METHODIST GIRLS' SCHOOL
Founded in 1887

END-OF-YEAR EXAMINATION 2015
PRIMARY 4
SCIENCE

BOOKLET A1

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 4. _____

Date : 30 October 2015

This booklet consists of 11 printed pages including this page.

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS).

[30 marks]

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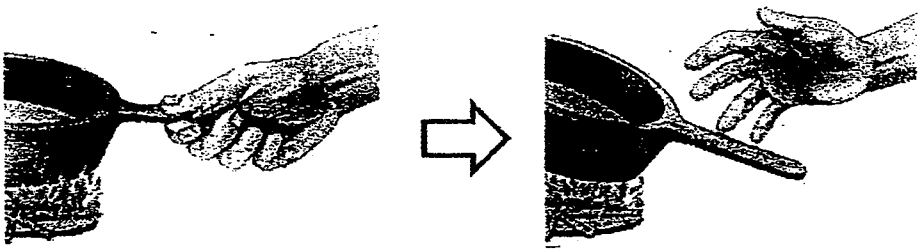
1. Bentley touched the handle of the pot as shown below. He let go of the hot pot immediately after touching it.



This shows that Bentley is a living thing because he can _____.

(1) grow
(2) breathe
(3) respond
(4) reproduce

2. Which one of the following statements is false for **ALL** birds?

(1) They can fly.
(2) They have a beak.
(3) They have feathers.
(4) They have two legs.

3. Samy made the following observations on the life cycle of an animal.

- There are three stages in the life cycle.
- The young does not look like the adult.

Which animal was Samy observing?

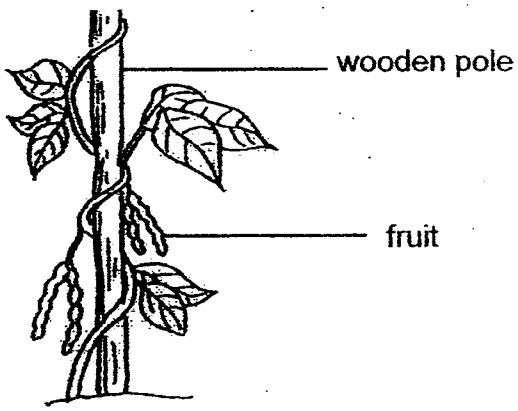
(1) frog
(2) beetle
(3) butterfly
(4) grasshopper

4. Which part of the digestive system does digestion of food begin?

(1) gullet
(2) mouth
(3) small intestine
(4) large intestine

(Go on to the next page)

5. The picture below shows a plant.



Which of the following statement(s) is/are **false**?

A: It has a woody stem.

B: It requires a support.

C: It is a non-flowering plant.

(1) A only

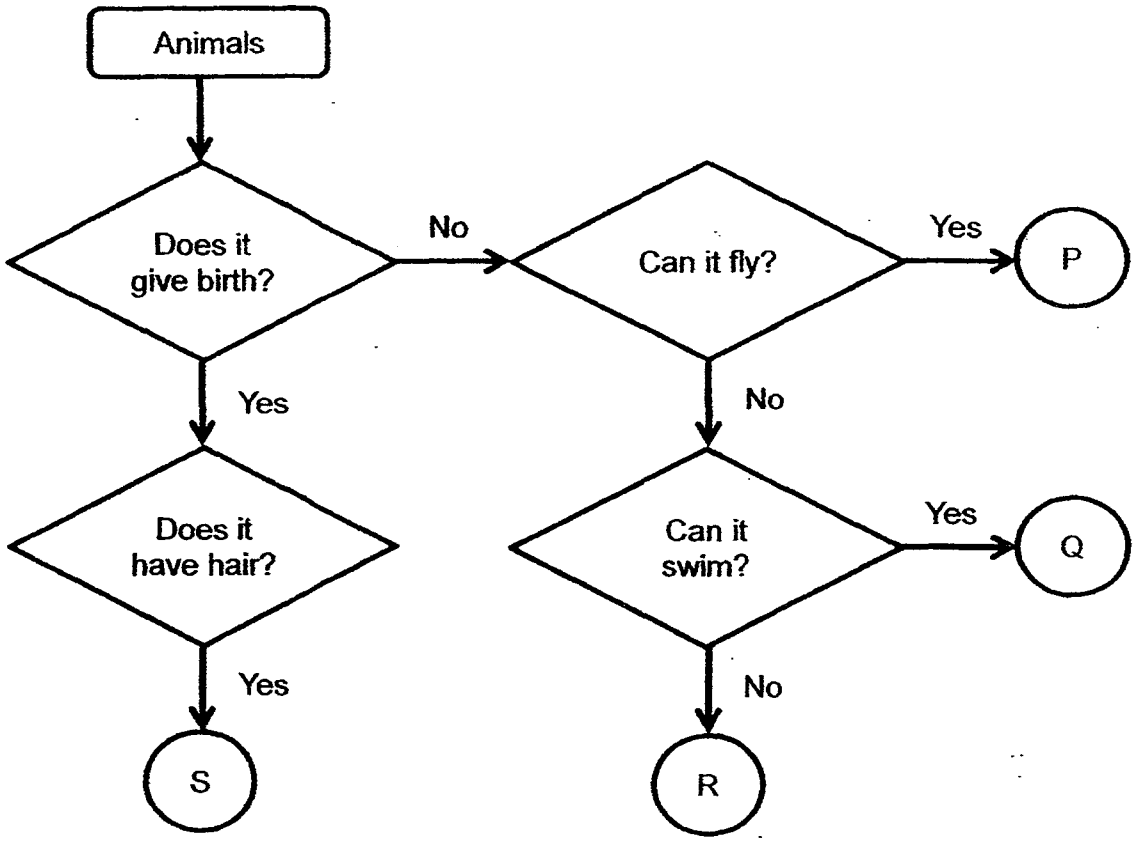
(2) C only

(3) A and C only

(4) B and C only

(Go on to the next page)

