SCIENCE
2016 SEMESTRAL EXAMINATION 2
PRIMARY 3

Name : _____ ( )

Class : Primary 3/ _____

Date : 27 October 2016

BOOKLET A

Total time for Booklets A & B: 1h 30 min

Booklet A: 24 questions (48 marks)

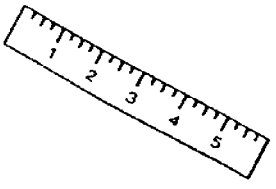
Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   a. Page 1 to Page 15
   b. Questions 1 to 24

Section A

For Questions 1 to 24, choose the most suitable answer and shade its number in the OAS provided.

1. Study the two groups of things shown in the table below.

Group A	Group B
 bowl	 monkey
 ruler	 plant

Which one of the following is correct?

(1) Group A can reproduce.
(2) Group B needs air, food and water.
(3) Both Group A and Group B can grow.
(4) Both Group A and Group B move around.

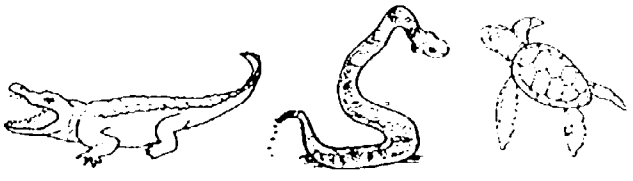
2. Look at the table below.

Age of Ali	Height of Ali
3	80 cm
4	85 cm
5	89 cm
6	94 cm

What characteristic of living things does it show?

(1) Living things can grow.
(2) Living things can reproduce.
(3) Living things can respond to changes.
(4) Living things can move from place to place.

3. Look at the pictures of animals below.



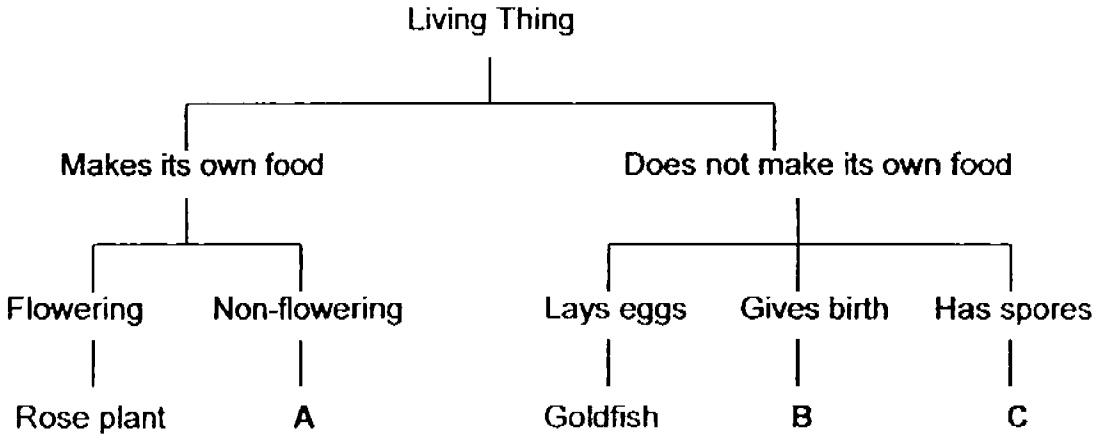
crocodile snake turtle

Which of the following characteristics do these animals have that allow(s) them to be classified in the same group?

A: Legs
B: Scales
C: Flippers
D: Hard shell

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

4. Look at the classification chart below.



Which one of the following shows correctly what A, B and C could be?

	A	B	C
(1)	cat	fern	mushroom
(2)	fern	cat	mushroom
(3)	mushroom	fern	cat
(4)	fern	mushroom	cat

5. Sue has classified the animals below into the same group.

penguin

goldfish

whale

Which one of the following animals can be put into the same group as the animals above and why?

(1)

bat

Reason: It has fur.

(2)

beetle

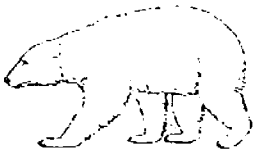
Reason: It has a hard body covering.

(3)

monkey

Reason: It is a mammal.

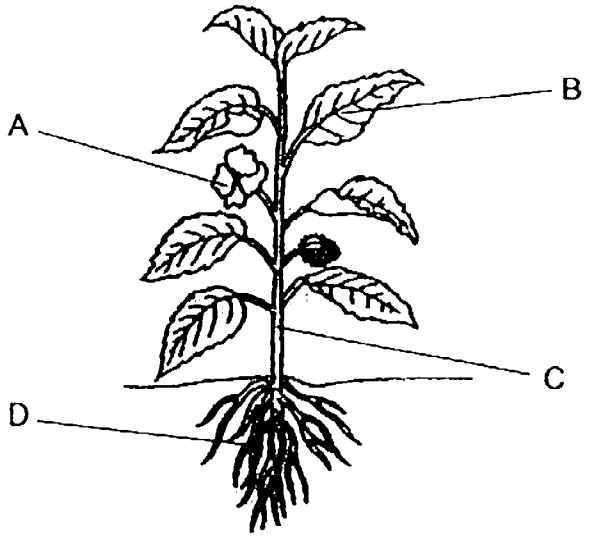
(4)



polar bear

Reason: It can swim.

