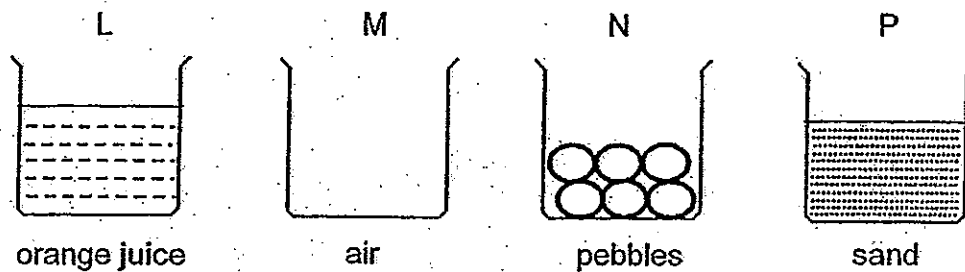


Plastic

Which of the following statements is true?

- 1) Water droplets appear on the metal cup first.
- 2) Water droplets appear on both containers at the same time.
- 3) Heat from the milk is conducted to the cup more quickly in the metal cup.
- 4) Heat from the surrounding is conducted to the cup more quickly in the plastic cup

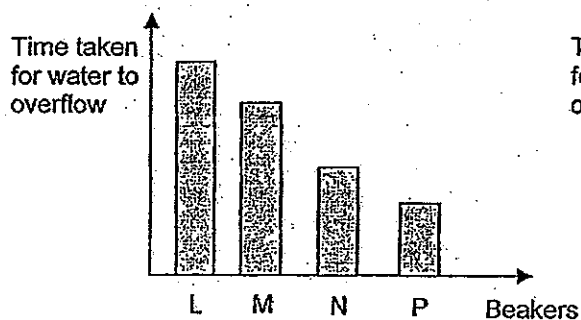
21. Emily was given 4 similar beakers L, M, N and P. Each beaker was filled with different substances.



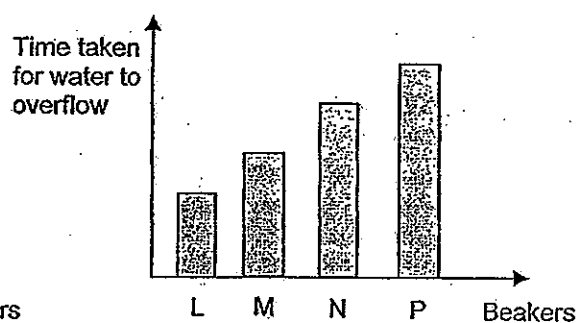
Peter poured water into each beaker at the same rate, one at a time. He measured the time taken for the water in each beaker to overflow.

Which one of the following graphs shows the time taken for water to overflow?

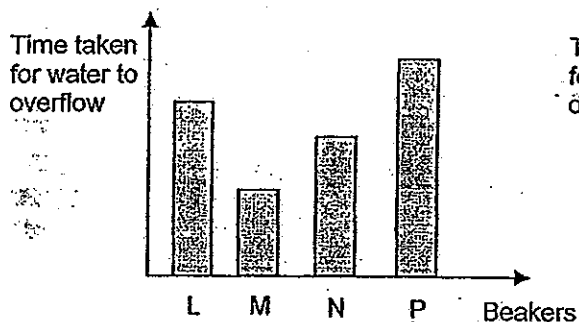
1)



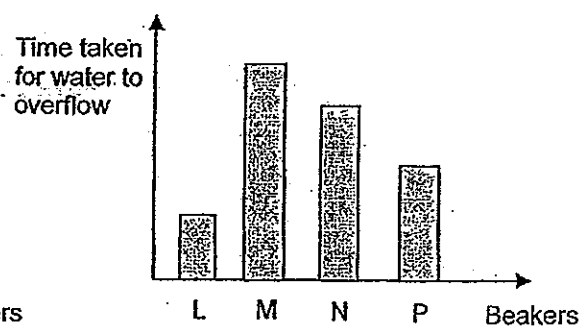
3)



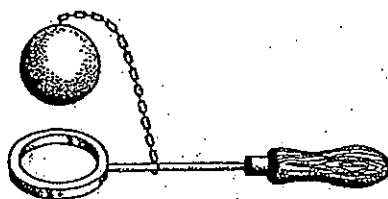
2)



4)



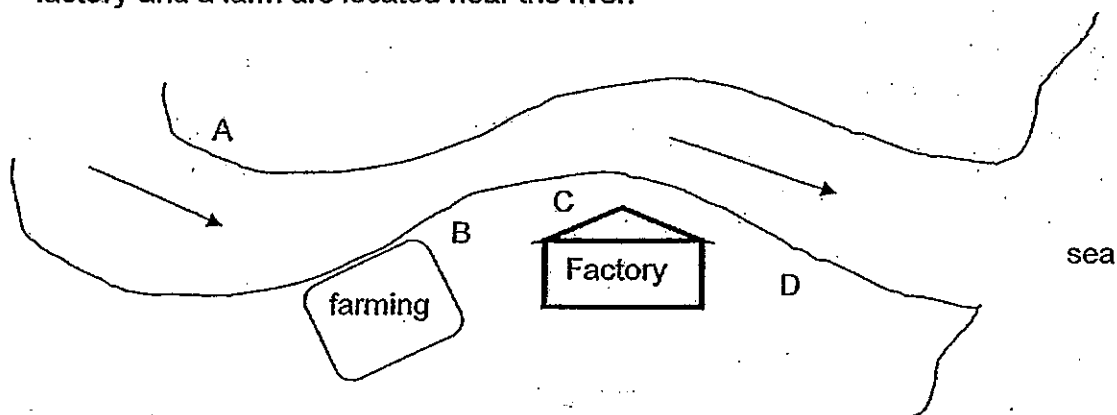
22. The diagram below shows a ball and ring apparatus. At room temperature, the ball can pass through the ring.



