ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 2 (2010)
PRIMARY 4
SCIENCE

BOOKLET A

Monday **1 November 2010** **1 hour 30 minutes**

Name : _____ ( )

Class : P4 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 20 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 40.

The total time for Booklets A and B is 1 hour 30 minutes.

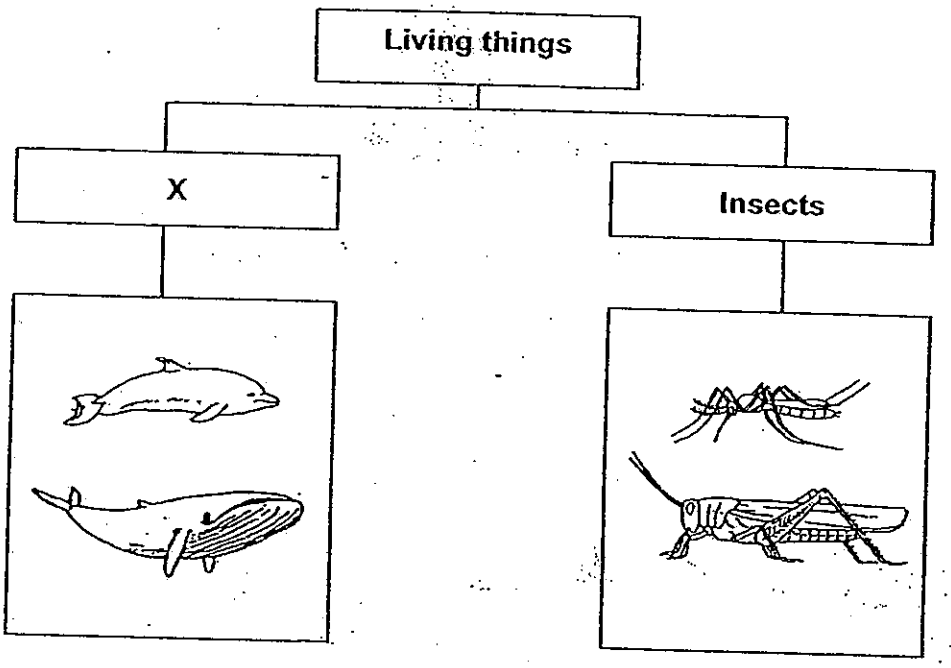
This question paper consists of 10 printed pages. (Inclusive of cover page)

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Section A (40 marks)

For each question from 1 to 20, four options are given. One of them is the correct answer. Choose the correct option (1, 2, 3 or 4) and shade the correct oval on the Optical Answer Sheet (OAS).

1 The table below shows how some living things can be grouped.



Which one of the following is the most suitable heading for group **X**?

1) fish
2) fungi
3) bacteria
4) mammals

2 Glass is used to make window panes because it _____.

1) is shiny
2) sinks in water
3) is transparent
4) conducts heat very well

3 One function of a stem is to _____.

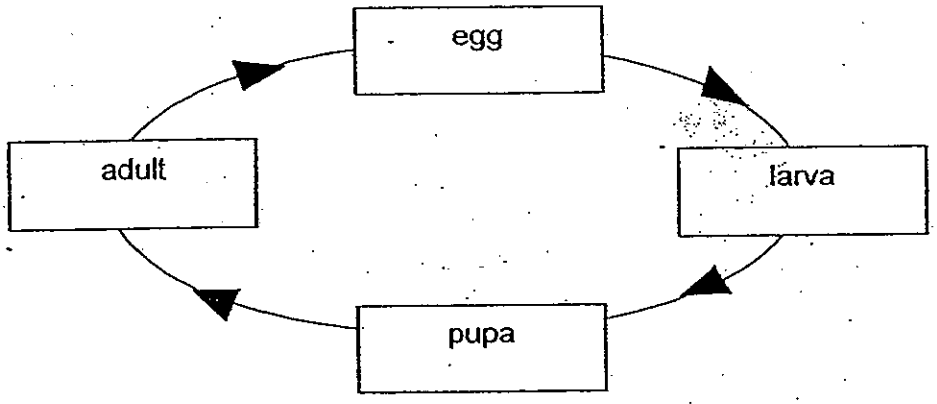
1) store food for the plant
2) store oxygen in the plant
3) take in dissolved mineral salt
4) hold the plant firmly to the ground

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4 What is the main function of the stomach?

1) It digests food with digestive juices.
2) It absorbs water from undigested food.
3) It allows water to be passed into the blood.
4) It removes undigested food out of the body.

5 The diagram below shows the life cycle of an animal.

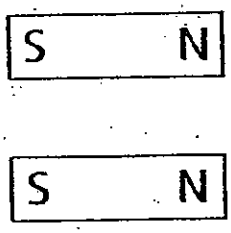


Which animal is likely to have the life cycle as shown above?

