SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

PRIMARY SIX PRELIMINARY ASSESSMENT 2017

NAME: _____ ( ) DATE: 25 August 2017

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

Parent's Signature:

_____

SCIENCE

BOOKLET A

28 questions

56 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 II (44 marks)

29. The table below shows the amount of digested food and the presence of digestive juice in each part of the human digestive system, L, M, N, O and K.

Part	Amount of digested food present (units)	Presence of digestive juice
L	2	Yes
M	2	No
N	6	Yes
O	10	Yes
K	0	No

(a) Identify Parts M and N of the human digestive system. (2m)

Part M: _____

Part N: _____

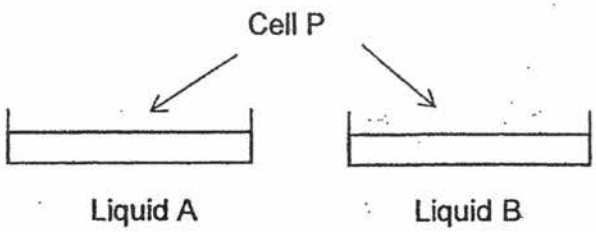
(b) Part K of Victor's digestive system did not function well. What symptom(s) will Victor experience? (1m)

_____

_____

3

30. Judy placed Cell P into 2 containers filled with Liquid A and Liquid B as shown below.



(a) Cell P grew bigger in Liquid A but remained the same in Liquid B.
Which part of the cell allowed Liquid A, but not Liquid B, to enter Cell P? (1m)

_____

(b) Judy observed the cell parts of Cell P under the microscope and concluded that it was an animal cell. What could have led her to this conclusion? (1m)

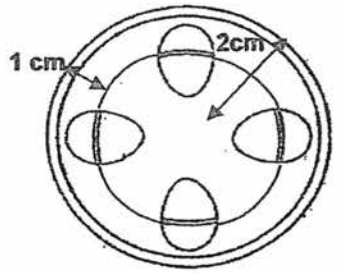
_____

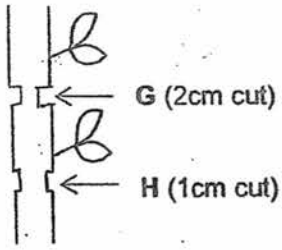
_____

2

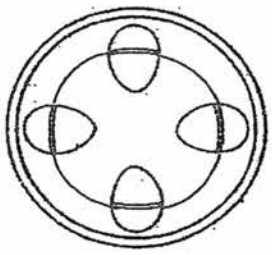
31. Uncle James cut the stem of a plant and found out the location of the water-carrying and food-carrying tubes as shown below.

He then made a cut of 2 cm at Point G and 1 cm at Point H separately as shown below.

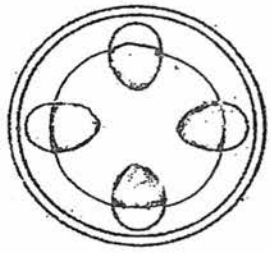




(a) Uncle James then placed the plant in a beaker of red solution for 3 days and cut the stem above G and above H. Shade the diagram/s to show how the stem will look like. (2m)

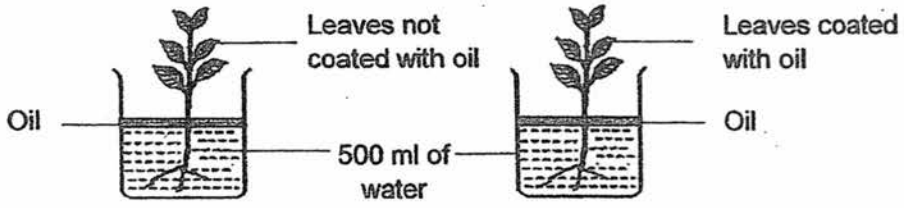


Part of stem above G



Part of stem above H

(b) Uncle James then placed 2 identical plants, K and L, into identical beakers filled with 500ml of water. He coated the leaves of plant L with oil. He then left the beakers near an open window for 4 days.



Plant K Plant L

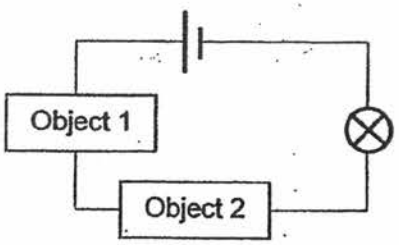
After 4 days, he observed that there was only 480ml of water left in the beaker with Plant K. Explain why the water in the beaker with Plant L remained at 500ml. (2m)

_____

_____

4

32. Corrie wanted to find out if objects A, B, C, D, E and F were conductors of electricity. She set up the circuit as shown below and recorded her results as shown below.