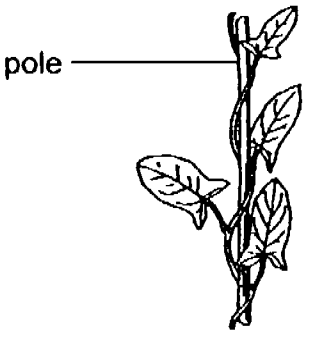
6. Look at the diagram below.



Which part of the plant helps it to make food?

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

7. Look at the plant below.



Which of the statements is correct?

(1) The root holds the plant upright.
(2) The stem holds the plant upright.
(3) The root uses the pole as a support to grow upright.
(4) The stem uses the pole as a support to grow upright.

8. Which of the following shows the path that food takes after it enters the mouth?

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

9. The leaves of a rose plant were covered completely with black tape. It was then placed in the garden and watered daily. After two weeks, the plant died.

Some students explained why the plant died.

Ariel: The black tape prevented the leaves from getting sunlight to make food.
Bob: The black tape prevented the tiny openings under the leaf from taking in air.
Chris: The black tape prevented the leaves from absorbing water.
Dolly: The black tape prevented the leaves from absorbing minerals.

Which students have given the correct explanations?

(1) Ariel and Bob only.
(2) Ariel and Chris only.
(3) Bob and Chris only.
(4) Bob and Dolly only.

10. Look at the descriptions of two living things A and B below.

Descriptions	Living thing A	Living thing B
has spores	✓	X
can be found on trees	✓	X
bears flowers	X	✓

Which of the following statements is/are correct?

A: Living thing A can be a fungus.
B: Living thing B can be a flowering plant.
C: Living thing A can be a fern.

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

11. Mr Tan placed a plant in a set-up as shown in Diagram 1 for four weeks and watered it daily.

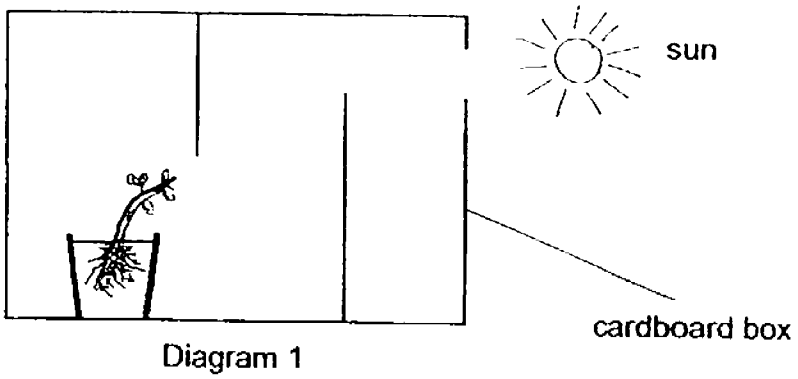


Diagram 1

Diagram 2 shows how the plant had grown after four weeks.

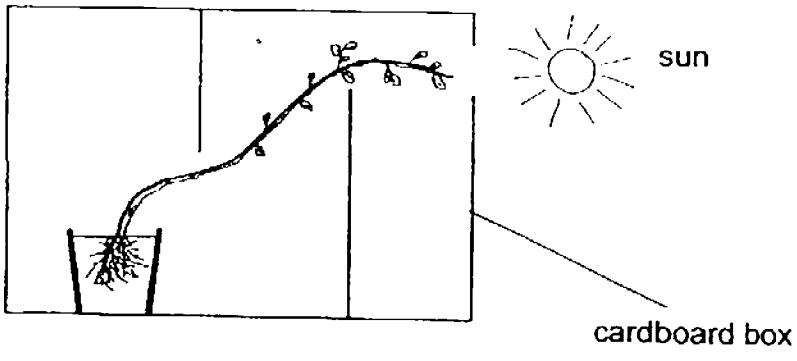


Diagram 2

Based on the experiment, what can Mr Tan conclude?

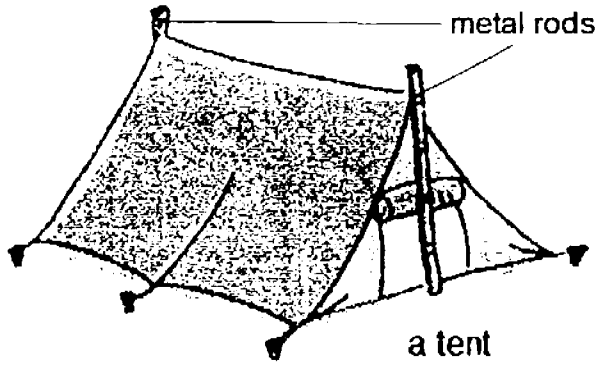
(1) Plants need air, food and water.
(2) Living things grow and reproduce.
(3) Living things do not move on their own.
(4) Plants respond to changes around them.

12. Xavier carried out an experiment to find out whether his chilli plant would grow better when watered with pond water or sea water. Which of the following variables should he keep the same?