Which of the following is most likely to happen if one or both of the items are heated or cooled?

	Scenario	Result
1)	Only the ball is heated.	Ball can pass through the ring.
2)	Only the ring is cooled.	Ball can pass through the ring.
3)	The ball is cooled and the ring is heated.	Ball can pass through the ring.
4)	The ball is heated and the ring is cooled.	Ball can pass through the ring.

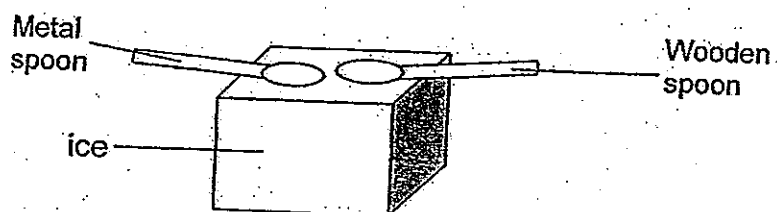
23. The diagram below shows a river flowing downstream towards the sea. A factory and a farm are located near the river.



Which are most suitable locations (A, B, C or D) to build a home and a water treatment plant?

	Home	Water Treatment Plant
1)	A	D
2)	B	C
3)	C	A
4)	D	B

24. A metal spoon and wooden spoon were both placed on a block of ice as shown below.



Which of the following are possible readings of the temperature of the metal and wooden spoons after 3 minutes?

1)

Spoons	0 min	3 min
Metal	27°C	27°C
Wooden	27°C	27°C

2)

Spoons	0 min	3 min
Metal	27°C	32°C
Wooden	27°C	23°C

3)

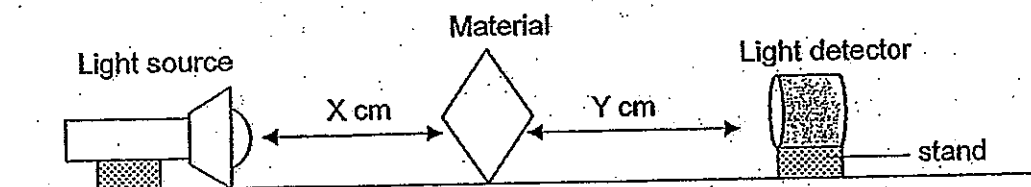
Spoons	0 min	3 min
Metal	27°C	24°C
Wooden	27°C	20°C

4)

Spoons	0 min	3 min
Metal	27°C	18°C
Wooden	27°C	24°C

25. Susie wants to make a dress for her upcoming graduation day. She has narrowed her choice to 3 materials, Q, R and S. However, she is concerned about the transparency of the materials.

She was able to borrow a light detector from her friend to help her in her experiment. She then arranged the set-up below and tested her aim.



Susie tabulated her results in the table below.

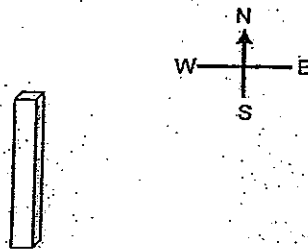
Materials	X cm	Y cm	Thickness of material (cm)	Light detected (lux)
Q	20	20	0.5	15
R	15	20	0.5	10
S	20	15	0.5	20

Based on the above results, Susie decided to use material R for her dress. However, her friend told her that she had made the wrong conclusion.

Which of the following are possible explanations for Susie's wrong conclusion?

- 1) Susie had used a very strong light source.
- 2) Susie failed to change the thickness of the material.
- 3) The light detector failed to detect the same amount of light.
- 4) Susie had varied the distance between the light source and the material.

26. Peter placed a rectangular block in the middle of a basketball court. He measured the length of the shadow cast at different times of the day, as well as, drew the direction the shadow was cast.

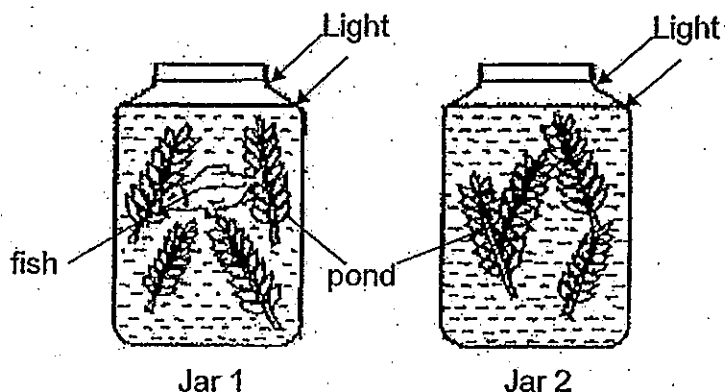


Which of the following is correct?

	Time	Direction of shadow cast
1)	8am	
2)	11.30am	
3)	3pm	
4)	6.30pm	

27. The experiment below was set up to examine the rate of photosynthesis. Jar 1 contained a fish and some pond weeds while Jar 2 contained only pond weeds. Both jars were set up under similar conditions.

After a few days, the pond weeds in Jar 1 were found to be healthier than the pond weeds in Jar 2.

