



**NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 2 - 2015
PRIMARY FIVE
SCIENCE**

Name : _____ ()

Class : Primary 5 / _____

Date : 25 August 2015

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	/ 80

Section A: (20 x 2 marks = 40 marks)

For each question from 1 to 20, 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. Why do living things reproduce?

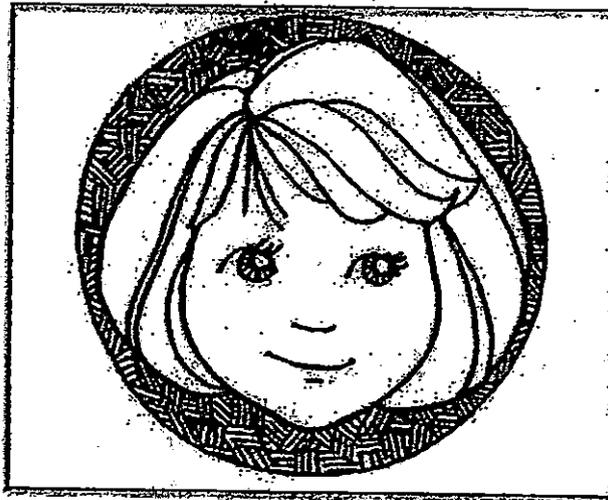
- (1) To ensure a great diversity of living things.
- (2) To ensure that the species will not become extinct.
- (3) To increase the chances of survival of their young.
- (4) To allow the number of living things to remain the same.

2. Which of the following is/are plant(s) that reproduce from spores?

- A Moss
- B Tomato
- C Banana
- D Pineapple

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

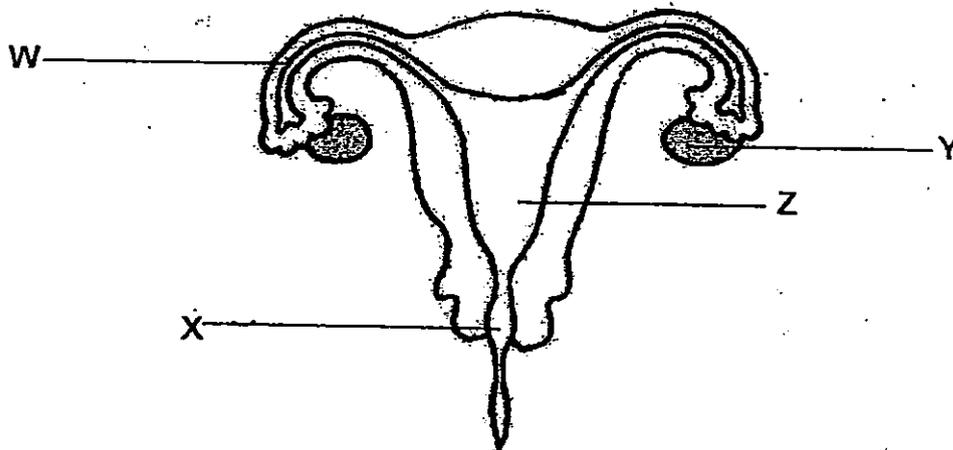
3. The picture below is a photograph of Jane. She has short hair, big eyes and pointed chin.



Which member of her family has passed on one of his/her characteristics to Jane?

	Family member	Characteristics
(1)	Jane's father	short hair and square chin
(2)	Jane's mother	long hair and small eyes
(3)	Jane's grandfather	big eyes and square chin
(4)	Jane's grandmother	small eyes and short hair

4. The diagram below shows parts of the female reproductive system.



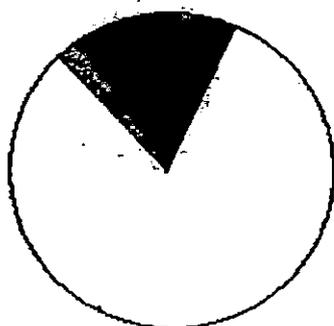
The part _____ is where the fertilised egg develops into a baby.

- (1) W
- (2) X
- (3) Y
- (4) Z

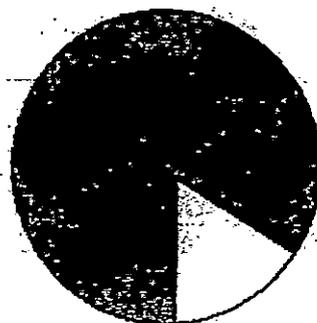
5. Mrs Lee had four pupils in her Science remedial class. She gave each of them a compact disc and three tubes of poster paint of different colours. The 3 different colours represented the different types of gases as shown in the table below.

○	white colour	Oxygen
●	grey colour	Nitrogen
●	black colour	carbon dioxide and other gases

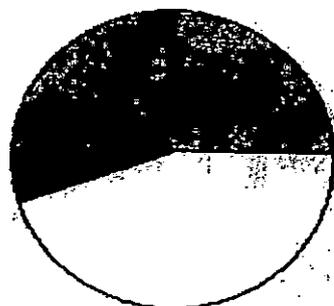
They used the poster paint to paint the compact discs in order to show the approximate volume of the different types of gases in the surrounding air as shown below.



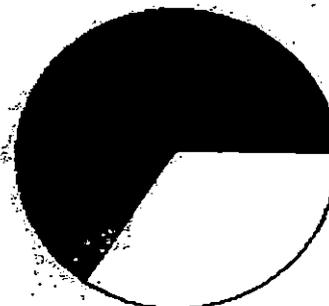
compact disc A



compact disc B



compact disc C

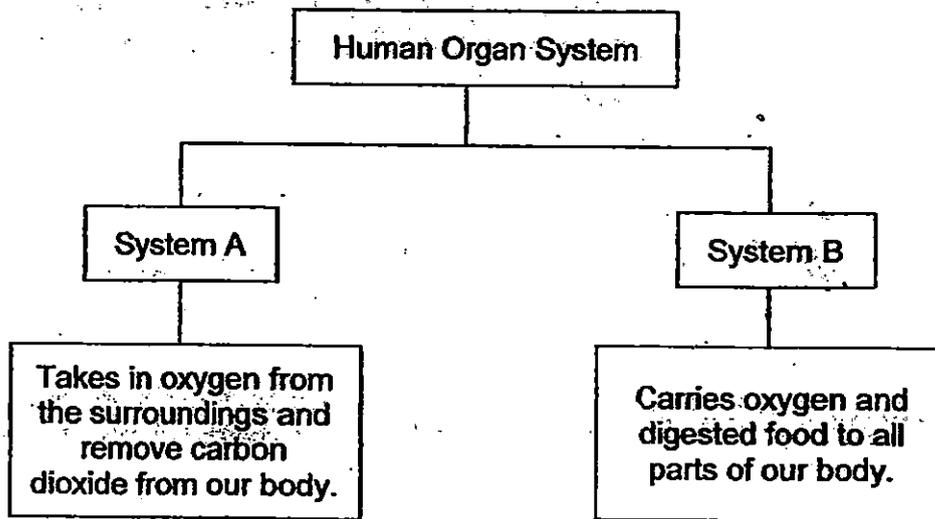


compact disc D

Which one of the following compact discs best represents the approximate volume of the different types of gases in the surrounding air?