A: the type of soil used
B: the type of water given
C: the place to put the plant
D: the amount of water given

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

13. A camping tent has metal rods to hold it up, support it and give the tent its shape.

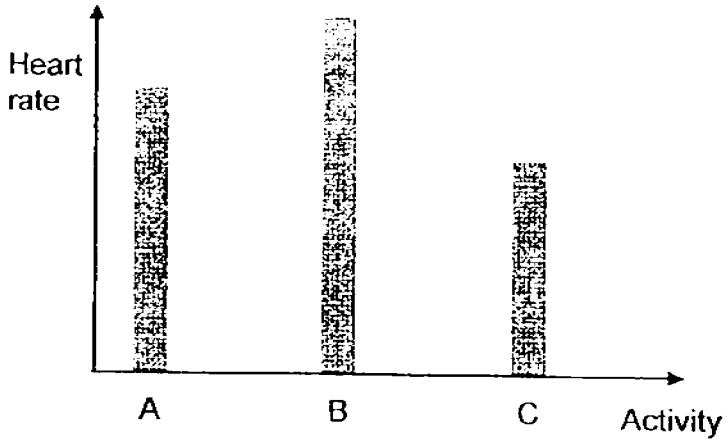


a tent

Which of the following systems in our body provides similar functions as the metal rods used in a tent?

(1) skeletal system
(2) digestive system
(3) muscular system
(4) respiratory system

14. The graph below shows the heart rate of a girl when she was doing each of the activities A, B and C.



Which of the following shows the activities that she was most likely doing?

	A	B	C
(1)	walking	resting	running
(2)	walking	running	resting
(3)	resting	running	walking
(4)	running	walking	resting

15. Four students made some statements about the human digestive system.

Andy: Digestion is completed in the small intestine.
Bala: All the digested food will go to the large intestine.
Clara: The small intestine is the longest organ in the digestive system.
Din: Water from the undigested food is absorbed by the small intestine.

Who made the correct statements?

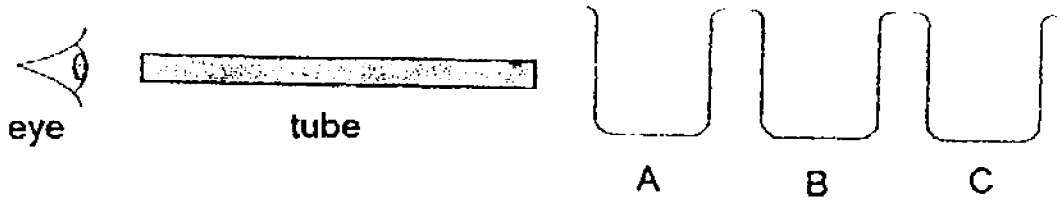
(1) Andy and Bala
(2) Andy and Clara
(3) Clara and Din
(4) Bala and Din

16. Shi Lin puts the same things into two carrier bags, X and Y, which are made of different materials. The results of her experiment are shown below.

She concludes that _____.

(1) Bag Y is lighter than bag X.
(2) Bag X is weaker than bag Y.
(3) Bag X is stronger than bag Y.
(4) Bag Y is more flexible than bag X.

17. Peter looks through a hollow tube as shown below. Cups A, B and C are made of different materials and they are aligned in a straight line. He can see cups A and B clearly but he cannot see cup C.



Which of the following materials are cups A, B and C likely to be made of?

	Cup A	Cup B	Cup C
(1)	paper	glass	metal
(2)	metal	glass	paper
(3)	metal	paper	glass
(4)	glass	metal	paper

18. Which materials cannot be used to make magnets?

A: steel
B: copper
C: iron
D: silver

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

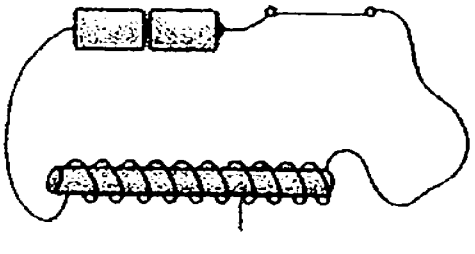
19. Look at the magnets below.

Which of the following correctly classifies the types of magnets shown?

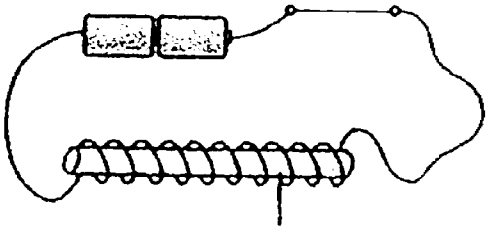
	W	X	Y	Z
(1)	U-shaped	ring	bar	horseshoe
(2)	bar	U-shaped	horseshoe	ring
(3)	bar	horseshoe	U-shaped	ring
(4)	ring	bar	horseshoe	U-shaped

20. Which of the following rods will become an electromagnet?

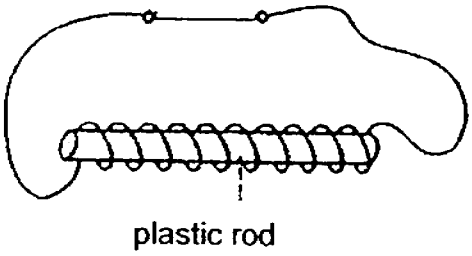
(1)



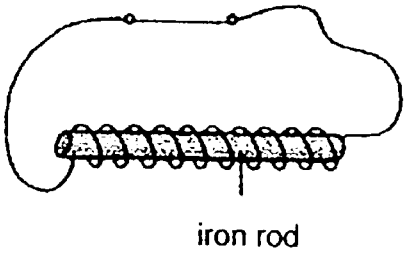
(2)



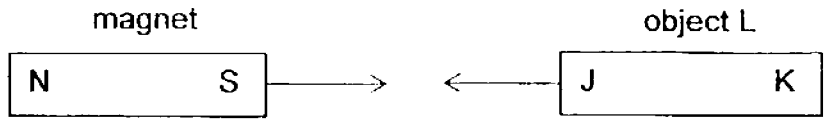
(3)