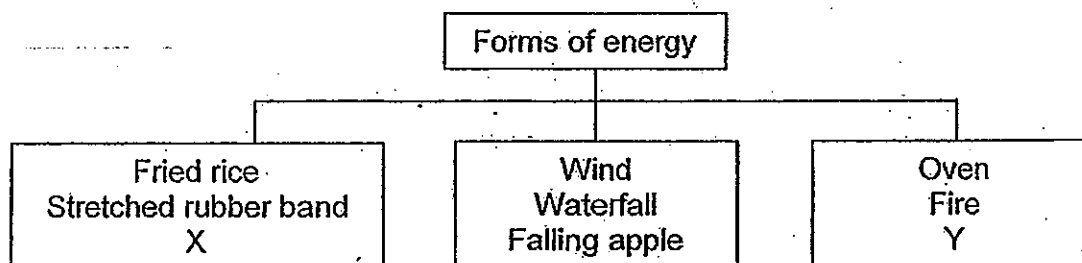


Which of the following statement/s explain(s) this result?

- A: The fish droppings increased the rate of photosynthesis.
- B: The fish in Jar 1 respired, releasing oxygen to the pond weeds.
- C: The pond weeds in Jar 1 received more light than those in Jar 2.
- D: The fish in Jar 1 respired, releasing carbon dioxide to the pond weeds.

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

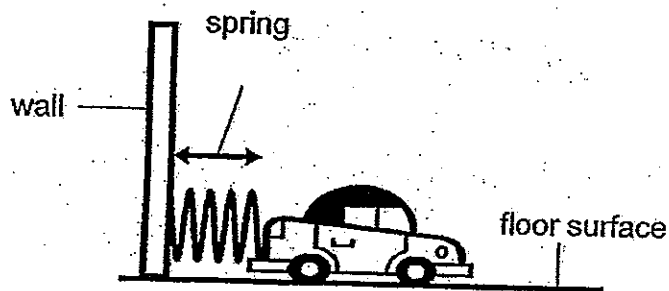
28. Study the classification chart below.



Which of the following can X and Y represent?

	X	Y
1)	Moving fan	Hair dryer
2)	Petrol	Moving fan
3)	Petrol	Burning coal
4)	Burning coal	Petrol

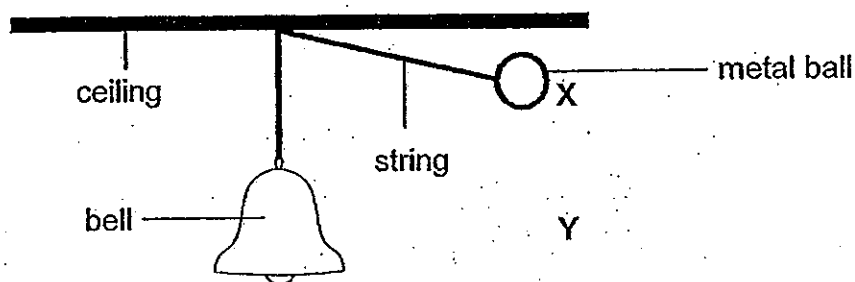
29. Allen played with the toy which his elder brother made as shown below. He pushed, then held the toy car against the spring, then he let it go.



Which one of the following is the correct energy conversion of the toy car from the time it was held against the wall till it stopped moving?

- 1) Kinetic energy \rightarrow Kinetic energy \rightarrow Potential energy
- 2) Heat + Sound energy \rightarrow Kinetic energy \rightarrow Potential energy
- 3) Kinetic energy \rightarrow Potential energy \rightarrow Sound energy + Heat energy
- 4) Potential energy \rightarrow Kinetic energy \rightarrow Sound energy + Heat energy

30. Jody hung 3 metal balls, J, K and L, one at a time, from a string and released each one from either position X or Y.



The table below shows the mass of each metal ball and the position from which each ball was released.

Metal Ball	Mass of metal ball (g)	Position released from
J	200	X
K	100	Y
L	200	Y

Using a datalogger, she recorded the sound level when the metal balls hit the bell in the table below.

Which of the following shows the likely sound level recorded for each metal ball? (Sound is measured in decibels or db)

	Metal Ball J (db)	Metal Ball K (db)	Metal Ball L (db)
1)	100	100	150
2)	150	100	150
3)	250	100	150
4)	250	150	100

End of Booklet A

INDEX NO :

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SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATIONS 2013

NAME: _____ ()

DATE: 22 AUGUST 2013

CLASS: PRIMARY 6SY / C / G / SE / P

Parent's Signature:

SCIENCE

BOOKLET B

	Total Actual Marks	Total Possible Marks
Booklet A		60
Booklet B		40
Total		100

14 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

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

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Name: _____ ()

Date: _____

Class: Primary 6 SY / C / G / SE / P

Part II (40 marks)

Answer all the following questions.

31. Samantha was presented with the following table.

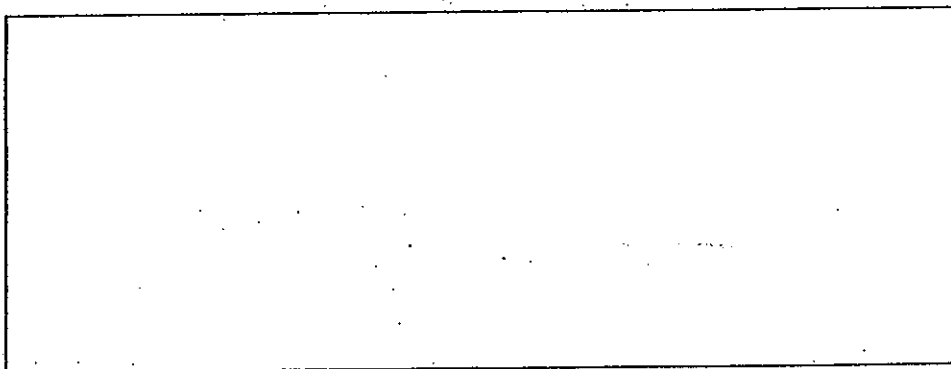
Animals	Moults	Has wings	3-stage life cycle
X		✓	✓
Y	✓	✓	✓
Z	✓		✓

a) State the difference/s between Animal X and Animal Y.

