



## Anglo-Chinese School (Primary)

MID-OF-YEAR EXAMINATION 2015

SCIENCE

PRIMARY FIVE

BOOKLET A

Name. \_\_\_\_\_

Class: Primary 5 \_\_\_\_

Date: 6 May 2015

Duration of paper: 1 h 45 min

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Parent's/Guardian's signature

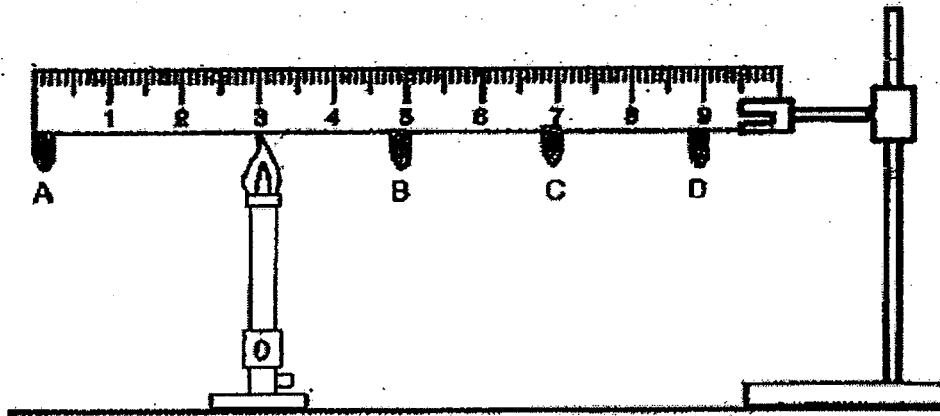
### INSTRUCTIONS TO CANDIDATES

1. The paper is in English and Chinese. Candidates should read the instructions in both languages.
2. Do not write on the question paper.
3. Follow the instructions carefully.
4. Answer all questions in the question paper.
5. Show your answer on the Official Answer Sheet (OAS) provided.

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(60 marks)

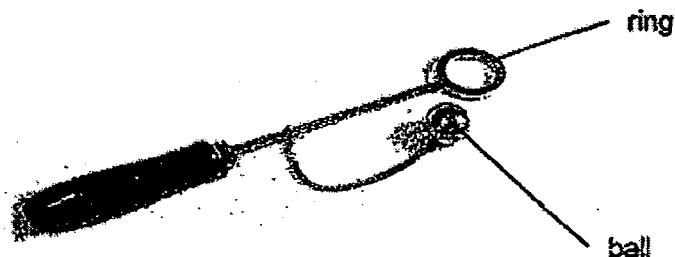
- 1 Four similar pieces of wax, A, B, C and D, were stuck to a metal ruler as shown below.



The metal ruler was heated at the position shown above. Which one of the following shows the correct order in which the pieces of wax would melt?

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

- 2 The ball and ring apparatus shown in the diagram below were made of the same material.

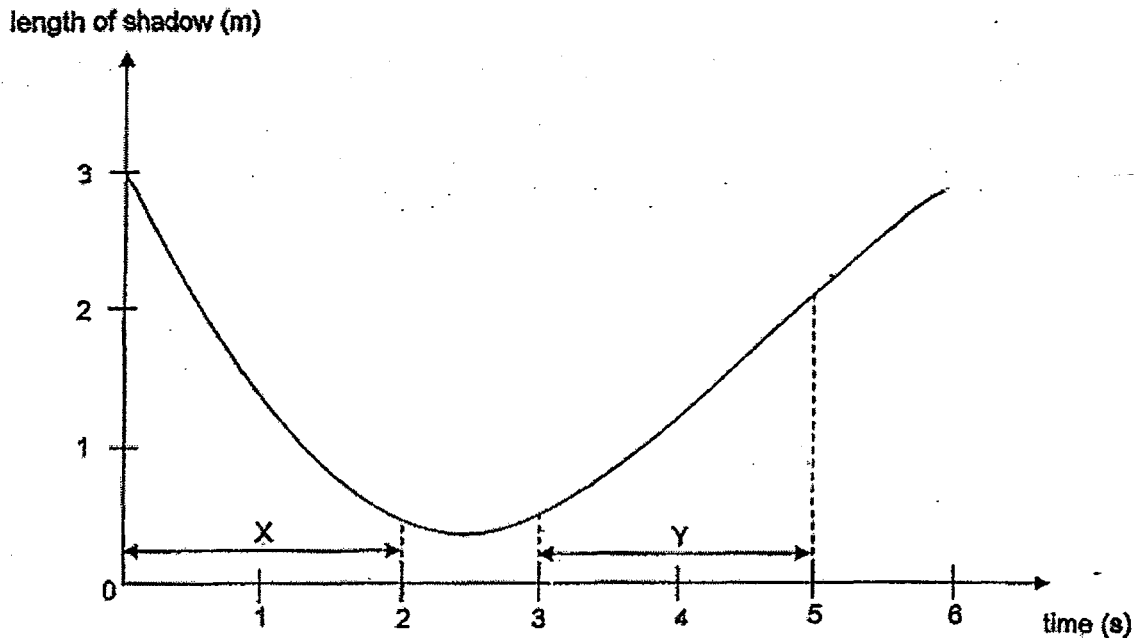


At room temperature, the ball was unable to pass through the ring. After the ring was heated for five minutes, the ball was able to pass through the ring.

Which one of the following best explains this observation?

	The Ball	The Ring
(1)	remained the same size	contracted
(2)	contracted	expanded
(3)	remained the same size	expanded
(4)	expanded	remained the same size

- 3 The graph below shows how the length of Andy's shadow changes over a period of time as he walks in a straight line near a street lamp at night.



Based on the graph above, identify whether Andy was walking towards or away from the street lamp.

	Period X	Period Y
(1)	Away	Towards
(2)	Away	Away
(3)	Towards	Away
(4)	Towards	Towards

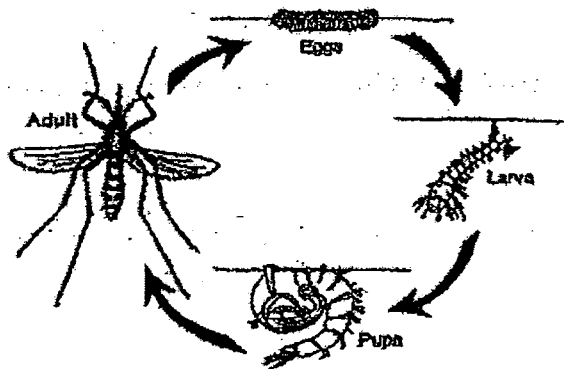
- 4 Keith wanted to find out the volume of the plasticine he has. He carried out the following steps.

- Step 1: Place the plasticine in an empty measuring cylinder.
- Step 2: Pour some water into a measuring cylinder until the plasticine is completely submerged under the water.
- Step 3: Measure the volume displayed as reading 1.
- Step 4: Use a hook and remove the plasticine completely out of the measuring cylinder.
- Step 5: Measure the volume of water left in the measuring cylinder as reading 2.

What else should Keith do to obtain the volume of the plasticine?

- (1) Take reading 1 directly.
- (2) Take reading 2 directly.
- (3) Take the sum of reading 1 and reading 2.
- (4) Take the differences between reading 1 and reading 2.

- 5 The diagram below shows the life cycle of a mosquito.