Object 1	Object 2	Did the bulb light up?
A	B	Yes
C	D	No
E	F	No
A	C	Yes
B	E	No
D	F	No

(a) Based on the results above, which of the objects can definitely conduct electricity? (2m)

_____

_____

(b) Which object was Corrie unable to determine if it conducts electricity? (1m)

Object _____

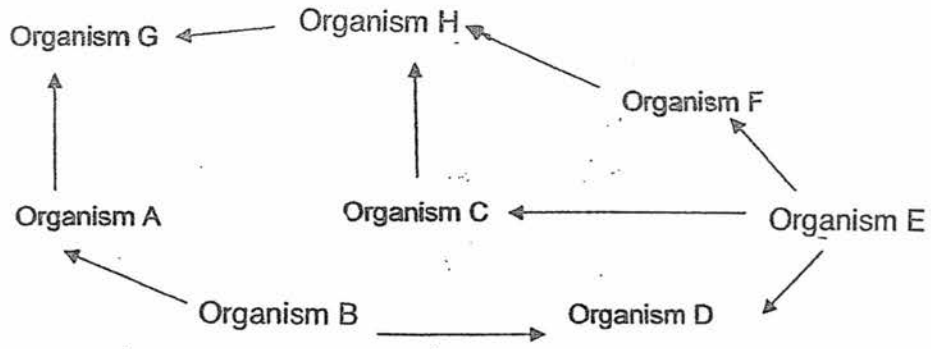
(c) Describe what Corrie could do to find out if the object in (b) conducts electricity. (2m)

_____

_____

/5

33. The diagram below shows a food web in the forest.



Based on the food web above, answer the following questions.

(a) State the organism/s which is/are <u>both</u> prey and predator. (1m)

_____

(b) Based on the food web above, draw a 4-organisms food chain. (1m)

_____

(c) Based on the food web above, state the organism that would most likely have the largest population. (1m)

Organism with the largest population: _____

(d) Predict what would happen, by putting a (✓) in the table below, to the population of Organism E and Organism F when Organism B is wiped out. (1m)

	Increase	Decrease	No change
Organism E			
Organism F			

4

34. Victoria learnt about animal adaptations which help them in their survival.

Organism G

(a) Put a tick (✓) in the correct columns. (1m)

Characteristics of Organism G	Structural Adaptation	Behavioural Adaptation
Stripes on its body		
Gathering closely together all the time		

(b) Victoria was given another organism, Organism H, as shown below. Organism H is a herbivore and can usually be found near tree branches.

Besides getting food, explain why Organism H is usually found near tree branches. (1m)

_____

_____

2

35. David tried to push 2 identical boxes, F and G. Box F is filled with 10kg of rice while Box G is filled with 10kg of sand. He then attached wheels on Box G before carrying out the experiment.

(a) David found out that he used less effort to push Box G. Explain why it was so. (1m)

_____

_____

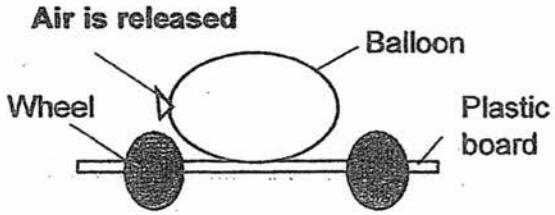
(b) Explain why David still conducted a fair test even when he used different materials to fill the boxes. (2m)

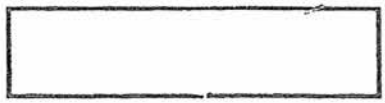
_____

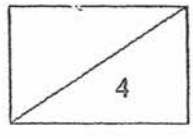
_____

(c) David tried making a moveable toy car using a balloon glued to a plastic board as shown below.

