METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATION 2013
PRIMARY 3
SCIENCE

BOOKLET A

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ( )

Class: Primary 3._____

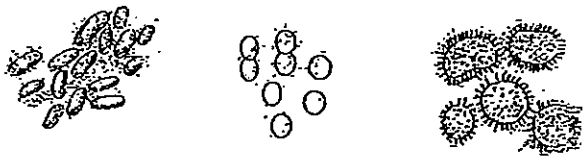
Date: 3 October 2013

This booklet consists of 15 printed pages including this page.

Section A : (25 x 2 marks)

For each question, four options are given. Choose the most suitable option and shade your answer in the Optical Answer Sheet (OAS) provided.

What do these living things have in common?

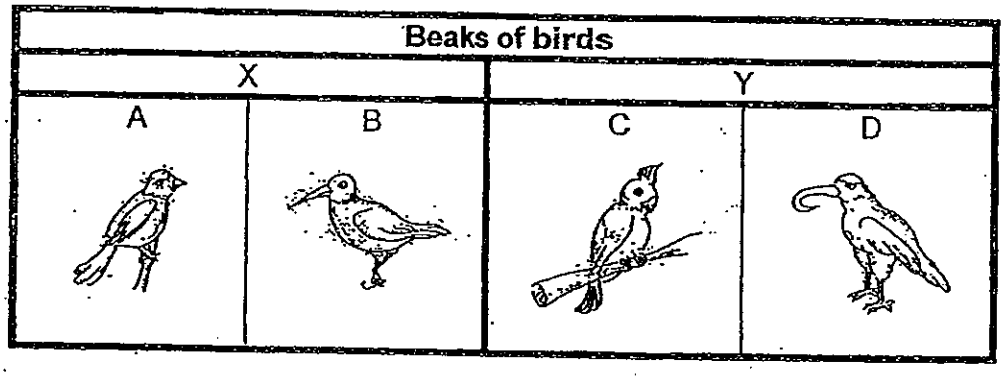


bacteria yeast virus

A: They are very tiny.
B: They can make their own food.
C: They can be found in the same place
D: They can only be seen using a microscope.

(1) A and C
(2) A and D
(3) C and D
(4) All of the above

2. Study the four pictures of different types of birds. They have been classified according to certain characteristics, X, Y, A, B, C and D.



Which of the following shows the characteristics of Y and A accurately?

	Y	A
(1)	With straight beaks	Beak is longer than the length of head
(2)	With curved beaks	With straight beaks
(3)	With curved beaks	Beak is shorter than the length of head
(4)	Beak is shorter than the length of head	With curved beaks

3. Plants **do not** take in food because they _____.

(1) feed on sunlight
(2) have chlorophyll
(3) do not need food
(4) make their own food

4. Plants **cannot** make food at night because _____.

(1) they are at rest
(2) there is no water
(3) there is no sunlight
(4) there is no carbon dioxide

5. At which stage(s) does/do a mosquito have to stay in water?

A: Egg
B: Larva
C: Pupa
D: Adult

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

6. Larry bought a pair of hamsters. He placed the male and female hamsters in a cage. Two months later, he had a total of nine hamsters in the cage. What characteristic of a living thing does this show?

(1) Living things grow
(2) Living things move
(3) Living things reproduce
(4) Living things respond to changes

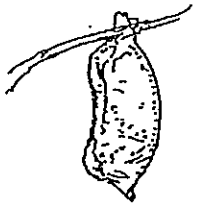
7. Which example correctly demonstrates the specified characteristic of a living thing?

	Characteristic	Example
(1)	Ability to reproduce	The shoot of a plant growing upwards.
(2)	Ability to grow	Baby Jim puts on 2kg from the time he was born.
(3)	Ability to move	The leaves of a balsam plant move when the wind blows.
(4)	Need for water	A dry shower sponge soaks up water.

8. This animal can live both on land and in water. It carries a small supply of water in its gill chamber in order to spend long periods out of water. This animal is a/an _____.

(1) fish because it has gills
(2) fish because it can live in water
(3) insect because it is small in size
(4) mammal because it can live on land

9. The diagram below shows the pupa of a butterfly.



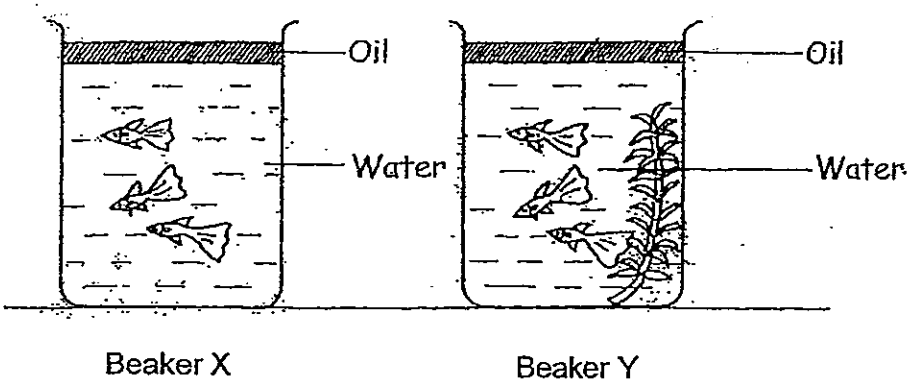
Although the pupa always remains still and does not show any activity, it is a living thing. This is because _____.

(1) it can change in size
(2) it can change in length
(3) it can develop into a butterfly
(4) it can change the colour of its case

10. Tom bought some chicken eggs from the supermarket and placed them in an incubator. He waited for more than 21 days but the eggs did not hatch. What could be the reason?

(1) The incubator was not warm enough.
(2) The chicks need more than 21 days to grow and develop.
(3) The eggs were not fertilised and only fertilised eggs will hatch.
(4) The egg shells were too hard for the chicks to break out of them.