[1]

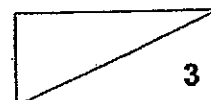
b) Animal Y is an insect
Draw its life cycle below.

[1]

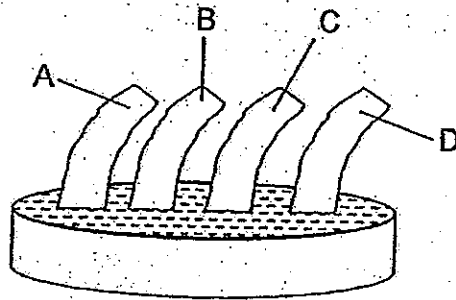


c) Explain why it not possible to place grasshopper for Animal Z.

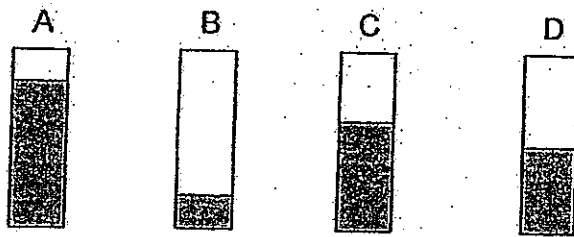
[1]



32. Alex conducted an experiment with 4 pieces of materials and a dish filled with red colouring as shown below.



The diagram below shows the amount of water absorbed by each strip of material after one minute.

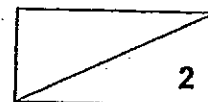


- a) Besides the length of the material strips, list 2 other variables that must be kept constant to ensure a fair test.

[1]

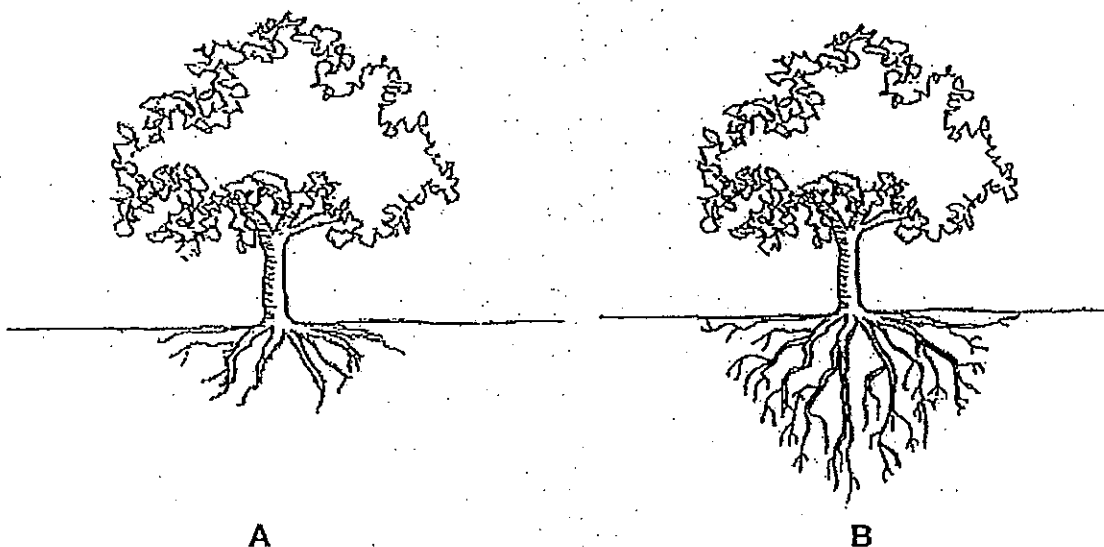
- b) Which material is most suitable to make a kitchen towel?
Explain your answer.

1]



33. a) Singapore will be replacing many roadside trees as they topple easily.

The diagrams below show 2 plants with different types of roots.

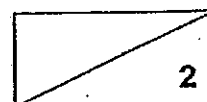


i) Which type will be chosen to replace the existing trees?
Explain your answer.

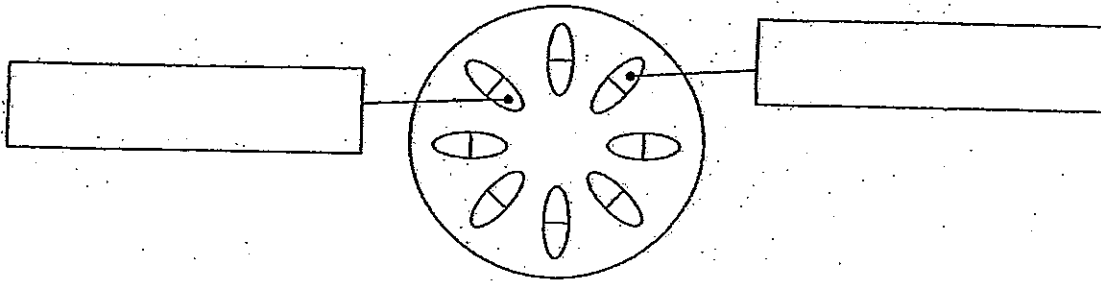
[1]

ii) State another function of roots of trees.