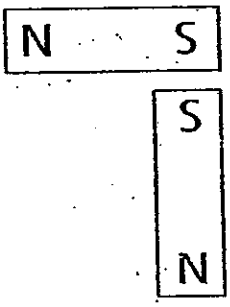
1) duck
2) lizard
3) mosquito
4) grasshopper

6 In which one of the following will the two magnets be attracted to each other?

1)



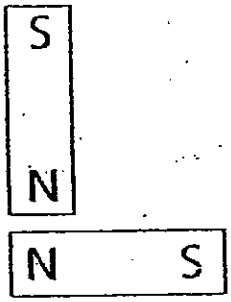
2)



3)



4)

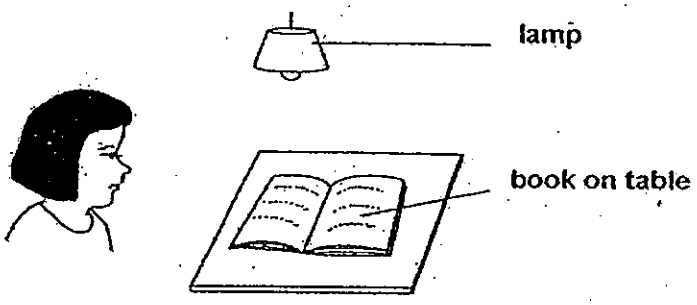


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7 Which one of the following items can be attracted by a magnet?

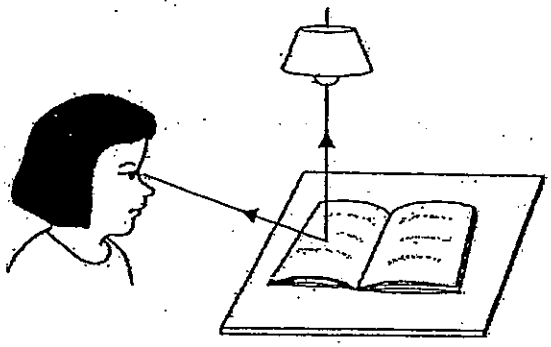
1) iron bar
2) plastic bar
3) rubber bar
4) wooden bar

8 The diagram below shows a girl reading a book.

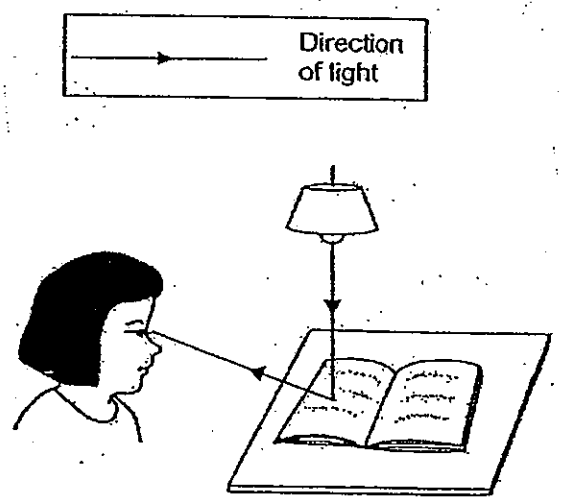


Which one of the following diagrams shows why the girl can read the book on the table?

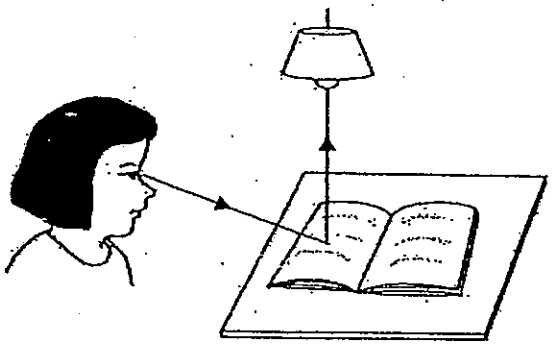
1)



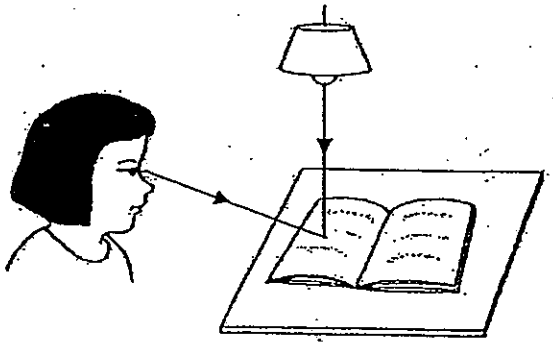
2)



3)



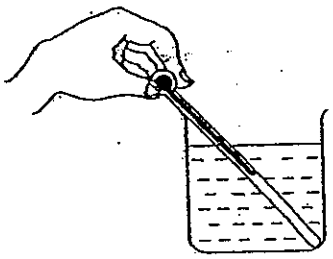
4)



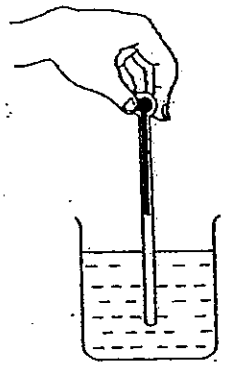
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9 Which one of the following diagrams shows the correct way to measure the temperature of a beaker of water?