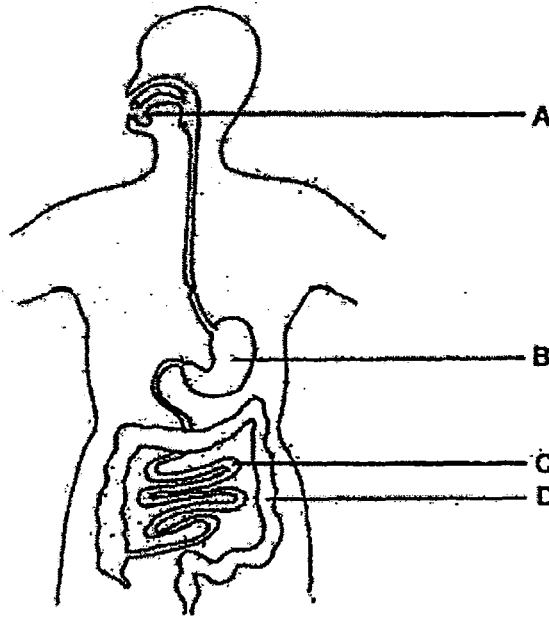


Based on the diagram only, which of the following statement(s) below is/are true?

- A Mosquito has four-stages in its life cycle.
- B The life cycle must start from the adult stage.
- C The larva and pupa do not look like the adult.

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

- 6 The diagram below shows the human digestive system.

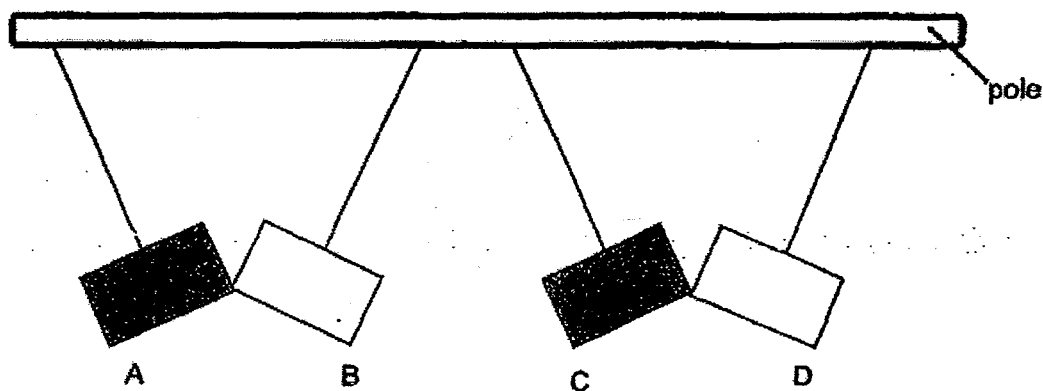


Which part of the system (A, B, C or D) is not working properly when there is excess water in the stool that is passed out?

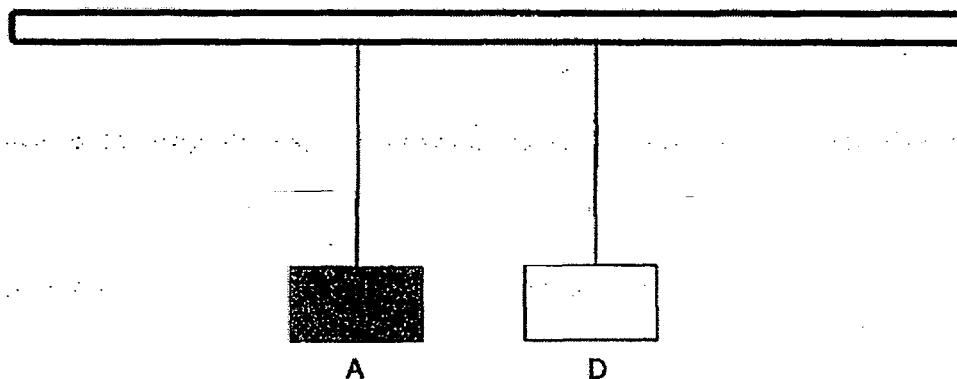
- (1) A
  - (2) B
  - (3) C
  - (4) D
- 7 The function of the skeletal system is to support the body and give it its shape. Which body system works directly with the skeletal system to enable a human to move about?

- (1) Muscular systems
- (2) Digestive systems
- (3) Circulatory systems
- (4) Respiratory systems

- 8 The diagram below shows the different directions moved by four metal bars A, B, C and D of the same mass when Zack hung them on a pole.



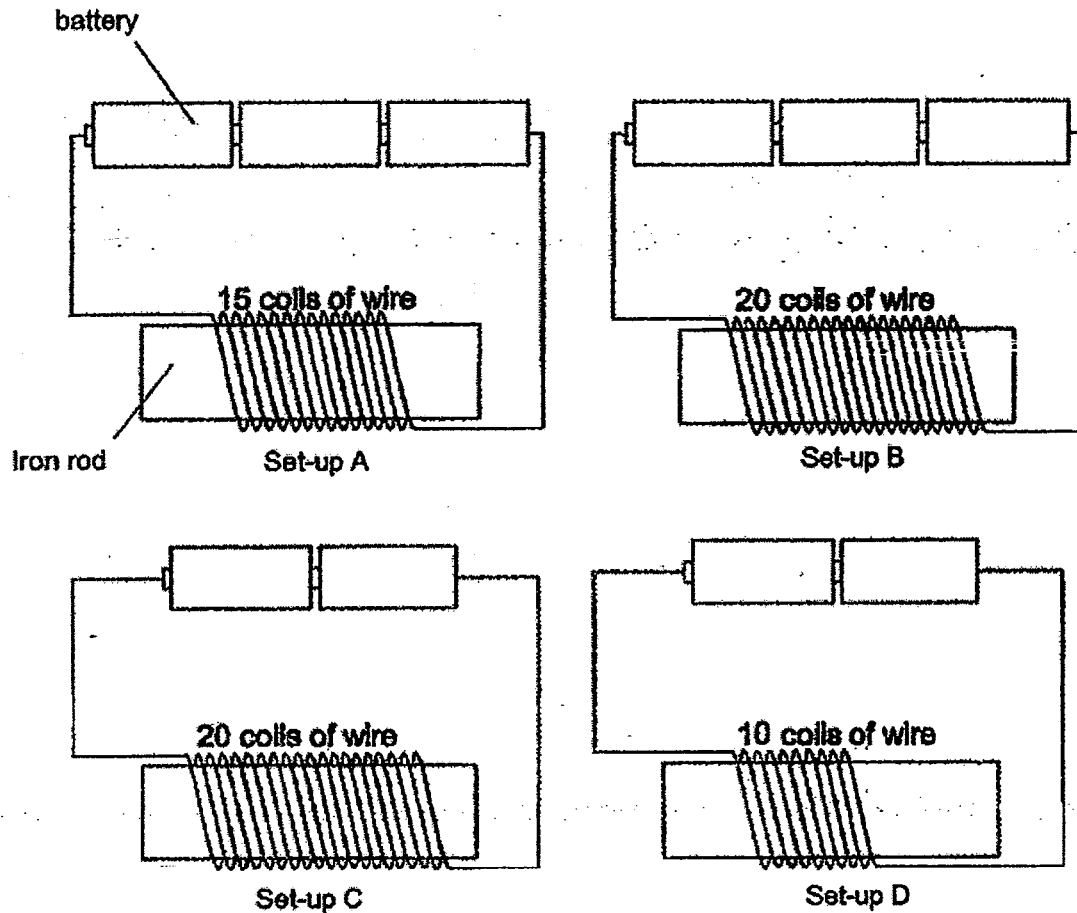
After observing the interaction between the metal bars, Zack removed metal bars B and C and moved A closer to D. The new interaction between metal bars A and D is shown below.



Based on the interactions shown, which metal bars are most likely to be magnets?

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

- 9 Arzah wanted to find out whether the number of batteries connected in series affects the magnetic strength of an electromagnet.