(4)



21. Mina puts a magnet near object L as shown below. The S-pole of the magnet attracts both parts J and K.

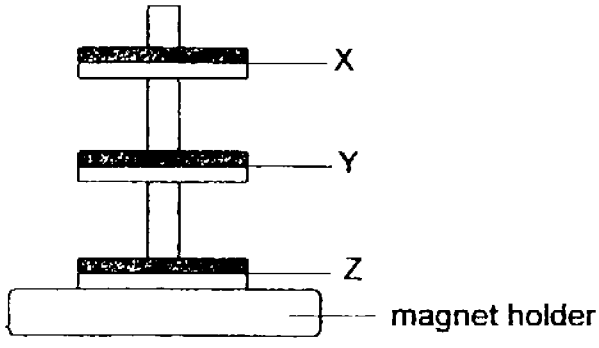


Which of the following statements are true?

A: Object L is made of steel.
B: Object L is made of copper.
C: The N-pole of the magnet will repel part J.
D: The N-pole of the magnet will attract part K.

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

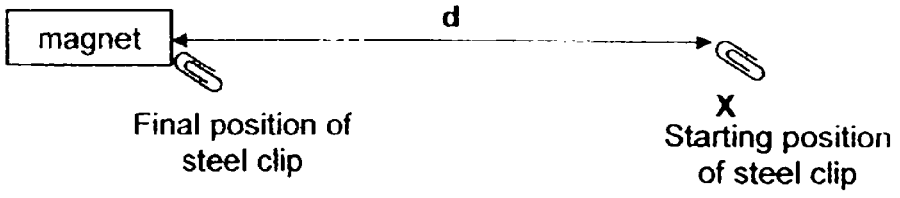
22. The diagram below shows three ring magnets, X, Y and Z. Magnets X and Y are floating in the holder.



What are the poles of the shaded parts of the three magnets?

	Magnet X	Magnet Y	Magnet Z
(1)	N-pole	N-pole	N-pole
(2)	N-pole	N-pole	S-pole
(3)	S-pole	N-pole	S-pole
(4)	S-pole	N-pole	N-pole

23. Dylan had four magnets, A, B, C and D. He placed a steel clip at point X. He kept moving each magnet towards the steel clip until it was attracted to the magnet. He measured the distance (d) at which the magnet was able to attract the steel clip.



He recorded his results in the table shown below.

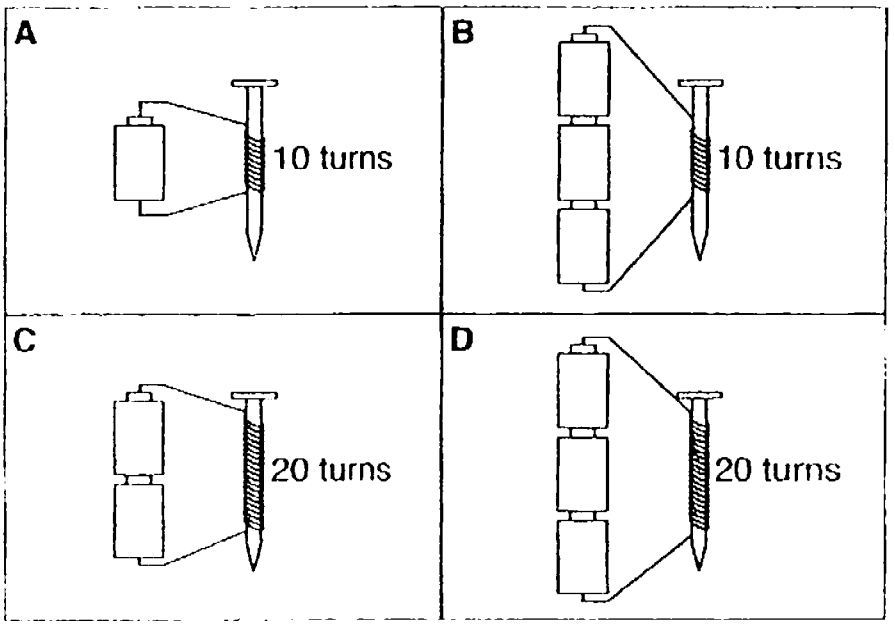
Magnet	Distance (d) in cm
A	8
B	2
C	12
D	4

Based on the information given, arrange the magnets in order of their magnetic strength, from the weakest to the strongest.

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

24. An iron nail becomes a magnet when it is placed in a coil of wire joined to batteries. Alan wants to find out whether the number of turns of wire around the iron nail affects the strength of the electromagnet.

Which two arrangements should he set up to ensure a fair test?



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

End of Section A

SCIENCE
2016 SEMESTRAL EXAMINATION 2
PRIMARY 3

Name : _____ ( )

Class : Primary 3/ _____

Date : 27 October 2016

BOOKLET B

10 Questions
32 Marks

In this booklet, you should have the following:
a. Page 16 to Page 27
b. Questions 25 to 34

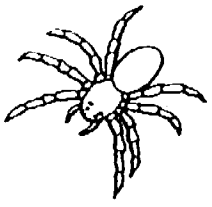
MARKS

	OBTAINED	POSSIBLE
BOOKLET A		48
BOOKLET B		32
TOTAL		80

Parent's Signature : _____

Section B
Answer all the questions in the space provided.