For questions 11 and 12, refer to the experiment below. Study the experimental set-up carefully.



11. Which of the following statements is true?

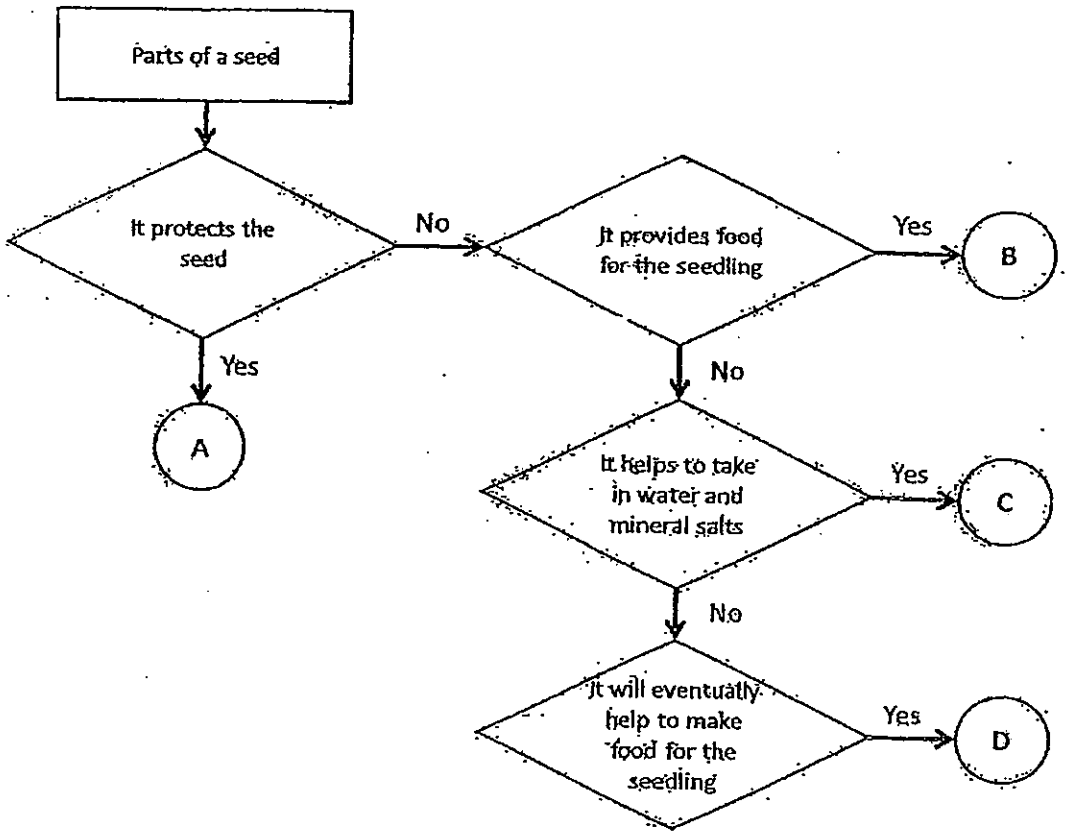
(1) Only the fish in Beaker X need air.
(2) The fish in Beaker X and Beaker Y will eat the oil.
(3) The fish in Beaker X will die faster than those in Beaker Y
(4) The fish in Beaker X and Beaker Y will swim to the base of the beaker.

12. To make this a fair experiment, which of the following must be kept the same?

A: The amount of oil.
B: The number of fish.
C: The amount of water.
D: The presence of plants.

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

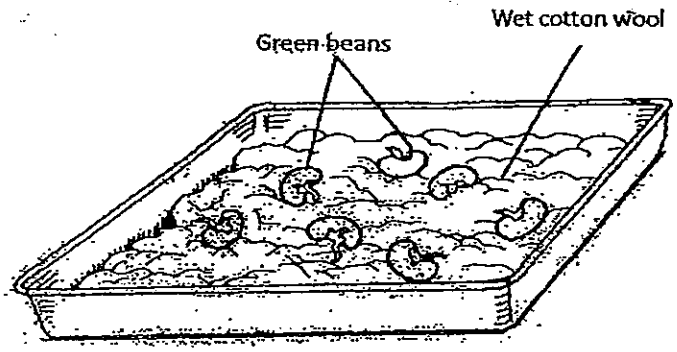
13. Study the flow chart below.



Which of the following identifies the parts of a seed correctly?

	A	B	C	D
(1)	Root	Leaves	Seed coat	Seed leaves
(2)	Seed leaves	Root	Leaves	Seed coat
(3)	Seed coat	Seed leaves	Root	Leaves
(4)	Leaves	Seed coat	Seed leaves	Root

14. A group of girls did an experiment. They placed some green bean seeds on the wet cotton as shown below and placed the experimental setup in the cupboard.



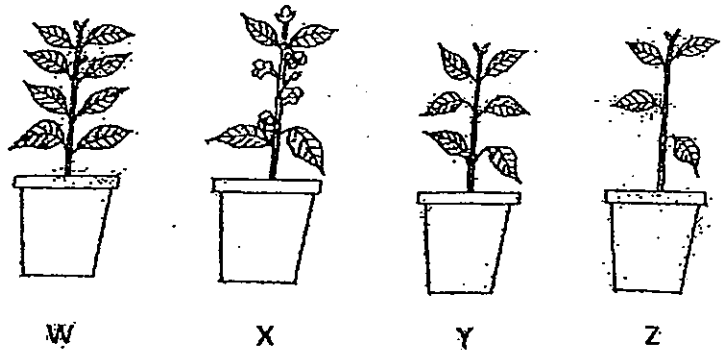
Three days later, they made the following statements after they have observed the seeds.