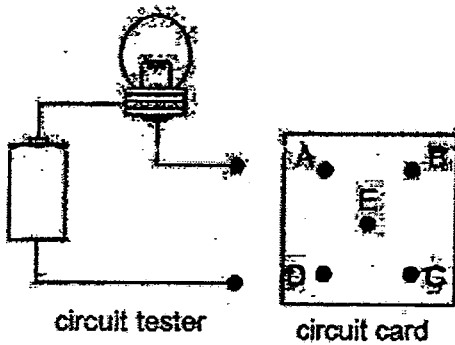


Which two set-ups should Arzah use so that he can conduct a fair test?

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



- 10 The circuit card shown below has a metal thumbtack at each of the points A, B, C, D and E. Some of the thumbtacks are connected by wires behind the card. The two ends of the circuit tester are connected to two different thumbtacks each time and the results are tabulated as shown.



Circuit tester connected to	Does the bulb light up?
A and B	No
B and C	No
C and D	Yes
D and E	Yes
E and A	Yes

Which one of the following is a possible arrangement of the wires behind the circuit card?

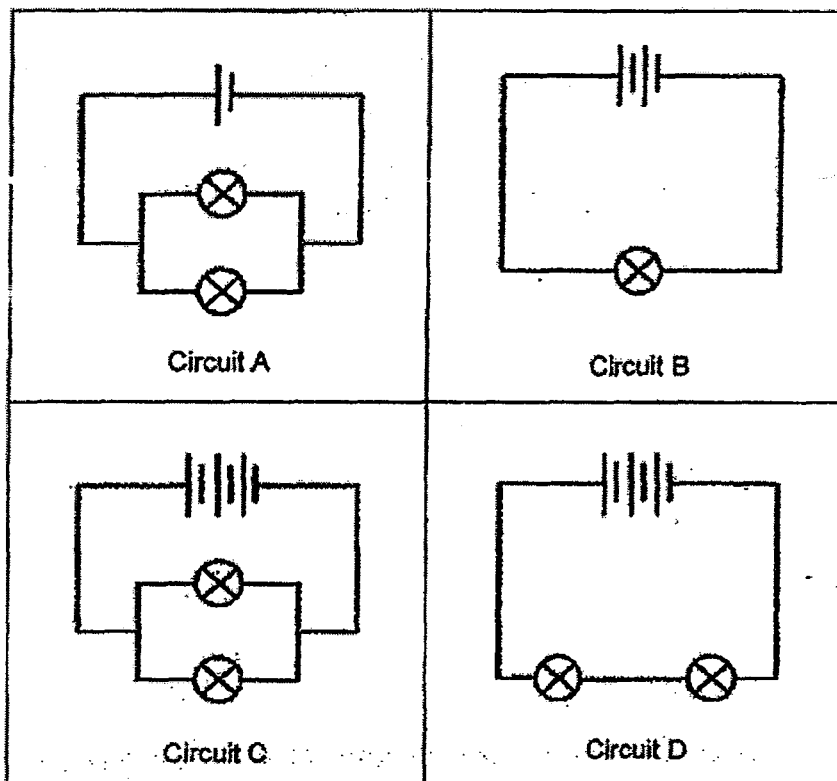
(1)

(2)

(3)

(4)

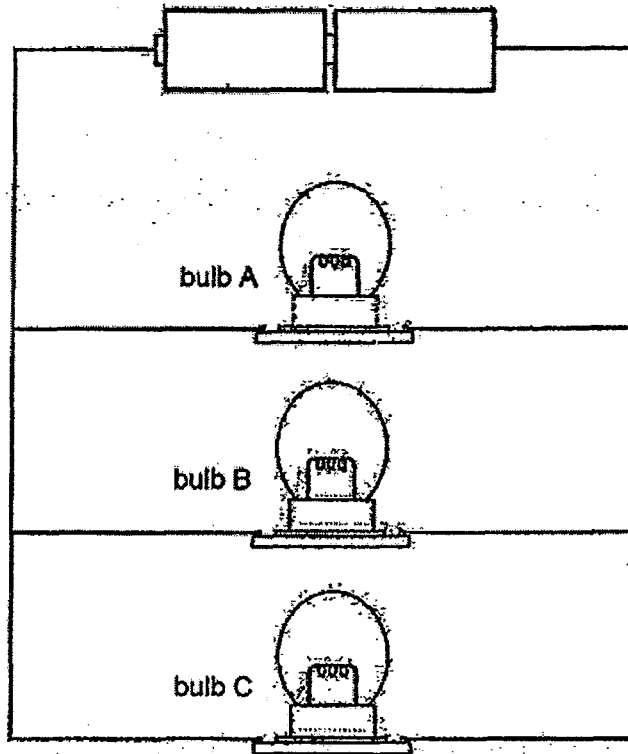
- 11 Study the four electric circuits A, B, C and D as shown below. The bulbs and the batteries in the four electric circuits are identical and in working conditions. All the bulbs in the four electric circuits lit up.



Which one of the following correctly shows the brightness of the bulbs arranged from the dimmest to the brightest?

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

- 12 Melvin set up the circuit shown below. At first, the identical bulbs, A, B and C lit up to the same level of brightness.



He then removed bulb A from the bulb holder. What will happen to the brightness of bulbs B and C now?

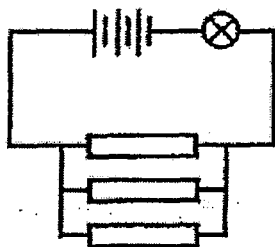
- (1) Both bulbs B and C will not lit up.
- (2) Both bulbs B and C will be as bright as before.
- (3) Both bulbs B and C will become brighter than before.
- (4) Bulb B will become brighter while bulb C remains the same .

13 Which of the following statements describe safe practices when using electrical appliances?

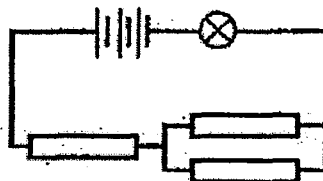
- A Touch the switches with sweaty hands.
- B Plug only one electrical appliance into a single socket
- C Replace electrical appliances that are having exposed wires.
- D Get a trained electrician to repair faulty electrical appliances.

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

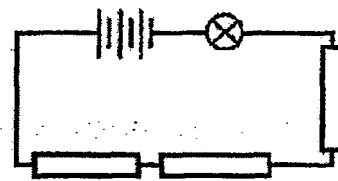
14. The circuits below has an iron rod, a wooden rod and a plastic rod as components of each circuit.



circuit A



circuit B



circuit C

The bulbs and the batteries in the three electric circuits are identical and in working conditions. In which of the above circuits would the bulb light up?

- (1) A only
- (2) C only
- (3) A and B only
- (4) None of the circuits

- 15 The table below shows the characteristics of animals X, Y and Z.

Characteristics	X	Y	Z
Has scales?	No	No	No
Lives on land?	No	Yes	Yes
Lays eggs?	Yes	Yes	Yes
Has wings?	Yes	Yes	No

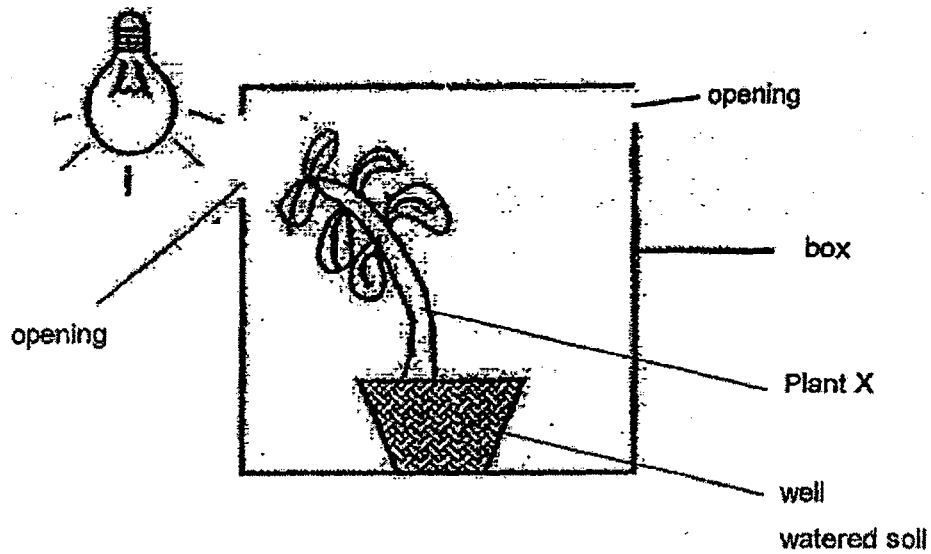
Based on the information above, which one of the following correctly describes animals X, Y and Z?