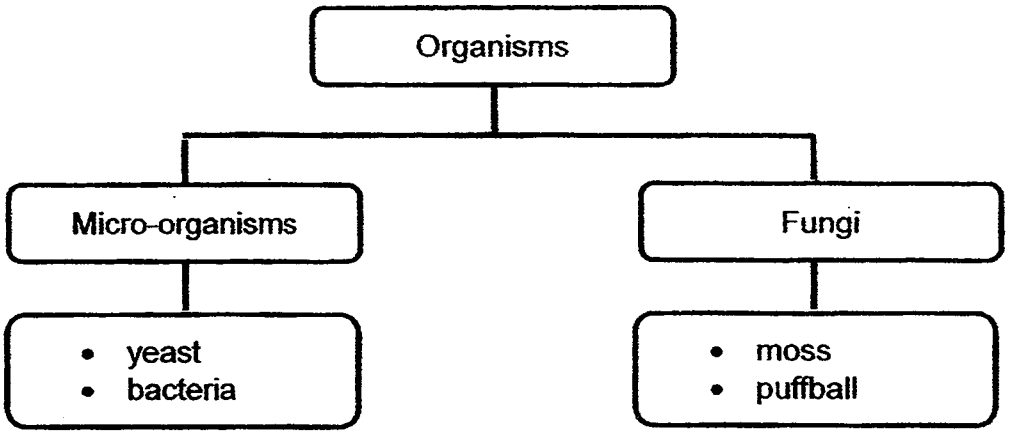
6. Study the flow chart carefully.



Which of the following animals can letters, P, Q, R and S represent?

	P	Q	R	S
(1)	bat	guppy	penguin	dog
(2)	penguin	goldfish	eagle	housefly
(3)	butterfly	penguin	ostrich	bat
(4)	eagle	goldfish	dolphin	monkey

7. Study the classification chart below.



Which one of the following organisms is classified wrongly?

(1) moss
(2) yeast
(3) bacteria
(4) puffball

8. Maureen examined the life cycle of two animals, J and K. She then presented her observations in the table as shown.

Observation	Animal J	Animal K
It has three body parts.	Yes	No
Eggs are laid in water.	No	Yes
There are four stages in the life cycle.	Yes	No

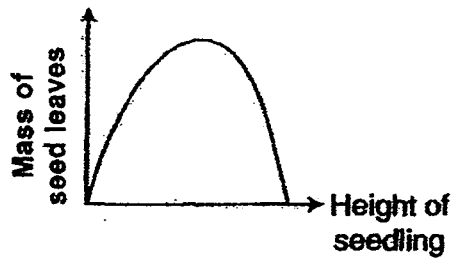
Which of the following could be animals J and K?

	Animal J	Animal K
(1)	ant	turtle
(2)	beetle	turtle
(3)	butterfly	frog
(4)	mosquito	frog

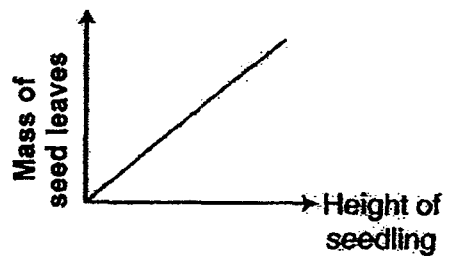
(Go on to the next page)

9. Ahmad planted a seed in a pot and he plotted a graph based on his daily observations of the seedling. Which one of the following graphs correctly shows the relationship between the mass of the seed leaves and the height of the seedling?

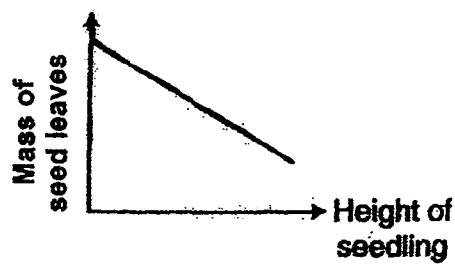
(1)



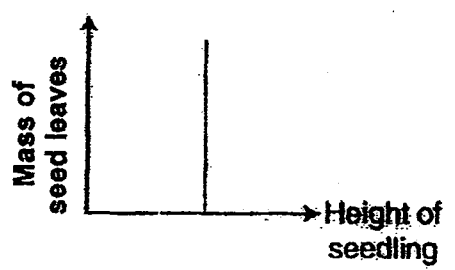
(2)



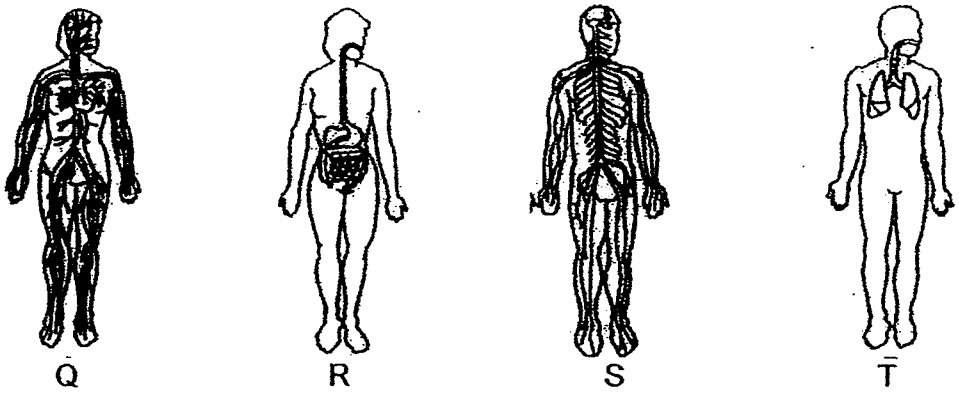
(3)



(4)



10. Study the diagrams, Q, R, S and T below.



Which of the diagrams show the circulatory system and respiratory system?

(1) Q and R
(2) R and S
(3) S and T
(4) Q and T

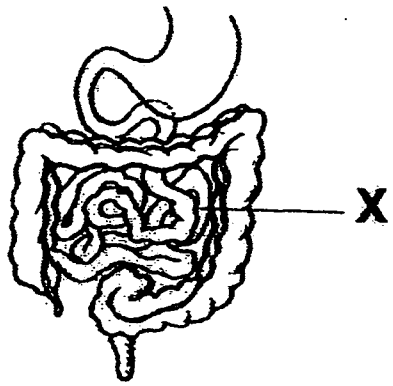
11. Ming Hua was chased by a dog and he reacted as shown in the diagram below.

Which of Ming Hua's body system(s) was/were involved to allow him to climb up the tree?