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

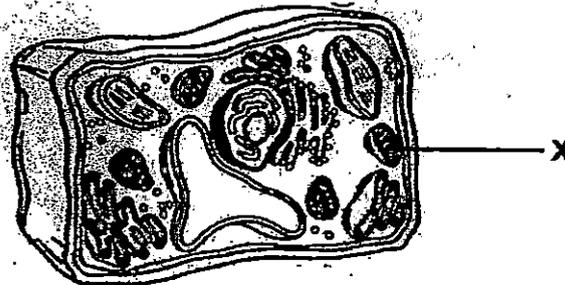
6. Study the classification chart below carefully.



Which of the following shows correctly what systems A and B are?

	System A	System B
(1)	Respiratory System	Digestive System
(2)	Respiratory System	Circulatory System
(3)	Digestive System	Circulatory System
(4)	Circulatory System	Respiratory System

7. The diagram below shows the cell of an organism. Three pupils, Jack, Tom and Mary, made some statements on the function of part X, which contains a green pigment.

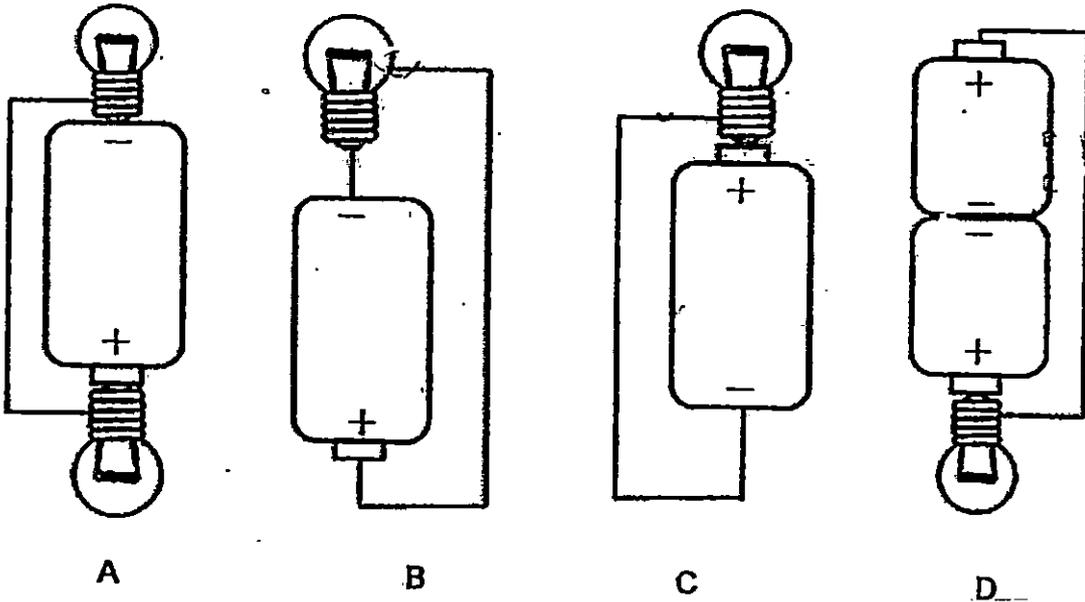


- Jack: "It contains chlorophyll."
 Tom: "It allows the organism to exchange gases."
 Mary: "Without it, the organism cannot make food."

Which pupils have made a correct statement about the function of X?

- (1) Jack and Tom
 (2) Jack and Mary
 (3) Tom and Mary
 (4) Jack, Tom and Mary

8. Study the four circuits below carefully.



Which circuit(s) will not allow electric current to flow through to light up the bulb(s)?

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

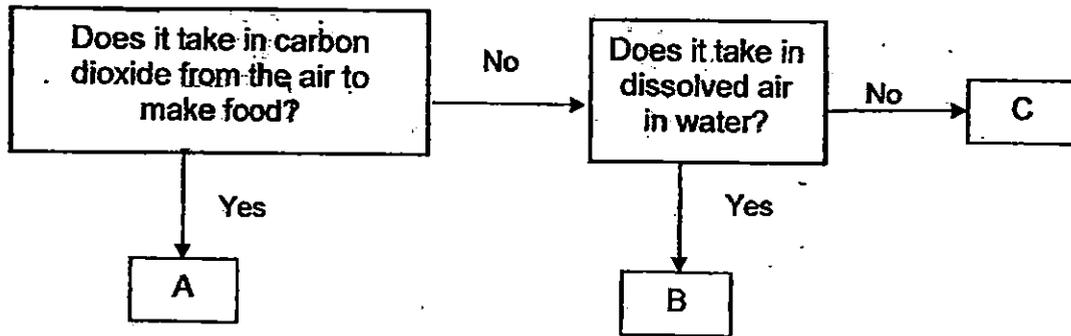
9. Ben carried out an investigation to find out how the number of wings of the shorea fruit affects the time it stays in the air. The table below shows the number of wings he removed from four similar shorea fruits, P, Q, R and S.

Shorea fruit	Number of wings removed
P	1
Q	0
R	3
S	2

Then he dropped the fruits, P, Q, R and S, from the same height and measured the time taken for each fruit to reach the ground. He recorded the time taken and arranged the fruits in order starting from the fruit that took the longest time to reach the ground. Which of the following shows the correct order?

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

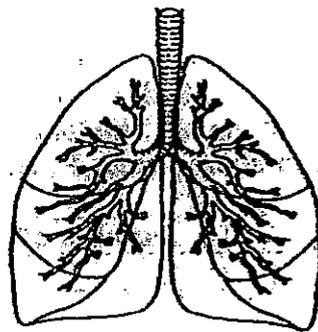
10. Study the flow chart below carefully.



What could living things A, B and C be?

	A	B	C
(1)	Mushroom	Guppy	Eagle
(2)	Hydrilla	Goldfish	Pigeon
(3)	Bacteria	Whale	Dolphin
(4)	Fern	Duckweed	Seahorse

11. The organ below is found in a human.



Which of the statements about its function is true?