Christy: The seeds get their food from the cotton wool.
Danielle: One of the seeds did not grow because it may be dead.
Michelle: The seeds do not require sunlight to germinate.
Taline: The seedlings will grow faster if the room temperature is lower.

Whose statements were **incorrect**?

(1) Christy and Taline
(2) Christy and Michelle
(3) Danielle and Christy
(4) Danielle and Taline

15. Sheri-anne bought four pots of the same plant as shown below.



Which pot of plant will be the first to bear fruits?

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

16. Priscilla was given two objects. She recorded her observations in the table below.

	Object P	Object Q
Waterproof	Yes	Yes
Breaks easily	No	Yes
Good conductor of heat	Yes	No

Which of the following correctly shows the materials of Object P and Object Q?

	Object P	Object Q
(1)	Rubber	Wood
(2)	Plastic	Metal
(3)	Ceramic	Paper
(4)	Metal	Glass

17. Glass is used as the material for the windscreen of cars. This is because it is _____.

(1) hard
(2) brittle
(3) flexible
(4) transparent

18. Germaine wanted to string some beads together to make bracelets for her friends as shown in Diagram A.

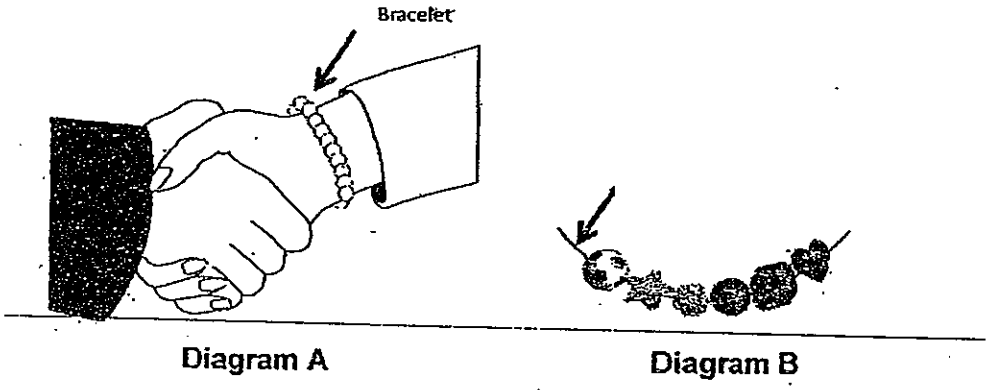


Diagram A **Diagram B**

However, she does not know the wrist size of all her friends. What material could she use to string the beads (Diagram B) so that the bracelets she makes can fit all her friends' wrists?

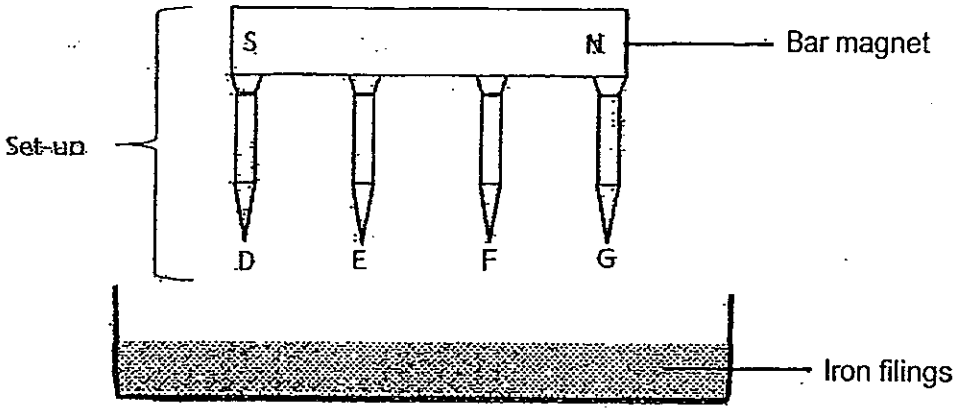
(1) Metal
(2) Nylon
(3) Cotton
(4) Rubber

19. The picture below shows a slide in the playground.

The slide is made of metal. There is a certain property that enables children to slide down it easily. Which property is it?

(1) It does not rust.
(2) It is waterproof.
(3) It has a smooth surface.
(4) It is resistant to scratches.

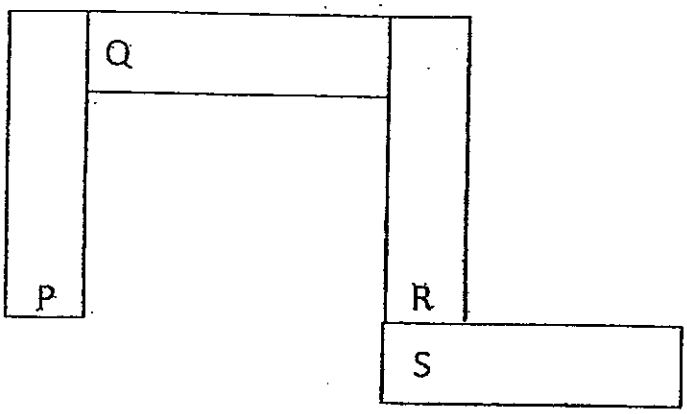
20. Study the diagram carefully.



Four similar iron nails, D, E, F and G were attracted to the bar magnet as shown in the diagram above. Michelle lowered the set-up into the tray of iron filings until the tips of the iron nails touched the bottom of the tray before returning the set-up to its original position. Which of the iron nails attracted the most iron filings?

(1) D and E
(2) E and F
(3) F and G
(4) D and G

21. Study the diagram below.



It shows the arrangement of four bar magnets with some of the poles labelled as P, Q, R and S.