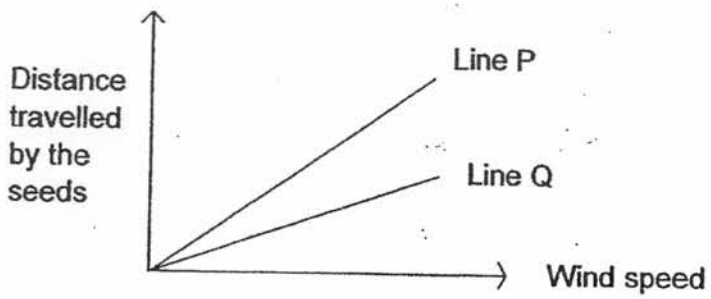
Draw an arrow in the boxes below to indicate which direction the toy car would most likely move when air is released. (1m)

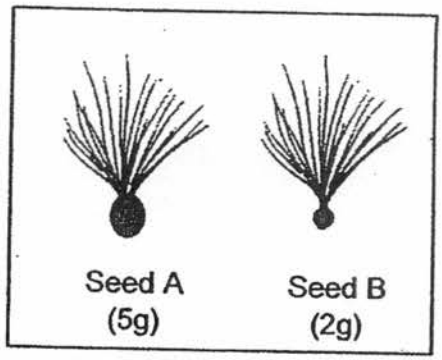






36. Study the graph and the 2 seeds below.





(a) Based on the graph above, match the seeds to the 2 lines on the graph. (1m)

Seed A: Line _____ Seed B: Line _____

Explain your answer. (1m)

_____

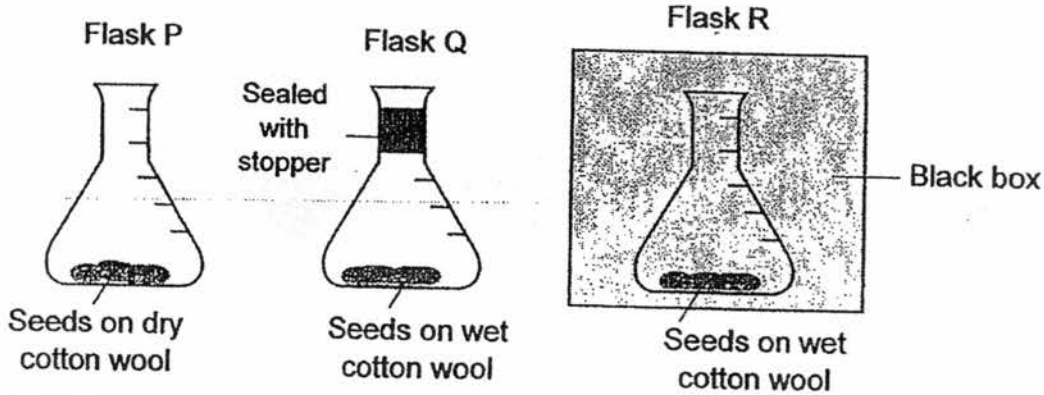
_____

(b) Explain what will happen to the seeds if there is no wind in the area over an extended period of time. (1m)

_____

_____

(c) The diagram below shows 3 similar seeds placed in beakers of different conditions.



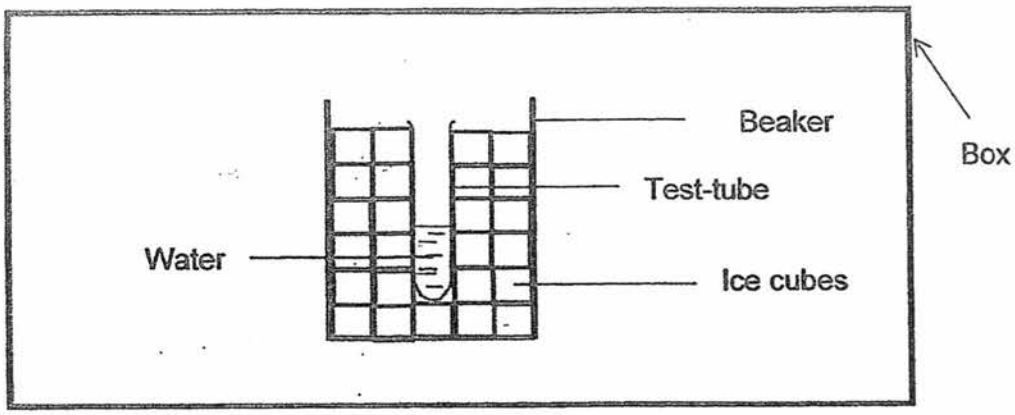
Which flask/s contain/s seeds that will germinate? Explain why. (2m)

_____

_____

_ / 5

37. Peter set up the experiment below in a box (at 25°C) and observed it for 30 minutes.



(a) Peter made a few statements about his observations.

