

SINGAPORE CHINESE GIRLS' SCHOOL  
SECOND SEMESTRAL ASSESSMENT 2013  
PRIMARY 4  
SCIENCE

Name: \_\_\_\_\_ (      )

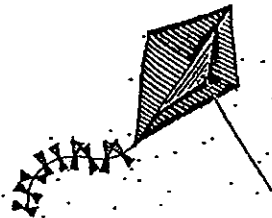
Class: 4 SY / C / G / SE / P

Part I ( 30 x 2 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 one of the following is a living thing?

(1)



(3)



(2)



(4)



2. Iron is used to make nails because iron \_\_\_\_\_.

- (1) is shiny
- (2) is strong
- (3) sinks in water
- (4) conducts heat well

3. The diagram below shows 4 living things.



Which of the following statements are true about the similarities between these living things?

- (A) They have wings.
- (B) They have only two legs.
- (C) They hatch from eggs.
- (D) They feed on insects only.

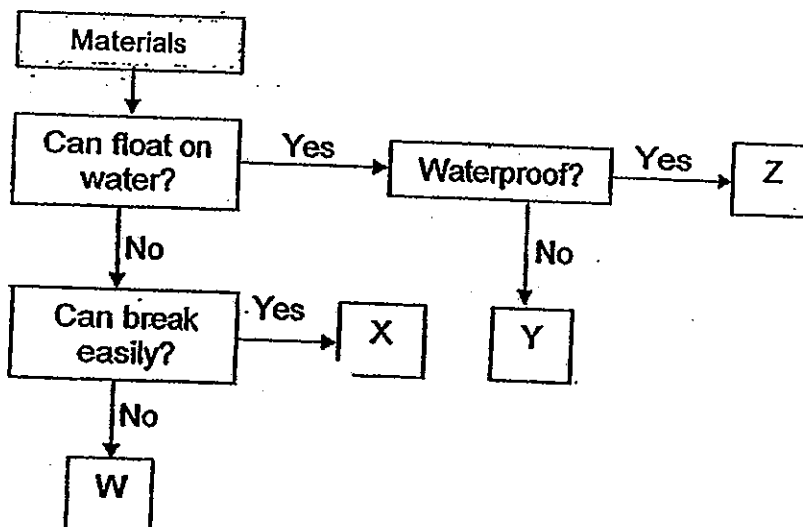
(1) A only

(2) A and C only

(3) B and D only

(4) A, B and C only

4. Study the chart below.



	W	X	Y	Z
(1)	Glass	Steel	Paper	Plastic
(2)	Steel	Glass	Plastic	Paper
(3)	Paper	Plastic	Steel	Glass
(4)	Steel	Glass	Paper	Plastic

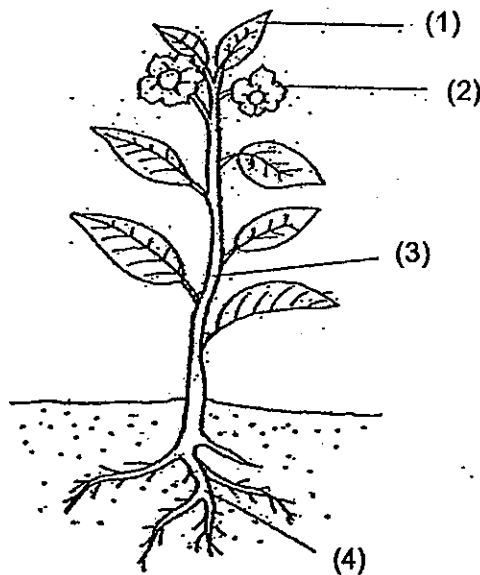
5. What is the main function of the large intestine?

- (1) It removes digested food from the body.
- (2) It allows water to be passed into the blood.
- (3) It removes undigested food out of the body.
- (4) It allows digested food to be passed into the blood.

6. Study the table below. Which of the following is classified correctly?

	Respiratory System	Circulatory System
(1)	Nose	Heart
(2)	Blood vessels	Mouth
(3)	Lungs	Windpipe
(4)	Gullet	Blood vessels

7. The diagram shows a plant. Which part, (1), (2), (3) or (4), is the stem?



8. Josh and Tim were asked to describe the function of a part of a plant. The following are their statements.

Josh: It helps the plant to transport water.

Tim: It helps the plant to obtain sufficient light.

Which of the following part is Josh and Tim referring to?

- (1) leaf
- (2) stem
- (3) roots
- (4) flower.

9. Digestion of food takes place in the \_\_\_\_\_.

- (A) gullet
- (B) mouth

- (C) stomach
- (D) small intestine

- (1) C only
- (2) B and C only

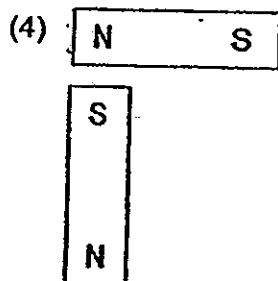
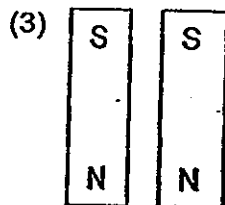
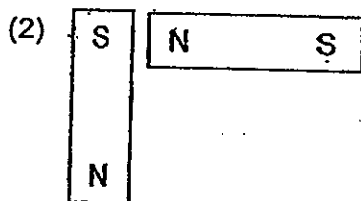
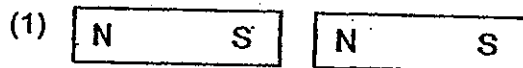
- (3) A, B and C only
- (4) B, C and D only

10. Which one of the following can be attracted by a magnet?-

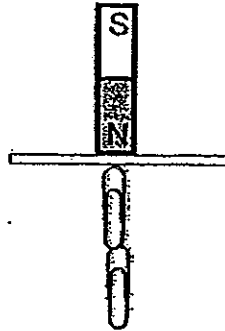
- (1) steel ball
- (2) rubber ball

- (3) plastic ball
- (4) wooden ball

11. In which one of the following will the two magnets push each other away?



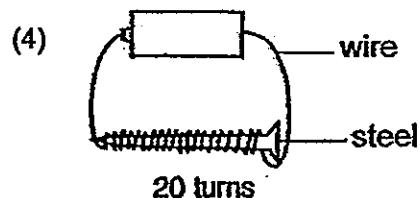
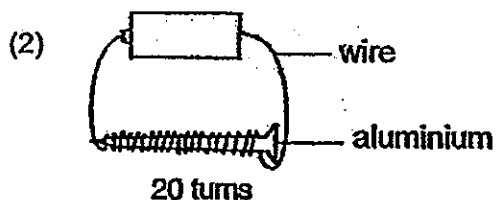
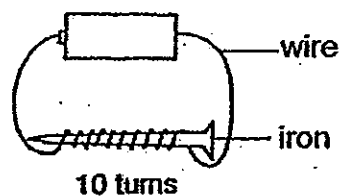
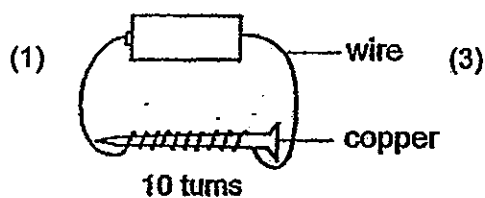
12. Lisa placed a sheet of plastic between 2 paperclips as shown in the diagram below. She kept adding a sheet of plastic between the paperclips and magnet until the paper clips fell off. She repeated the experiment with different types of magnets.