- A It continues to work when the human sleeps.
- B It has a muscular organ to transport materials to all parts of the body.
- C It stops working immediately when the digestive system is not working well.
- D It works together with the digestive and circulatory system to enable human to do work.

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

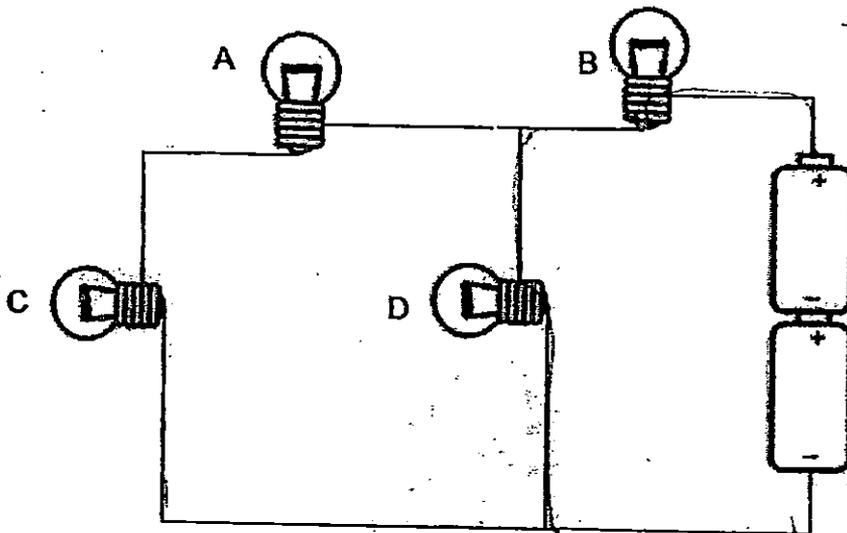
12. The table below shows the characteristics of two cells, X and Y.

Parts of the cell	Cell X	Cell Y
Cell membrane	✓	✓
Cell Wall	✓	
Chloroplast		
Nucleus	✓	✓

Which of the following best represents X and Y?

	Cell X	Cell Y
(1)	Nerve cell	Leaf cell
(2)	Leaf cell	Nerve cell
(3)	Root Cell	Cheek cell
(4)	Cheek Cell	Root Cell

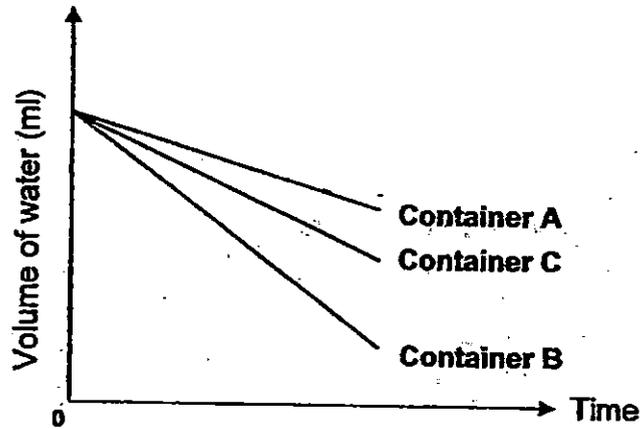
13. The diagram below shows an electric circuit.



Which bulbs will still light up if bulb C fuses?

- (1) A and B only
- (2) B and D only
- (3) A, B and D only
- (4) None of the bulbs

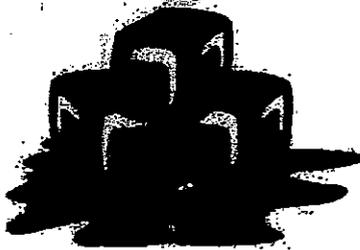
14. Vera used three different containers, A, B and C, of different sizes to find out how the exposed surface area of the water affects the rate of evaporation. She poured equal amount of water into each of the container and placed them at the same location with direct sunlight. She plotted a graph showing the volume of water in each container over time.



Which of the following best represents the size of the exposed surface area of the water in the three different containers?

	Exposed surface area of water		
	A	B	C
(1)	80 cm ²	50 cm ²	25 cm ²
(2)	80 cm ²	25 cm ²	50 cm ²
(3)	25 cm ²	50 cm ²	80 cm ²
(4)	25 cm ²	80 cm ²	50 cm ²

15. Corrine wants to find out if the surrounding temperature affects the time taken for the ice cubes to melt completely.

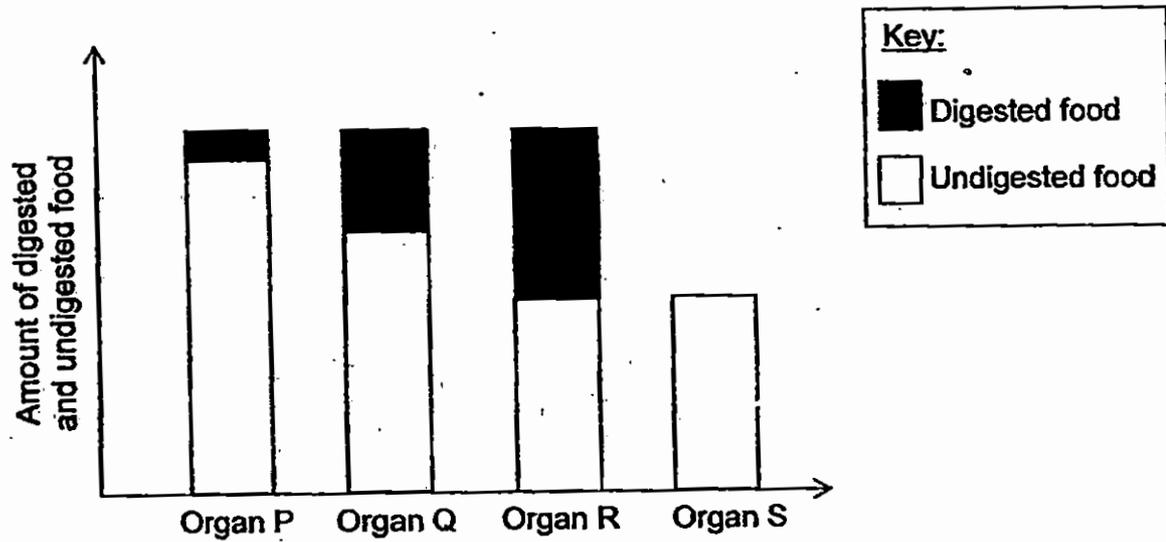


What variables should she keep the same when setting up the experimental set-up and the control set-up ?

- A size of ice cubes
- B number of ice cubes
- C temperature of the location
- D duration of the experiment

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

16. The bar graph below shows the amount of digested and undigested food in 4 organs, P, Q, R and S, of the digestive system over four hours.