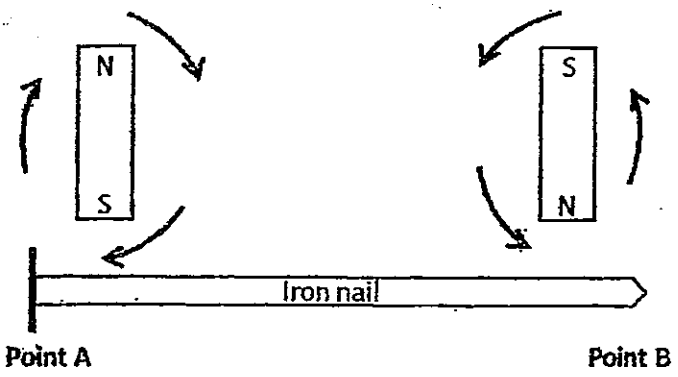
Which of the following identifies P, Q, R and S correctly?

	P	Q	R	S
(1)	North	North	North	South
(2)	North	South	North	North
(3)	South	South	North	South
(4)	South	North	North	South

22. A group of friends saw five objects on the table. They placed a bar magnet near the objects. Only three of the objects were attracted to the magnet. What could the three objects be made of?

(1) Iron, copper and gold
(2) Steel, nickel and cobalt
(3) Cobalt, steel and copper
(4) Iron, steel and aluminium

23. Stephanie stroked an iron nail with two bar magnets in the directions as indicated in the diagram below.

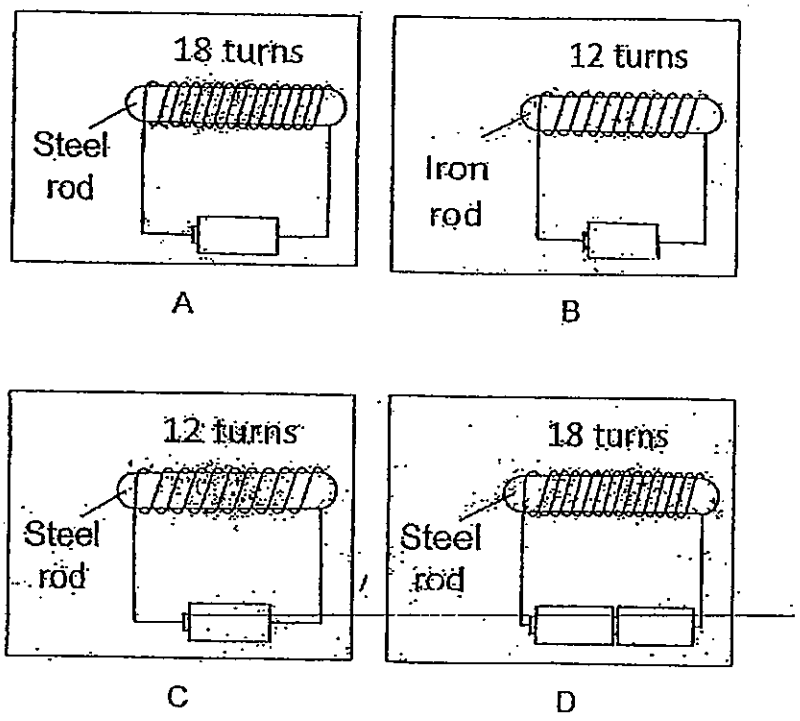


Which of the following statement(s) is/are true about the experiment?

A: Point A will become the south pole.
B: Point A will become the north pole.
C: Point B will become the south pole.
D: Point B will become the north pole.

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

24. Tammy wanted to find out if the number of turns of the wire would affect the strength of the electromagnet. Which experimental set-ups should she use to carry out the experiment correctly?



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

25. Three boys made the following statements.

Nicholas: We can use magnets to tell directions.

Ryan: Magnets can sort metals from non-metals.

Lionel: Magnets are used in the speakers of radios and handphones.

Who were the boys who made the correct statements?

(1) Ryan and Lionel

(2) Nicholas and Ryan

(3) Lionel and Nicholas

(4) Nicholas, Ryan and Lionel

METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATION 2013
PRIMARY 3
SCIENCE

BOOKLET B

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

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

Name: _____ ( )

Class: Primary 3._____

Date: 3 October 2013

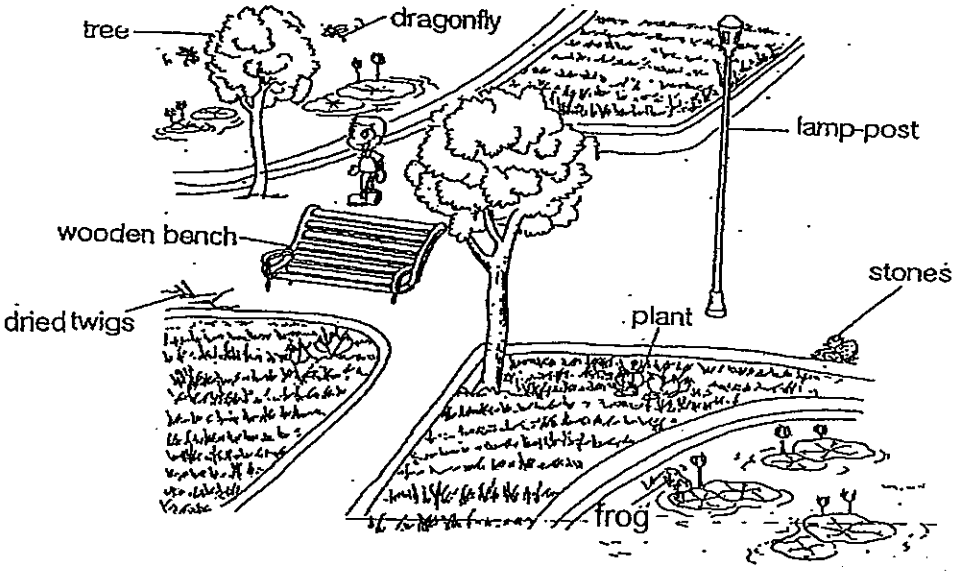
Booklet A	**/ 50**
Booklet B	**/ 40**
TOTAL	**/ 90**

This booklet consists of 11 printed pages including this page.