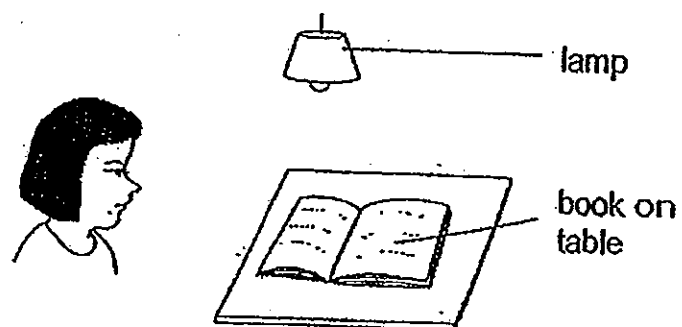
What is the aim of her experiment?

- (1) To find out the strength of the magnet.
- (2) To find out if plastic can be magnetised.
- (3) To find out whether the paper clips are magnetic.
- (4) To find out if magnetism can pass through a non-magnetic material.

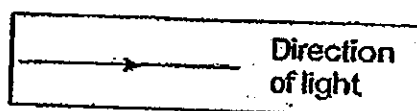
13. Which of the following electromagnets will be able to pick up the most paper clips?



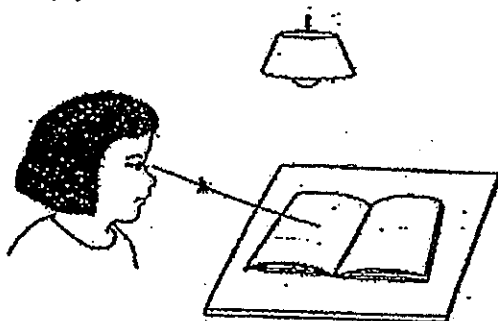
14. Look at the picture below.



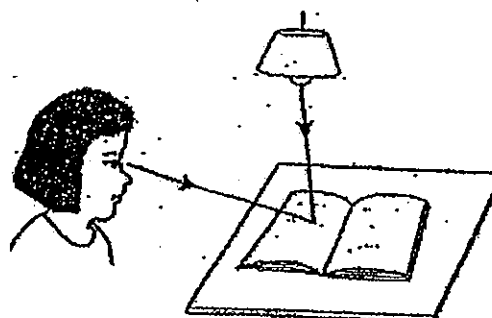
Which one of the following explains why Sally can see the book on the table?



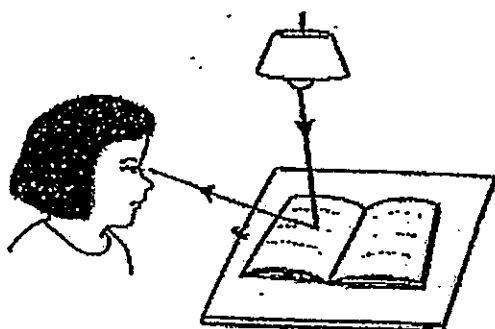
(1)



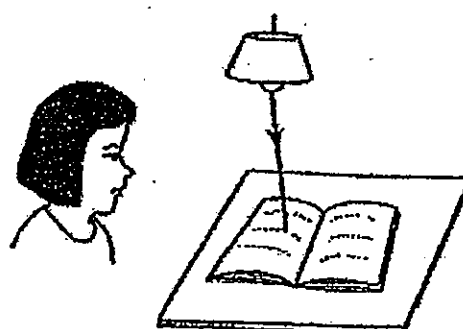
(3)



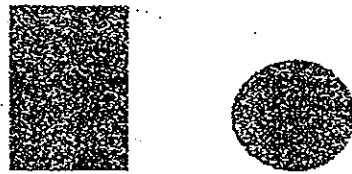
(2)



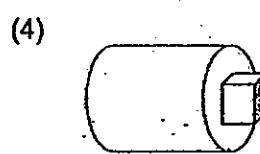
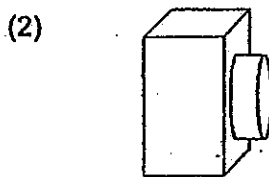
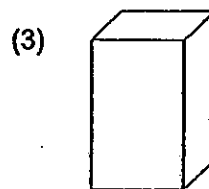
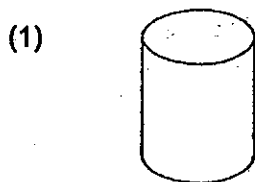
(4)



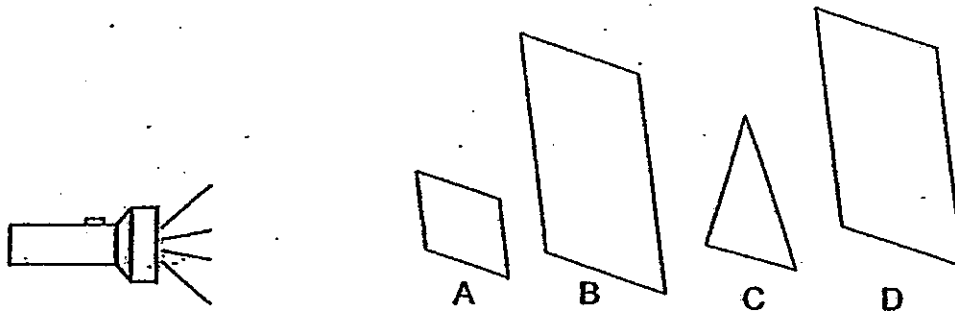
15. An object casts 2 different shadows when light was shone on it from 2 different angles.



Which of the following objects could have cast the 2 shadows shown above?



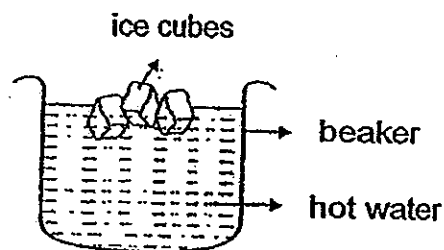
16. Kelly arranged 4 sheets of different shapes in a straight line and shone a torch light as shown in the setup below. A dark triangular shadow was formed on Sheet D.