Put a tick (✓) in the correct column. (2m)

Statements	True	False	Not possible to tell
Temperature of the ice cubes increased as they melted.			
Water in the test-tube lost heat to the ice cubes.			
The ice cubes gained heat from the surroundings.			
The ice cubes would melt faster if there were fewer ice cubes.			

(b) Predict the temperature of the air in the box as the ice cubes are melting.

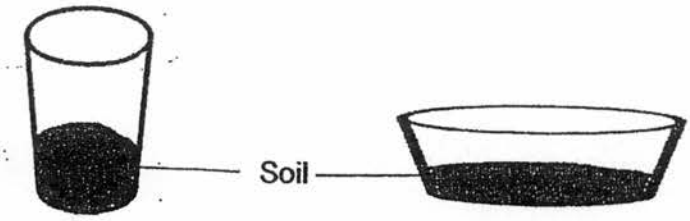
Give a reason for your answer. (1m)

_____

_____

3

38. Aunty Lydia bought some plants to make a mini garden in her home. She bought 2 different types of glass containers and added the same amount of soil and plants into each container.



Container X Container Y

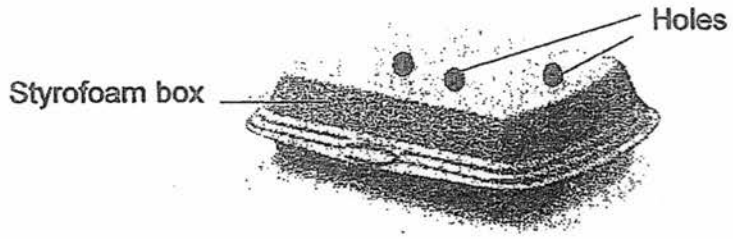
Which of the glass containers should Aunty Lydia choose if she does not want to water the plants often? Explain your answer. (2m)

_____

_____

2

39. Qin Pei bought a packet of hot fried crispy chicken wings and noticed that the food seller made a few holes randomly on the Styrofoam box before giving it to her.



Explain how making a few holes on the Styrofoam box would allow the fried chicken wings to stay crispy for a longer time. (2m)

_____

_____

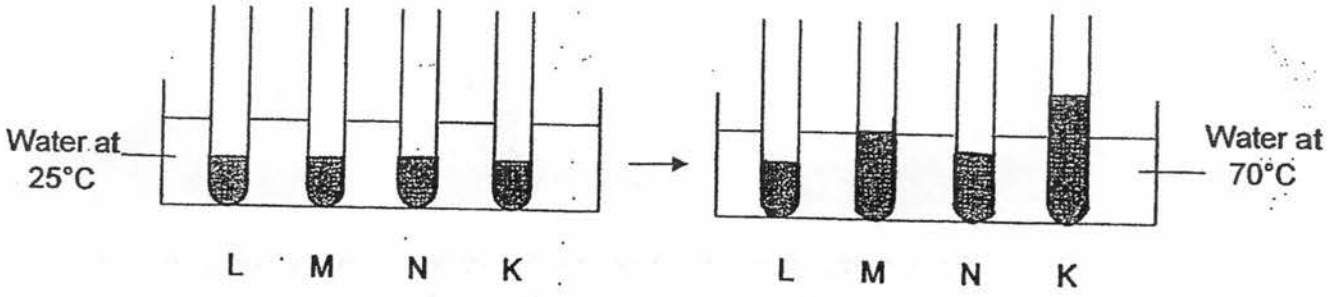
40. After learning about deforestation in class, Gabriel believes that it will slow down the water cycle. Do you agree with Gabriel? Explain your answer. (2m)

_____

_____

4

41. Benedict placed 4 different liquids, L, M, N and K, into 4 identical test-tubes. The test-tubes were then placed into a basin of hot water at 70°C, as shown in the diagram below.



(a) Based on the results above, what can Benedict conclude about the liquids? (1m)

_____

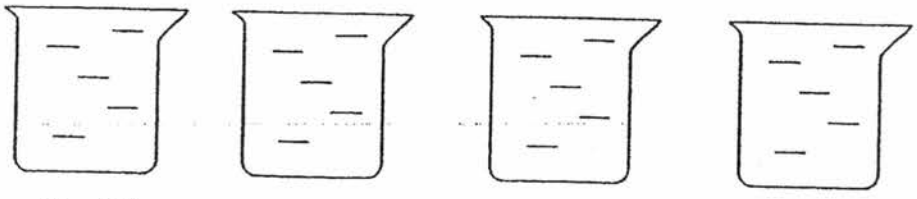
_____

(b) Benedict cooled the 4 liquids by placing them into a basin of cold water at 2°C. What would he observe? Explain your answer. (1m)

_____

_____

(c) At 25°C, identical containers were filled to the brim with Liquids L, M, N and K as shown below. The containers were heated to 70°C and then cooled to 25°C.