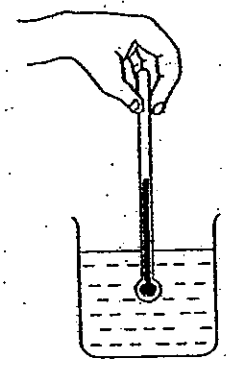
1)



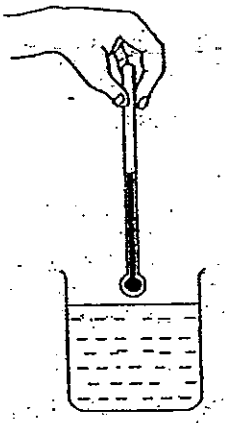
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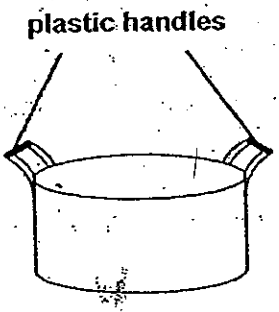
3)



4)



10 Calvin boiled some water using the metal pot shown below.



He is able to hold the pot of hot water by the plastic handles because plastic is a _____.

1) light material
2) durable material
3) poor conductor of heat
4) good conductor of heat

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11 Matter is anything that has mass and occupies space.
Jolina created a list of matter as shown below.

Things			
air	~~light~~	soil	clay
water	balloon	plasticine	~~sound~~

How many things should **not** be in her list?

1) 5
2) 2
3) 3
4) 4

12 The classification table below shows the properties of 3 substances, X, Y and Z.

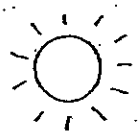
Property	Substance		
	X	Y	Z
Has definite volume	Yes	No	Yes
Has definite shape	No	No	Yes
Can be compressed	No	Yes	No

Which one of the following correctly represents X, Y and Z?

	X	Y	Z
(1)	milk	oxygen	water
(2)	honey	milk	sand
(3)	water	air	oxygen
(4)	honey	carbon dioxide	sand

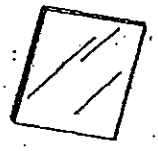
13 Which one of the following is **not** a light source?

1)



sun

2)



mirror

3)



candle flame

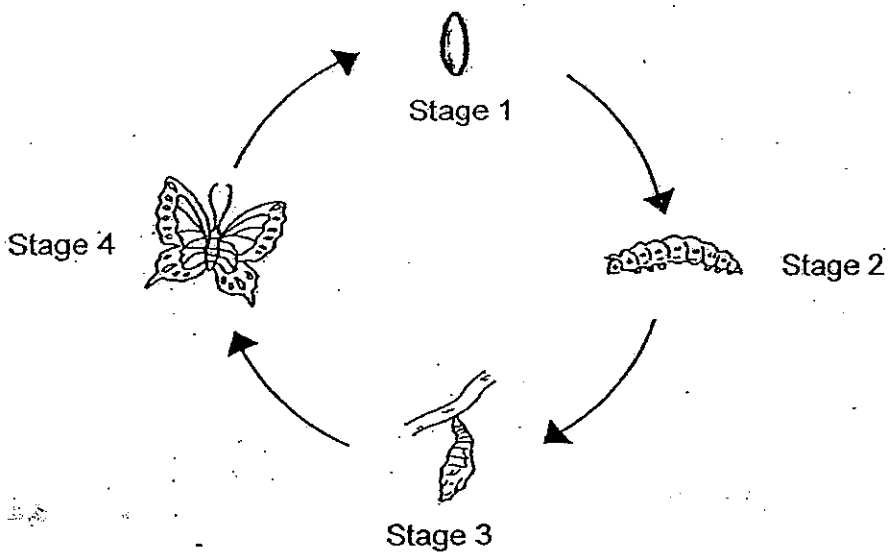
4)



lighted bulb

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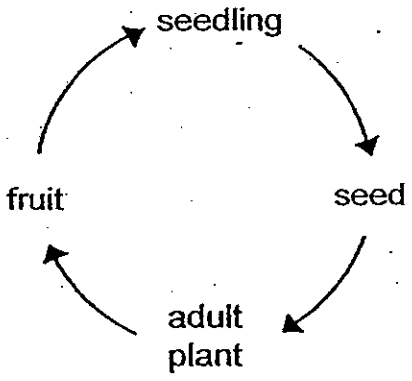
14 The diagram below shows the life cycle of a butterfly.