Which of the following most likely describe the degree of transparency of the 4 different sheets?

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

17. Mabel placed a few ice cubes into a glass of water as shown below.



Which one of the following is correct?

- (1) The ice cubes do not gain or lose heat.
- (2) The ice cubes lose heat to the hot water.
- (3) The hot water loses heat to the ice cubes.
- (4) The hot water gains heat from the ice cubes.

18. The table below shows 3 thermometers.

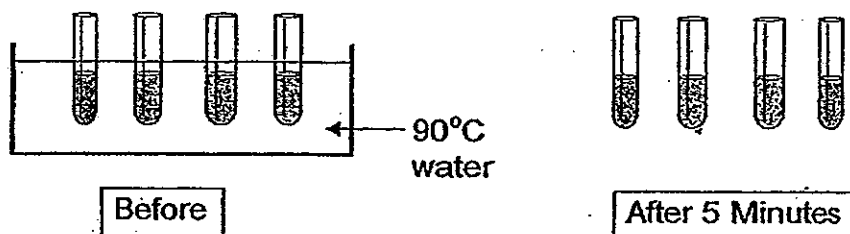
Thermometer X	Thermometer Y	Thermometer Z
Temperature range 25°C to 45°C	Temperature range 50°C to 100°C	Temperature range -10°C to 120°C

In which of the following situations are the thermometers used correctly?

	Measuring body temperature of a baby	Measuring the temperature of boiling water	Measuring the temperature of ice cubes	Measuring the temperature of a room which needs to be at 60°C all the time.
(1)	X	Y	X	Z
(2)	Z	X	Z	Y
(3)	X	Z	Z	Y
(4)	Z	Y	X	Z



19. Josh put 4 test tubes of oil into a basin of hot water at 90°C.



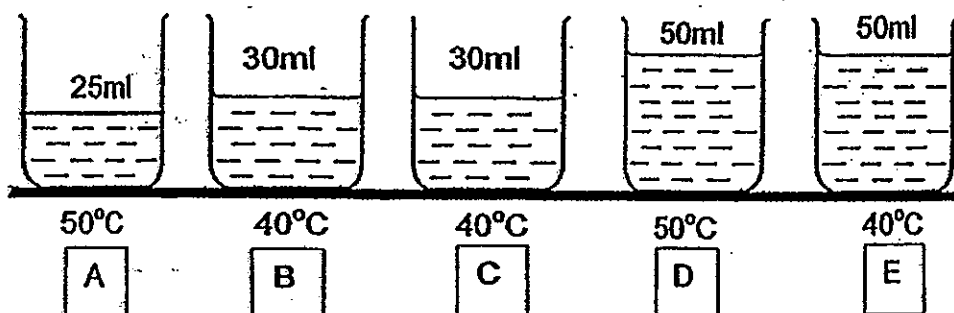
After 5 minutes, he took the test tubes out from the basin of hot water. He measured and recorded the temperature of the oil in each test tube in the table below.

Time (min)	Temperature (°C)			
	Test Tube A	Test Tube B	Test Tube C	Test Tube D
0	35	42	45	60
1	34	39	43	41
2	33	36	40	34
3	30	31	35	29
4	29	29	28	25
5	28	27	25	25

Based on the table above, which test tube contains the oil that is the best conductor of heat?

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

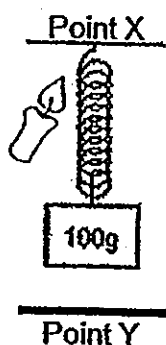
20. Li Ling filled 5 beakers with hot water as shown in the diagram below.



Which of the following beakers of water contain the same amount of heat?

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

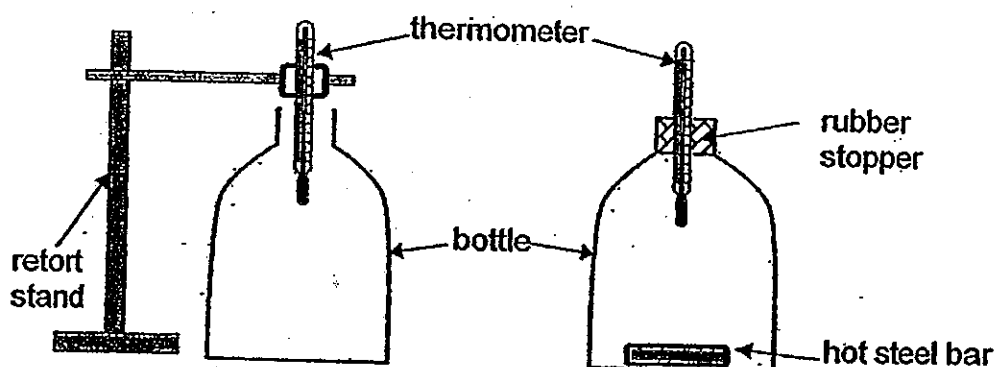
21. Sashi attached a 100-g weight to a steel spring as shown below. He then applied heat to the spring.



What will happen to the spring and 100-g weight respectively while?

	Spring	100-g Weight
(1)	melt and break	move towards point X
(2)	length will increase	move towards point Y
(3)	length will decrease	move towards point X
(4)	length will remain the same	stay at the original position

22. Kay wanted to conduct an experiment on heat. He first measured the temperature of the air inside the bottle. Next, he placed a heated steel bar into the bottle and sealed the bottle with a rubber stopper as shown in the diagram below.

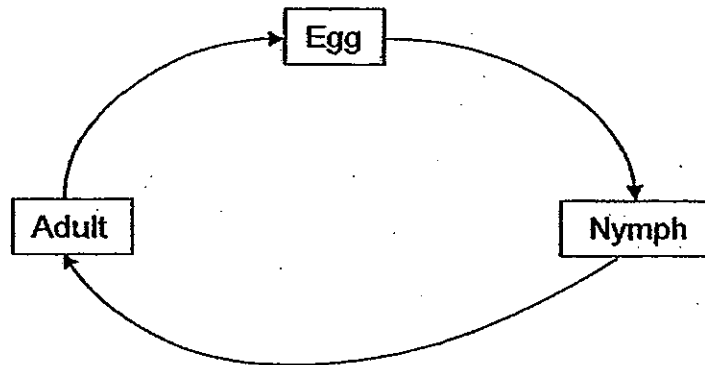


After 3 minutes, Kay observed that the temperature of the air in the bottle has increased.

Which of the following can Kay conclude from his experiment?

- (1) Air is a good conductor of heat.
- (2) Steel is a poor conductor of heat.
- (3) The air in the bottle gained heat from the hot steel bar.
- (4) The air in the bottle gained heat from the surrounding air.