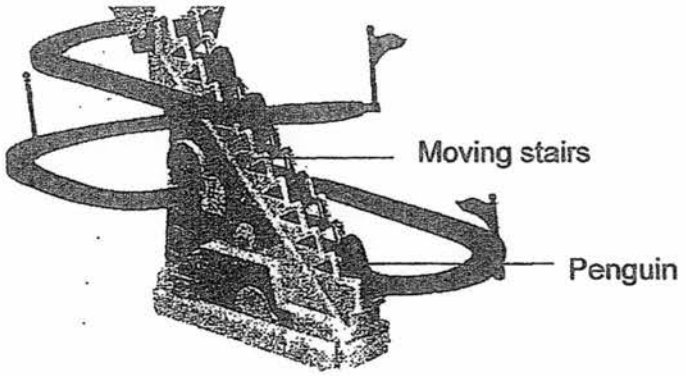


Which container would have the least liquid left after the containers were cooled to 25°C? (1m)

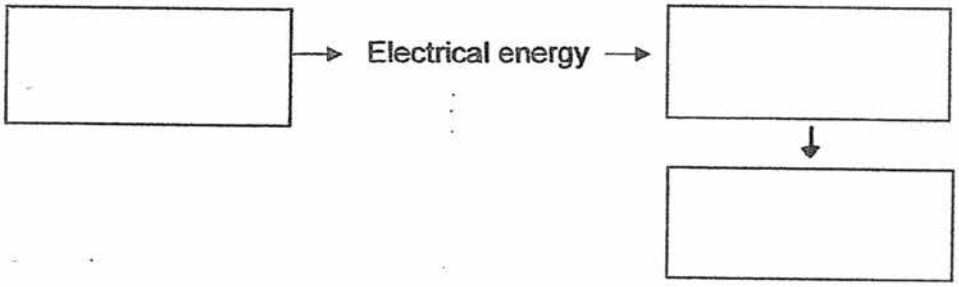
_____

3

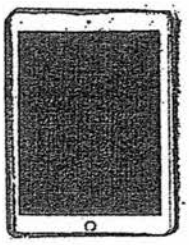
42. The diagram below shows Nelly's favourite toy. The penguins are able to move to the top and slide down on their own after Nelly switches on the toy that is battery-operated.

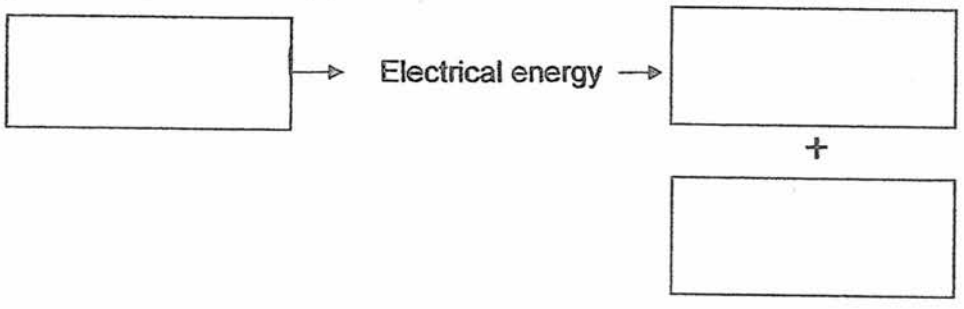


(a) State the useful energy conversions as the penguins move up the stairs. (1.5m)



(b) Nelly uses the tablet below to watch videos. State the useful energy conversions involved when the tablet is switched on. (1.5m)





3

End of booklet B
Please check your work.

YEAR : 2017
LEVEL : PRIMARY 6
SCHOOL : : SINGAPORE CHINESE GIRLS'
SUBJECT : : SCIENCE
TERM : PRELIMINARY EXAMINATION

Booklet A

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

Booklet B

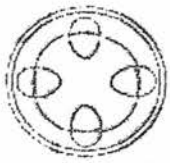
Q29 (a) Part M : Gullet
Part N : Stomach

(b) Victor will have watery stools.

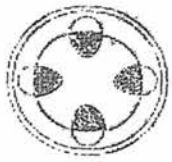
Q30 (a) Cell membrane

(b) The cell would have nucleus, cytoplasm, cell membrane and no cell wall.