Which one of the following organs will most likely represent the large intestine?

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

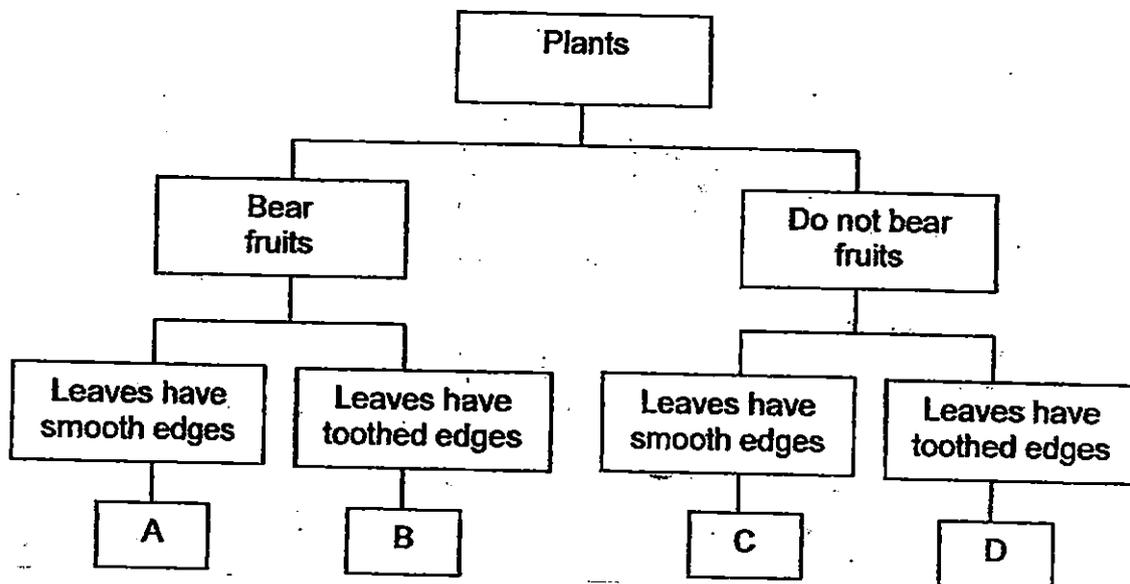
17. Tom recorded the characteristics of four animals in the table below.

Animal	Can fly	Lays eggs	Has beak	Live on land
A	✓			✓
B		✓		
C		✓	✓	✓
D	✓	✓		✓

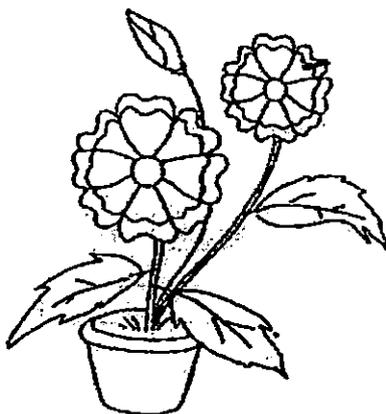
Which of the animals, A, B, C or D, is most likely a bird?

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

18. Study the classification chart below carefully.



Tom took a picture of plant Y as shown below during his field trip to the Singapore Botanic Gardens.

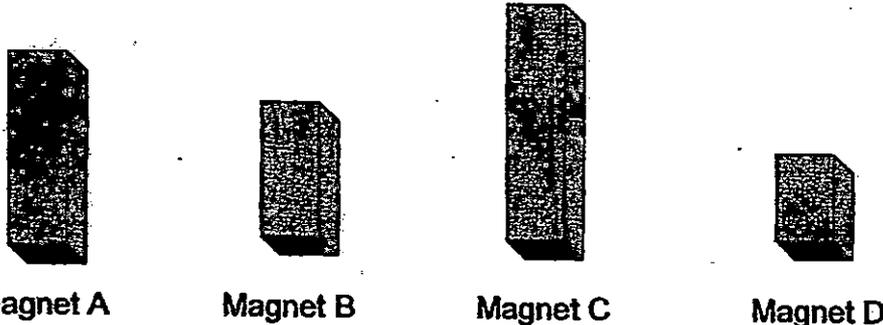


Plant Y

In which group, A, B, C or D, should plant Y be classified under?

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

19. Jay conducted an experiment with four different magnets as shown below.



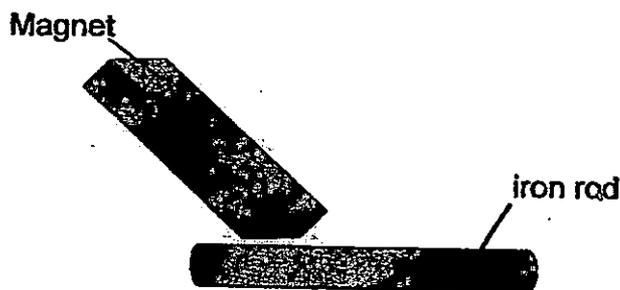
He brought them close to some paper clips and recorded the number of paper clips attracted by each magnet in the table below.

	Magnet A	Magnet B	Magnet C	Magnet D
Number of paper clips attracted	18	13	15	25

What can he conclude from the results in the table?

- (1) The size of the magnets affects the magnetic strength of the magnets.
- (2) The magnetic strength of bigger magnets is more than smaller magnets.
- (3) The magnetic strength of smaller magnets is more than bigger magnets.
- (4) The size of the magnets does not affect the magnetic strength of the magnets.

20. Kerrie carried out the activity below to magnetise an iron rod. She stroked the rod about 30 times. After the activity, the iron rod was able to attract some paper clips.



Besides stroking the rod 30 times, which of the following must she do in order to magnetise the iron rod?

- A Stroke the ends of the rod only.
- B Stroke the entire length of the rod.
- C Stroke the rod in different directions.
- D Stroke the rod with only the North-pole of the magnet.

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



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Name : _____ ()

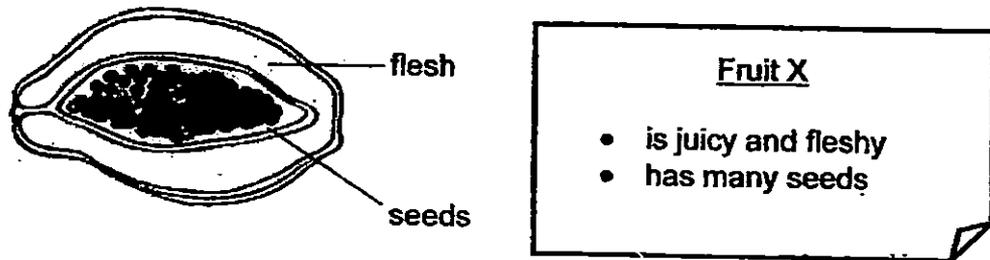
Class : Primary 5 / _____

Date : 25 August 2015

Section B: 14 Questions (40 marks)

Write your answers to questions 21 to 34. The number of marks available is shown in brackets [] at the end of each question or part question.