- (1) Only Y and Z lay eggs.
- (2) Only X and Z have wings.
- (3) Only Y and Z have scales.
- (4) Only Y and Z live on land.

- 16 Which one of the statements below is true about fungi?

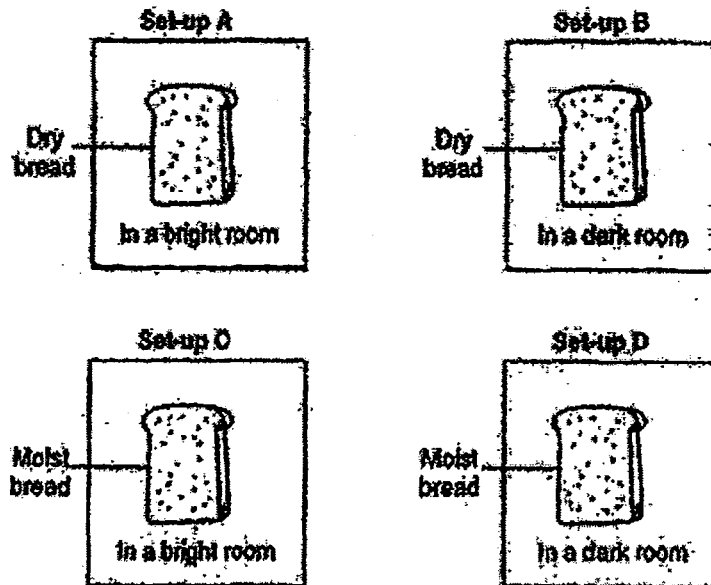
- (1) Fungi contain chlorophyll.
- (2) Fungi reproduce through spores.
- (3) Fungi reproduce through seeds and spores.
- (4) Fungi are plants and can make their own food.

- 17 In an experiment conducted, it was found that Plant X moves towards the light. Based on the picture below, which one of the statements below is true about Plant X as a living thing?



- (1) Plant X is wilting.
- (2) Plant X needs air.
- (3) Plant X needs water.
- (4) Plant X responds to changes.

- 18 Alvin wanted to find out if light is needed for mould to grow on the bread.



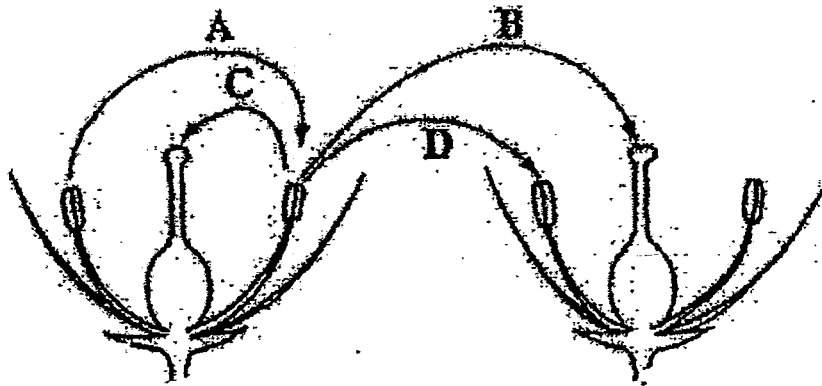
Which two set-ups should he use?

- (1) A and D
  - (2) A and C
  - (3) B and D
  - (4) C and D
- 19 A rock was used to scratch on 4 surfaces. The results obtained are recorded in the table below. Based on the information given only, determine which material(s) is/are harder than the rock.

Surface	Is Surface A/B/C/D scratched by the rock?
A	Yes
B	Yes
C	No
D	No

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

- 20 The diagram below shows two flowers of the same plant.



If the arrows were to indicate the movement of pollen grains, which two arrows correctly show the process of pollination taking place?

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



- 21 John wanted to find out if sunlight is necessary for the germination of seeds. He prepared two set-ups with the conditions shown in the table below.

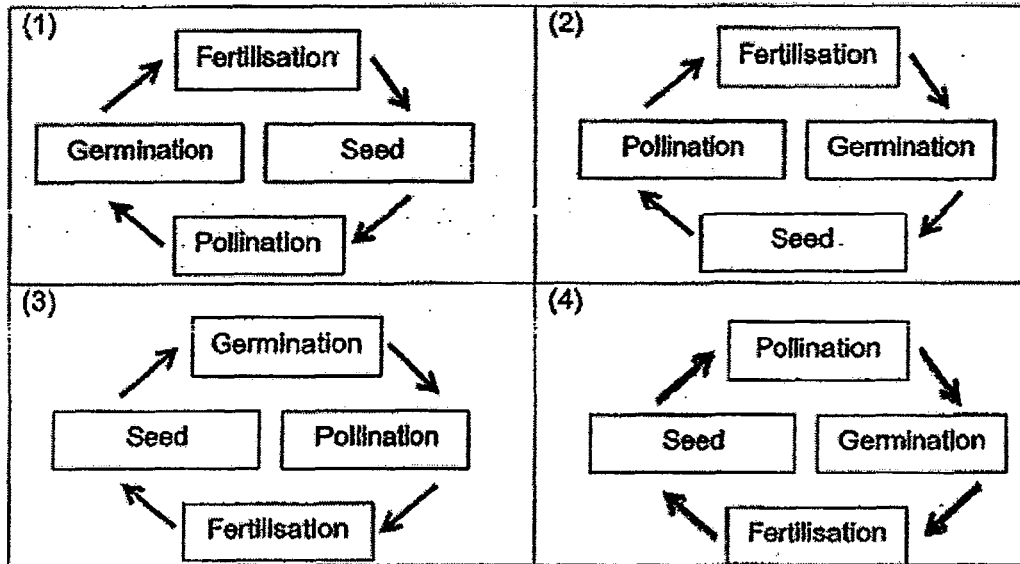
Condition	Set-up A	Set-up B
Sunlight	present	Absent
Air	present	Present
Water	0 ml	100 ml
Surrounding Temperature (°C)	33°C	28°C

Based on the data given, John's teacher told him that he had not conducted a fair test. Which of the following should John do to ensure a fair test?

- A Air should be absent in Set-up A.
- B Water should be 50 ml in Set-up A.
- C Water should be 100 ml in Set-up A.
- D Surrounding temperature should be at 28°C in Set-up A.

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

- 22 Which one of the the following correctly shows the sequence involved in the sexual reproduction of flowering plants?



