



NAN HUA PRIMARY SCHOOL  
CONTINUOUS ASSESSMENT 2 – 2013  
PRIMARY 5

SCIENCE

BOOKLET A

20 Multiple Choice Questions (40 marks)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		/ 40
Booklet B		/ 40
Total		/ 80

Name: \_\_\_\_\_ ( ) Class: P 5 \_\_\_\_\_

Date : 27 August 2013

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

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

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. The statements below are steps describing the process of a seed germinating into a seedling when it receives the right conditions.

- A The roots grow.
- B The leaves grow.
- C The shoots grow.
- D The seed leaves drops off.

Which one of the options below shows the correct order of the germination process?

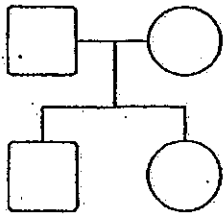
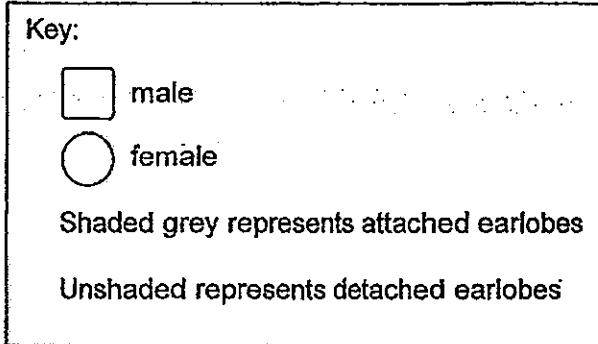
- (1) A, B, C, D
- (2) A, C, B, D
- (3) C, A, B, D
- (4) C, A, D, B

2. Which of the following are parts of a flower?

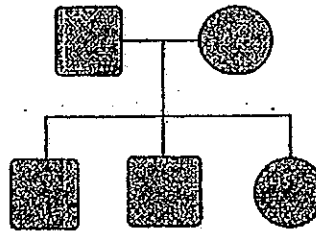
- A Ovary
- B Seeds
- C Stigma
- D Spores

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

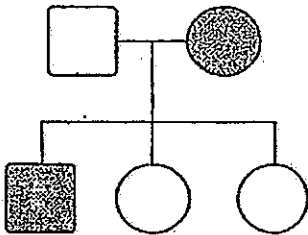
3. The family trees of four families are shown below.



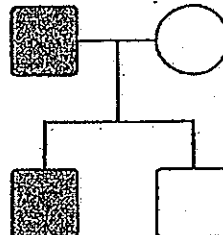
Phua Family



Kua Family



Sua Family



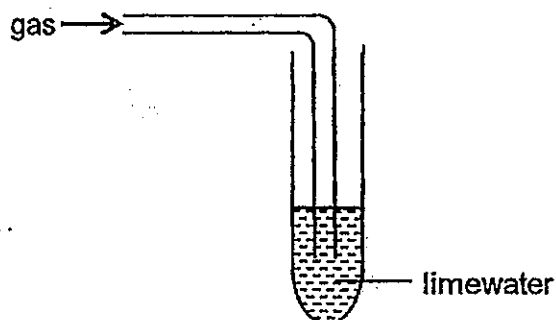
Chua Family

In how many families do the daughters have the same earlobes as their mothers?

- (1) One
- (2) Two
- (3) Three
- (4) Four

4. Limewater turns chalky in the presence of carbon dioxide. Hence, limewater is commonly used to detect the presence of carbon dioxide.

Jed pumped gases from different sources into test tubes of limewater as shown in the setup below.



He recorded his observations of the limewater in the table below.

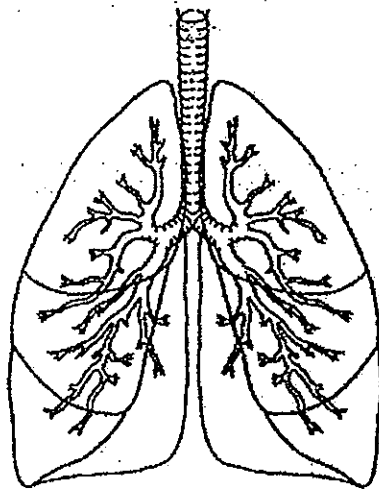
Gas	Limewater
Carbon dioxide	Turns chalky
Gas collected from a green plant	Remains clear
Gas collected from a boy's breath	Turns chalky
Gas collected from burning paper	Turns chalky

Which of the following conclusions can be drawn from the results of his observations above?

- A The green plant produced oxygen.
- B Burning paper produces carbon dioxide.
- C The boy's breath contains only carbon dioxide.

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

5. The diagram below shows a picture of the human lungs.

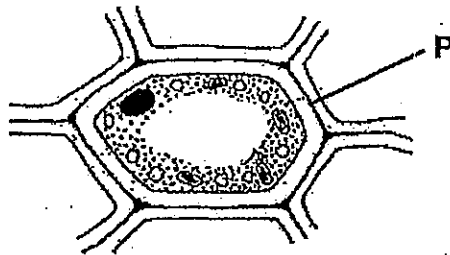


**Human Lungs**

Which of the following statement about the human lungs is incorrect?

- (1) The blood flows through the lungs to pick up oxygen.
- (2) The air is moistened in the lungs before it is breathed out.
- (3) Oxygen is taken in and carbon dioxide is given out in the lungs.
- (4) The air that enters into the lungs from the windpipe is rich in oxygen.

6. Study the diagram below carefully.



Which of the following statement(s) is/are true of the part marked P?

- A It supports and protects the cell.
- B It prevents the cell from bursting.
- C It allows only food to move into the cell.