25. Look at the pictures below.



animal A

animal B

(a) To which group of living things does animal B belong? (1 m)

_____

(b) Give a reason for your answer in (a). (1 m)

_____

_____

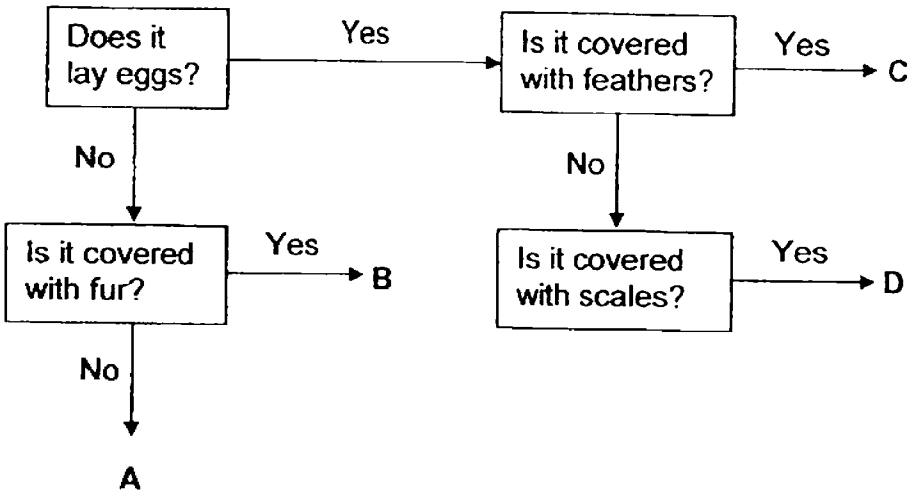
(c) Based on the pictures only, state one difference in physical characteristic between animal A and animal B. (Do not compare shape or size.) (1 m)

_____

_____

3

26. Look at the flowchart below.



(a) Based on the flowchart, fill in the table below correctly with the letters A, B, C and D. (2 m)

Letter	Animal
	Cat
	Dolphin
	Crocodile
	Chicken

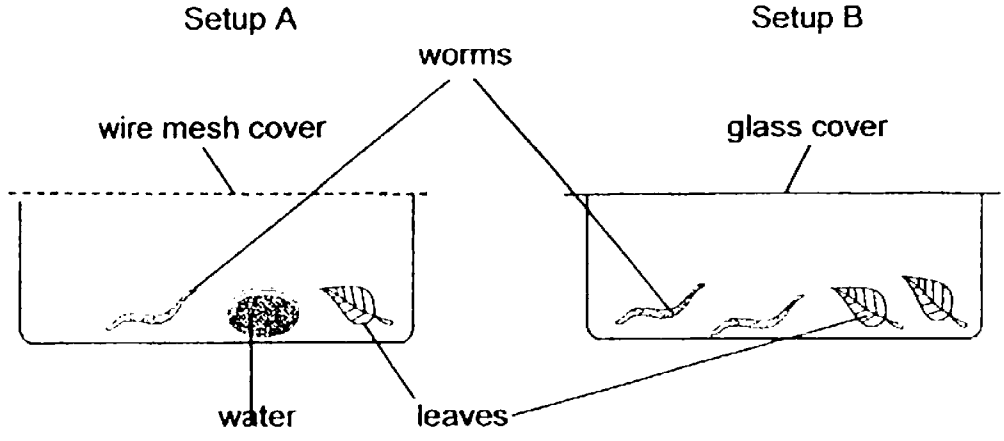
(b) Based on the flowchart, state the characteristics of animal B. (1 m)

_____

_____

3

27. Susan conducted the experiment below to find out if worms need water to survive. She placed the worms in glass containers and gave them food and water. However, her friend commented that she did not carry out a fair test.



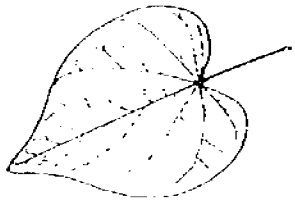
(a) Look at the table below and help Susan tick (✓) the variables that she should keep the same and cross (x) the ones that she should change. (2 m)

	Type of cover	Amount of water	Number of leaves	Number of worms
Variable(s) that she should keep the same.				
Variable(s) that she should change.				

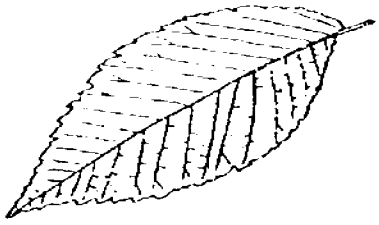
(b) Besides water, state two other basic needs required by the worms to survive. (1 m)

3

28. Observe and compare the two leaves below.



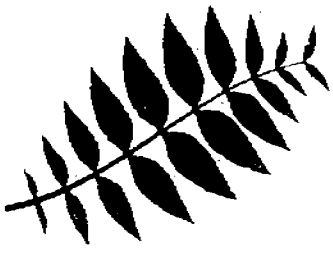
leaf X



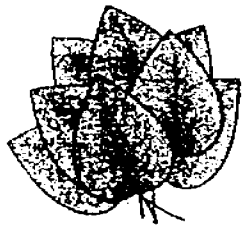
leaf Y

(a) State one difference between leaf X and leaf Y in terms of their edges.
(1 m)

Study the pictures below.