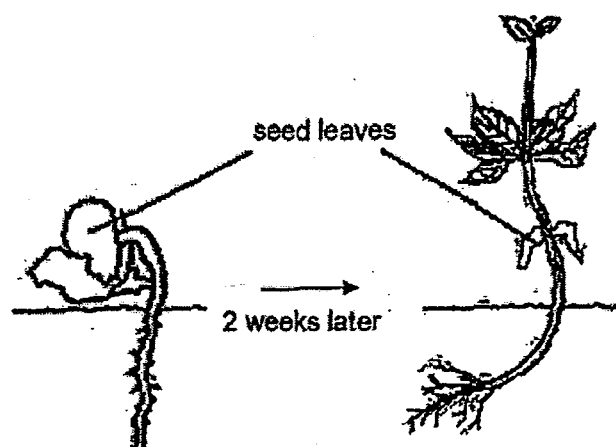
- 23 Jim found three flowers growing on the same plant that are identical in size. He labelled the flowers A, B and C. Flower A had its petals removed, flower B had its stigmas removed and flower C had its anthers removed. The flowers were left intact on the plant.

Flower	Part of flowers removed
A	Petals
B	Stigmas
C	Anthers

Which flower(s) is/are unable to develop into fruits at all?

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

24 Observe the seedling X below carefully.



Seedling X at one week old

Seedling X at three weeks old

Which of the following statements is/are correct?

- A Both seedlings are unable to carry out photosynthesis.
- B Only Seedling X at three weeks old takes in water through its roots;
- C Only Seedling X at one week old obtains food from the seed leaves.

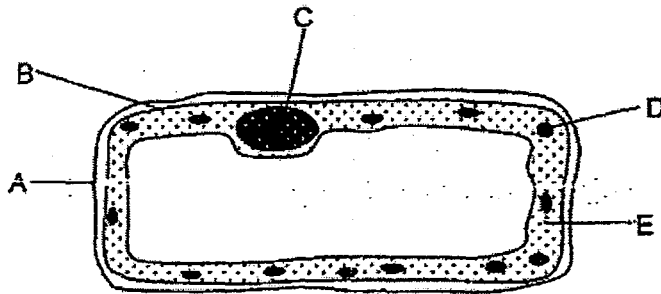
- (1) A only
- (2) B only
- (3) C only
- (4) A and C only

25 Which one of the following plant parts has the similar function as the sperm of animals?

- (1) Anther
- (2) Ovule
- (3) Pollen
- (4) Stigma

Answer Questions 26 and 27 based on the diagram below.

The diagram below shows a plant cell with labelled parts A, B, C, D and E



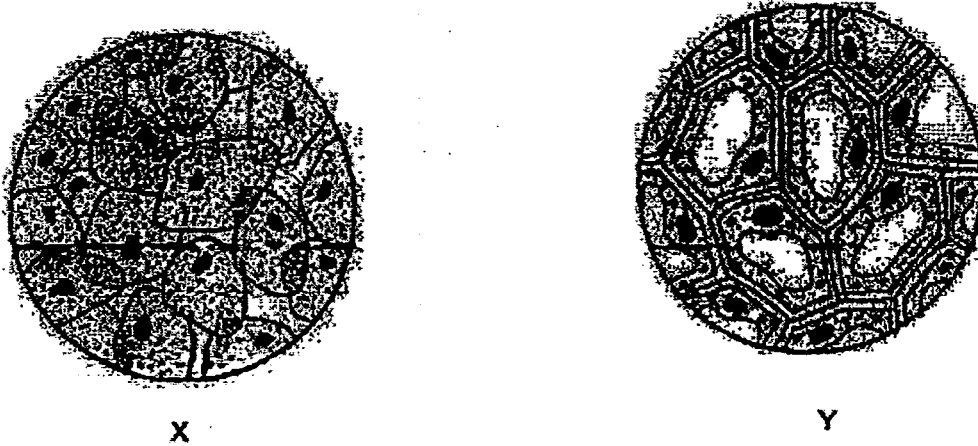
26 Which one of the following best describes the function of part C?

- (1) Controls all the activities of the cell
- (2) Supports a plant cell and gives it a regular shape
- (3) Controls the movement of substances in and out of the cell
- (4) Absorbs light energy needed by the plant for photosynthesis

27 Which of the parts, A, B, C and D, will not be present in an animal cell?

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

- 28 Some pupils observed two groups of cells under a microscope. The diagram below shows what they observed.

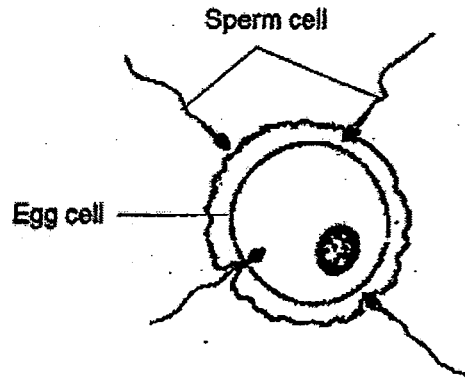


Which of the following statement(s) about the cells is/are most likely correct?

- A Cells Y are animal cells as they have cytoplasm.
- B Cells Y are plant cells as they have regular shape.
- C Cells X and Y are animal cells as they have nucleus.
- D Cells X are animal cells as they do not have a cell wall.

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

- 29 Study the diagram below. Which of the following statement(s) is/are true about what is happening in the process represented by the diagram below?



- A Only one sperm cell will fuse with the egg.
- B More than one sperm cell will fuse with the egg.
- C This process happens in the stomach of a woman's body.
- D Fertilisation will not take place as the tails of the sperm cells are outside the egg cell.

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

- 30 Which of the following statements about sexual reproduction in **both** animals and plants are true?

- A Fertilisation needs to occur.
- B The male sex cell fuses with the egg.
- C The eggs are released from the ovules.
- D The male and female sex cells are required.

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



**Anglo-Chinese School (Primary)**

**MID-OF-YEAR EXAMINATION 2015  
SCIENCE  
PRIMARY FIVE  
BOOKLET B**

**Name:**

**Class: Primary 5 \_\_\_\_**

**Date: 6 May 2015**

**Duration of paper: 1 h 45 min**

\_\_\_\_\_  
**Parent's/Guardian's signature**

**INSTRUCTIONS TO CANDIDATES**

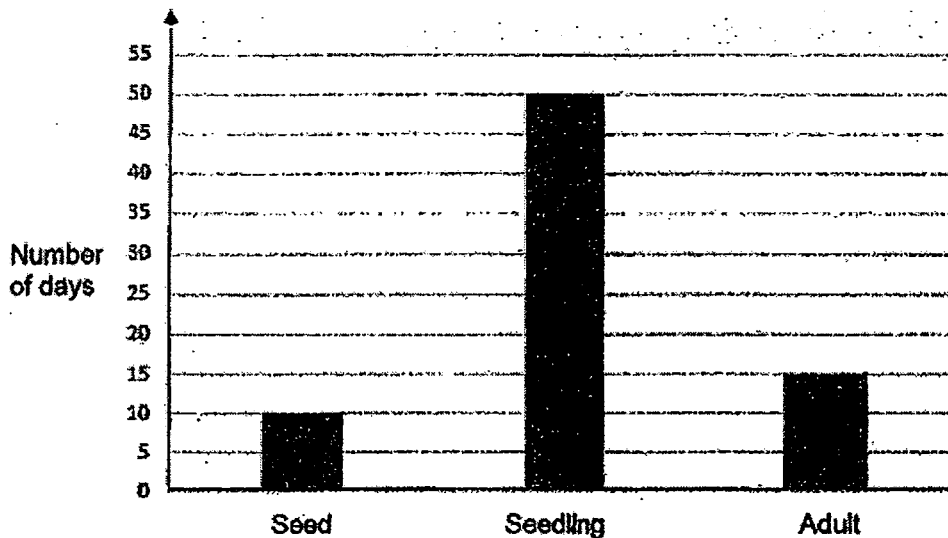
1. This question paper consists of 15 printed pages including this cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all the questions in this booklet.