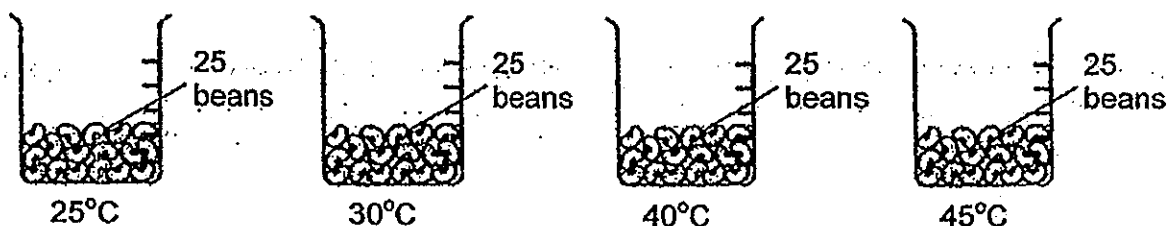
- (1) A only
- (2) B only
- (3) A and B only
- (4) B and C only

7. Below is a list of common apparatus that is used to construct an electrical circuit. Which are the two most important apparatus needed to light a bulb?

- A wire
- B switch
- C battery
- D bulb holder

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

8. An experiment is set up as shown below.



Equal amount of water is added into each beaker. The number of seeds that germinated was counted after 10 hours, and another time after 20 hours of soaking.

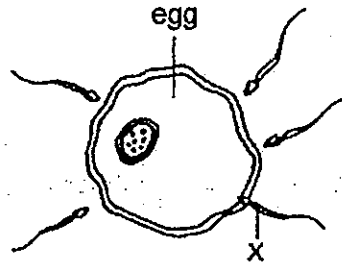
The results are shown in the table below.

Temperature	25°C	30°C	40°C	45°C
Number of germinated seeds after 10 hours	15	20	10	0
Number of germinated seeds after 20 hours	20	25	15	0

Which of the following cannot be concluded from the information given in the table?

- (1) Some seeds germinated faster than others.
- (2) More seeds germinated at 30°C than at 25°C.
- (3) The temperature affected the rate of germination of the seeds.
- (4) The amount of water did not affect the germination of the seeds.

9. The diagram below shows an egg and several sperms.

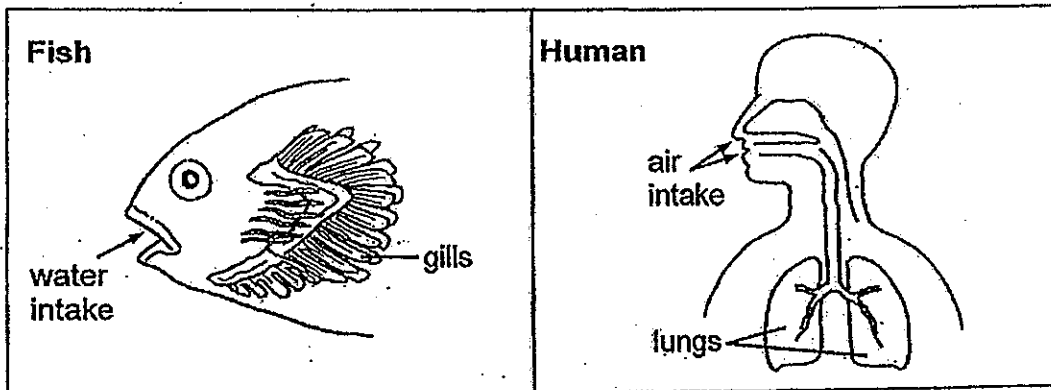


Which of the following statements about the activity shown above is true?

- A Normally, one sperm will fertilise the egg.
- B The sperms came from the male organism.
- C The activity above can only occur inside the body of an organism.
- D The egg is not fertilised until the sperm's nucleus fuses with the egg's nucleus.

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

10. The diagrams below show the fish and human respiratory systems.

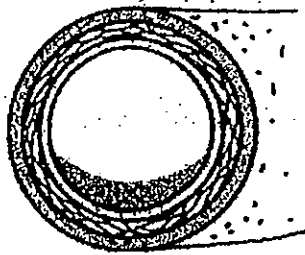


Which of the statements below are true about the way the fish and the human breathe?

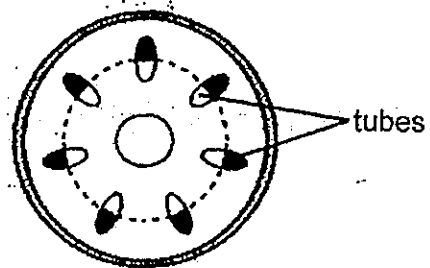
- A Both the fish and human take in oxygen from the air.
- B Gaseous exchange occurs in both the gills and the lungs.
- C The fish takes in water through the mouth but the human takes in air through the nostrils during breathing.

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

11. The diagrams below show the cross-section of a human blood vessel and a plant stem.



Human Blood vessel



Plant Stem

The blood vessel is part of the human transport system just as the tubes are parts of the plant transport system.

Which of the statements below correctly identify their similarity?

- A Both the vessels and tubes transport water, food and minerals.
- B Both the vessels and tubes transport material to all parts of the organism.
- C Both the vessels and tubes move materials in a cycle round the organism.

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

12. The table below shows the characteristics of cells J and K.

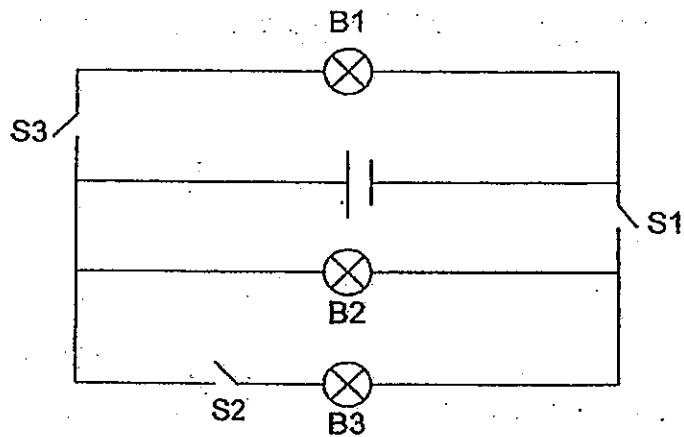
J	K
Has an irregular shape.	Has a regular shape
Does not have a cell wall	Has a cell wall
Has a nucleus	Has a nucleus
Cannot make food	Can make food

Which of the following best represents J and K?