(1) muscular system only
(2) muscular and skeletal systems
(3) digestive and circulatory systems
(4) digestive and respiratory systems

(Go on to the next page)

12. Study the picture below.



Which of the following correctly identifies organ X and its function?

	X	Function
(1)	small intestine	Digested food particles enter the bloodstream.
(2)	small intestine	Gets rid of excess water.
(3)	large intestine	Food is completely digested here.
(4)	large intestine	It stores undigested food.

13. After a Science lesson, some pupils made the following statements.

Liz: The roots anchor the plant firmly to the ground.

Vik: Some plants can store excess food in their roots.

Sue: The roots transport water and minerals to the other parts of the plant.

Which of the student(s) has/have stated the correct function of the plant parts?

(1) Sue only

(2) Sue and Liz

(3) Sue and Vik

(4) Vik and Liz

(Go on to the next page)

14. Rachel bought two identical pots of plants. She put them in two different places. The table below shows the living conditions provided for the plants.

	Type of soil	Volume of fertilizer (ml)	Volume of water (ml)	Location of the plant
Plant W	sandy	8	60	under direct sunlight
Plant X	sandy	8	60	in the shade

After one week, Rachel observed that Plant W looked unhealthy while Plant X remained healthy.

Based **only** on the information provided, which of the following conclusions can be made about this type of plant at the end of the experiment?

(1) These plants need water to survive.

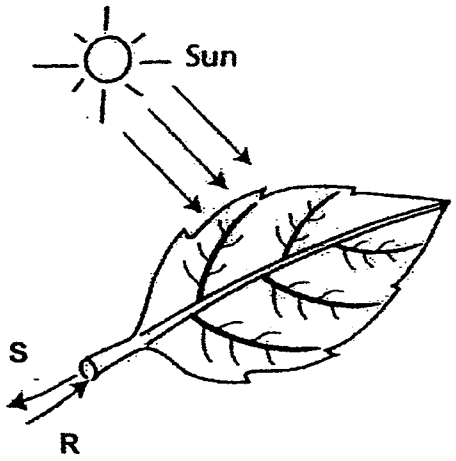
(2) These plants grow well in the shade.

(3) These plants need sunlight to make food.

(4) These plants grow well under direct sunlight.

(Go on to the next page)

15. The diagram below shows a leaf which is exposed to sunlight.



Substance S is being transported out of the leaf to the stem while Substance R is being transported into the leaf from the stem.

What could Substance S and R be?

	Substance S	Substance R
(1)	mineral salts	water
(2)	food	water
(3)	mineral salts	food
(4)	water	food

End of Booklet A1

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BOOKLET A2

Total Time for Booklets A and B: 1 hour 30 minutes

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Date : 30 October 2015

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For each question from 16 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 on the Optical Answer Sheet (OAS).

[30 marks]

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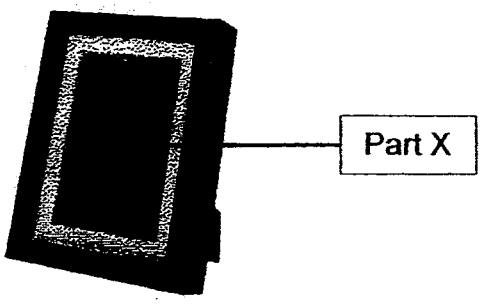
16. The diagram below shows a photo frame.



Glass is used to make Part X of the photo frame because glass _____.

(1) is waterproof
(2) is transparent
(3) can sink in water
(4) does not break easily

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

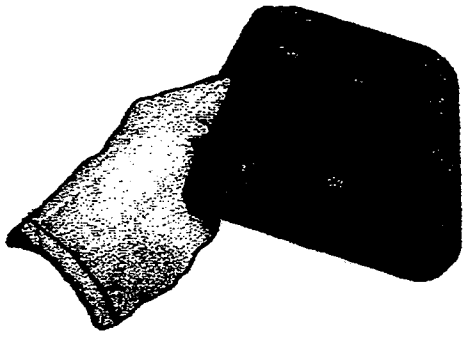
(1) steel
(2) wood
(3) plastic
(4) aluminium

18. Which of the following properties is **true** for both oil and air?

(1) They can be seen.
(2) They take up space.
(3) They have fixed volume.
(4) They have fixed shapes.

(Go on to the next page)

19. Jamie baked some cupcakes and took the tray of cupcakes out of the oven as shown below.



She was able to hold the hot tray of cupcakes using a glove. This is because the fabric is a _____.

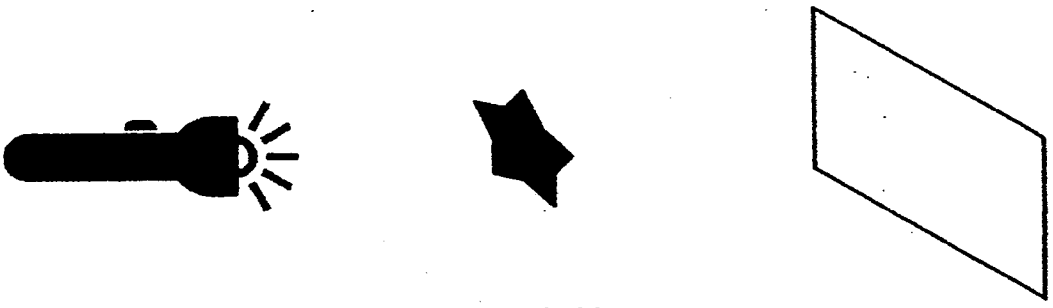
(1) light material

(2) flexible material

(3) poor conductor of heat

(4) good conductor of heat

20. The set-up below shows light shining on a metal star-shaped object.

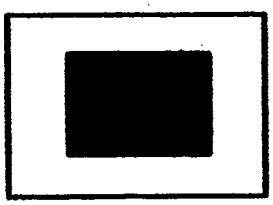


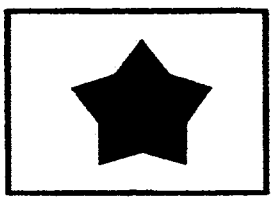
torch star-shaped object screen

Which one of the following would likely be seen on the screen?