leaves spread out



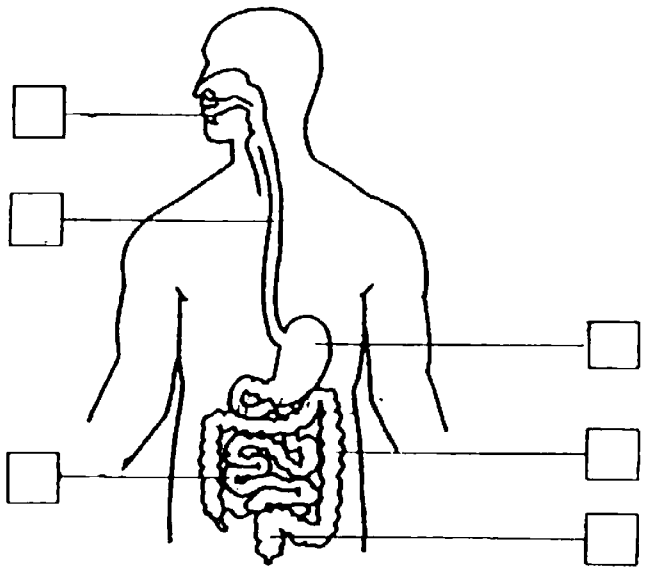
leaves stacked in a pile

(b) Plants spread their leaves out in all directions rather than stack them up in a pile. Explain how the spreading of leaves helps plants to grow better.
(1 m)

2

29. The diagram below shows the human digestive system.

(a) In which part(s) of the digestive system are digestive juices released to help in digestion? Put ticks (✓) in the correct boxes below. (1½ m)



The table below shows the amount of undigested food left in each part of the digestive system just before it is passed to the next part.

Parts of the digestive system	Amount of undigested food left (units)
mouth	10
gullet	10
stomach	6
small intestine	2
large intestine	?

(b) How many units of undigested food are left in the large intestine before it is removed from the body? (½ m)

_____ units

(c) Explain your answer for part (b). (1 m)

_____

_____

3

30. Siti used a flowchart to show how the food we eat can reach all parts of our body.

(a) Describe how digested food gets into System T. (1 m)

_____

_____

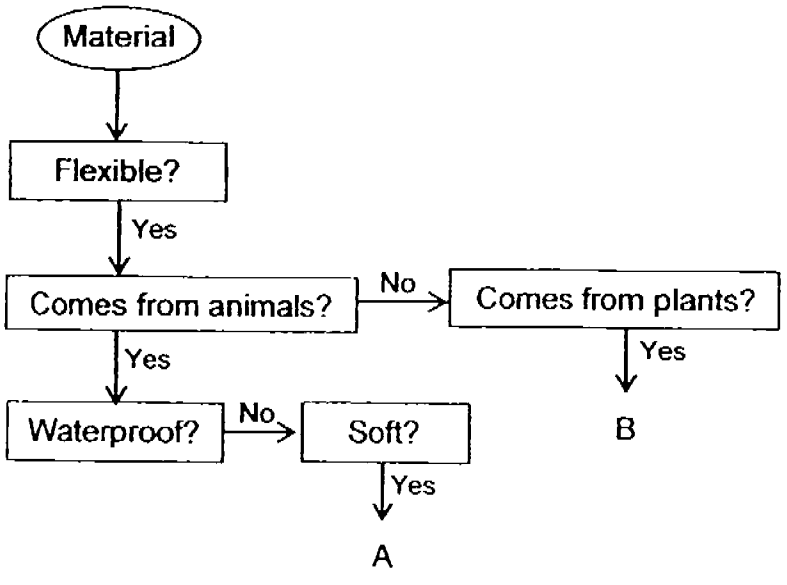
_____

(b) Name two other substances that are carried by System T to all parts of our body. (1 m)

_____

_____

31. Study the flowchart below carefully.



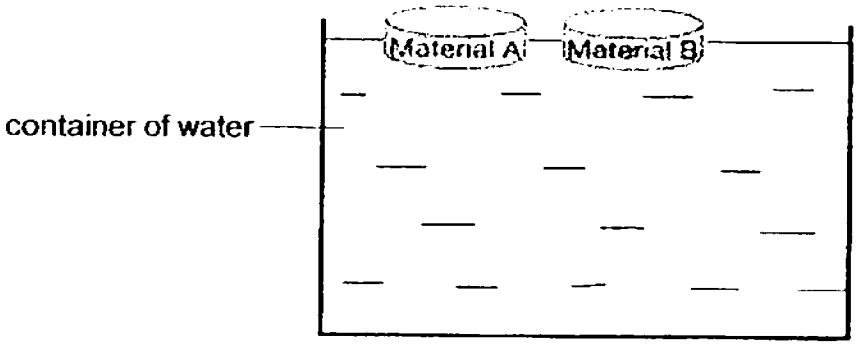
(a) Give one example each of material A and material B. (2 m)

A: _____

B: _____

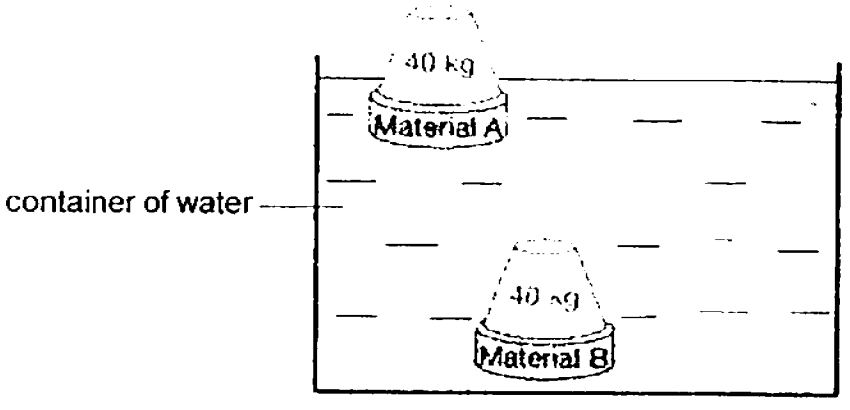
4

Hao Ming wants to choose a suitable material to make a swimming float. He places materials A, B ~~and C~~ in a container of water as shown below.