	J	K
(1)	Leaf cell	Cheek cell
(2)	Cheek cell	Leaf cell
(3)	Sperm	Ovum
(4)	Ovum	Sperm



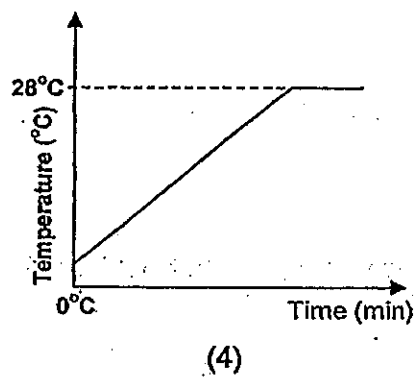
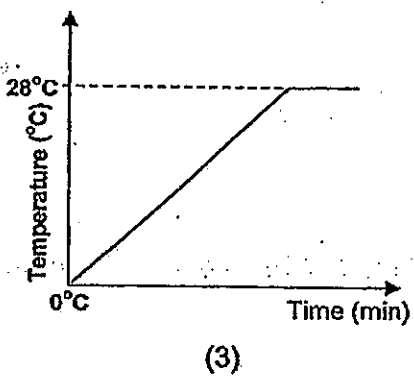
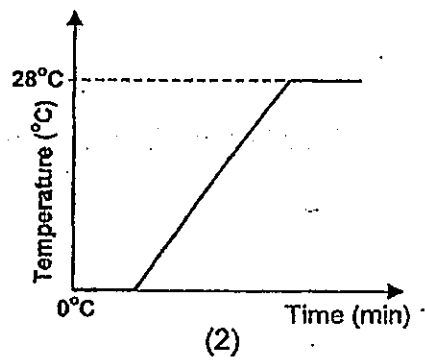
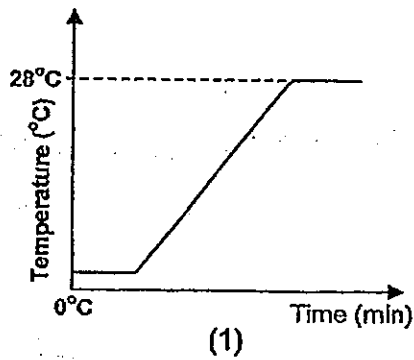
13. Bulbs B1, B2 and B3, and switches S1, S2 and S3 are connected in a circuit as shown below. All switches and bulbs are working properly.



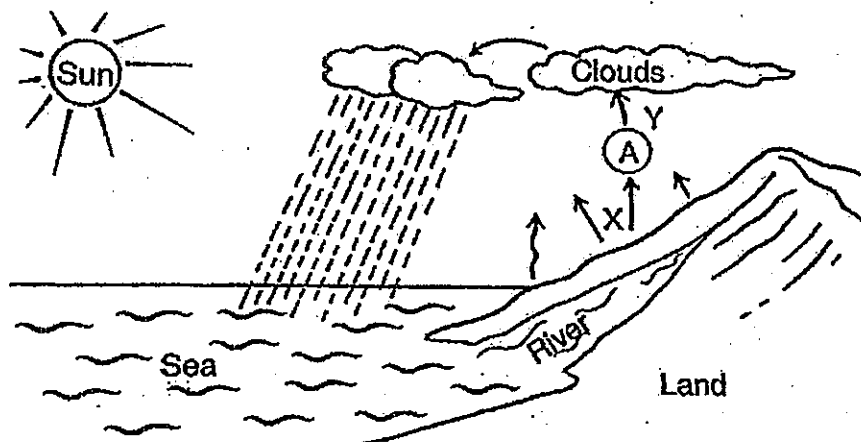
Which one of the following is correct?

	Switches			Do the bulbs light up?		
	S1	S2	S3	B1	B2	B3
(1)	Open	Closed	Closed	yes	no	yes
(2)	Closed	Closed	Open	no	no	yes
(3)	Closed	Open	Closed	no	yes	no
(4)	Open	Open	Closed	yes	no	no

14. Which one of the following graphs represents the change in temperature when some ice cubes are being left on a plate on a dining table over 60 minutes.



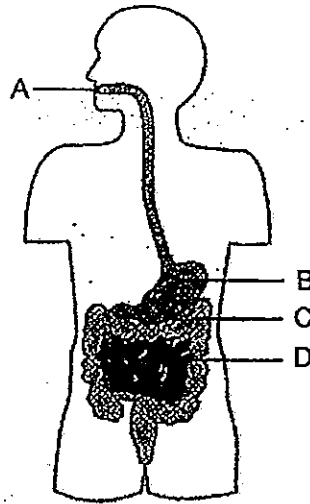
15. Study the diagram of the water cycle carefully.



What do the letters A, X and Y represent?

	A	X	Y
(1)	Water droplets	Evaporation	Precipitation
(2)	Water vapour	Condensation	Precipitation
(3)	Water vapour	Evaporation	Condensation
(4)	Water droplets	Condensation	Evaporation

16. The diagram below shows the human digestive system.



In which parts do digestion starts and ends?