(1) 

(2) 

(3) 

(4) 

21. Sherry bought a pair of wooden clogs as shown below.

She commented that it was very difficult to walk while wearing the wooden clogs. Based on what you have learnt about the properties of materials, what could be the reason?

(1) It is stiff.

(2) It is strong.

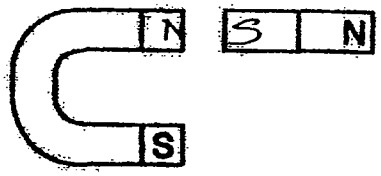
(3) It is opaque

(4) It is waterproof.

(Go on to the next page)

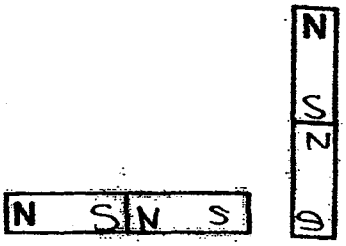
22. Study the following set-ups below.

Set-up A

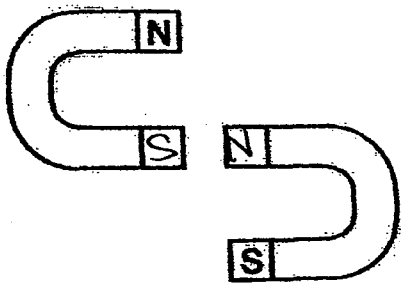


Set-up B

Set-up C



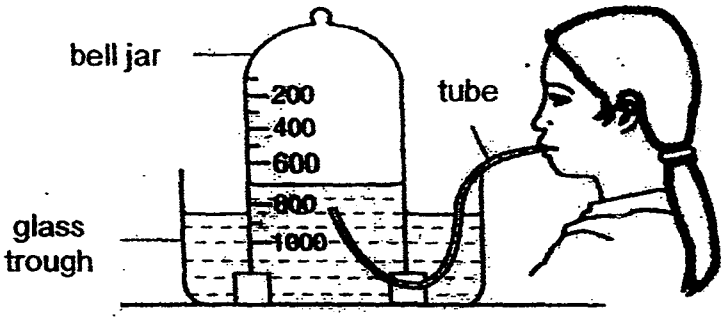
Set-up D



In which set-ups will the magnet attract each other?

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

23. Syarifah set up an experiment as shown below.



What would happen after she had blown air into the tube ten times?

A: The water level in the bell jar would increase.

B: The water level in the glass trough would increase.

C: The volume of water in the experiment would decrease.

D: The volume of water in the experiment would remain the same.

(1) B only

(2) A and C

(3) A and D

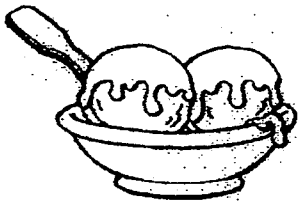
(4) B and D

24. The table below shows the capacity of the tank and the amount of air pumped into the tank. Which one of the tanks has the greatest volume of air in it?

	Tank	Capacity of tank (cm^3)	Amount of air pumped into the tank (cm^3)
(1)	A	450	420
(2)	B	325	300
(3)	C	550	500
(4)	D	500	600

(Go on to the next page)

25. Roger scooped some ice-cream into a bowl and left it on the table. After five minutes, he observed that some of the ice-cream melted and the spoon was cold.



Which of the following could be the possible explanation(s) for his observations?

W: The spoon lost heat to the ice-cream.

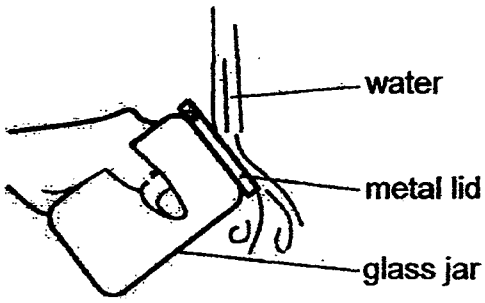
X: The spoon gained heat from the ice-cream.

Y: The ice-cream lost heat to the surrounding air.

Z: The ice-cream gained heat from the surrounding air.

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

26. Imran was unable to open the metal lid of a glass jar. He then poured some water on the metal lid as shown below.



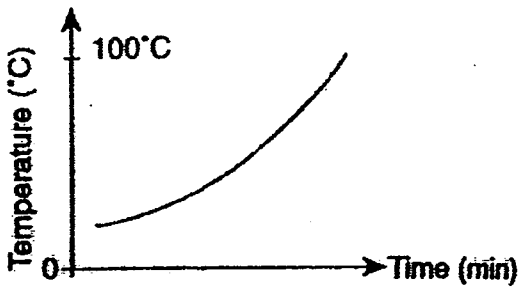
What should the temperature of water be so that Imran could remove the lid from the glass jar?

(1) water at 4°C
(2) water at 10°C
(3) water at 25°C
(4) water at 80°C

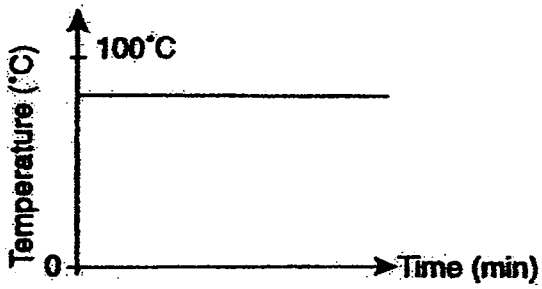
(Go on to the next page)

27. Weiling boiled some water in a kettle and left it in a room for two hours. Which of the following graphs best represents the changes in the water temperature after it has been boiled?