Q31 (a)



Part of stem above G



Part of stem above H

(b) The leaves of Plant L were coated with oil.
Water vapour cannot be released.

Q32 (a) Objects A, B and C.

(b) Object F

(c) Corrie could use an object that can conduct electricity as object 1 and object F and object 2 and connect only object F to the circuit.

Q33 (a) Organism H

(b) $E \rightarrow C \rightarrow H \rightarrow G$

(c) Organism with the largest population: <u>Organism H</u>

(d)

	Increase	Decrease	No change
Organism E		✔	
Organism F		✔	

Q34 (a)

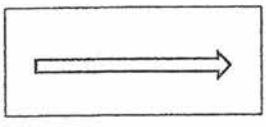
Characteristics of Organism G	Structural Adaptation	Behavioural Adaptation
Stripes on its body	✔	
Gathering closely together all the time		✔

(b) Organism H can camouflage itself on the tree branches and is not easily spotted by its predator.

Q35 (a) The wheels on Box G reduces the amount of frictional force and allows Box G and the ground to have less contact with the floor.

(b) David filled both boxes with the same weight and the type of material does not matter.

(c)



SCGS prelims

Q36 (a) Seed A : Line Q Seed B : Line P

Seed B is lighter than seed A, allowing it to travel a further distance than seed A.

(b) There will be overcrowding where the young plants will compete for water/sunlight/mineral salts and space.

(c) The seeds in Flask R will germinate as seeds do not need light to germinate/it still has air, warmth and water to germinate.
AND
The seeds in Flask Q will germinate too as there is air, water and warmth.
OR
Seeds in Flasks Q and R will germinate as they have air, water and warmth.

Q37 (a)

True	False
	✓
✓	
✓	
✓	

(b) Any temperatures from 0-25°C.
AND
The air in the box lost heat to the ice cubes.

Q38 Container X. It has a smaller exposed surface area so water from the plants will evaporate slower.

Q39 The warmer water vapour in the air trapped in the Styrofoam box will condense on the cooler inner surface of the box.

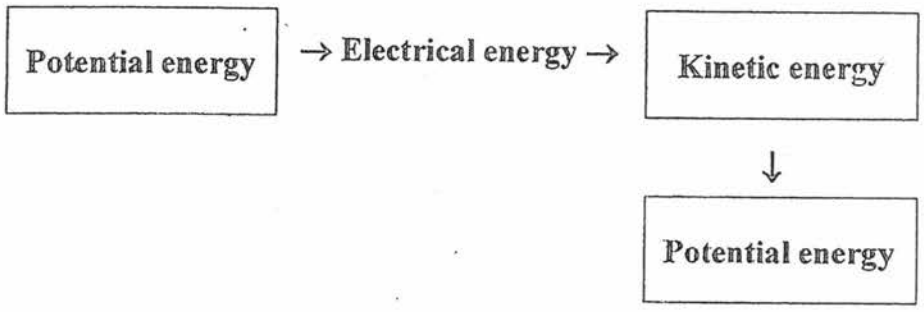
Q40 Yes. Fewer trees will result in less water vapour released into the air by the leaves, hence there is less water vapour, less condensation will take place.

Q41 (a) **All liquids expand upon heating.**

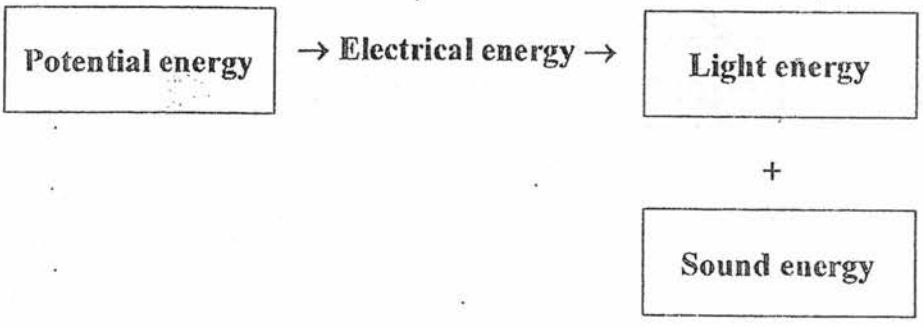
(b) **The four liquids will decrease in height / contract as they lost heat to the cold water / upon cooling.**

(c) **Container with Liquid K.**

Q42 (a)



(b)



End