	Digestion Starts	Digestion Ends
(1)	A	C
(2)	A	D
(3)	B	C
(4)	B	D

17. Study the table below. X, Y and Z represent the characteristics of the animals.

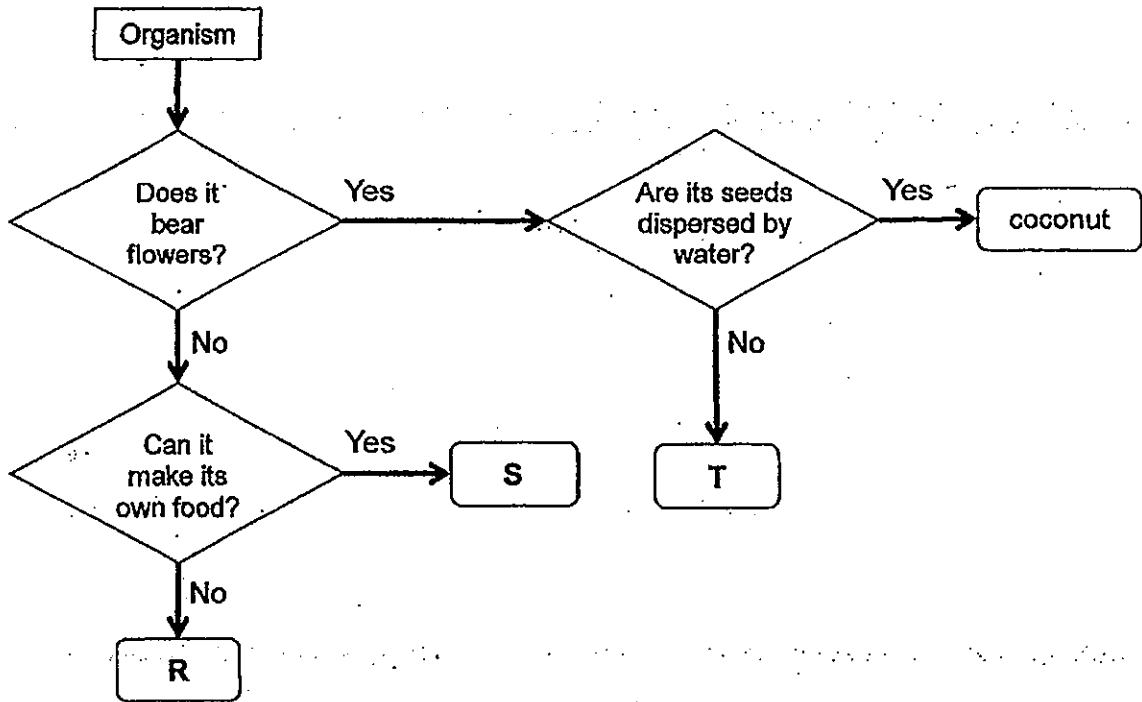
A tick (✓) shows that the animal has the characteristic.

Animal	X	Y	Z
Ostrich	✓		✓
Pigeon	✓	✓	✓
Frog			✓

Which of the following represent X, Y and Z?

	X	Y	Z
(1)	Has wings	Can fly	Lay eggs
(2)	Can fly	Lay eggs	Has wings
(3)	Has wings	Lay eggs	Can fly
(4)	Lay eggs	Can fly	Has wings

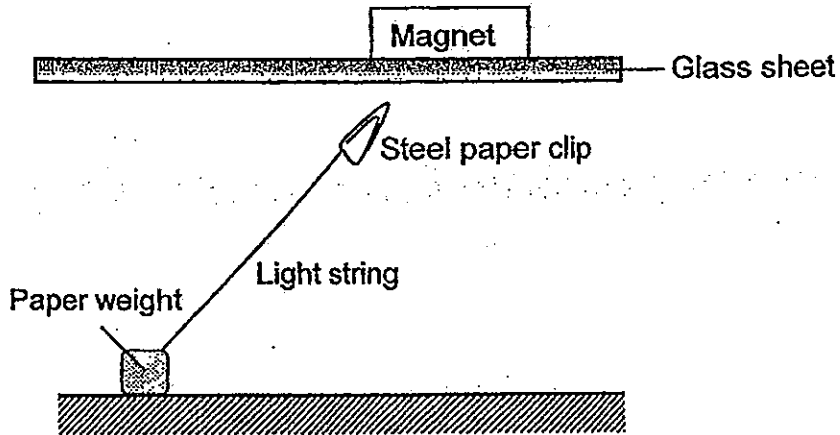
18. Study the chart below carefully.



Which one of the following correctly shows what R, S and T could be?

	R	S	T
(1)	mould	moss	chilli plant
(2)	moss	mould	mushroom
(3)	mushroom	chilli plant	moss
(4)	moss	mushroom	chilli plant

19. Study the diagram below carefully.

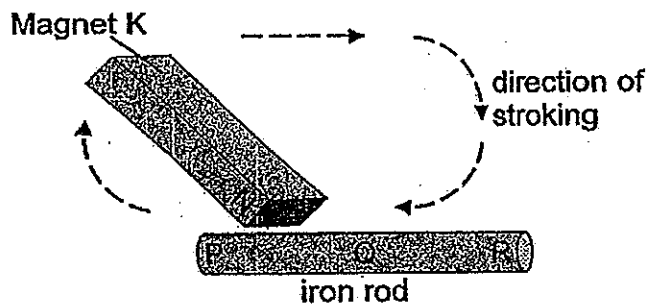


What can you conclude from this experiment?

- A Steel is a magnetic material.
- B Magnetic force can only be a pull.
- C Magnetic force can act from a distance.
- D Magnetic force cannot pass through magnetic materials.

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

20. Jack used Magnet K and stroked an iron rod 30 times as shown below.



Which of the statements about the activity above is true?

- A The parts P and R can attract more iron nails than Q.
- B The iron rod will be able to attract as many iron nails as Magnet K.
- C The iron rod will eventually lose most of its magnetism after some time.

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



**NAN HUA PRIMARY SCHOOL  
CONTINUOUS ASSESSMENT 2 – 2013  
PRIMARY 5**

**SCIENCE**

**BOOKLET B**

**14 Open-ended questions (40 marks)**

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

**INSTRUCTIONS TO CANDIDATES**

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

**Marks Obtained**

**Section B**

	/ 40
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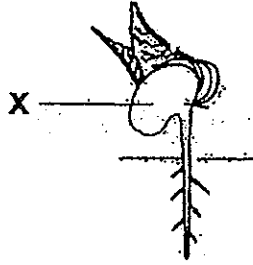
**Name:** \_\_\_\_\_ (      )      **Class:** P 5 \_\_\_\_\_

**Date :** 27 August 2013

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

**Section B: 14 Questions (40marks)**

21. The picture below shows a growing seedling.



(a) Name part X.