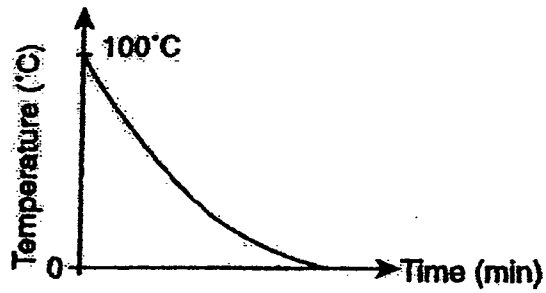
(1)



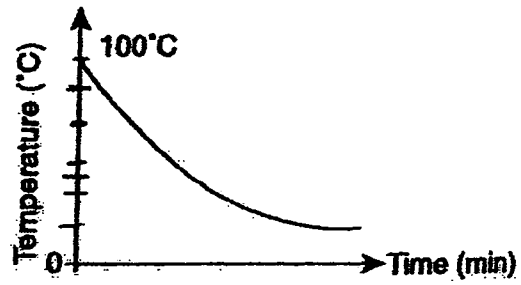
(2)



(3)



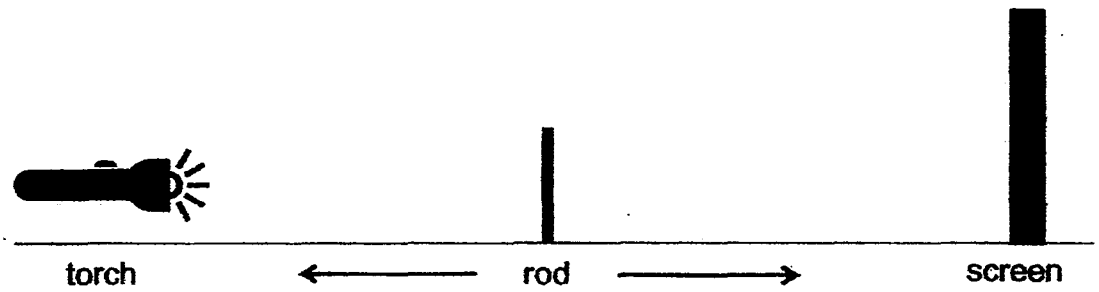
(4)



28. Which of the following is a source of light?

(1) moon
(2) mirror
(3) firefly
(4) metal spoon

29. Arif set up an experiment as shown below.

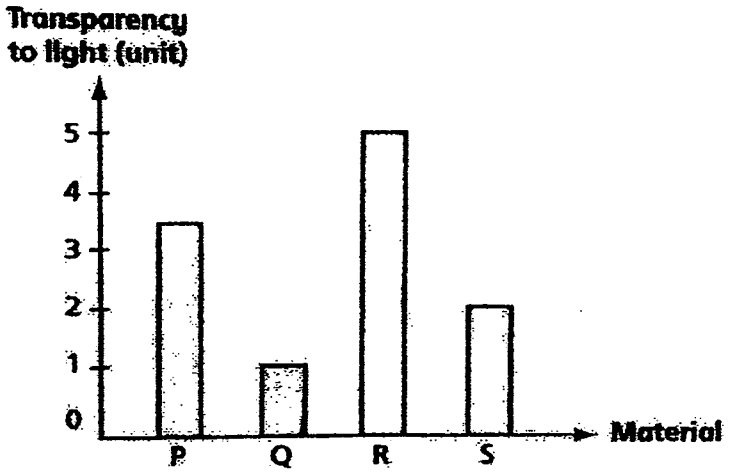


What should Arif do if he wants the shadow of the rod to be larger?

E: Move the rod closer to the torch.
F: Move the torch away from the rod.
G: Move the rod closer to the screen.
H: Move the screen away from the rod.

(1) E and G only
(2) E and H only
(3) F and G only
(4) F and H only

30. Brindha wanted to investigate the degree of transparency of four materials, P, Q, R and S. Before she began measuring the transparency of the four materials, she noted that the transparency of a clear plastic sheet is 10 units. The results of her experiment are shown in the graph below.



Which one of the materials will cast the lightest shadow when the torchlight is shone on it in a dark room?

(1) Material P

(2) Material Q

(3) Material R

(4) Material S

End of Booklet A2

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BOOKLET B1

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

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Write your answers in this booklet.

Name: _____ ( )

Class: Primary 4._____

Date : 30 October 2015

This booklet consists of 6 printed pages including this page.

For questions 31 to 35, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[15 marks]

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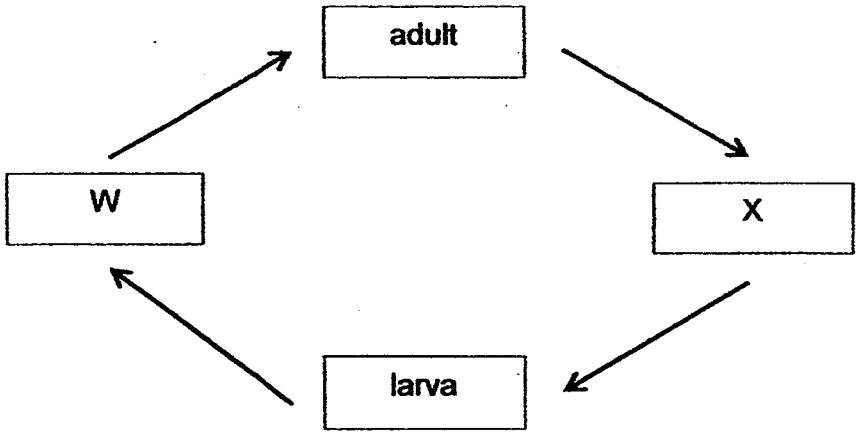
31. The diagram below shows the stages in the life cycle of a mosquito.



Choose the correct words from the box to answer the question below.

egg	pupa	seed	wriggler

Name the two stages **W** and **X**. [2]

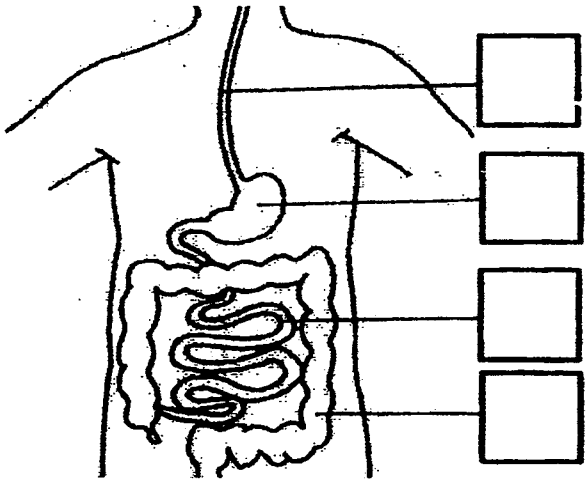
W : _____

X : _____

2

32. The diagram below shows part of the human digestive system.

(a) Tick (✓) one box to show where the gullet is. [1]



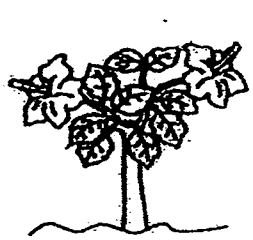
(b) Fill in the blank using the following helping words. [1]

mouth	large intestine	stomach	small intestine

Food from the gullet is next passed on to the _____

2

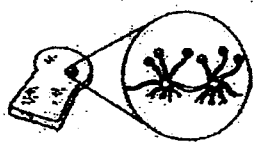
33. Tammy found some organisms as shown below.



hibiscus plant

mushroom

fern



mould

She classified them in two groups of living things.