23.



Which animal is likely to have the life cycle as shown above?

- |             |               |
|-------------|---------------|
| (1) beetle  | (3) butterfly |
| (2) chicken | (4) cockroach |

24. Rani made some observations about an animal and wrote it down in her science journal as follows:-

**Animal X lays eggs in water and has 4 stages in its life cycle.**

Rani's friends made the following comments about Animal X:

Ali : Animal X is not a frog.

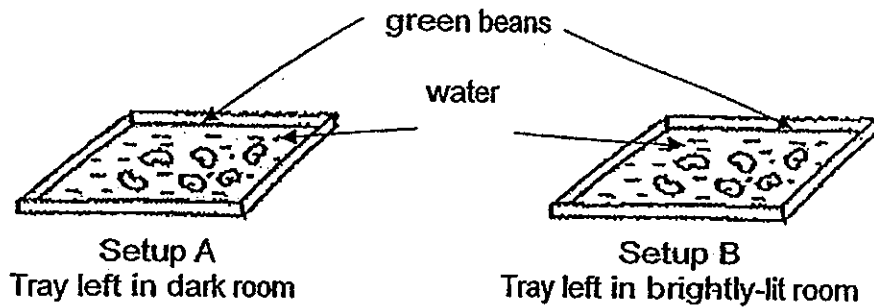
May : The young of Animal X lives in water.

Sean : The young of Animal X does not look like its adult.

Who made the most accurate comment about Animal X?

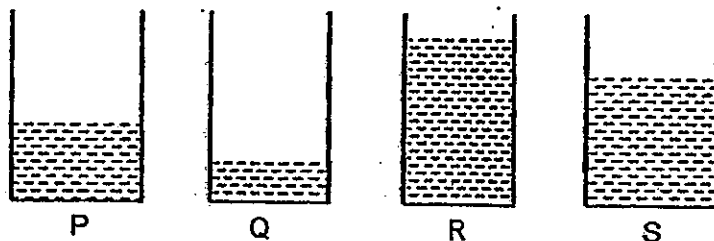
- |                      |                       |
|----------------------|-----------------------|
| (1) Ali only         | (3) May and Sean only |
| (2) Ali and May only | (4) All of them       |

25. An experiment for testing the conditions necessary for germination was conducted as follows:



After 3 days, the beans in both setups germinated. What does this experiment show?

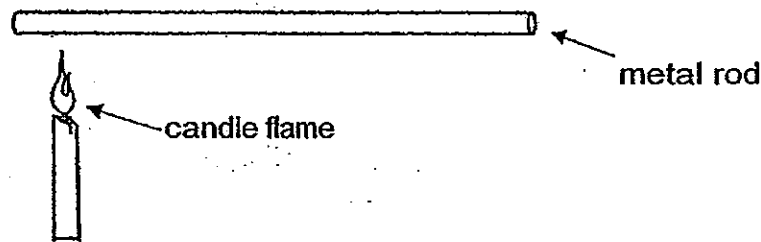
- (1) Light is not needed for germination.
  - (2) Only water is needed for germination.
  - (3) Warmth is not needed for germination.
  - (4) The seed leaves of the green beans provide food for them.
- 26: Which one of the following properties is true for both air and a pencil?
- (1) They can be seen.
  - (2) They take up space.
  - (3) They have fixed shapes.
  - (4) They have fixed volumes.
27. Carmen filled 4 identical beakers with different amounts of water. She then added similar marbles into the beakers until the water overflows.



Which beaker can hold the greatest number of marbles before the water overflows?

- (1) P
- (2) Q
- (3) R
- (4) S

28.

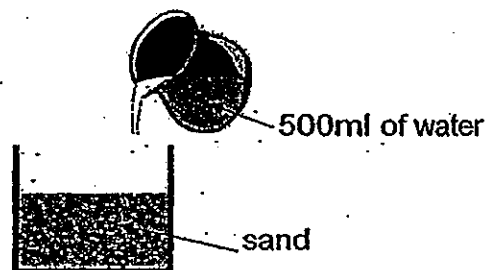


What will happen to the metal rod when it is heated as shown in the diagram above?

- A: It will become longer.
- B: It will become heavier.
- C: It will become narrower.

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

29.



When 500ml of water is poured into a container filled with sand, bubbles can be seen at the surface of the sand. Which of the following is the correct explanation?

- (1) Air is produced when the sand dissolves in the water.
- (2) Air in the sand is pushed to the surface as the water takes its place.
- (3) Air from the surroundings becomes trapped in the sand as the water is poured.
- (4) Air in the water cannot pass through the sand and remains on the surface of the water.

30. In which of the following situations does the process of condensation take place?

- A: Water left in a basin dries up.
- B: A wet towel becomes dry after it is hung outside to dry.
- C: The lenses of spectacles fogging up when drinking hot soup.
- D: Water droplets forming on the inner surface of a cup with hot water.

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

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Name: \_\_\_\_\_ (     )

Date: \_\_\_\_\_

Class: Primary 4 SY/C/G/SE/P

Components	Marks Obtained	Total Possible Marks
Part I		60
Part II		40
Total		100

Parent's Signature: \_\_\_\_\_

**Part II (40 marks)**

Answer all the following questions.

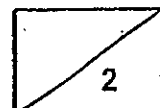
31. Diana observed and grouped some living things as shown in the table below.

G	H
Snail	Tree
Grasshopper	Grass

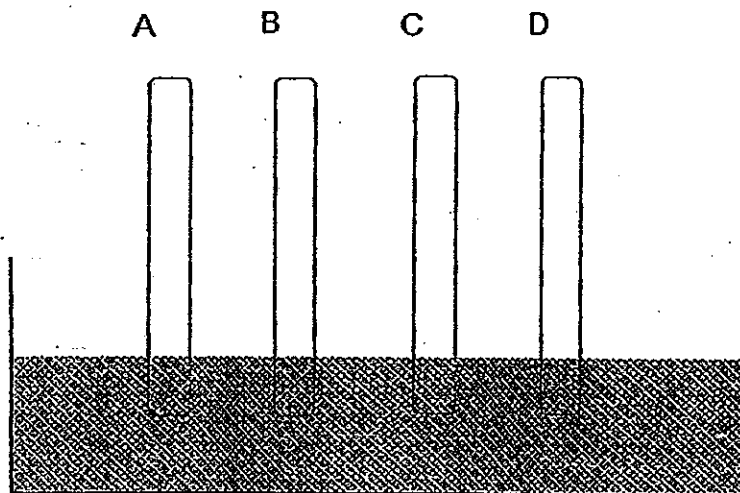
What are suitable headings for G and H?