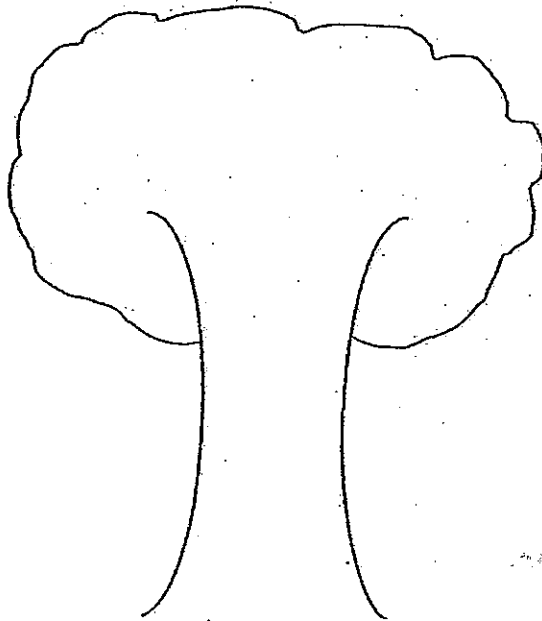
[1]



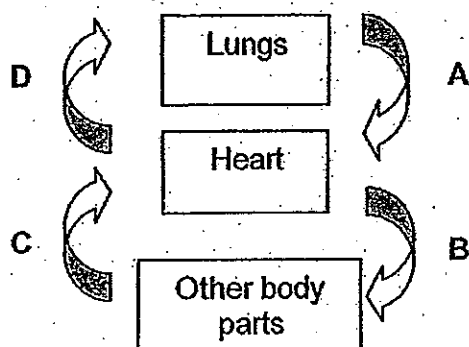
33. b)i) In the diagram below, label the food - carrying tubes and water-carrying tubes. [1]



- ii) On the trunk of the tree below, draw and label the direction of food and water transport in plants. [1]



34. a) Study the diagram of the human circulatory system below.

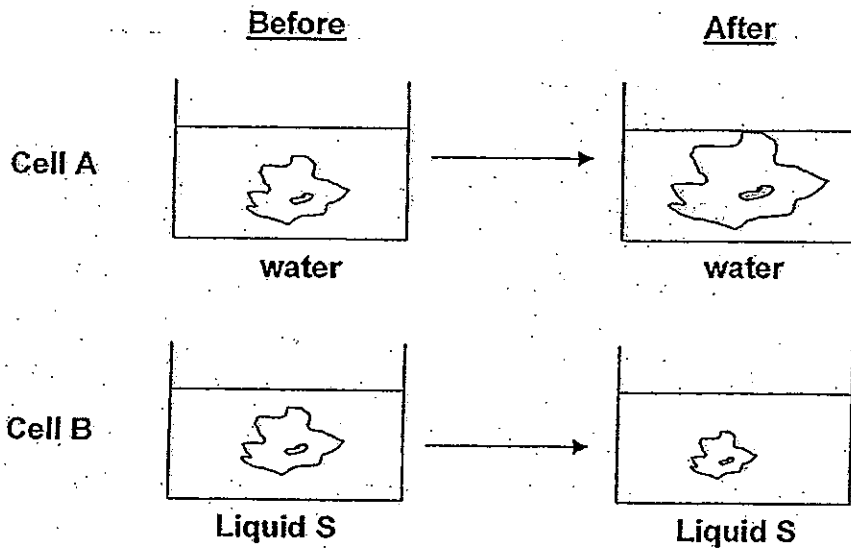


Which arrow (A, B, C or D) shows the blood that has the greatest amount of carbon dioxide? Explain your answer. [1]

b) Tick (✓) 'Increase or Decrease' to show what happens to the air we exhale (breathe out) compared to the air we inhale (breathe in). [2]

	Exhale	
	Increase	Decrease
Water vapour		
Oxygen		
Carbon dioxide		
Temperature		

35. Steve extracted 2 cells, A and B, from Animal M. He placed both cells into 2 petri dishes filled with Liquid S and water respectively. His observations are shown below.



- a) Give a possible explanation for Steve's observation.

[1]

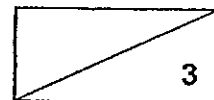
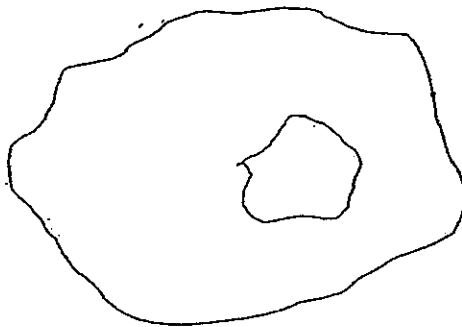
Cell	Explanation
A	
B	

- b) Which part of the cell is responsible for this observation?

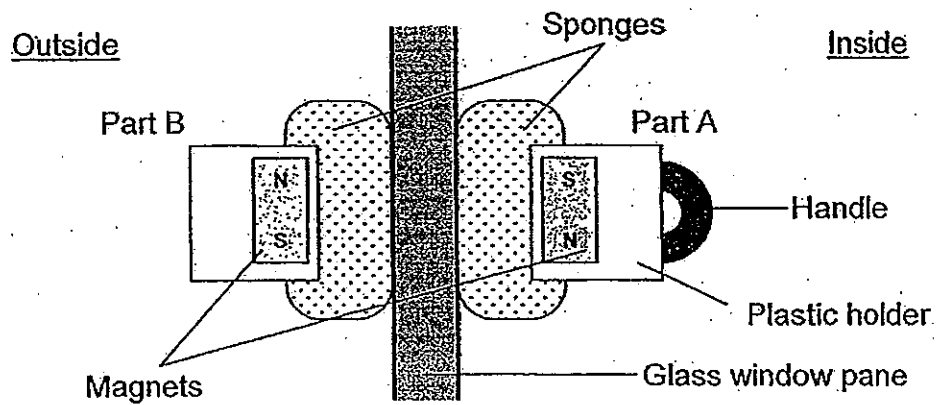
[1]

- c) In the diagram of the cell below, label the part which contains information that is passed from parent to offspring.