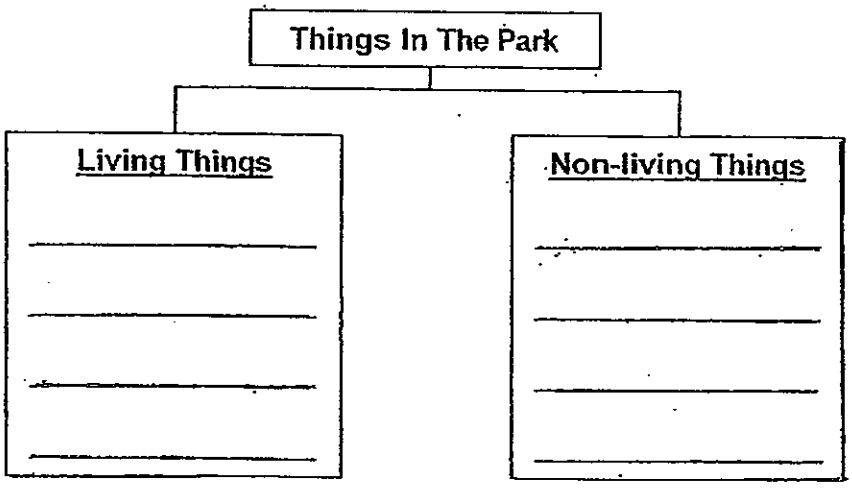
Section B : (40 marks)

Write the answers in the blanks provided.

26. Study the picture below which shows a section of a public park.



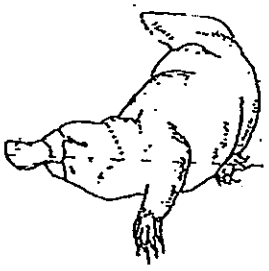
(a) Classify the things that have been labelled in the picture into living and non-living things in the classification diagram below. (4 marks)



(b) If the dragonfly and frog in the picture were to be placed separately in a small airtight bottle for one day, what would happen to them? Explain why. (1 mark)

(c) Identify the two things in the classification diagram that were once alive. (1mark)

27. The picture below shows a platypus.



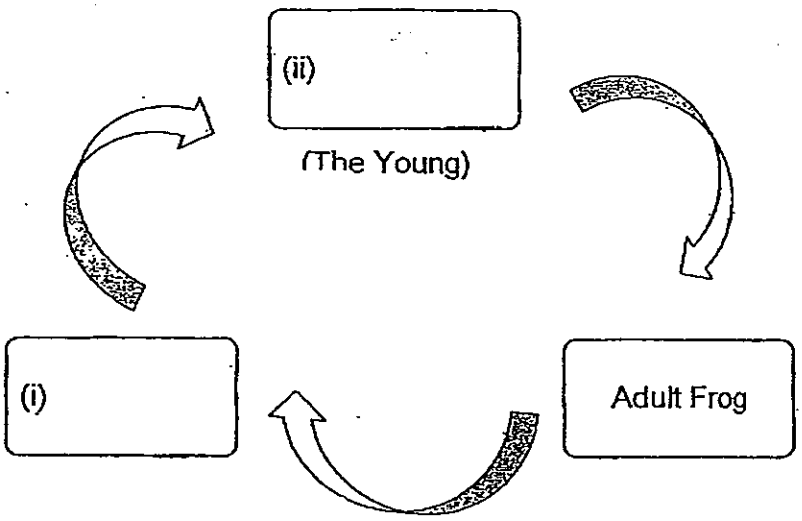
(a) A platypus has a duck-like beak and lays eggs. Why is it not classified as a bird? (1 mark)

(b) Which group does it belong to? (1mark)

(c) Name another animal that belongs to the same group as the platypus which lays eggs as well. (1mark)

28. The diagram below shows the stages of the life cycle of a frog. Fill in the blanks (i) and (ii) with the correct word. (1 mark)

(a)

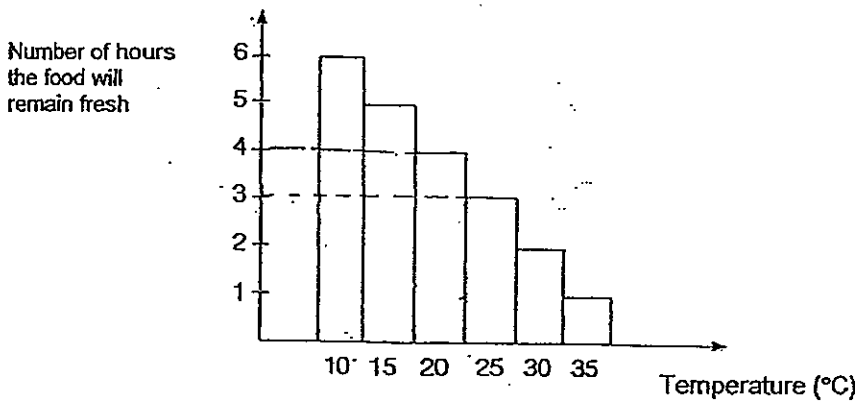


(b) State ~~two~~ differences between the young and the adult frog. (2 marks)

_____

_____

29. Study the graph below.



(a) At what temperature should the food be kept so that it remains fresh for four hours? (1 mark)