Group A	Group B
fern hibiscus plant	mushroom mould

(a) Identify the heading for Group A and Group B. [2]

Group A: _____

Group B: _____

(b) How do the fern and mould reproduce? [1]

_____

(c) How do the fern and mould obtain their food? [1]

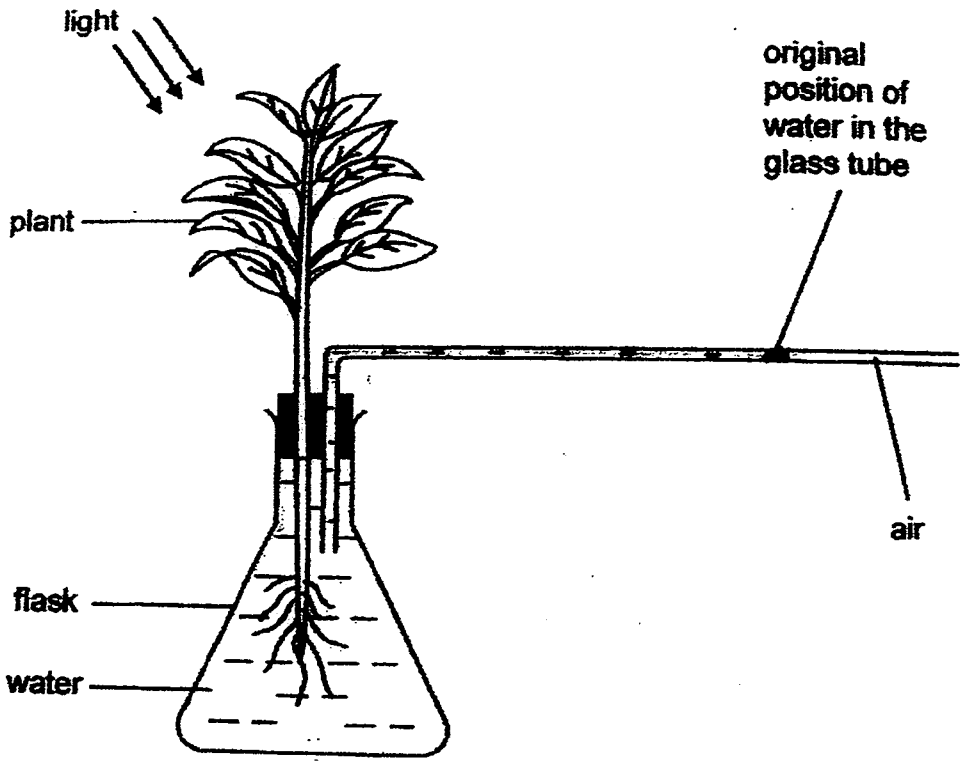
_____

_____

4

(Go on to the next page)

34. Fairoz placed the following set-up in a bright place.



Three hours later, the water in the glass tube moved.

(a) **Circle** one of the arrows below to show the direction in which the water in the glass tube moved. [1]

(b) Explain why the water in the glass tube moved from its original position. [2]

_____

_____

_____

3

35. Meilan had some food for lunch. The table below shows the amount of undigested food after it passes through some parts of the digestive system.

Parts of the digestive system	Amount of undigested food left (units)
Mouth	90
Small intestine	20
Large intestine	X

(a) What is the amount of undigested food that remains in the large intestine? [1]

X: _____ units

(b) Was there a change in the amount of undigested food in the small intestine and large intestine? Explain your answer. [1]

_____

_____

Four hours after her lunch, Meilan decided to play tennis with her friends.

(c) How does Meilan's body obtain the nutrients to play tennis from the digested food in the small intestine? [2]

_____

_____

_____

_____

4

End of Booklet B1

METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATIONS 2015
PRIMARY 4
SCIENCE

BOOKLET B2

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 4._____

Date : 30 October 2015

Booklet A	60
Booklet B B1 B2	30
Total	90
Parent's Signature	

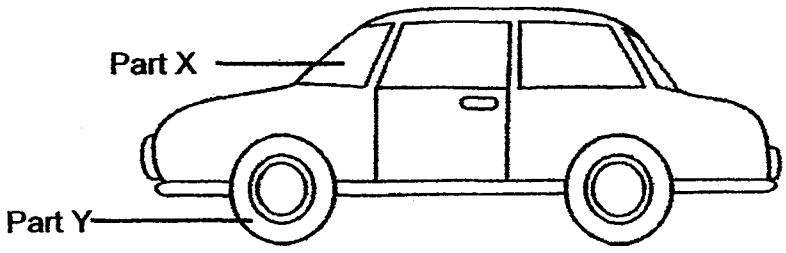
This booklet consists of 7 printed pages including this page.

For questions 36 to 42, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[15 marks]

---

36. The diagram below shows a car.

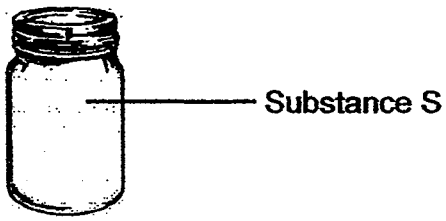


Fill in the blanks with a suitable word.

(a) Part X is made of glass. It allows _____ to pass through in order for the driver to see the road clearly. [1]

(b) Part Y is made of _____ because it must be flexible. [1]

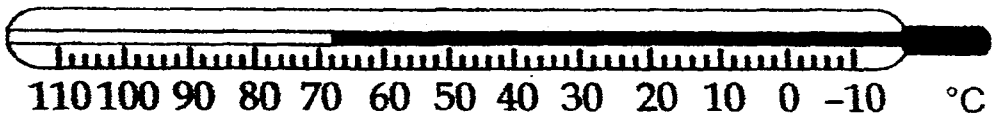
37. The picture below shows a clear glass jar which looks empty. It contains Substance S which is transparent.