Group G: \_\_\_\_\_ (1m)

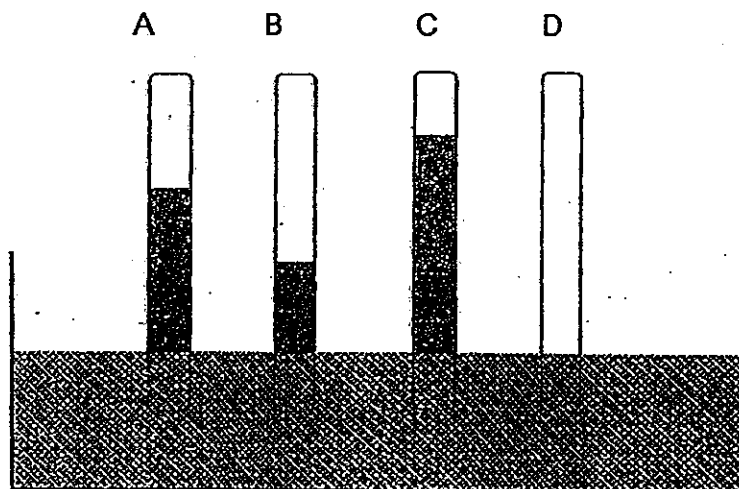
Group H: \_\_\_\_\_ (1m)



32. Simon dipped 4 pieces of cloth made from different materials into a basin half-filled with coloured water as shown in the diagram below.

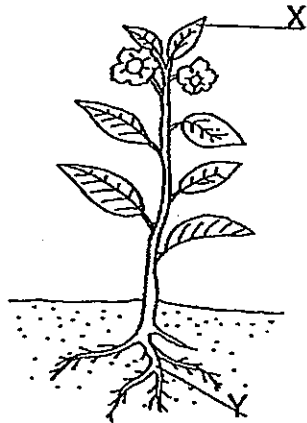


After 40 minutes, Simon observed that some of the pieces of cloth had soaked up some water. The diagram below shows what he had observed.



Based on the Simon's observation, which of the following pieces of cloth is suitable for making a raincoat? Explain your answer. (2m)

33. The diagram shows a plant.



(a) Label plant part X.

X is the \_\_\_\_\_ (1m)

(b) One substance that the roots of the plant take in from the soil is

\_\_\_\_\_ (1m)

34. Classify the parts of the body in the box above into the respective body systems:  
(3m)

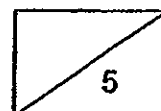
Windpipe	Gullet	Diaphragm	Stomach	Nose	Small Intestine
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Respiratory system

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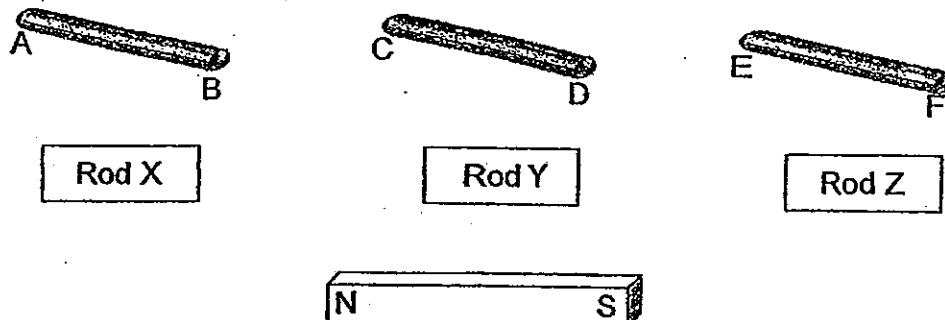
Digestive System

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35. Charlie conducted an experiment using a bar magnet and 3 rods, X, Y and Z.



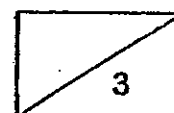
He tested each rod by bringing the bar magnet near each end of the rods. He recorded his observations in the table below.

Rod	Observation
X	A was attracted to the N pole of the magnet but was repelled by the S pole of the magnet.
Y	Both C and D were attracted by both poles of the magnet.
Z	Neither E nor F was attracted to the poles of the magnet.

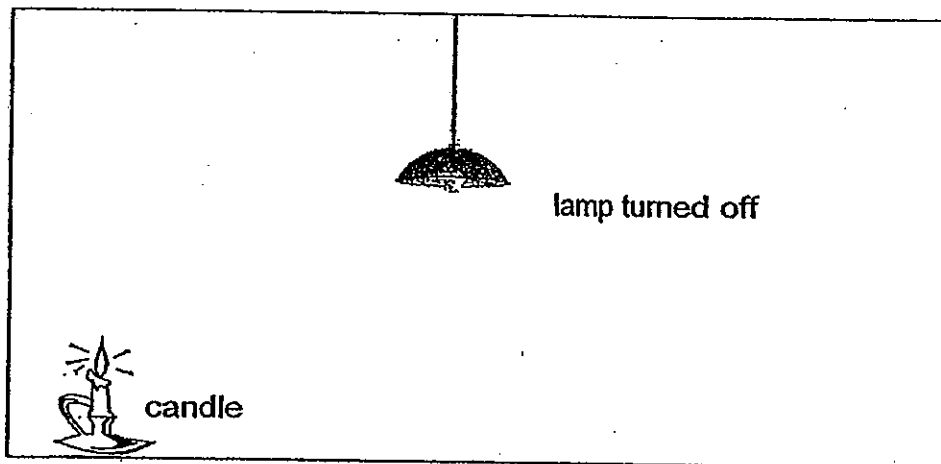
Based on Charlie's observation, identify X, Y and Z by filling in the table with the following: (3m)

Magnet	Non -magnetic material and not a magnet	Magnetic material
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X	Y	Z

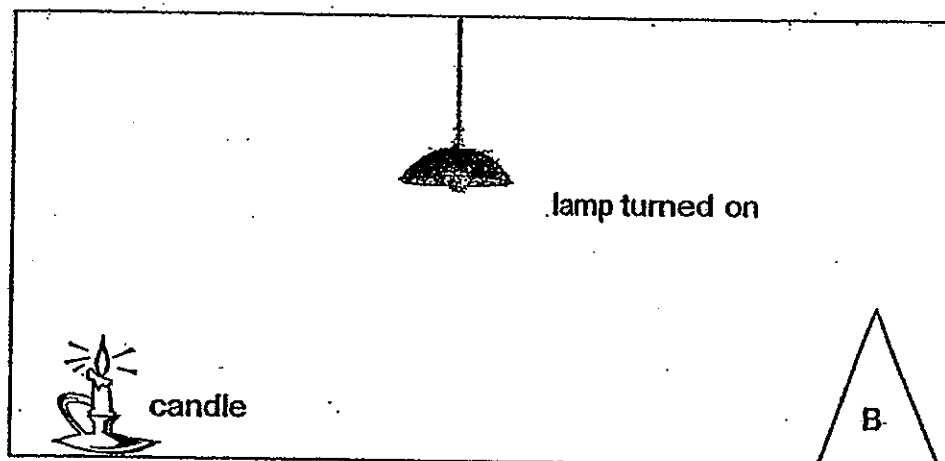


36. Alfred sees only the candle flame at a corner when he enters a completely dark room.

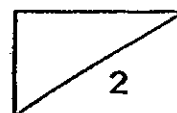


- (a) Alfred can see the candle flame because it \_\_\_\_\_ light. (1m)