_____

_____

(b) If food is kept at 25°C since 9 a.m., when will it no longer be fresh? (1 mark)

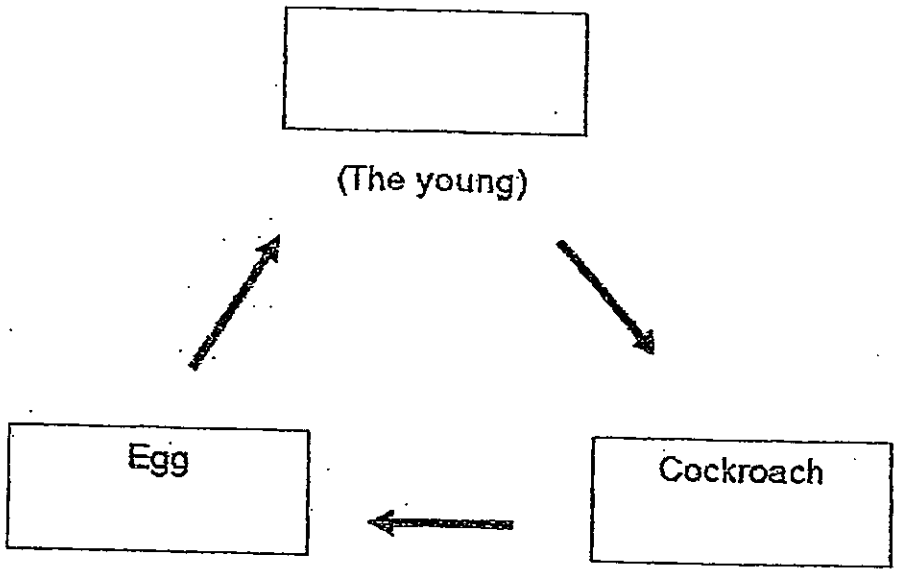
30. Group the following animals in the correct column. (2 marks)

Fruit Fly	Moth	Praying Mantis	Bee

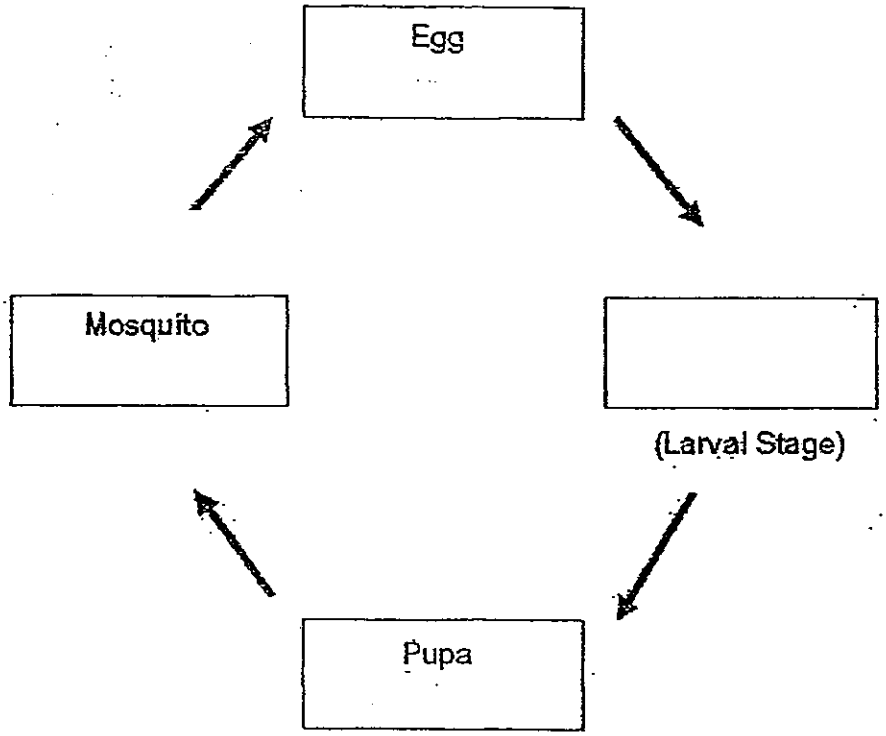
3-stage life cycle	4-stage life cycle

31. The life cycle diagrams of two insects are shown below in (a) and (b). Fill in the blanks by naming the young of these insects in the blanks provided.

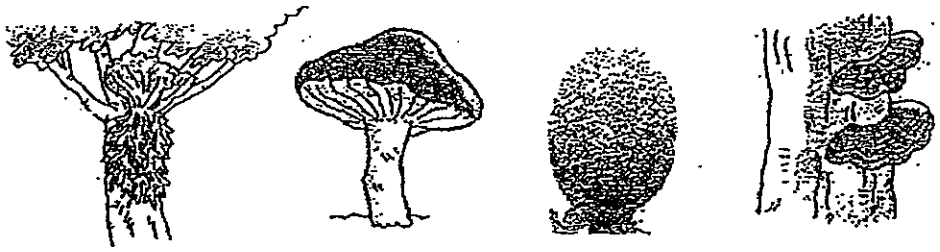
(a) 2 marks)



(b)



32. The pictures shown below are some organisms found in the forest.



(a) Which one of the above organisms cannot be grouped with the others?