[1]



36. Susan always had trouble cleaning the exterior side of her bedroom windows. She then came up with a device as shown below to help her do just that.

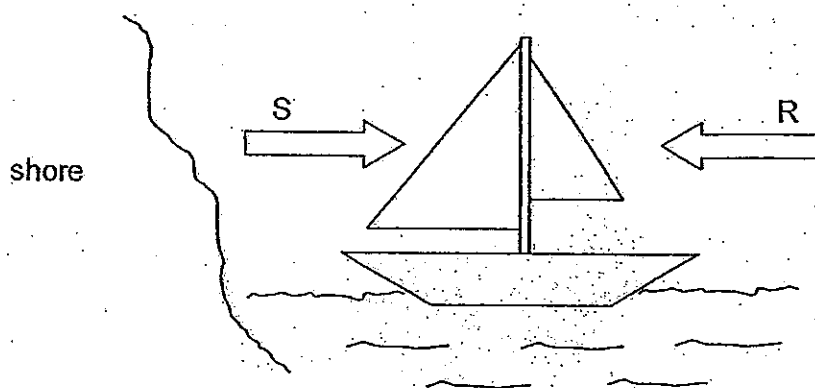


- a) What is/are the forces that are acting on the device at all times? [1]

- b) When Susan starts moving the device across the window, another force acts on the window. Name this force. [1]

- c) Susan dipped the sponges in water. She tried to put the device on the windows as shown in the above diagram but Part B fell off. Explain why this happened. [2]

37. Below is a picture of a sailboat that is heading towards the shore at a speed of 10km/h.



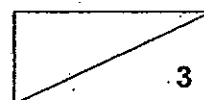
- a) To speed up the boat which force, R or S, should be applied? [$\frac{1}{2}$]

- b) To slow down the boat which force, R or S, should be applied? [$\frac{1}{2}$]

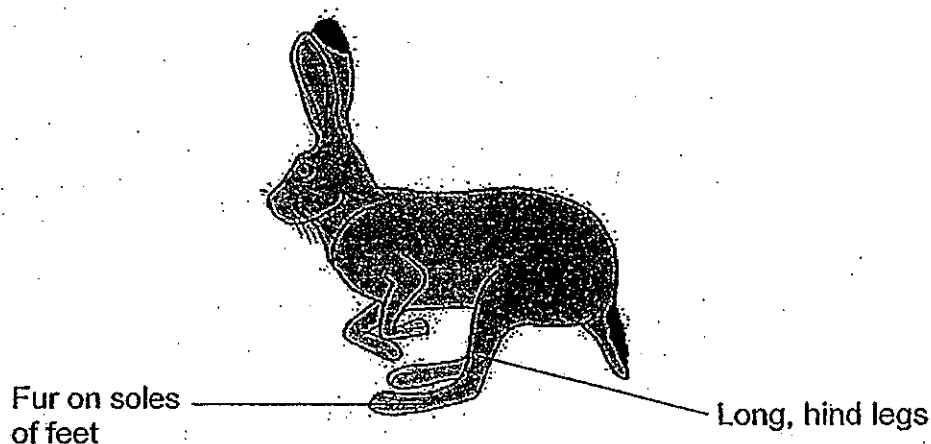
- c) If Forces R and S are equal and opposite in direction what will happen to the sailboat if both are applied at the same time? [1]

- d) Tick (✓) the factors that will affect the speed of the sailboat. [1]

Colour of sail	
Mass of boat	
Shape of boat	



38. Betty did some research on Animal W, as shown below. She was interested in how they survive in the desert. She then presented some of the information below.



- a) State whether the following features of Animal W is a behavioural or structural adaptation. [1]

	Feature	Adaptation
i)	Fur on soles of feet	
ii)	Large ears	

- b) Animal W runs in a zigzag style using its long, hind legs. How do these behavioural and structural adaptations help it escape from its predators? [2]

- c) Animal W comes out only at night to look for food. Explain why. [1]

39. Ellen wanted to find out the effects of varying amounts of toxic waste on aquatic organisms in a river. She used 30 fish taken from a river in each set-up and varied the amount of insecticide and conducted an experiment. She tabulated her results in a table as shown below.

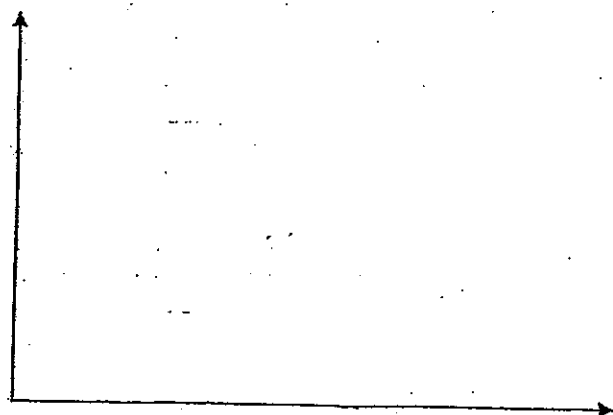
Set-up	Amount of insecticide per litre of river water (g)	Number of fish alive
A	0	30
B	5	20
C	10	10
D	15	0

- a) How does having 30 fish instead of 3 fish improve the accuracy and reliability of the experiment? [1]

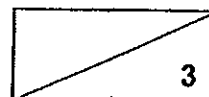
- b) Why is it not necessary to test 20g of insecticide per litre of water? [1]

- c) Plot a line graph to show the relationship between the amount of insecticide in the water and the number of fish alive. Label the axes and specify any units where possible. [1]

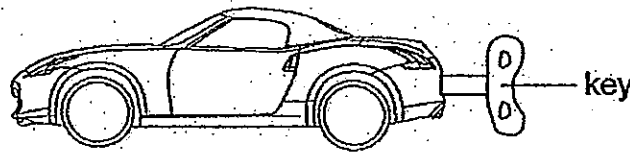
No. of fish alive



Amount of insecticide in water (g)



40. Catherine just bought a wound-up toy car as shown below. She gave the toy car several turns on its key and noted down the distance it moved. She tabulated the results in the table below.