\_\_\_\_\_ [1]

(b) Explain why part X is important in the process of germination? [1]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Score	2
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22. The picture below shows a dog, Tilli, with short jaws, short legs and long white and brown fur.



(a) How did Tilli get its characteristics?

[1]

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(b) The table below shows three dogs and their characteristics.

Dog	A	B	C
Colour	White and brown	White	Black
Legs	Short	Short	Long
Fur	Long	Short	Short
Jaws	Short	Short	Short

Which two dogs are the likely parents of Tilli? Explain your answer. [1]

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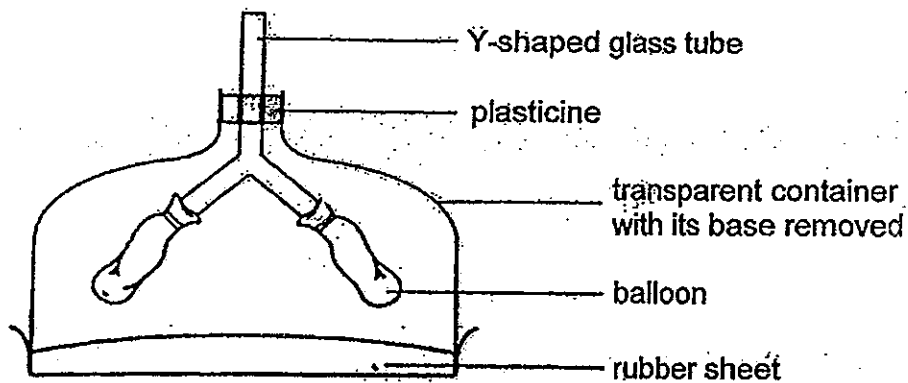


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Score	2
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23. A model of the human respiratory system is constructed as shown below.



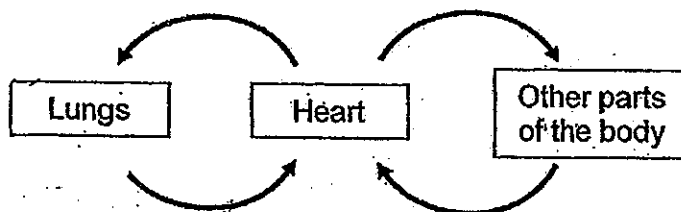
(a) Each item in the model represents a part in our respiratory system. Identify the parts represented by the items below: [3]

Y-shaped glass tube: \_\_\_\_\_

Balloons: \_\_\_\_\_

Rubber sheet: \_\_\_\_\_

(b) Study the diagram below.



Though the lungs belong to the respiratory system, it appears here with the circulatory system.

Explain the role of the lungs in supporting the circulatory system. [1]

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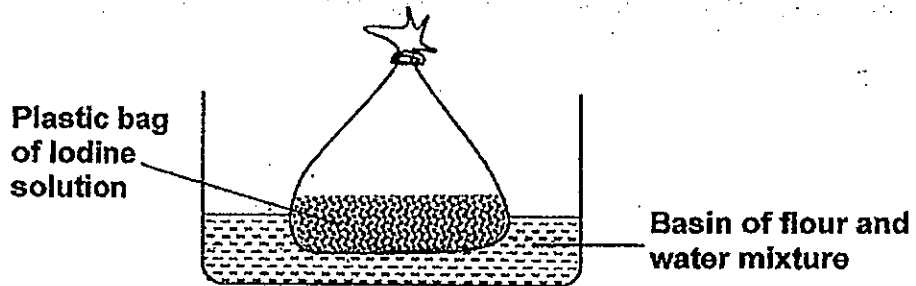
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Score	4
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24. Study the setup below carefully.  
A plastic bag of iodine solution is dipped into a basin of flour and water mixture.



- (a) What will you observe about the flour and water mixture after one hour? [1]

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- (b) Explain your observation in (a)? [1]

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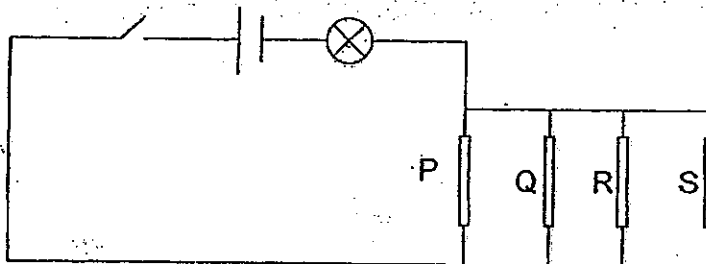
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- (c) Which part of a cell does the plastic bag represent? [1]

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25. Deva wanted to investigate whether four rods, P, Q, R and S, were electrical conductors or insulators. He used the circuit shown below for his investigation.





He tried removing some rods and recorded his findings. The table below shows what happened when the switch was closed and certain rod(s) was/were removed.