(1 mark)

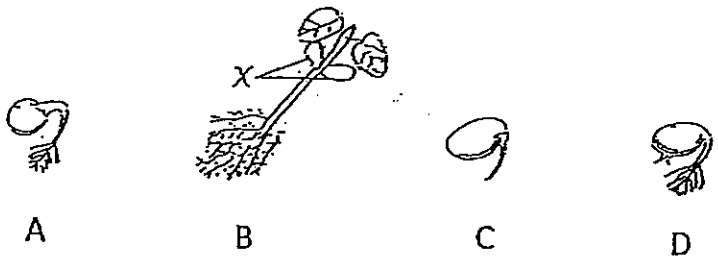
_____

(b) State a reason to support your answer in (a). (1 mark)

_____

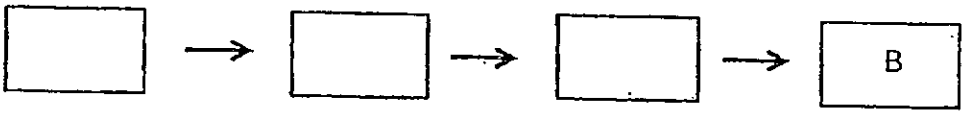
_____

33. The pictures show the different stages of growth of a bean plant.



(a) Arrange the stages A, B, C and D in the correct order in the boxes provided.

(1 mark)



(b) Which part of the plant grows first? (1 mark)

_____

(c) At which stage, A, B, C or D, is photosynthesis able to occur? (1mark)

_____

(d) Refer to the picture in Stage B. What is X and what will happen to it? (1mark)

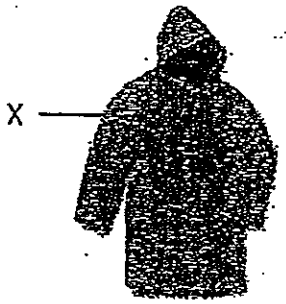
_____

(e) What are the conditions necessary for the seed to germinate? (1mark)

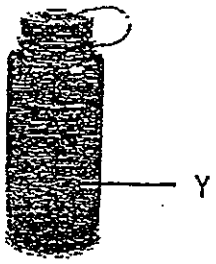
_____

_____

34. Study the pictures carefully.



Raincoat



Water bottle

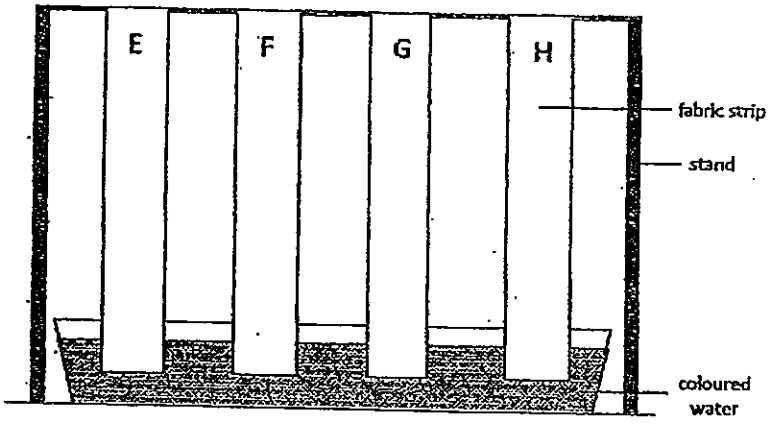
(a) X and Y are made of the same material. What is the material? (1 mark)

_____

(b) Although X and Y are made of the same material, they have different properties. State one difference in their properties. Do **not** include transparency of the material in your answer. (1 mark)

_____

35. Olivia carried out an experiment as shown below.



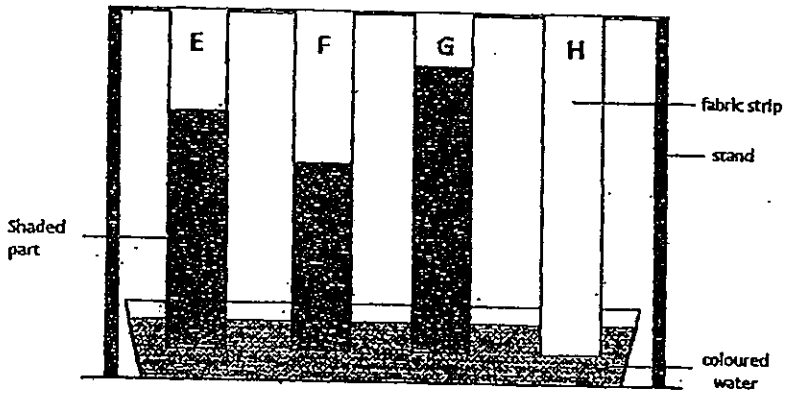
She placed four fabric strips, E, F, G and H of equal length and width on a stand. The ends of the fabric strips were immersed in the dish of coloured water.

(a) What was Olivia trying to find out in this experiment? (1 mark)

_____

_____

(b) Olivia carried out the experiment for 1 hour and she observed that the coloured water travelled up the fabric strips as indicated by the shaded parts in the diagram below.



Based on her results, answer the following questions.

Which fabric, E, F, G or H is most suitable to make:

(i) a towel?

(ii) a raincoat

(i) _____ (1 mark)

(ii) _____ (1 mark)

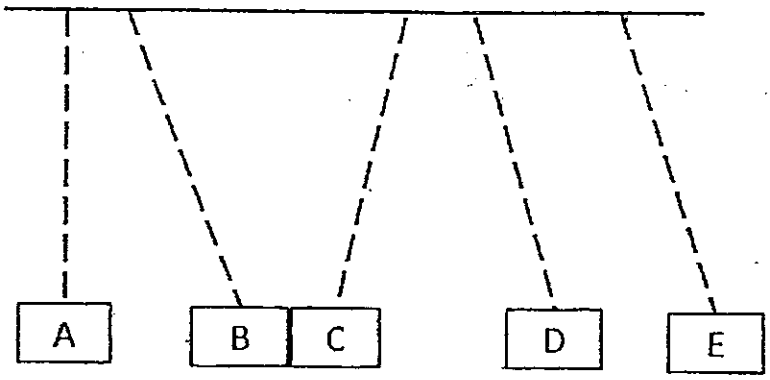
(c) Why is it important for Olivia to ensure that each fabric strip is of equal length and width?