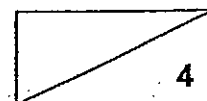
Number of turns given to toy car	Distance moved by toy car (cm)
2	5
4	10
6	15
8	20

- a) Write out the main energy conversion in the toy car from the time Catherine winds the key to the time the toy car stopped moving. [1]

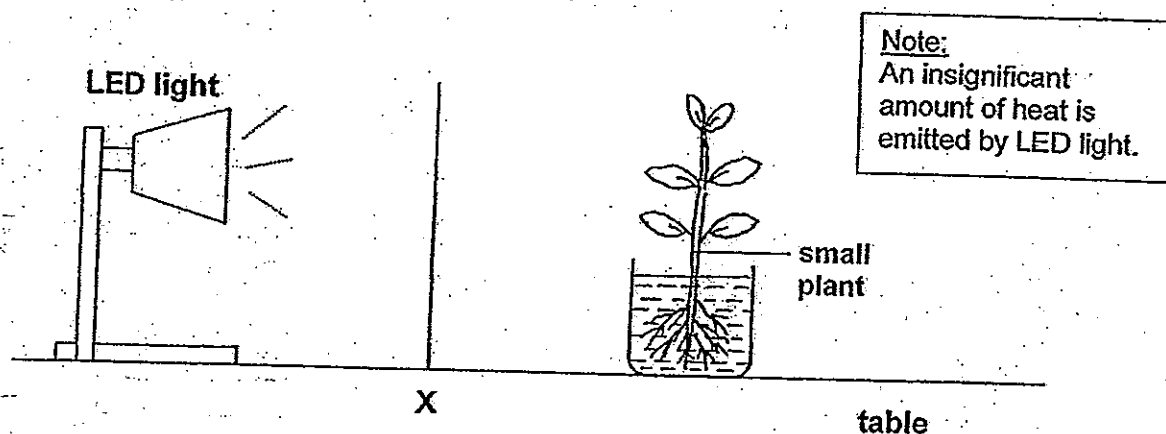
- b) When does the toy car have the greatest potential energy? [1]

41. Katie is an avid camper. Each time she goes on a camping trip, she always packs 2 sleeping bags; one is filled with feathers while the other is not.

When the night gets very cold, Katie sleeps in her sleeping bag which is filled with feathers. Explain her choice. [2]



42. Dennis carried out the experiment as shown below. He placed different numbers of papers at position X. He noted the amount of water taken in by the plant for the different number of papers placed at position X.



The table below reflects the results from Dennis' experiment. However, it is missing some data.

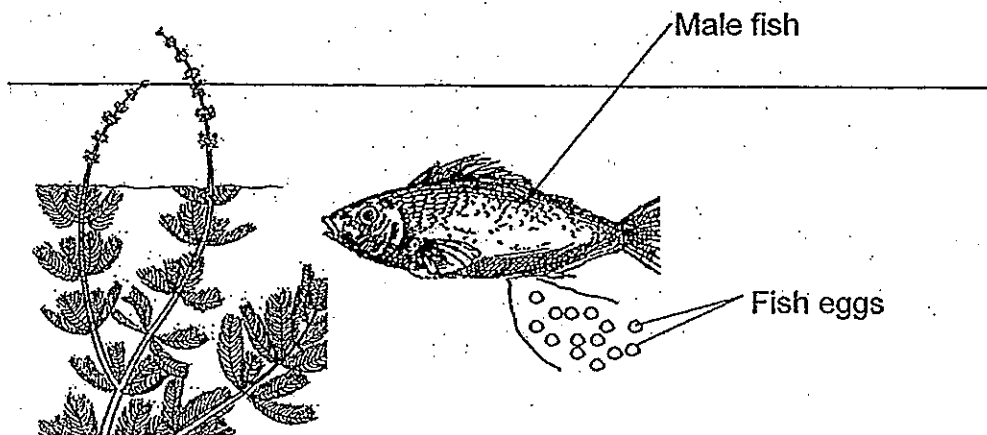
Number of papers	Amount of water taken in (ml)
0	10
2	8
4	
	4
8	2

a) Fill in the missing data in the above table. [1]

b) What is a possible aim in Dennis' experiment? [1]

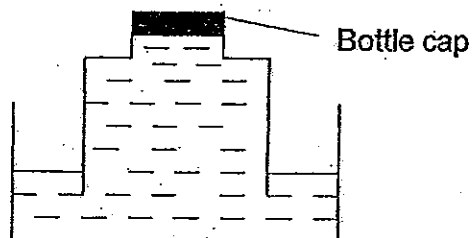
c) Explain why less water was taken in by the plants as the number of papers increased. [1]

43. The male fish fertilises the eggs while swimming above the eggs as shown below.

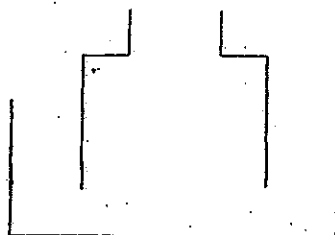


Explain how this method of fertilising the eggs benefits the species of fish when the female fish lays hundreds of eggs at a time? [2]

44. The diagram shows a capped bottle with its end open in a trough of water. Water was filled to the brim of the bottle.