21. Tina recorded her observations of fruit X as shown in the diagram below.

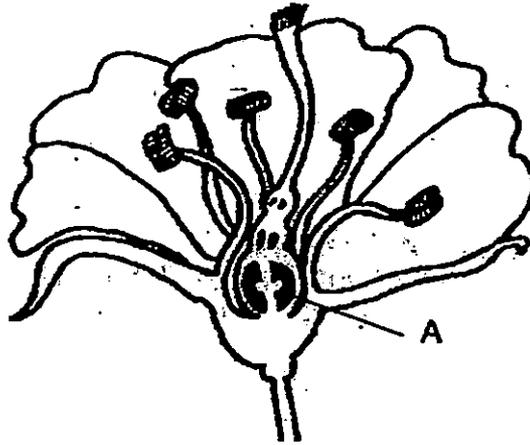


(a) Based on the information above, identify the dispersal method of the seeds of Fruit X. [1]

(b) How does having many seeds help the plant of fruit X to ensure the continuity of its own kind? [1]

Score	2
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22. Mrs. Lee noticed that some bees were attracted to the big and brightly-coloured flower in her balcony as shown in the diagram below.



- (a) A few days later, her daughter told her that the petals of the flower had dropped off and part A had swelled.

State 2 reproductive processes that took place in the flower before part A swelled. [1]

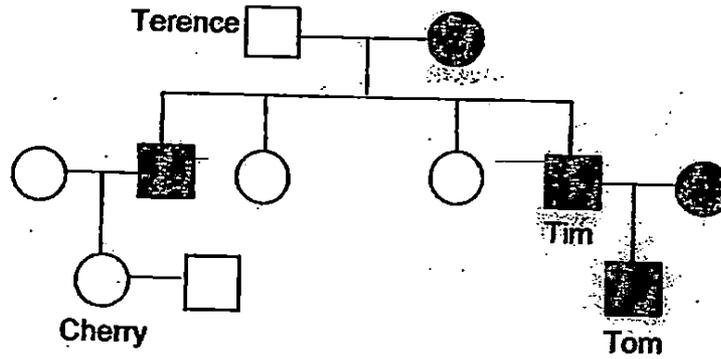
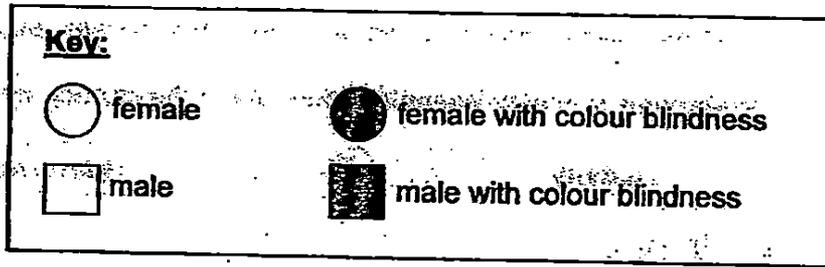
i) _____

ii) _____

- (b) Give a reason why the petals of the flower are brightly-coloured. [1]

Score	2
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23. Study Tom's family tree below.



(a) How is Tom related to Terence?

[1]

(b) Explain why Tim has colour blindness.

[1]

(c) Tom's cousin, Cherry, is married to John. John has colour blindness.

Use the symbols provided in the box to add and label John to the family tree.

[1]

Score	3
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24 Kenneth received a heart rate monitoring device from his father. He measured his heartbeat when he was walking, reading and sleeping.

The pictures below show the three activities which he was engaged in.

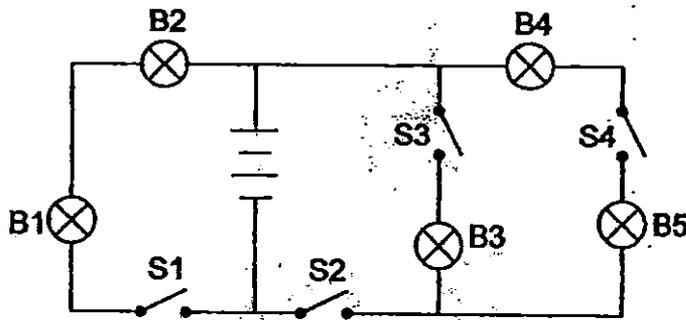
(a) Draw lines to match Kenneth's heart rate to the correct activity. [1]

Activity	Heart rate (bpm)
 walking	70
 sleeping	80
 reading	65

(b) When Kenneth was walking, would his breathing rate be faster or slower than when he was sleeping? Explain your answer. [2]

Score	3
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25. Study the circuit diagram below carefully. The bulbs are labelled B1, B2, B3, B4 and B5. The switches are labelled S1, S2, S3 and S4.



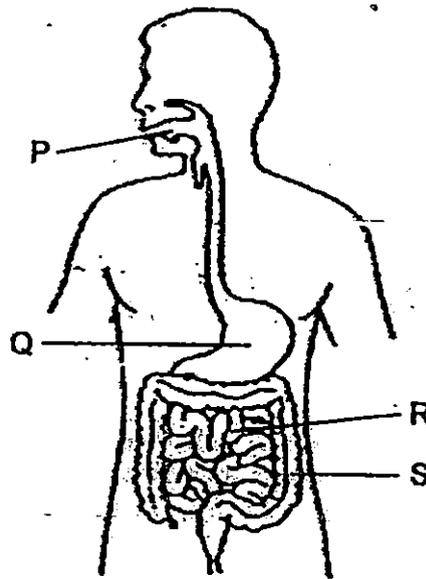
- (a) What is the least number of switch(es) that need(s) to be closed in order to light up the number of bulbs as indicated in the table below. Write down the switches, S1, S2, S3 and/or S4. [2]

Number of bulbs lit	The switch(es) to be closed
1	
2	

- (b) When only switch S2 is closed, what happen to the bulbs? Explain your answer. [1]

Score	3
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26. The diagram below shows a human digestive system.



The parts P, Q, R and S are organs in the digestive system.