(1 mark)

_____

_____

36. Mrs Lim hung five objects on a pole as shown below.



(a) Identify the objects which are definitely magnets. (2 marks)

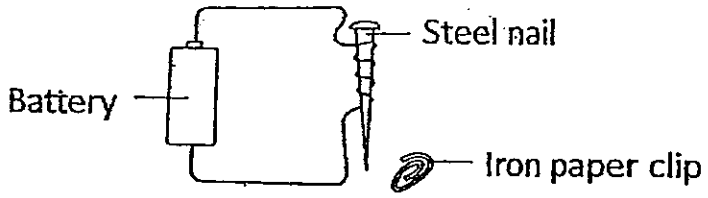
(b) Explain why they are definitely magnets2 (1 mark)

37. A magnet was tied to the car as shown in the diagram below.

(a) Hazel wants to move the car forward in the direction shown by using another bar magnet. Which pole of the bar magnet should A be? (1 mark)

(b) One week later, Hazel tried to move the car again with the same bar magnet. However, the car did not move. Give one reason to explain why the bar magnet could have lost its magnetism. (1 mark)

38. Terri tried to make a temporary magnet by setting up the experiment as shown below.



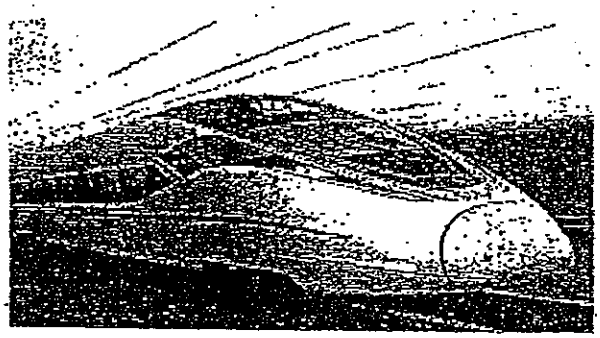
She observed that the iron paper clip was not attracted to the steel nail.

List two things Terri could do to improve on her set-up. (2 marks)

_____

_____

39. The picture below shows a Maglev train or bullet train. It operates without wheels and uses magnetism to lift the train up from the ground so that it can travel at a high speed



(a) What is the property of magnets that enables the train to be lifted up from the ground? (1 mark)

_____

(b) Name one kitchen appliance which uses the magnet. (1 mark)

_____

-End of paper-

ANSWER SHEET

EXAM PAPER 2013
SCHOOL : METHODIST GIRLS' SCHOOL
SUBJECT : PRIMARY 3 SCIENCE

TERM : SA2

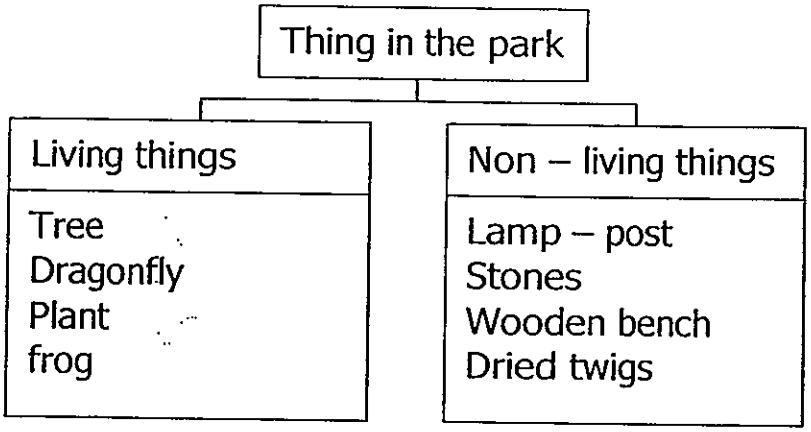
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
2	3	4	3	4	3	2	1	3	3	3	1	3	1	2	4	4

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
4	3	4	3	2	4	2	3

Section B

Q26

a)



b) They would die

c) Dried twigs and wooden bench

Q27

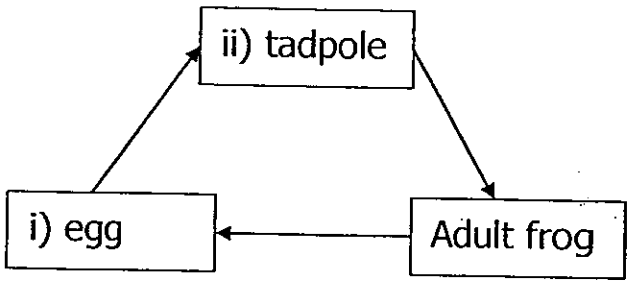
a) It has fur covering its body, not feathers

b) Mammals

c) Echidnas / Spiny anteater

Q28

a)



b) The adult frog is able to live outside water, the tadpole is unable to
The adult frog has legs but no tail, the tadpole has a tail but no legs

Q29

a) 20°C

b) 12:00pm

Q30

3 stage life cycle	4 stage life cycle
Praying mantis	Moth Fruit Fly Bee

Q31

a) nymph

b) wriggler

Q32

a) Staghorn Fern

b) Staghorn fern is a plant not a fungus

Q33

a) C → A → D → B

b) roots

c) B

d) Seed leaves. They will shrivel up and fall of the plant once they die.

e) Warmth, water and air

Q34

a) Plastic

b) X is flexible while Y is hard

Q35
a) The absorbency of each fabric
b) i) G
ii) H
c) to ensure that the experiment is fair and the results are accurate

Q36
a) C, D and E
b) They repel each other

Q37
a) North pole
b) It might have been dropped

Q38
She could use more batteries and increase the number of coils on the steel nail.

Q39
a) Like poles repel
b) Refrigerator