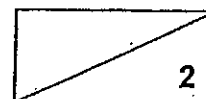


- a) Draw the water level in the bottle and trough after the bottle cap is removed. [1]



- b) Explain your answer in part (a). (Do not use 'pressure' to explain.) [1]

End of Booklet B



Answer Key

EXAM PAPER 2013

SCHOOL : SCGS

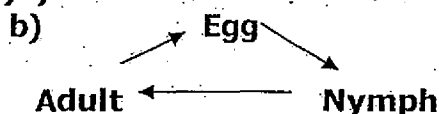
SUBJECT : PRIMARY 6 SCIENCE

TERM : PRELIMINARY

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

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

31)a)Animal X does moult while Animal Y moults.



c)A grasshopper has wings while Animal Z does not have wings, thus, they have different characteristics, so it is not possible to place 'grasshopper' for Animal Z.

32)a)The amount of material submerged under water and the thickness of each material.

b)Material A. A kitchen towel needs to be absorbent and Material A is the most absorbent out of the four material, thus, it is most suitable to make a kitchen towel.

33)a)i)B. B has more roots than A, hence, it has a firmer grip on the ground and there is a lower chance of it toppling.

ii)Roots absorb water and mineral salts from the soil for the plant.

b)Water-carrying tubes. /// Food-carrying tubes

34)a)D. This blood has passed through the heart and over parts of the body.

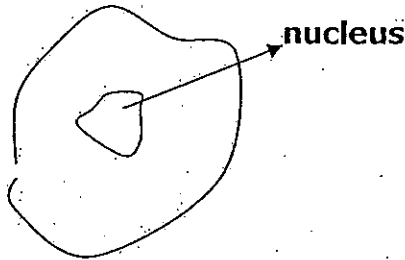
- b)Increase
- Decrease
- Increase
- Increase

35)a)A: Cell membrane allowed water to enter the cell, so, the cell swelled up.

B: Liquid S has a lower concentration of water than the inside of the cell causing water molecules to exit the cell and cause it to shrink.

b)The cell-membrane.

c)



36)a)Magnetic force and gravitational force.

b)Frictional force.

c)The sponges that have absorbed the water became very heavy, increasing the gravitational pull acting on the sponges, this gravitational is greater than the magnetic force present causing part B to fall off.

37)a)Force R.

b)Force S.

c)The sailboat will still head towards the shore.

d)Mass of boat. Shape of boat.

38)a)i)Structural ii)Structural

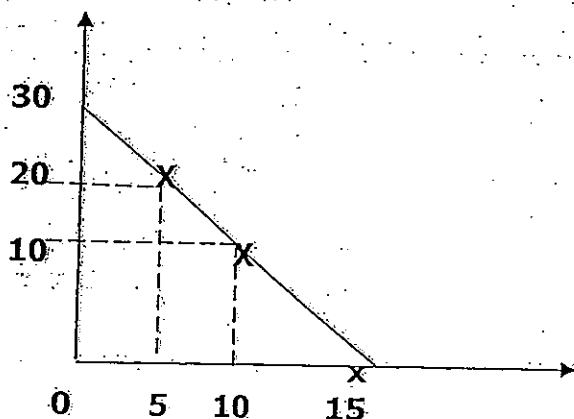
b)Animal W has long hind legs (structural adaptation) to help it run quickly as it allows Animal W to propel itself really far covering a longer distance. When running away from predators. It runs in a zigzag style (behavioural adaptation) to confuse its predator and make it harder to be caught by its predator, thus, helping it escape from its predators.

c)At night, the sun has set so the air is cooler, thus, it only comes out at night to evade the heat. Also at night many of its predator might be asleep, so by doing so, it increases the chances of its survival.

39)a)As using 3 fishes is too small a number to account for all the different fishes' reactions to pesticides in the river while using 30 fishes ensures that the result would be close to an actual situation.

b)When 15g of insecticide per litre of water was tested, all the fish already died, so it is clear and obvious that if 20g of insecticide per litre of water is tested, all the fish will die, thus, it is not necessary to test such.

39)c) No. of fish alive



40)a) Kinetic energy \rightarrow Elastic potential energy \rightarrow kinetic energy \rightarrow Sound + Heat energy.

b) The toy car had the greatest elastic potential energy when 8 turns on its key given to it.

41) Air is an insulator of heat and the presence of feathers traps air causing there to be many air spaces and thus traps heat from Katie's body keeping her warm.

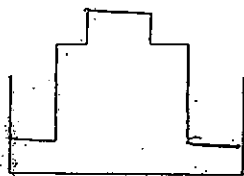
42)a) 6 / 6

b) To test if the amount of light received by the plant would affect the plants rate of photosynthesis by measuring the amount of water absorbed by the plant.

c) As the number of papers increased, more light was blocked, so less light was detected by the plant, so, it photosynthesized at a slower rate, thus, it absorbed and took in less water.

43) It increases the chances of more eggs being fertilised at one time so more eggs will grow into adults and reproduce again, so, it ensure that the species of fish will not become extinct and ensures their survival.

44)a)



b) When the bottle cap was removed, air from the atmosphere rushes into the bottle and water is forced out causing water level in the trough to rise and the level in the bottle to drop till water level in the bottle equals to the level in the trough as the force of air same in the bottle and in the trough.

2014/05/05