Experiment 1

He then places a 40-kg weight on each material and puts them back in the water as shown in the diagram below.



Experiment 2

(b) Which material, A or B, is more suitable for making a swimming float? Explain your answer. (1 m)

_____

_____

(c) State another physical property that must be present in the material used for making a swimming float. (1 m)

_____

2

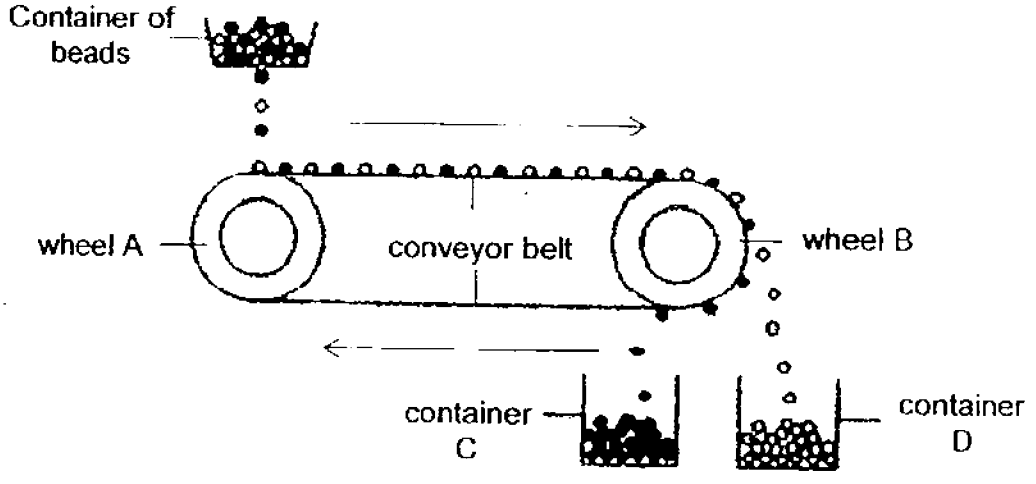
32. Study the table below.

(a) Classify the following objects into the correct groups. (1 m)

glass marble	steel paper clip	wooden toothpick	iron nail

Can be magnetised	Cannot be magnetised

The diagram below shows how a machine separates magnetic beads from non-magnetic beads as the conveyor belt moves in the direction shown by the arrows.



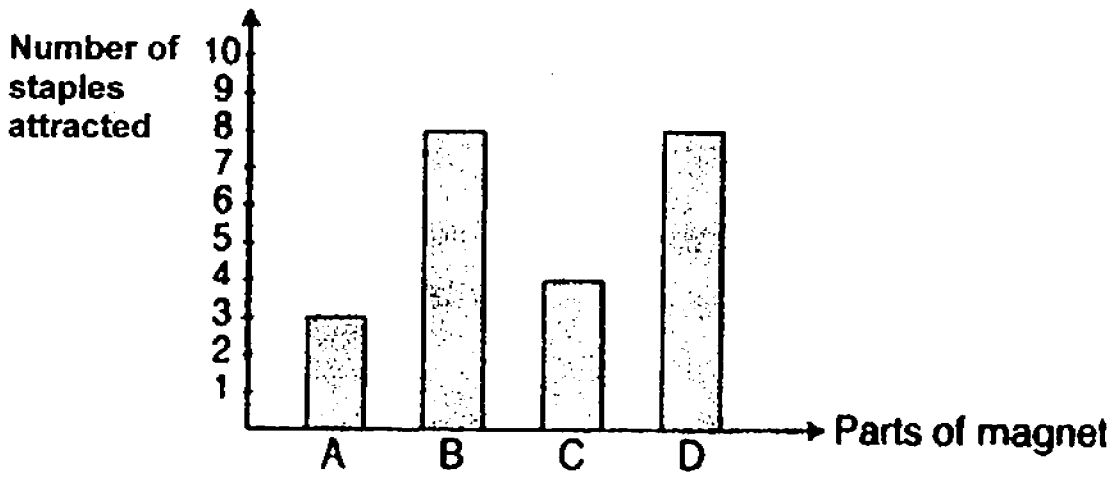
(b) Which part of the machine, wheel A or wheel B, is more likely to be a magnet? (1 m)

(ci) In which container, C or D, are the magnetic beads collected? (1 m)

(cii) Explain your answer for part (ci). (1 m)

4

33. Keng Hong carried out an experiment using a bar magnet and steel staples. He labelled different parts of the magnet as A, B, C and D. He counted the number of staples attracted to each part and recorded the results in the graph below.