Circle the correct state for Substance S. [1]

solid liquid gas

38. Vanessa used an instrument as shown below to measure the temperature of a liquid.



(a) What is the instrument called? [1]

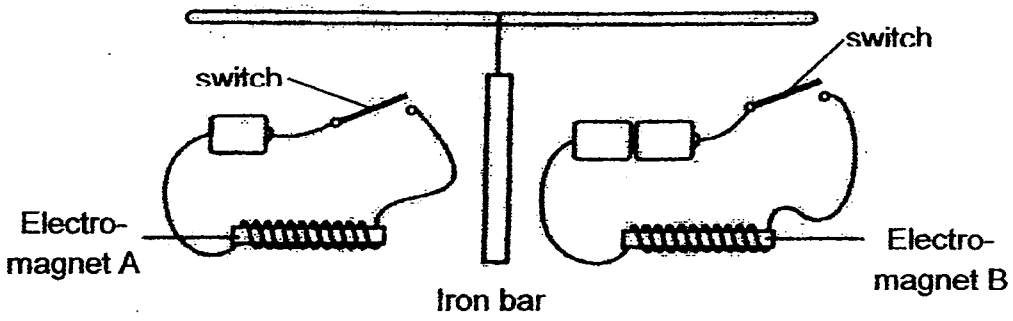
_____

(b) What is the temperature of the liquid shown on the instrument? [1]

_____ °C

2

39. The diagram below shows an iron bar between two electromagnets.



(a) What will happen to the iron bar when the switches are closed for both the circuits of the electromagnets? [1]

_____

(b) Explain your answer in (a). [1]

_____

_____

(c) What will happen if the iron bar was replaced with an aluminium bar? Explain your answer.

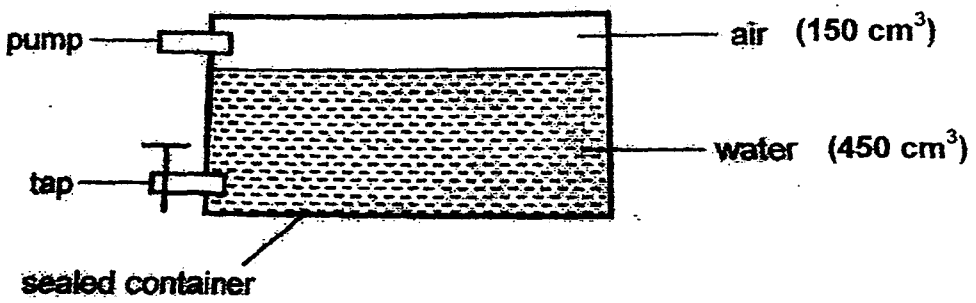
_____

_____

3

(Go on to the next page)

40. Sue set up an experiment as shown below.



She used the tap to remove 70 cm^3 of water. She then used the pump to add 90 cm^3 of air into the container.

(a) What was the final volume of air in the container? [1]

_____

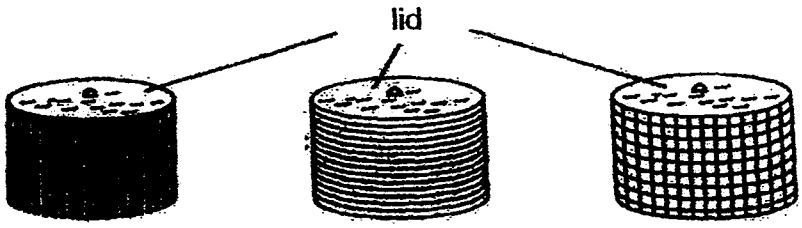
(b) Which properties of water and air did you use to obtain your answer in (a)? [2]

_____

_____

3

41. Kiat Meng placed three identical tins, Q, R and S on the table. He filled each tin with the same amount of hot water and covered it with a lid. He then wrapped each tin with three types of material, A, B and C as shown below.

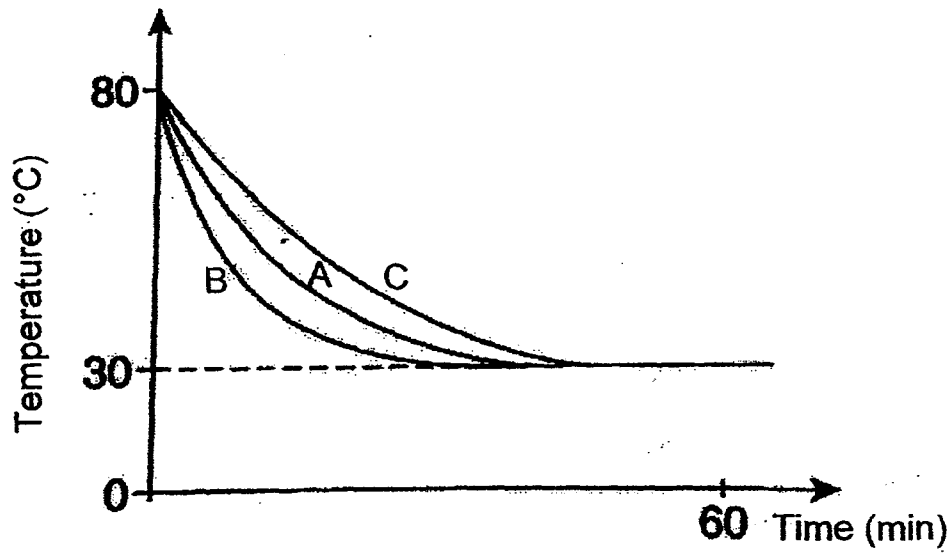


Tin Q
Material A

Tin R
Material B

Tin S
Material C

He recorded the temperature of the water in each of the tin every 5 minutes for an hour. The graph below shows the results that Kiat Meng had obtained.