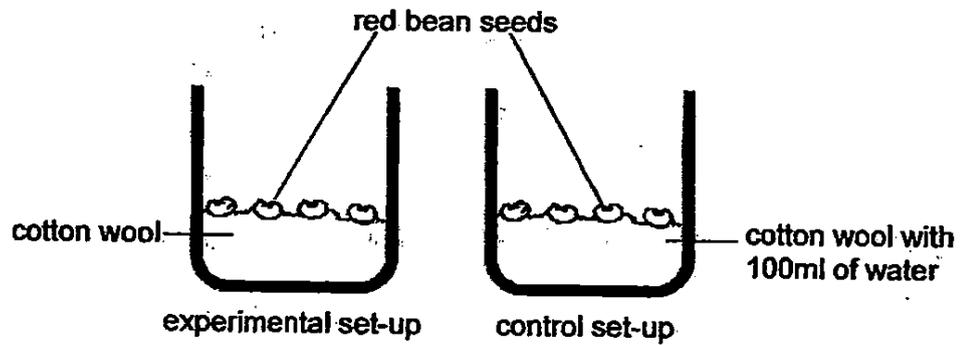
However, one part of the digestive system is not identified in the diagram.

(a) On the diagram above, label the missing part that belongs to the digestive system. [1]

(b) What is the function of the part identified in part (a) above? [1]

Score	/
	2

27. George set up an experiment as shown below. He wanted to find out if the red bean seeds need water to germinate. He placed four red bean seeds each in the experimental set-up and the control set-up in a room of 26°C. Then, he poured 100 ml of water in the control set-up.

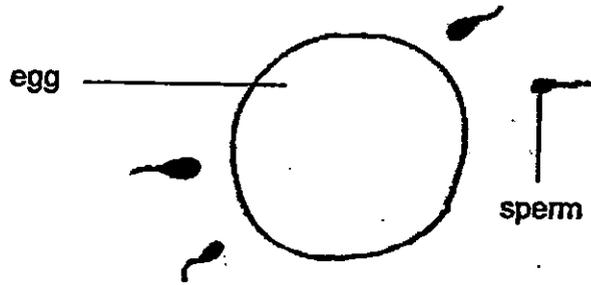


- (a) What is the purpose of the control set-up in George's experiment? [2]

- (b) Suggest two changes that George should make to the experimental set-up if he wants to find out if the red bean seeds need warmth to germinate. [2]

Score	<input type="checkbox"/>
	4

28. Study the diagram below.



- (a) Based on the diagram, describe what must happen for fertilisation to take place. [1]

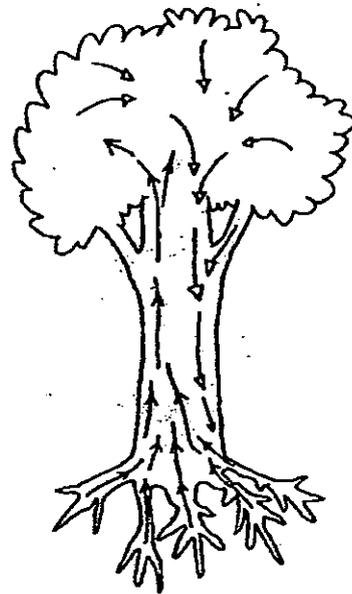
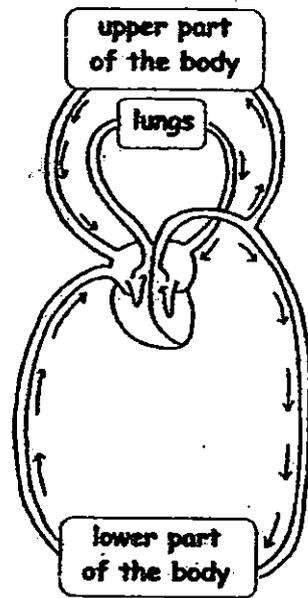
In-vitro fertilisation (IVF) is a process by which an egg is fertilised by a sperm outside the body. This process is used for the treatment of infertility, a condition when the female is unable to reproduce naturally. Once the egg is fertilised outside the body, the fertilised egg is transferred to the female reproductive system.

- (b) In which part of the female reproductive system is the fertilised egg transferred to? [1]

- (c) Give a reason for your answer in (b). [1]

Score	
	3

29. The diagrams below show the plant and human transport systems.



The arrows in both diagrams show the flow of materials that are being transported in both systems.

(a) Write down three materials that are transported round the human transport system (do not mention blood). [1]

(b) Write down one material that is transported: [1]

i) upwards from the roots in the plant transport system.

ii) downwards from the leaves in the plant transport system.

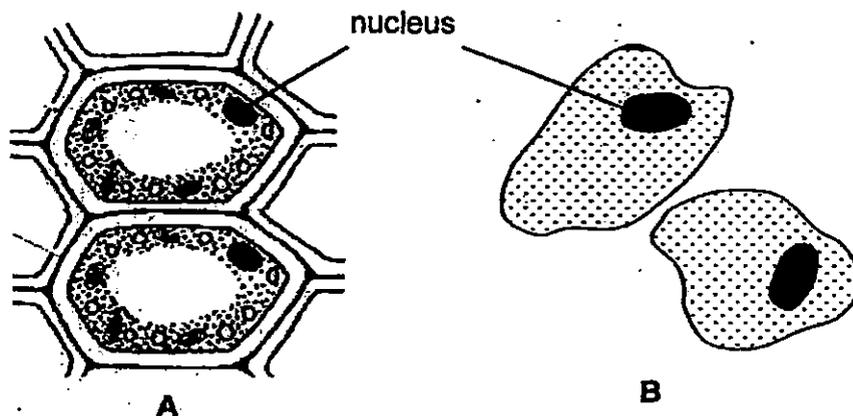
(c) When a branch of a tree is cut, the plant transport system continues to function with no risk of the plant dying. However, if the human suffers a deep cut and keeps bleeding, there is a risk that the entire human transport system could fail and the human might die.

Explain why this is so.

[2]

Score	
	4

30. Jamie observed two cells, A and B, under the microscope as shown in the diagrams below.



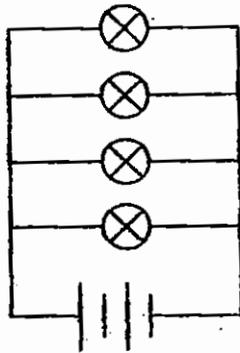
Jamie could clearly identify the nucleus of both cells as labelled in the diagrams. However, she observed that the shapes of both cells were different.

- (a) Based on the shapes of the cells observed, how can she tell that A is a plant cell and not B? [1]

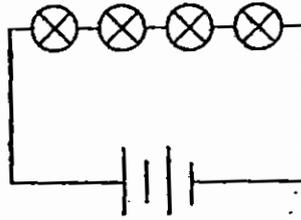
- (b) Jamie removed a part from both cells A and B which caused the cells to be unable to reproduce. What is the part that was removed and what is its function? [1]

Score	/
	2

31. (a) Study the circuit diagrams, P and Q, below. All the bulbs are lit.