(a) Which parts of the magnet, A, B, C or D, are most likely the poles of the magnet? (1 m)

_____

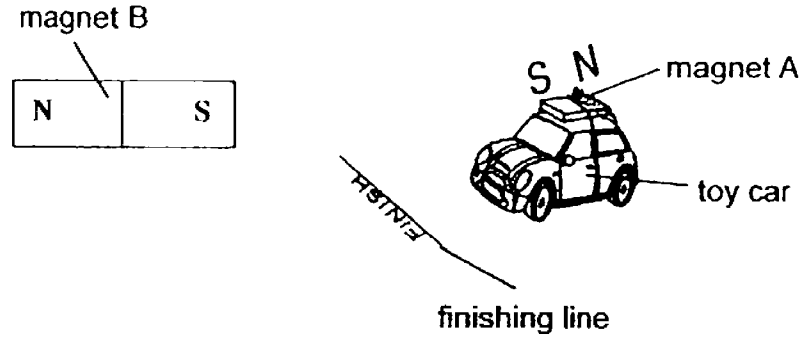
(b) Explain your answer for part (a). (1 m)

_____

_____

2

Study the diagram below. Magnet A is tied to the top of a plastic toy car.



(c) Keng Hong is given magnet B. Explain how he can use magnet B to make the toy car reach the finishing line without touching the toy car or magnet A? (2 m)

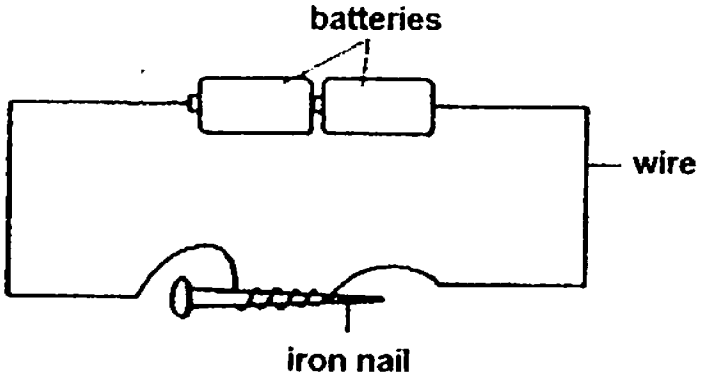
_____

_____

_____

2

34. Ramli tries to turn an iron nail into a temporary magnet. He uses the set-up shown below.



To test the magnetic strength of the magnet, he puts steel paper clips near the iron nail and records the number of steel paper clips attracted to it. He changes the number of wire coils around the iron nail and repeats the experiment. His results are shown in the table below.

Number of coils around the iron nail	Number of steel paper clips attracted
5	10
10	20
15	30
20	40

(a) What is the relationship between the number of coils of wire around the iron nail and the magnetic strength of the temporary magnet? (1 m)

_____

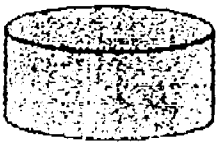
_____

(b) State another method of making a temporary magnet. (1 m)

_____

2

Ramli has four magnets, A, B, C and D. He brings each magnet close to a box of steel pins.



Magnet A

Magnet B

Magnet C

Magnet D

He records the number of steel pins attracted by each magnet in the table below.

Magnet	A	B	C	D
Number of steel pins attracted	25	30	20	40

(c) Based on the results above, what can Ramli conclude about the magnetic strength of magnet D? (1 m)

_____

_____

(d) State a method that can cause a magnet to lose its magnetism. (1 m)

_____

_____

2

End of Section B
Please check your work.

EXAM PAPER 2016
LEVEL : PRIMARY 3
SCHOOL : RED SWASTIKA SCHOOL
SUBJECT : SCIENCE
TERM : SA2

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

Q25a. Animal B belongs to the group insects.

Q25b. Because animal B has six legs.

Q25c. Animal A has eight legs but animal B has six legs.

Q26a. Cat – B Dolphin – A Crocodile – D Chicken – C

Q26b. Animal B does not lay eggs and covered with fur.

Q27a. Variables she should keep the same – Type of cover, number of leaves, number of worms

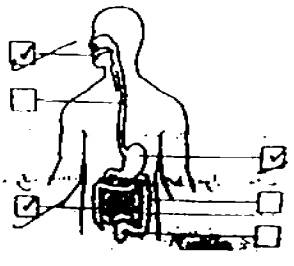
Variables she should change – amount of water

Q27b. Worms also need food and air to survive.

Q28a. Leaf X has entire edges but leaf Y has toothed edges.

Q28b. Because plant needs more sunlight to make food.

Q29a.



Q29b. 2 units

Q29c. Digestion does not take place in the large intestine.

Q30a. Digested food is absorbed by the system T through the walls of the small intestine.

Q30b. Oxygen, air.

Q31a. A: Fur B: Rubber

Q31b. Material A because material A is still floating after putting forty kg on it.

Q31c. Waterproof.

Q32a. Can be magnetised: Steel paper clip, iron nail
Cannot be magnetised: Glass marble, wooden toothpick

Q32b. Wheel B

Q32ci. Container C

Q32cii. Because container C's beads attracted longer than container D.

Q33a. B and D.

Q33b. Because B and D attracted the most number of steel staples.

Q33c. Put the N-pole of magnet B near the S – pole of magnet A to attract magnet A to the finishing line.

Q34a. The more coils around the iron nail the same magnetic strength it has.

Q34b. Stroking method.

Q34c. The magnetic strength of magnet D is the strongest.

Q34d. Burning the magnet.