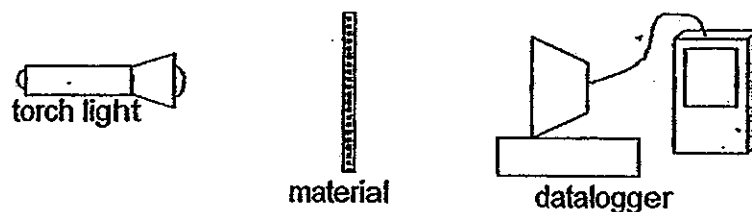
When he turns on the light in the room, he sees both the candle flame and object B in the corner.



- (b) Alfred can see object B because it \_\_\_\_\_ light from the lamp. (1m)



37. Patrick conducted an experiment to find out the amount of light that can pass through 4 different materials. He used a datalogger to help him detect the amount of light. The setup for the experiment was as follows:-



The following table shows his results.

Material	Amount of light detected (lux)
P	410
Q	330
R	180
S	0

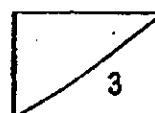
- (a) Based on Patrick's results, which one of the materials will be most suitable to use as a projector screen? Explain your answer. (1m)

\_\_\_\_\_

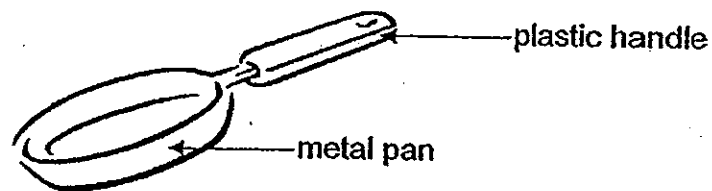
- (b) Besides the torch and datalogger, state 2 variables that have to be kept constant for a fair test. (2m)

(i) \_\_\_\_\_

(ii) \_\_\_\_\_



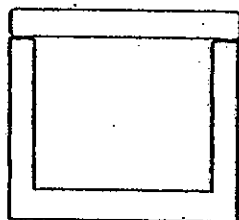
38. The diagram below shows a frying pan.



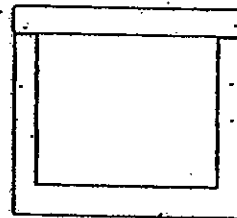
(a) The handle is made of plastic because it is a \_\_\_\_\_ conductor of heat. (1m)

(b) The pan is made of metal because it is a \_\_\_\_\_ conductor of heat. (1m)

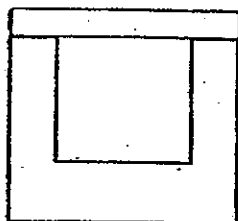
39. Larry conducted an experiment to find out which of the 4 boxes is the best for keeping ice.



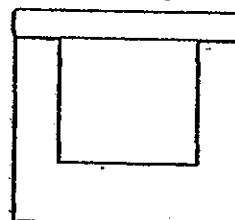
Steel box A



Styrofoam box C



Steel box B



Styrofoam box D

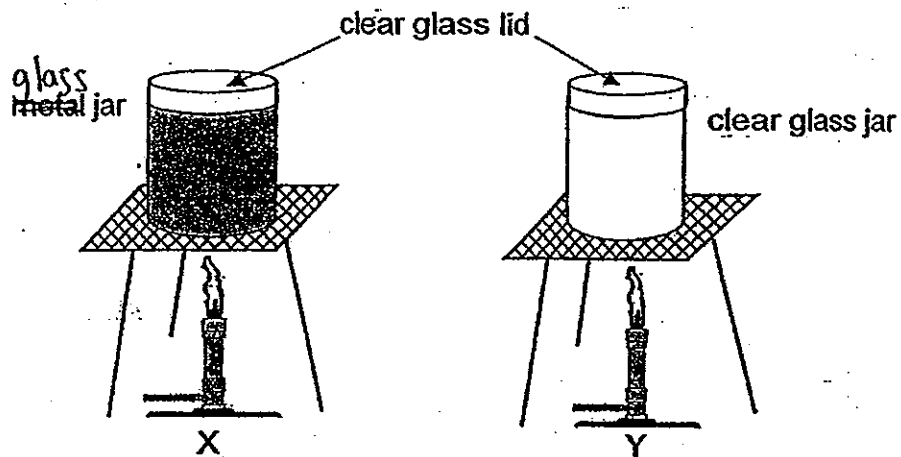
(a) Which box should he use? Explain your answer. (2m)

\_\_\_\_\_

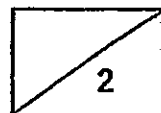
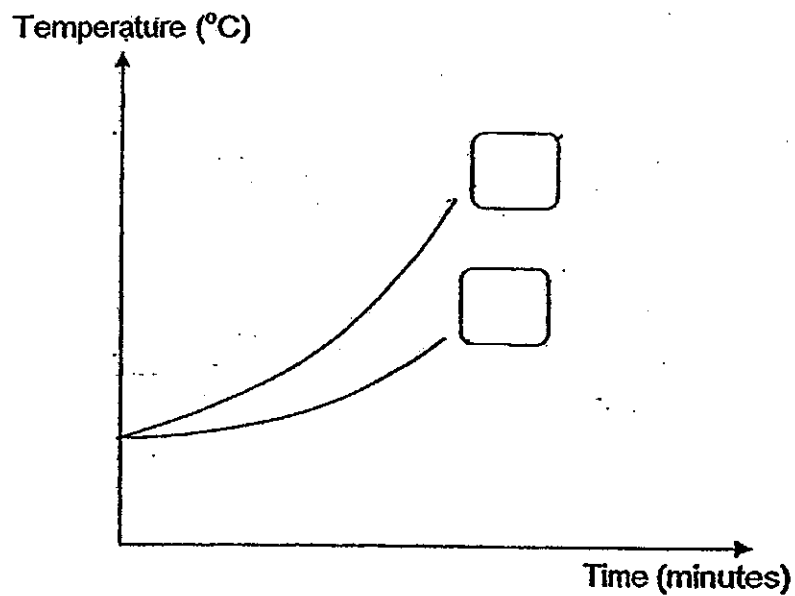
(b) Which box should Larry use if he wants to keep his food warm for a longer time? (1m)