Circuit P



Circuit Q

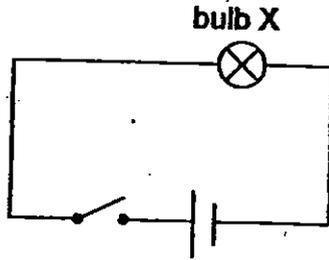
In the table below, write down the number of bulbs that would remain lit when one of the bulbs in each circuit is blown. [1]

	Circuit P	Circuit Q
Number of bulbs remaining lit		

(b) You are given two switches, two batteries, four bulbs and some wires. Draw a circuit diagram that will allow two bulbs to be switched on or off at any one time. [2]

Score	3
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32. Amir conducted an experiment using the setup shown below. He measured the brightness of bulb X.



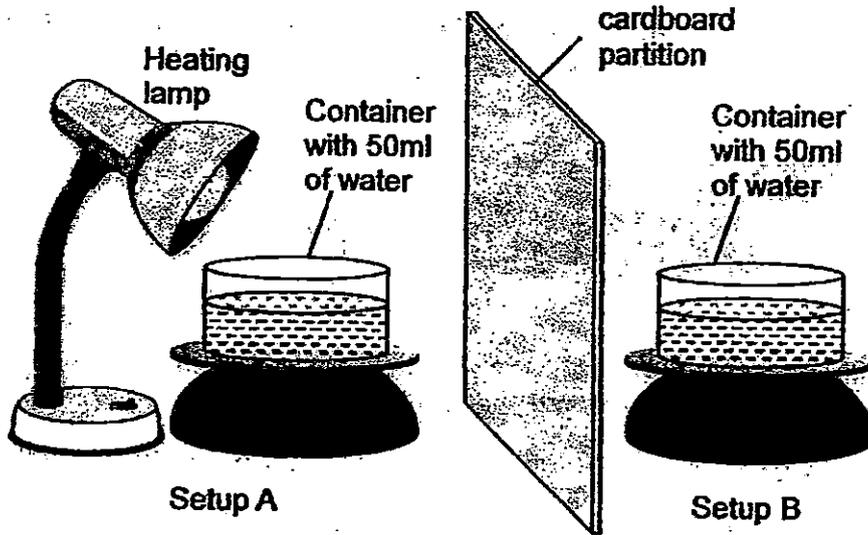
Amir added one battery at a time to the circuit and measured the brightness of the bulb X. He recorded the measurements in the table below.

Number of batteries	2	3	4	5	6
Brightness of the bulb X (lux)	1000	1500	2000	0	0

- (a) What is the relationship between the number of batteries and the brightness of bulb X? [2]

- (b) What do you think happened to bulb X when the 5th battery was added to the circuit? Give a reason. [1]

33. Study the experimental setup shown below.



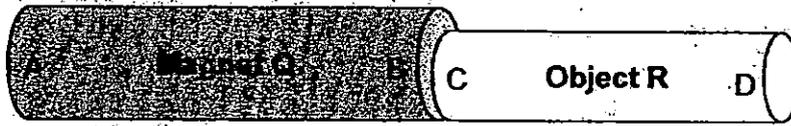
Azmi wanted to find out if heat increases the rate of evaporation. Two setups, A and B, were placed in the same room with a cardboard partition between them. He filled two identical containers with 50ml of water and placed them on two identical weighing machines as shown above.

(a) What data should Azmi collect and record over the duration of the experiment? [1]

(b) Explain how he could use the data collected in part (a) to help him to reach a conclusion? [2]

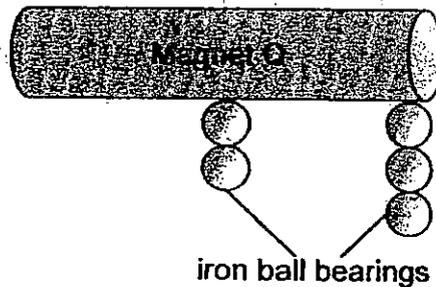
Score	3
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34. Chang brought Magnet Q close to Object R and found that they were attracted as shown below. He then concluded that Object R is made of a magnetic material.



- (a) Using only Magnet Q and Object R, what could Chang do to confirm whether Object R is a magnet or not? [2]

Using the same Magnet Q, Chang added identical iron ball bearings one at a time at two different parts of the magnet as shown in the diagram below. He added iron ball bearings until the two different parts of the magnet could not attract anymore iron ball bearings.



- (b) From the observation made by Chang above, what can you conclude about the magnetic strength of Magnet Q? [1]

END

Score	
	3



EXAM PAPER 2015

LEVEL : PRIMARY 5

SCHOOL : NAN HUA PRIMARY SCHOOL

SUBJECT : SCIENCE

TERM : CA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10
2	1	3	4	2	2	2	3	4	2
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
2	3	2	4	1	4	3	2	4	2

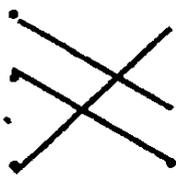
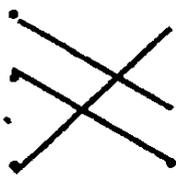
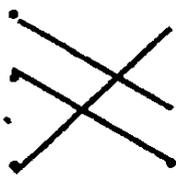
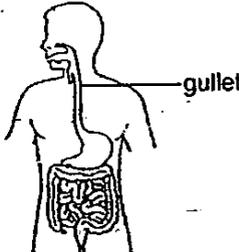
Q21A to Q34B – SEE ATTACHED NOTE.

THE END

32b.	The bulb has <u>fused</u> . The <u>electrical current is too high</u> and the filament melted.	
33a.	He should record the <u>mass of the container with water of both set-ups at the beginning and at the end</u> of the experiment. OR He should record the <u>mass of the container with water of both set-ups at regular /fixed intervals</u> .	- mass of container (x) - mass of water (x) - volume of water (x)
33b.	If <u>set-up A shows lower mass</u> than set-up B at the end of the experiment, the results show <u>more water had evaporated</u> in set-up A. He can <u>conclude that heat had increased evaporation</u> .	- Aim has stated that "if heat will increased evaporation", and set-up A is given heat source. So answer can state look at set-up A .
34a.	He should put <u>part A to touch part C</u> . If both <u>repels</u> , then magnet Q and object R <u>are magnets</u> .	- He should put part A to touch part C. <u>to see if they repel each other (x)</u> No idea on if both objects , then <u>confirm</u> they are magnets.
34b.	The <u>magnetism is stronger at the poles but weaker at the middle</u> of the magnet	- The magnet is <u>stronger</u> at the poles but weaker at the middle (x) Strong can refer to of material. - magnetic strength is stronger (✓)