BOOKLET	MAXIMUM MARKS	MARKS OBTAINED
A	60	
B	40	
Total	100	

For questions 31 to 44, 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. (40 marks)

- 31 Andy studied the life cycle of flowering plant X. He planted the seed in the soil and recorded the number of days for each stage of its life cycle. The plant is in the seedling stage once the seed germinates and it is in the adult stage once the plant produces flowers. His results are shown in the graph below.



- (a) Based on Andy's result, how many days does it take for plant X to germinate after being planted into the soil? [1]

- (b) Based on Andy's result, how many days does it take for plant X to produce flowers after it germinates? [1]

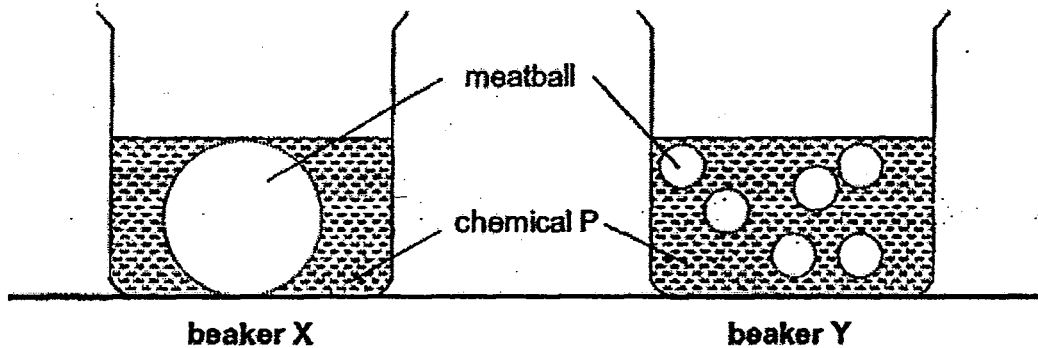
- (c) Plant X produces over a hundred seeds each time. What is the reason for producing many seeds? [1]

(Go on to the next page)

Score	3
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- 32 Bobby wanted to find out if the size of food affects the speed in which the body digests it. He placed a 500g meatball into beaker X containing chemical P which digests meat. In beaker Y, he broke up an identical size of meatball into several smaller round pieces before placing them in chemical P.



- (a) Which of the following variables should Bobby keep the same? [1]  
Complete the table below by putting a tick (✓) in the correct box(es) only.

Variables	Keep the same
Size of beaker	
Mass of meatball	
Volume of chemical P	
Temperature of surrounding	
Exposed surface area of meat ball	

The meatball in beaker X is still present when the meatball in beaker Y is already digested completely.

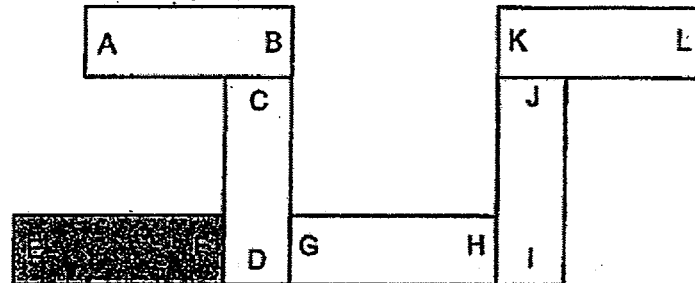
- (b) Explain how breaking up the meatball into several smaller pieces helps to digest the meatball faster. [1]

- (c) Which part of the human digestive system has the ability to break up food into smaller pieces to help us digest it faster? [1]

(Go on to the next page)

Score	3
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- 33 Six bar magnets with their ends marked A to L can be arranged as shown below.



- (a) If end marked A is a North pole,  
 (i) The end marked E will be : \_\_\_\_\_ pole  
 (ii) The end marked L will be : \_\_\_\_\_ pole

[2]

The diagram below is an iron rod with two ends X and Y.



- (b) Using the North pole of a bar magnet, how can you determine whether this iron rod is a magnet?

[2]

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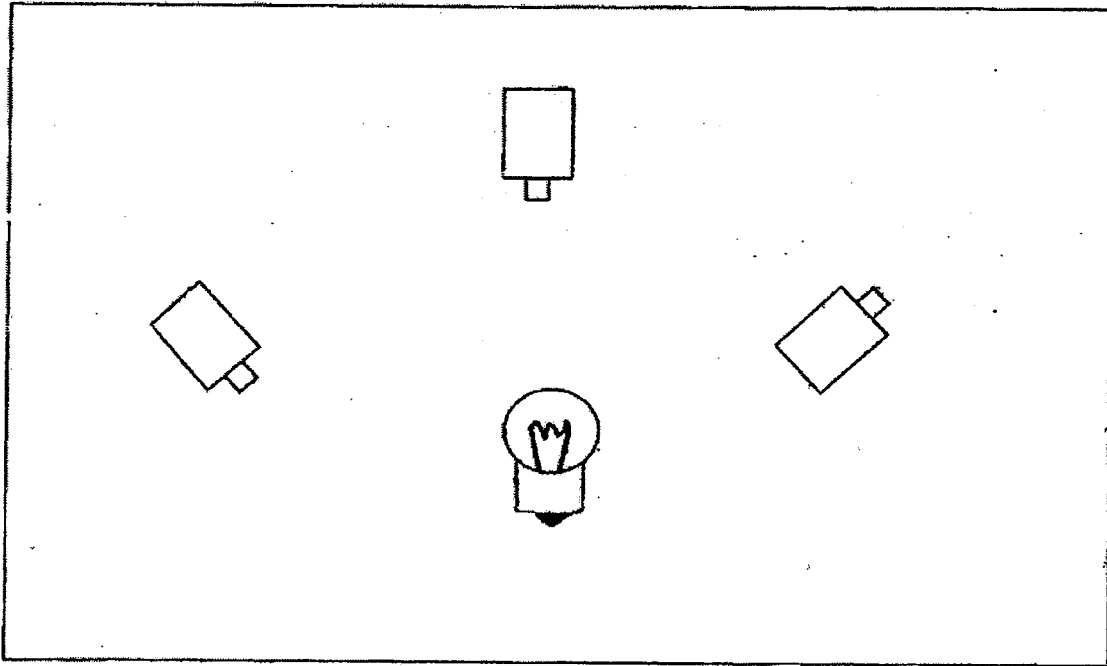
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Score	4
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- 34 The diagram below shows one bulb and three batteries.  
Using a pencil, draw lines representing wires to complete the electrical circuit such  
that the bulb will light up the brightest.

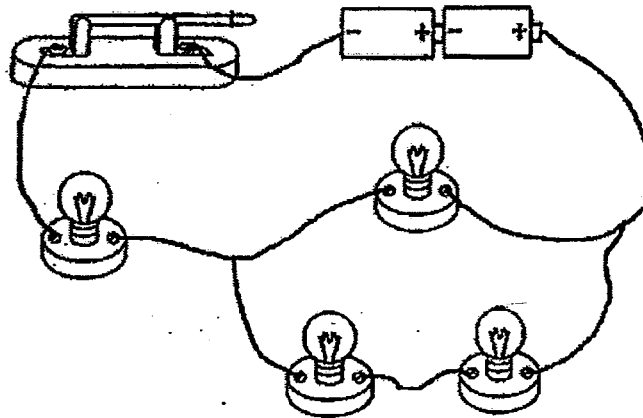
[2]