\_\_\_\_\_

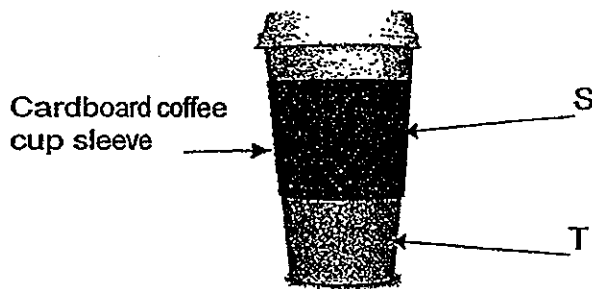
40. Mr. Tan placed two empty similar-sized glass jars over a Bunsen burner flame. He covered the jars with the same covers as shown in the diagram below. After 3 minutes, the air in the jars were heated up.



Write X and Y in the boxes in the graph to indicate which line represents how the temperature of air inside each bottle changes after 3 minutes. (2m)



41. Mrs. Lee ordered a cup of hot coffee and it was served in a paper cup with a cardboard sleeve. She tried holding the cup at 2 positions and found that there was a difference.



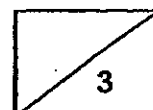
At position T, she felt the heat from the hot coffee but at position S, where the coffee cup sleeve was, she did not feel as much heat. Mrs. Lee then decided to add some ice cubes into her coffee to cool it.

- (a) Put a tick ✓ in the boxes to indicate whether the item **lost** heat or **gain** heat in each of the situation. (2m)

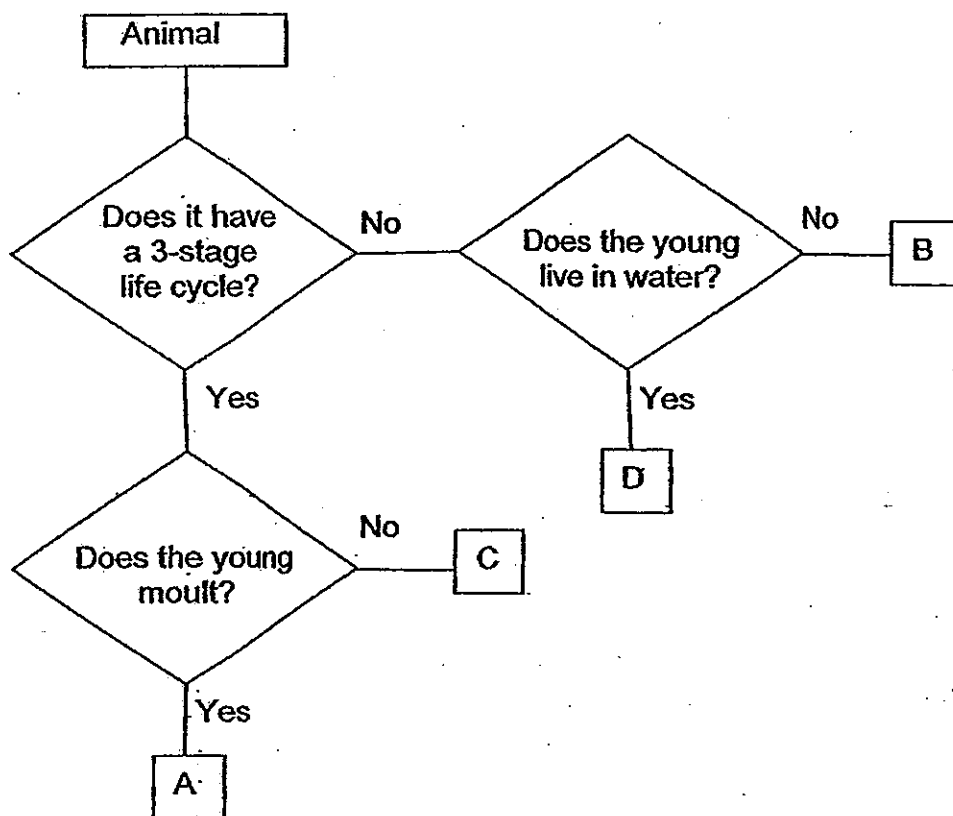
Item	Situation	Gain heat	Lost heat
Coffee cup	Coffee is poured into it		
Mrs Lee's hands	Mrs Lee holds the cup without the sleeve		
Ice cubes	They are put into the coffee		
Coffee	The ice cubes are dropped in		

- (b) After holding the cup of hot coffee with her right hand, Mrs Lee then placed both hands into a basin of water at room temperature. Which of her hands will feel warmer? (1m)

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42. Study the flowchart below.



(a) Which letter A, B, C or D represents the dragonfly? (1m)

(b) State the difference between A and C. (1m)

43. The diagram below shows a bottle of cooking oil.

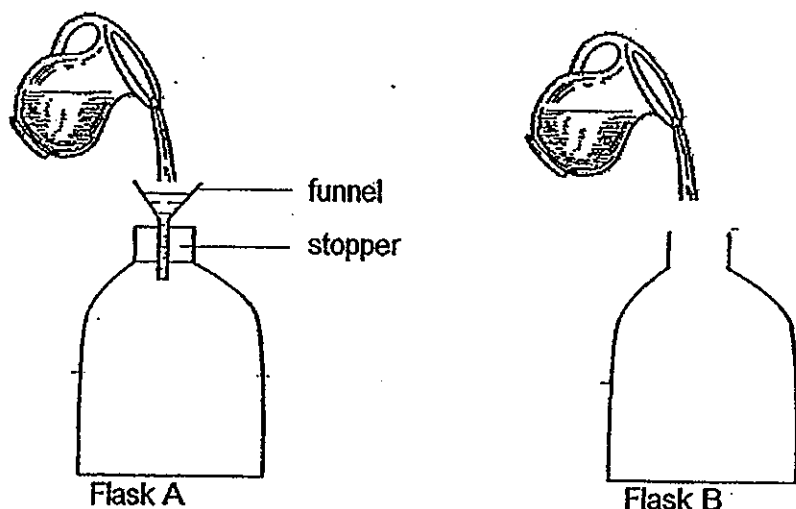


Complete the sentences to state if the parts are solid, liquid or gas.