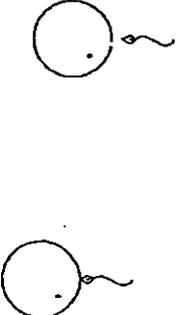
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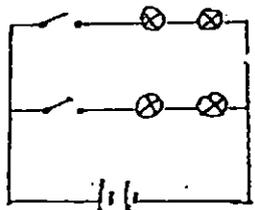
Qn:	Answer:	Discussion
21a	Dispersed by animals.	
21b	<p>-Increase the number of seeds dispersed/germinating.</p> <p>-Increase the chance of (more) seeds germinating/dispersing.</p>	<p>- ...higher chance of survival'</p> <p>- ...seeds indigestible and tiny... pass out in the waste... far away from parent pt... avoid competition for</p>
22a	<p>(i) Pollination</p> <p>(ii) Fertilisation</p>	<p>- "state" is not</p> <p>- "process" is</p>
22b	<p>-To attract the pollinators:</p> <p>-To attract the bees/insects/animals to pollinate the flower.</p>	<p>- ...to pollinate the <u>plant</u></p> <p>-to <u>fertilise</u> the flower</p>
23a	Tom is Terence's grandson/Terence is Tom's grandfather.	
23b	<p>Tim's mother passed this characteristic to Tim.</p> <p>Tim inherited colour blindness from his mother.</p> <p>Tim's parents/parent passed this characteristic to Tim [1/2].</p> <p>Tim inherited colour blindness from parent/parents [1/2].</p>	<p>-...from father</p> <p>Diagram</p> <p>- Tim inherited the characteristic fro his mother. [Tom inherited from Tim]</p>
23c		<p>- must follow</p> <p>- "label" means</p>

24a	<table border="1"> <tr> <td data-bbox="231 105 438 157">Activity</td> <td data-bbox="438 105 646 157"></td> <td data-bbox="646 105 821 157">Heart rate (bpm)</td> </tr> <tr> <td data-bbox="231 157 438 220">walking</td> <td data-bbox="438 157 646 220" rowspan="3">  </td> <td data-bbox="646 157 821 220">70</td> </tr> <tr> <td data-bbox="231 220 438 283">sleeping</td> <td data-bbox="646 220 821 283">80</td> </tr> <tr> <td data-bbox="231 283 438 367">reading</td> <td data-bbox="646 283 821 367">65</td> </tr> </table>	Activity		Heart rate (bpm)	walking		70	sleeping	80	reading	65	- refer to notes given
Activity		Heart rate (bpm)										
walking		70										
sleeping		80										
reading		65										
24b	<p>Faster. Walking needs <u>more energy</u> than sleeping so he needs to breathe faster to inhale/ take in <u>more oxygen / oxygen more quickly/faster.</u></p>	<p>- Faster. His heart needs to beat faster to transport oxygen faster to all parts to the body. Then the cells can respire faster to provide energy faster. Qn is asking for</p>										
25a	<table border="1"> <thead> <tr> <th data-bbox="231 672 502 724">Number of bulbs lit</th> <th data-bbox="502 672 821 724">The switch(es) to be closed</th> </tr> </thead> <tbody> <tr> <td data-bbox="231 724 502 766">1</td> <td data-bbox="502 724 821 766">S2 & S3</td> </tr> <tr> <td data-bbox="231 766 502 850">2</td> <td data-bbox="502 766 821 850">S1</td> </tr> </tbody> </table>	Number of bulbs lit	The switch(es) to be closed	1	S2 & S3	2	S1	- some gave number of switches instead for the				
Number of bulbs lit	The switch(es) to be closed											
1	S2 & S3											
2	S1											
25b	<p>No bulbs will light up. Switches S1, S3 and S4 are open so the <u>circuit is open.</u> / The <u>electrical current cannot flow through the circuit</u></p>	- <u>Nothing will happen</u> because the circuit is open.										
26a												
26b	<p>The gullet <u>channels / transfers / moves food</u> from the <u>mouth(P)</u> to the <u>stomach/to Q.</u></p>	-The gullet connects the mouth to the stomach (no concept of										

Name :

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Qn	Answer	Discussion
27a.	The control is for <u>comparison</u> with the experimental set-up to <u>confirm</u> that <u>water is needed for germination</u> .	- The control is to <u>find out if</u> water is needed for germination (x)
27b.	- <u>Add 100 ml of water</u> to the experimental set-up -Placed the experimental set-up <u>in the freezer</u>	Put one of the set-ups in the freezer (x). The qn ask for
28a.	The sperm must <u>fuse</u> with the egg.	 <p>- sperm must come into contact with the egg (x) . Must still mention about <u>fusing</u> after in contact</p>
28b.	Womb/ uterus	
28c.	The womb is where the <u>fertilised egg</u> will <u>developed</u> for 9 months	- ..where the fertilized egg is <u>stored</u> (x) <u>Store</u> does not include the idea that food is received and the parts of foetus are formed.
29a.	Oxygen /carbon dioxide/ digested food/ water	-food (x)
29b.	i) water/ <u>dissolved</u> minerals ii) food	- <u>dissolved</u> minerals (is better) Bec minerals in the soil need to be

Qn	Answer	Discussion
29c.	<p>Blood <u>transport oxygen</u> to all parts of the body. If keep bleeding, we will <u>not have enough blood</u> so very <u>little oxygen</u> for us to <u>respire/ carry out life processes</u>.</p> <p>OR</p> <p>We will <u>not have enough blood rich in oxygen</u> to <u>respire</u>.</p>	<p>- Blood transport <u>food</u>(x) Should be digested food , more importantly</p> <p>-must mention blood carries oxygen, in part (a) <u>though</u> oxygen is given as the answer, it <u>does not include the meaning</u> that</p>
30a.	<p>Cell A has a <u>regular</u> shape but <u>not Cell B</u>.</p>	<p>- must mention</p> <p>- Cell A has <u>cell wall</u> but not Cell B (x) Qn ask about</p>
30b.	<p>It is the <u>nucleus</u>. It <u>controls all the activities</u> including <u>reproduction</u> of the <u>cell</u>.</p>	<p>- better to include reproduction to avoid writing only general statement and to application of</p>
31a.	<p>3 , 0</p>	
31b.		<p>- many make error on symbol of switch</p>
32a	<p>When the number of batteries increased, the <u>brightness of bulb increased until 4 batteries</u>. The bulb <u>did not light up when more than 4</u> batteries are added.</p>	<p>- When the number of batteries increased, the brightness of bulb increased This relationship is not true when</p>