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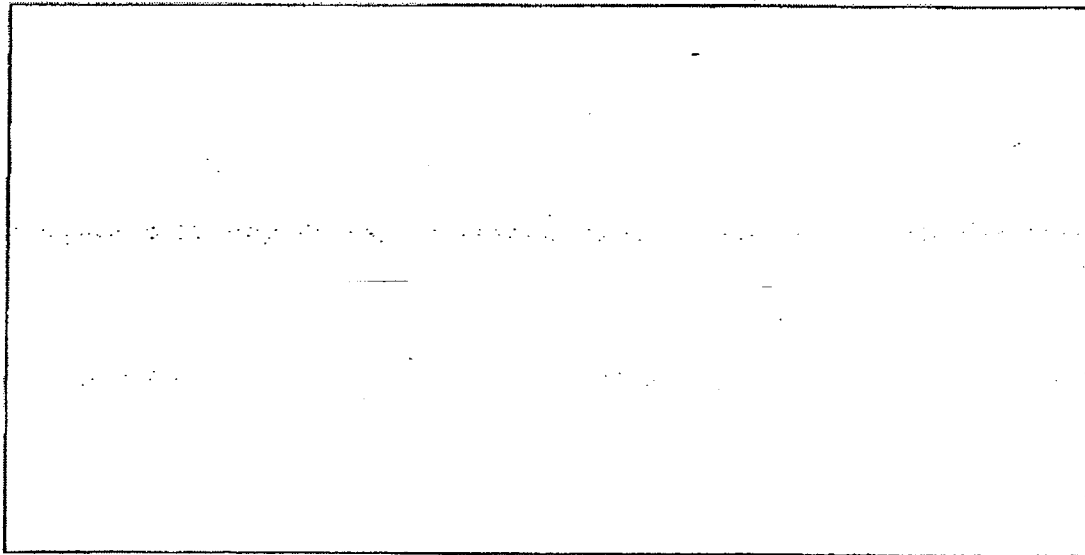
Score	2
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- 35 The diagram below shows a diagram of an electrical circuit:



In the box below, draw a circuit diagram in pencil that represents the above electrical circuit. Your diagram must include all the electrical components in the same arrangement as shown in the diagram above. (Note: the switch is close)

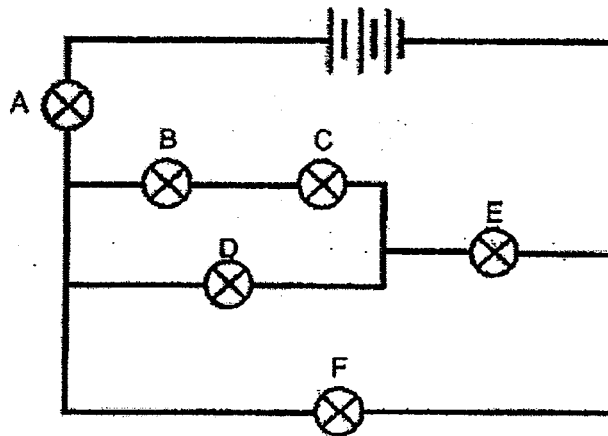
[3]



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Score	3
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- 36 Study the electrical circuit below. The batteries and bulbs are all in good working condition.



State the number of bulb(s) that would still remain lit when the listed bulb(s) is/are fused.

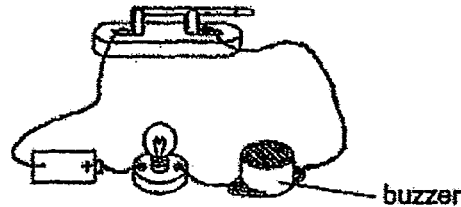
[2]

Bulb(s) that is/are fused	Number of bulb(s) remain lit
A	
B	
B and D	
E and F	

(Go on to the next page)

Score	
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- 37 Jay set up an electric circuit as shown in the diagram below. The buzzer is an electrical component that produces sound when electricity passes through it.



When the switch was closed, the bulb lighted up and the buzzer sounded. After a while, the bulb fused and the buzzer stopped sounding.

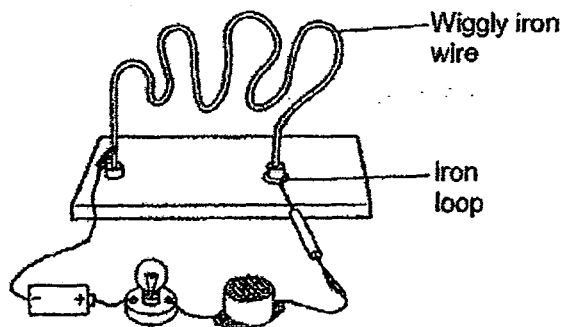
- (a) What kind of arrangement are the electrical components arranged in? [1]

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- (b) Although the buzzer was not damaged, why did it stop sounding after the bulb fused?

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Jay replaced the fused bulb with a new bulb and now he used his electric circuit to build a buzzer game as shown in the diagram below. He made a loop which is used to go round a coil of wiggly iron wire.



- (c) The loop acts as a switch in the circuit shown above and when the iron loop touches the wiggly iron wire, the bulb lights up and the buzzer sounds. Explain this observation. [2]

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Score	4
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- 38 Lily learnt that a string is more elastic if it can be stretched longer. She wanted to find out the elasticity of four different types of materials. She stretched four strings of the same length and thickness but made of different types of materials using the same strength. She measured and recorded the increase in length of each string in the table below.

String made of material	Increase in length (cm)
A	2
B	7
C	8
D	5

- (a) From the results in the table above, which is the most elastic string? [1]

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Another string which was thicker than the other strings and made of material E was stretched using the same strength. It increased by 5 cm.

- (b) Why was the experiment conducted with material E not a fair test? [1]

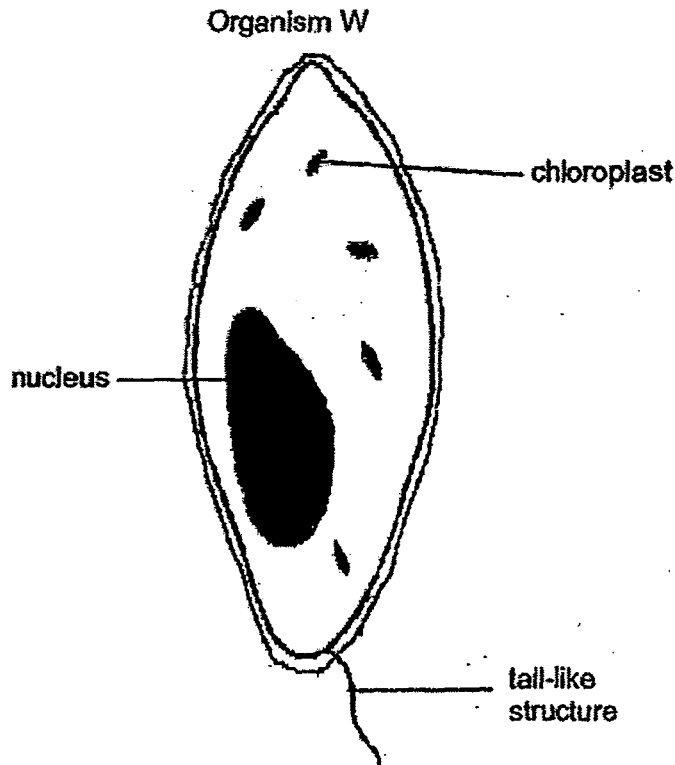
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Score	2
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- 39 The following diagram shows organism W. It is a single-celled organism that is usually found moving on the surface of the fresh water pond.



- (a) Based on the diagram above, is Organism W a plant cell or an animal cell?  
Give a reason for your answer.

[1]

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- (b) State one possible way by which the organism obtains its food.

[1]

---

- (c) What is the function of the tail-like structure of organism W?

[1]

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Score	3
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- 40 Tony observed a hummingbird flying near flower X trying to collect nectar from it. He concluded that the bird can help in pollination of the flower.