(a) The cover is a \_\_\_\_\_. (1m)

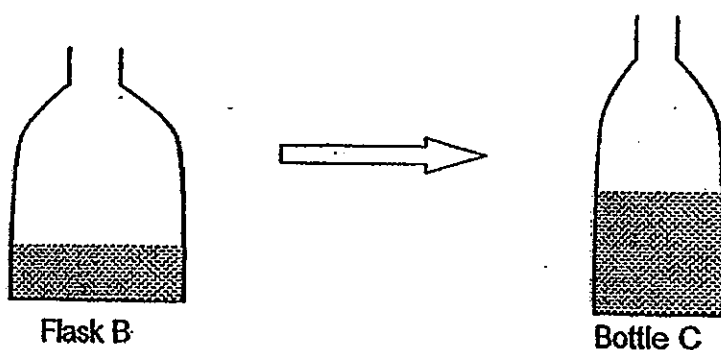
(b) Cooking oil is a \_\_\_\_\_. (1m)

44. Han Ling tried pouring water from a jug into two similar flasks. In Flask A, she placed a funnel at the mouth of the flask and secured it with a stopper as shown below:

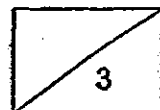


- (a) Han Ling found that after a while, the water can no longer enter Flask A. Explain why this is so. (2m)

After Han Ling had poured all the water from the jug into Flask B, she poured the water from Flask B to Bottle C.



- (b) Has the volume of the water in Flask B increased, decreased or remained the same after it has been poured into Bottle C? (1m)





45. Josh heated a pot containing 300ml of water and it started to boil after 4 minutes. He continued to heat it for another 10 minutes.

(a) Josh measured the amount of water in the pot and there was only 220ml left in the pot. What happened to the rest of the water? (1m)

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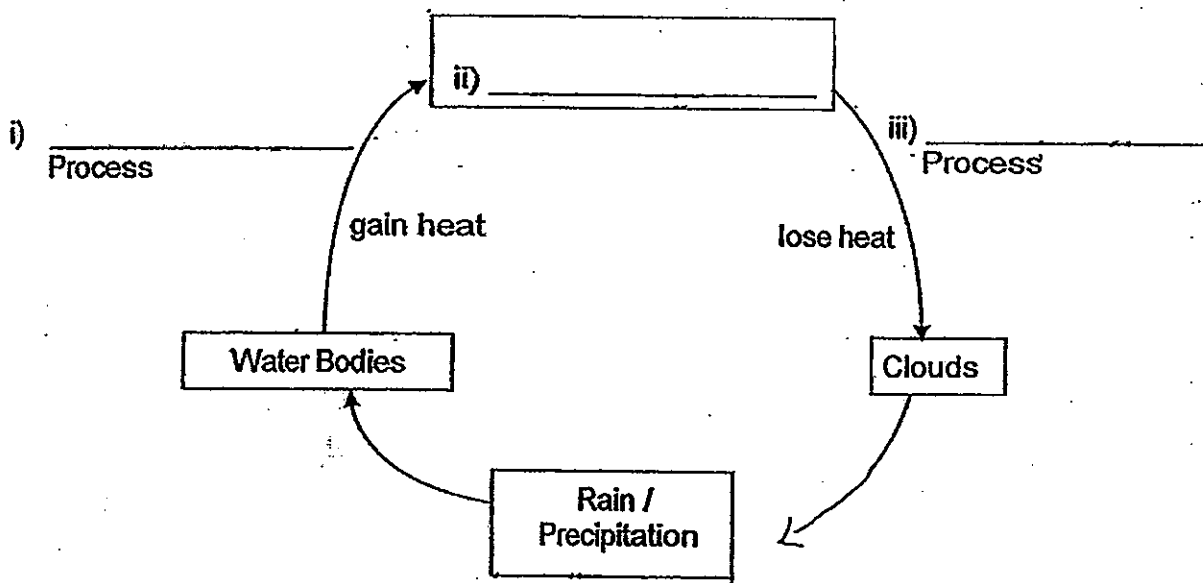
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(b) Josh's mother said more water will be left in the pot if he puts a cover on the pot. How can the cover help? (2m)

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46. Complete the water cycle below. (3m)





# Answer Ke

## EXAM PAPER 2013

**SCHOOL : SINGAPORE CHINESE GIRLS' SCHOOL**

**SUBJECT : PRIMARY 4 SCIENCE**

**TERM : SA2**

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

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

### Section B

Q31) G: Animals

H: Plants

Q32) Material D is suitable to make a raincoat as it is waterproof and does not absorb water.

Q33

a) leaf

b) Mineral salts

Q34)

Respiratory system	Digestive system
Windpipe	Gullet
Diaphragm	Stomach
Nose	Small intestine

Q35)

X	Y	Z
Magnet	Magnetic material only	Non- magnetic material

Q36

- a) gives off
- b) reflects

Q37

- a) Material S. A screen has to be opaque
- b) i) The length of the materials
- ii) Distance between the torch and material

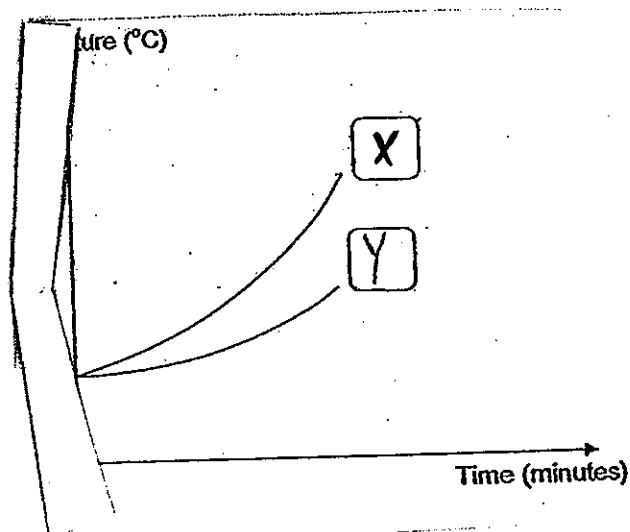
Q38

- a) poor
- b) good

Q39

- a) Styrofoam box D. Styrofoam is the poorest conductor of heat.
- b) Styrofoam box D. It is thicker than box C and styrofoam is a poor conductor of heat.

Q40)



Q41

a)

Item	Situation	Gain heat	Lose heat
Coffee cup	Coffee poured into it	✓	
Mrs Lee's hands	Mrs Lee holds cup without the sleeve	✓	
Ice cubes	They are put into the coffee	✓	
Coffee	The ice cubes dropped in		✓

b) Her left hand

Q42

a) A

b) The young of A moults but the young of C does not moult

Q43

a) solid

b) liquid

Q44

a) The air in Flask A occupies space. The air gets compressed but cannot escape and so the water is unable to enter flask A.

b) Remained the same

Q45

a) The rest of the water evaporated

b) The cover prevents the steam from escaping. Upon reaching the cooler cover, the steam condenses into liquid/water droplets on the cover. The water droplets then drop back into the pot.