Rod(s) removed from the circuit	Do the bulb light up?
P	yes
Q and R	yes
P, Q and R	no
P, R and S	no

From the information provided above, put a tick (✓) in the table below to identify if rods P, Q, R and S are insulators or conductors of electricity. [2]

Rods	Conductor of electricity	Insulator of electricity
P		
Q		
R		
S		

26. Study the plants in the boxes below.

Group A	Group B
 <p data-bbox="311 510 391 542">Moss</p> <p data-bbox="523 533 678 593">Bird's Nest Fern</p>	 <p data-bbox="790 555 949 586">Love Grass</p> <p data-bbox="1037 533 1157 564">Mimosa</p>

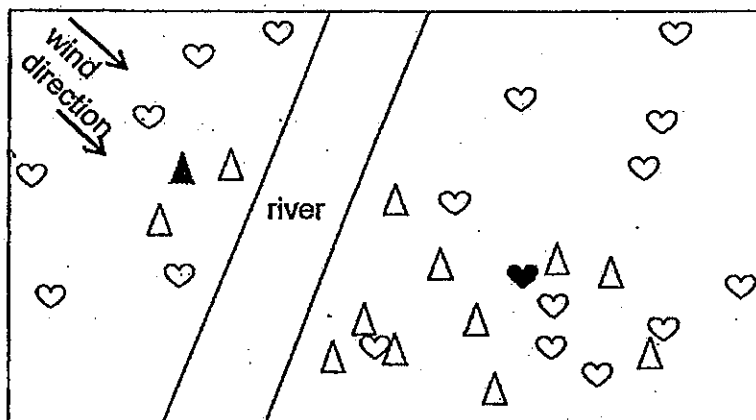
(a) How are the plants in Group A and Group B classified?  
Give suitable headings for Group A and Group B. [1]

Group A: \_\_\_\_\_

Group B: \_\_\_\_\_

(b) The diagram below shows the location where the new Bird's Nest Fern and the Love Grass are found.

Key: ▲ and ♥ are parent plants



Do you agree that the "▲" should represent the Bird's Nest Fern?  
Explain your answer. [1]

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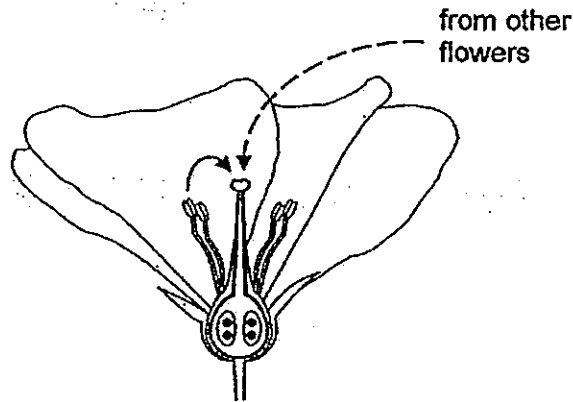
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Score	2
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27. The diagram below shows the cross-section of a flower.



(a) The two arrows above show the possible ways the flower may be pollinated.

The table below identifies 2 types of pollination.

Arrow	Name of process
→	Self-pollination
- - - →	Cross-pollination

Name two possible agents that would help in the process of cross-pollination.

[2]

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_

(b) The fertilisation process of the flowering plant involves the union of the reproductive cell in the pollen grain and the ovum in the ovule.

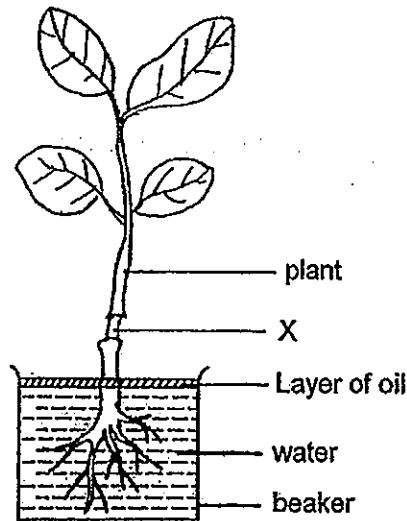
Complete the comparison table below by identifying:

- i) the appropriate headings to classify the cells  
 ii) the human cells involved in the fertilisation process [2]

<b>i) Headings</b>		
<b>Flowering Plant</b>	Cell in pollen grain	Ovum
<b>ii) Human Being</b>		

Score	3
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28. Larry set up the following experiment below. He also removed the outer layer of the stem as shown at point X.



- (a) What is the purpose of the layer of oil? [1]

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- (b) After three days, he observed that the stem above point X was swollen but not the stem below point X. Why is this so? [1]

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- (c) Our blood vessels work like the tubes found in the transport system of the plant above. However, if our blood vessel is cut like the tubes of the plant, we will bleed and die in a short period of time if the bleeding is not stopped.

With reference to the role that the blood plays in our circulatory system, explain why losing too much blood could cause a person to die quickly. [2]

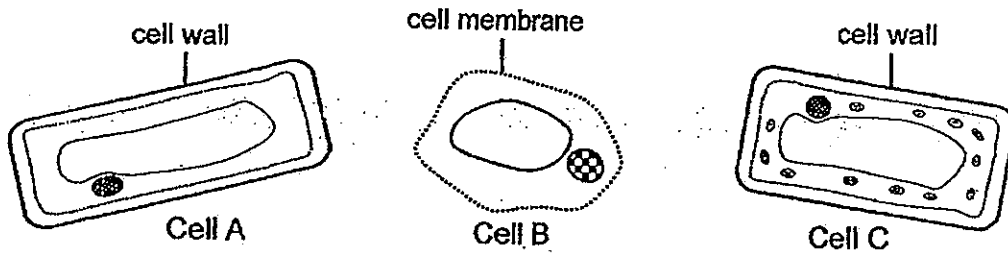
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Score	4
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29. Roy observed three cells under a microscope. He concluded that these cells are all different and so came from different organisms.



(a) Do you think Roy is right? Explain your answer.

[2]

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(b) A dog is an example of a multi-cellular organism. Its body is made up of many different types of cells. Why is it necessary to have different types of cells in an organism?

[1]

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Score	3
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30. Most of our home lightings are wired in parallel arrangement.  
(a) What is the advantage of this arrangement?