Based on the results, which material would Kiat Meng choose to make a flask which can keep a drink cold for the longest amount of time? Explain your choice. [2]

_____

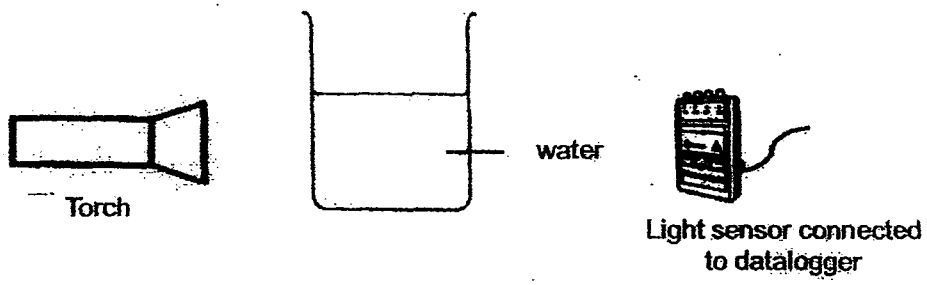
_____

_____

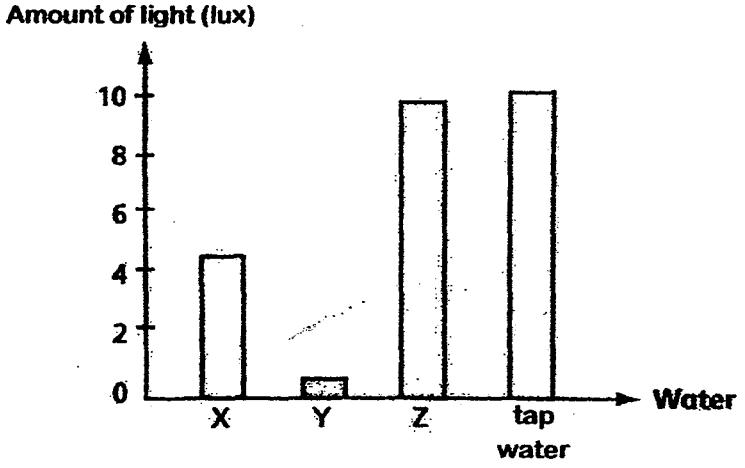
2

(Go on to the next page)

42. Merryl collected water samples from three different parts of a river, X, Y and Z. A light sensor connected to a datalogger was used to measure the amount of light that passed through the water samples when light was shone with a torch as shown below.



The bar graph shows the results of the three water samples in comparison with the tap water.



(a) Which part of the river, X, Y or Z would be best for Merryl to see the organisms in the water most clearly? [1]

_____

(b) Explain your answer in (a). [1]

_____

2

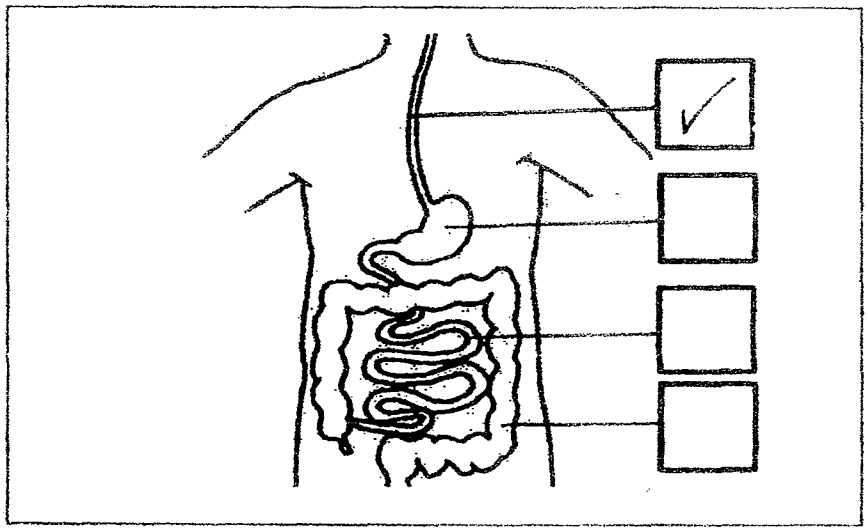
End of paper

EXAM PAPER 2015
LEVEL : PRIMARY 4
SCHOOL : METHODIST GIRLS' SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
3	**1**	**1**	**2**	**3**	**3**	**1**	**3**	**3**	**4**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
2	**1**	**4**	**2**	**2**	**2**	**1**	**2**	**3**	**4**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	**4**	**4**	**2**	**3**	**4**	**4**	**3**	**2**	**3**

Q31. W: pupa Q31. X : egg

Q32a. **SEE PICTURE** Q32b. Stomach



Q33a. Group A : Plants Group B : Fungi

Q33b. They produce by spores.

Q33c. The fern traps sunlight to make food during photosynthesis while mould fees on food dead and decayed or living things.

Q34a. **SEE PICTURE**

Q34b. As the plant was photosynthesizing, it needed water to make food. Absorbing some of the water by the roots in the flask, there was space for more water to enter the flask. As the water entered the flask, it displaced some water, and causes the hot water to move forward.

Q35a. X : 20units

Q35b. No. As the small intestine digest the food until it could not digest anymore, and as digestion ends at the small intestine, no more food could be further digested, and all the undigested food just goes into the large intestine.

Q35c. Digested food will pass through the walls of the small intestine and enter the bloodstream, and as the digestive system has finished digesting into simpler substances which is the nutrients for her to play tennis which will then be carried by the blood to all parts of the body.

Q36a. light Q36b. rubber

Q37 gas Q38a. thermometer Q38b. 68°C

Q39a. It would move towards Electromagnet B.

Q39b. As iron is a magnetic material, it can be attracted, but the electromagnets have different amounts of magnetic strengths, and electromagnet B would have a greater magnetic strength as it has one more battery than A, and the iron bar would be attracted to the one which has more magnetic strength, B.

Q39c. Nothing would happen. Aluminum is not a magnetic material and only magnetic materials can be attracted by magnets.

Q40a. 220cm^3 Q40b. Air has no definite volume and water has a definite volume.

Q41. Material C. Based on the results, C took the longest amount of time to reach room temperature, it shows that it is the poorest conductor of heat and poor conductors of heat conduct heat to or away the water the slowest, thus he should choose Material C to make a flask which can keep a drink cool for the longest amount of time.

Q42a. Z. Q42b. As it allowed the most light to pass through out of the three and with light, he would be able to see the organisms in the water most clearly.

THE END