- (a) Explain how the hummingbird can help in the pollination of the flower. [2]

The table below shows 4 plants with different characteristics.

Plant	Are the petals large and colourful?	Does the plant have a pleasant smell?	Does the plant produce nectar?	Are the filaments long?
A	Yes	No	Yes	No
B	No	No	No	Yes
C	Yes	No	No	Yes
D	No	Yes	Yes	No

- (b) Which of the following plant(s) is/are most likely pollinated by hummingbird? [1]

(Go on to the next page)

Score

3

- 41 Fiona carried out an experiment using four identical fruits, W, X, Y and Z. She subjected each fruit to different temperatures because she wanted to find out how the surrounding temperature affects the splitting of the fruit. The results were recorded in the table below.

Temperature	20°C	25°C	30°C	35°C
How fruit responds to the temperature	W does not split	X splits after 1 day	Y splits after 3 hours	Z splits after 2 hours
How far the seeds are scattered	-	1 m	2.5 m	3.5 m

- (a) From the above results, what can you conclude about the effect of temperature on the time taken for the fruit to split?

[2]

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- (b) What is the advantage of having seeds scattered further away from one another?

[1]

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(Go on to the next page)

Score	3
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- 42 Victor found fruit A, in his school's garden as shown in the diagram below. He decided to investigate if the wing-like structure affects the time taken for the fruit to reach the ground. He dropped the fruit from a height of eight metres and recorded the time taken for fruit A to reach the ground. He prepared the same fruit of similar size but with its wing-like structure cut-off as shown below and called it fruit B. He then dropped fruit B from a height of eight metres and recorded the time taken for fruit B to reach the ground.



	Time taken for the fruit to reach the ground
Fruit A	20 seconds
Fruit B	18.5 seconds

- (a) Why did Fruit A take a longer time to reach the ground?  
Give a reason for your answer.

[1]

From his results, Victor concluded that fruit with wing-like structure will take a longer time to reach the ground compared to a fruit with no wing-like structure.

- (b) What should Victor do to make his results more reliable?

[1]

(Go on to the next page)

Score	
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- 43 The table below shows the average gestation period of 4 animals.  
The gestation period of an animal is the number of days an animal needs to develop from fertilisation to its birth.

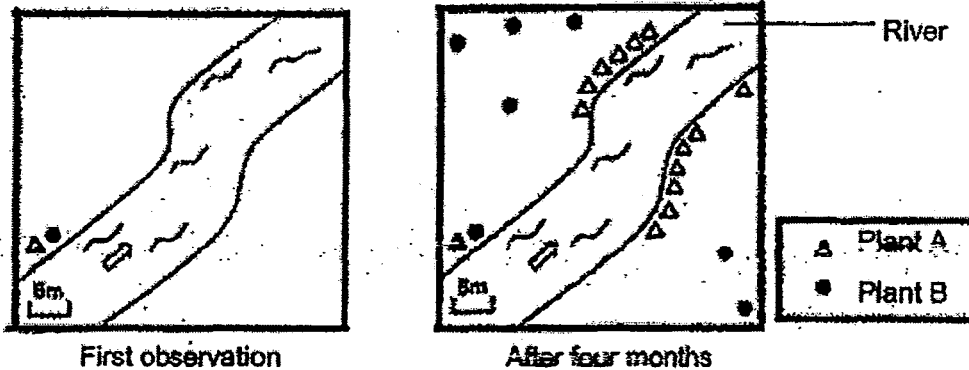
Animals	Mass of animal	Average gestation period (days)
Elephant	500 kg	600
Rat	2 kg	21
Cat	12 kg	66
Sheep	70 kg	150

- (a) What is the relationship between the mass of the animal and its average gestation period? [1]
- (b) Based on the table above, If an animal X weighs 25 kg, what could be its possible average gestation period? [1]

(Go on to the next page)

Score	2/2
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- 44 Mr Leong first observed and counted the number of plants A and B on a piece of land. After four months, he looked at the same piece of land again. His final observations are shown below.

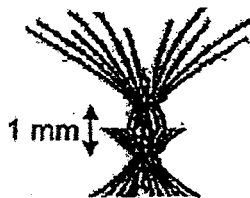


- (a) Read the statements below carefully and indicate whether each of the statements below about Plant A and B is True or False.  
Put a tick (✓) in the correct box.

[2]

Statement	True	False
Plant A is dispersed by water.		
Plant A is dispersed by wind.		
Plant B is dispersed by water.		
Plant B is dispersed by animals.		

Observe Fruit X carefully.



- (b) State its possible method of seed dispersal. Explain your choice.

[2]

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End of Booklet B

Check your answers carefully.

Score	4
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# Answer Key

EXAM PAPER 2015

SCHOOL : ACS

SUBJECT : P5 SCIENCE

TERM : SA1

ORDER CALL : MR GAN @ 92998971 92475053 86065443

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	3	4	3	4	1	1	3	4
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	2	4	1	4	2	4	4	2	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	3	2	3	3	1	2	2	1	3

31)a)10 days

b)50 days

c)To increases the chance of survival.

32)a)	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
	<input checked="" type="checkbox"/>
	<input type="checkbox"/>

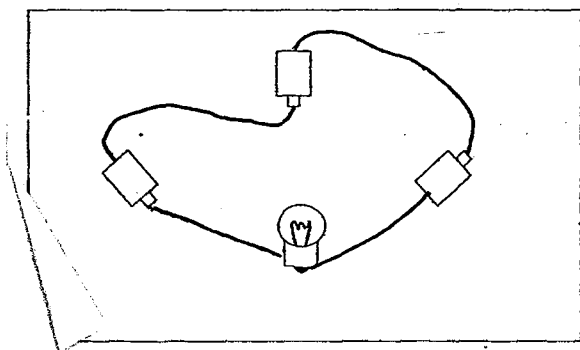
b)Breaking up the meat ball increases the exposes surface area.

c)Mouth and teeth.

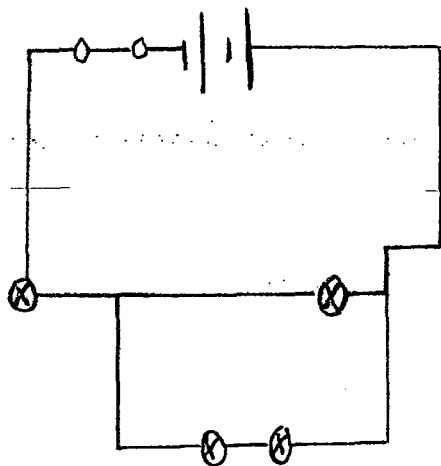
33)a)i)South      ii)South

b)Bring the North of a bar magnet near both X and Y and check if X or Y repels the bar magnet.

34)



35)



36)

0
4
2
0



**37)a)They are arranged in series.**

**b)The circuit is open.**

**c)Both the wiggly wire and loop is made of conductors of electricity when they touch, it will close the circuit or allow electricity to flow.**

**38)a)Material C.**

**b)No, the thickness is different so it not a fair test.**

**39)a)Plant cell.**

**b)The cell makes itself food.**

**c)It is for movement.**

**40)a)The pollen grains may get stuck on the hummingbird's beak and when it flies to another flower, the pollen grains can be shaken off on to the stigma.**

**b)A and Q.**

**41)a)The warmer the temperature, the less time it takes for the fruit to split.**

**b)The plants will not overcrowd and have a competition of nutrients, water, sunlight and space.**

**42)a)It has a wing-like structure that makes it glide.**

**b)He should carry out the experiment a few more times and observe the results again.**

**43)a)The heavier the animal, the longer the gestation period is.**

**b)It could be 132 days.**

44)a) ✓

✓

✓

✓

**b) Fruit X dispersed by wind because it is small and light.**