[1]

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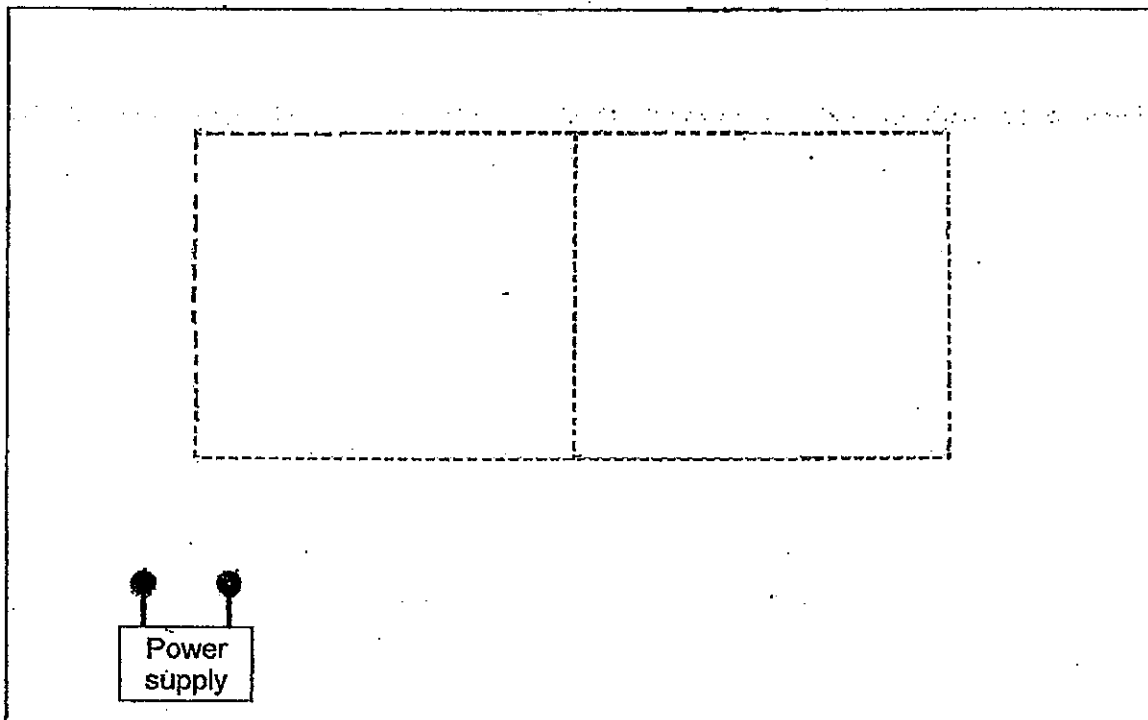
(b) Draw a circuit diagram in the box provided below such that the lights of each room can be switched on and off independently.

The outline of the two rooms (in dotted lines) is drawn for you.

Your circuit should only include:

- two switches
- two bulbs and
- unlimited wires,

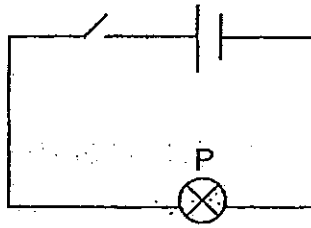
Connect your circuit to the power supply instead of drawing batteries. [2]



Score	3
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31. The diagram below shows a simple circuit.



Jack wanted to investigate the effect of adding bulbs to the circuit. He started by connecting a second bulb next to bulb P and a third bulb next to it. The number of batteries was unchanged.

(a) What would Jack observe each time he added a bulb next to bulb P? [1]

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(b) Explain his observation in (a). [1]

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Now Jack decided to add batteries to the original circuit instead of bulbs. He noticed that the bulb got brighter each time he added a battery.

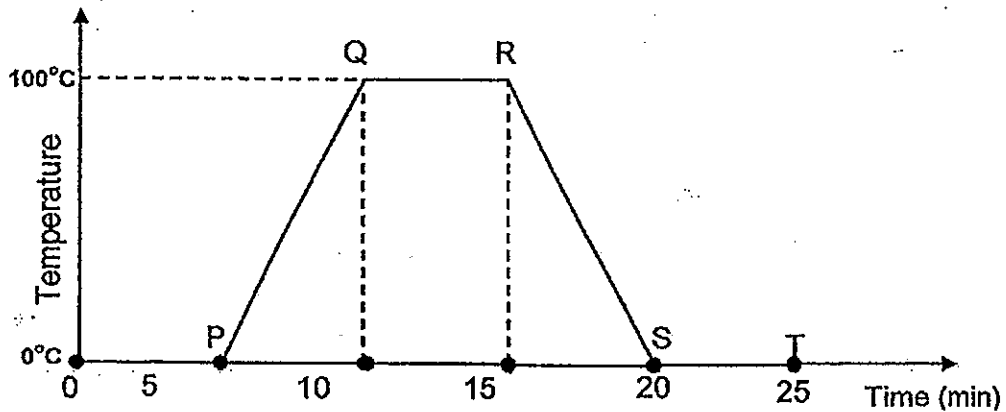
(c) What do you think would happen when he added the 5<sup>th</sup> battery? Explain your answer. [1]

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Score	3
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32. Study the graph below carefully. It shows the temperature of water over 25 minutes.



(a) Identify the following processes. [1]

(i) OP: \_\_\_\_\_

(ii) ST: \_\_\_\_\_

(b) Describe what is happening from P to Q. [1]

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(c) If 50g of ice was used at the beginning of the experiment, would the mass of ice be more than 50g, less than 50g or remain unchanged at the end of 25 minutes? Explain your answer. [1]

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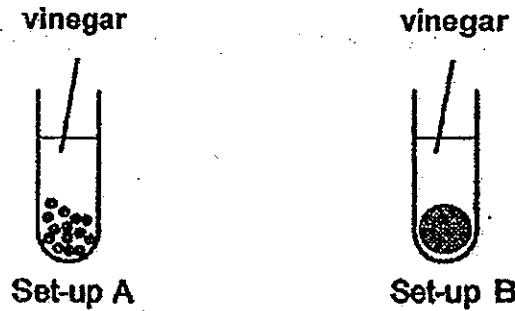
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Score	3
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33. A piece of chocolate biscuit in Set-up A is mashed into small pieces but the piece of biscuit in Set-up B remains whole. The same amount of vinegar is added into each set-up to break down the biscuit.



- a) The biscuit in set-up A was found to be broken down much faster. Explain why this is so. [1]

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- b) The human small intestine is about 6m long while the large intestine is only about 1.5m long.

Explain how the length of the small intestine helps us in terms of digestion and food absorption? [2]

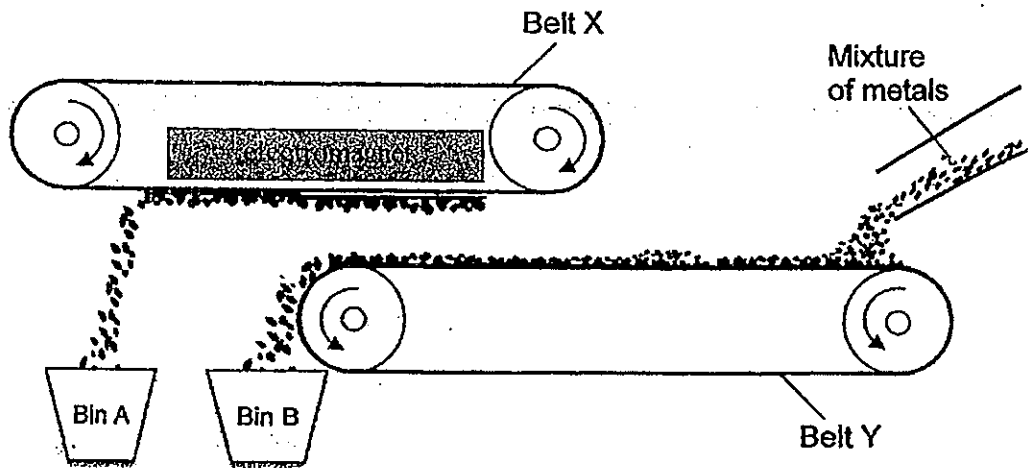
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Score	3
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34. The diagram below shows a way to separate magnetic metals and non-magnetic metals. Mr Mah poured a mixture of metals onto a moving belt Y.



(a) Explain how the metals were pickled up by the moving belt X and then collected in Bin A. [2]

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(b) Suggest one way to fill Bin A faster. [1]  
 (Do not suggest pouring more mixture of metals onto Belt Y)

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Score	3
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# ANSWER SHEET

**EXAM PAPER 2013**

**SCHOOL : NAN HUA**

**SUBJECT : PRIMARY 5 SCIENCE**

**TERM : CA2**

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

Q18	Q19	Q20
1	2	2

21)a)Seed leaves.

b)It provides food for the seedling.

22)a)Tilli inherited the genes from the parents during the process of fertilization.

b)A and B. Both dogs had short legs and short jaws just like Tilli.

23)a)windpipe

lungs

diaphragm

b)The lungs are where the blood in the circulatory system picks up oxygen. The blood rich in oxygen is transported to other parts of the body for respiration. The carbon dioxide in the blood produced during respiration is brought to the lungs. The carbon dioxide is removed into the lungs to be exhaled.

24)a)The flour and water mixture turns dark blue.

b)The iodine solution will pass through the partially permeable bag, causing the flour and water mixture to turn dark blue.

c)Cell membrane.

- 25) P : Conductor of electricity  
 Q : Insulator of electricity  
 R : Conductor of electricity  
 S : Insulator of electricity

26) a) Group A: reproduce from spores.  
 Group B : reproduce from seeds.

b) Yes. The spores of the fern are carried by wind and all the new ferns are found further away along the direction of the wind.

27) a) i) wind ii) insect

b) i) Male reproductive cell / Female reproductive cell  
 ii) sperm / egg

28) a) It is to prevent water in the beaker evaporating.

b) The plant photosynthesis and the leaves produced food. The food travels down words to wards the roots. However the phloem has been cut out so the food could not be transported to the roots. Therefore the food could move and stayed there, causing the part to swell.

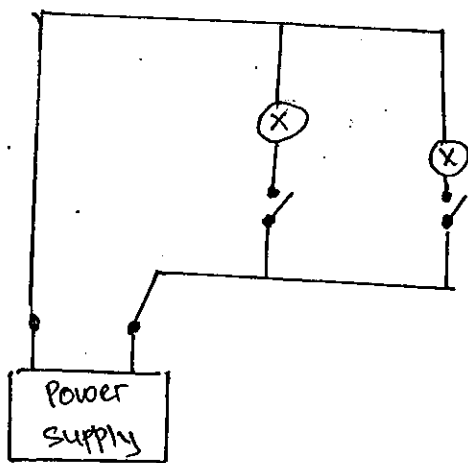
c) Our blood helps to carry oxygen from the lungs to the rest of our body. When we do not have enough blood, the other parts of the body will not get enough oxygen to respire so we die.

29) a) No. Cell A and Cell C has a cell wall so it could have come from the same organism.

b) Different cells have different functions and work together for the survive of the organism.

30) a) When are bulb fuses, the rest will still be lit up.

b)



**31)a)The brightness of the bulbs will be reduced.**

**b)Each bulb receives less electricity than before.**

**c)The bulb would fuse. Too much electric current has flown through the bulb.**

**32)a)i)Melting      ii)Freezing**

**b)A heat source had been added so the water gained heat and evaporated until it reached boiling point.**

**c)Less than 50g from P to S some water had evaporated and escaped as water vapour so there is less water left at the end.**

**33)a)The biscuit set-up A has more surface area of the food coming into contact with the vinegar and increases the rate of breaking down.**

**b)A longer small intestine means more time to move through it so that more food is digested. More time to absorb more digested food.**

**34)a)As the mixture in Belt Y moves toward Belt X, the magnetic metals will be attracted by the electromagnet in Belt X and move along it. When the magnetism is too weak the magnetic metals.**

**b)Increase the speed of both belt.**