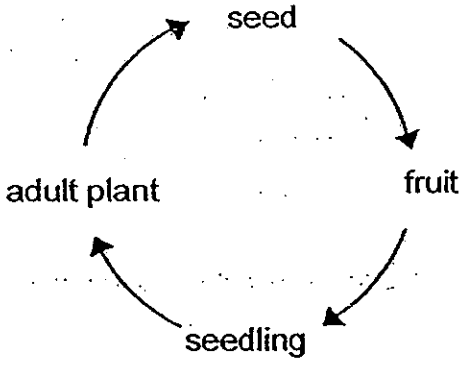


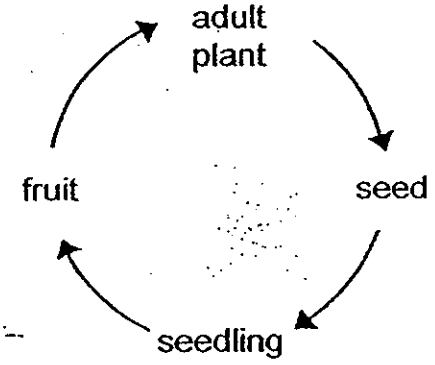
At which stage(s) of the life cycle of the butterfly will there be little or no movements?

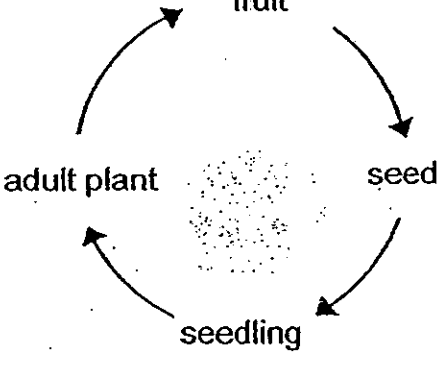
1) 3 only
2) 1 and 2
3) 1 and 3
4) 2 and 4

15 Which one of the following shows the correct life cycle of a flowering plant?

1)


2)


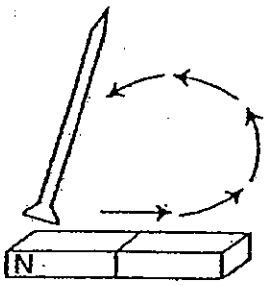
3)


4)


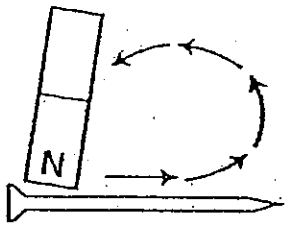
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16 Which one of the following shows the correct way to make a nail into a temporary magnet?

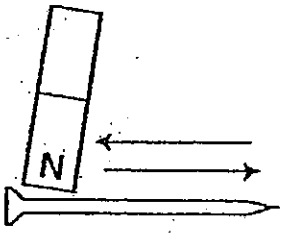
1)



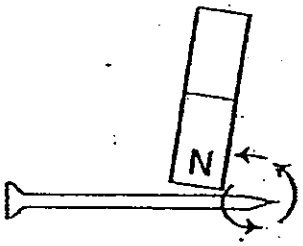
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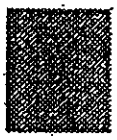


17 A mug as shown below is placed between a torch and a screen.

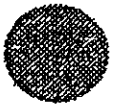


Which one of the following shadows below **cannot** be cast by the mug?

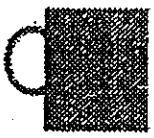
1)



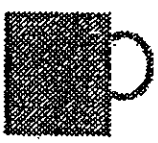
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3)

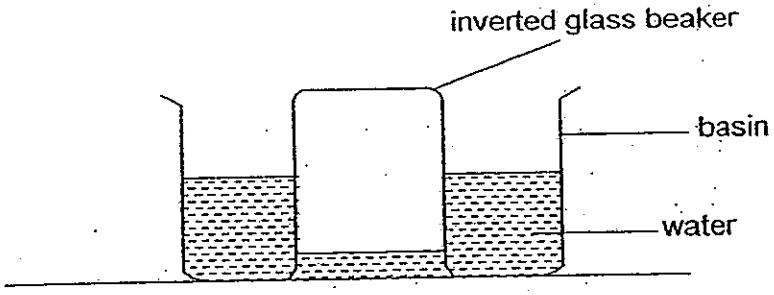


4)



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18 Jack took an empty glass, inverted it and pushed it into a basin of water. He noticed that there was some water in the glass.



What can he conclude from this experiment?

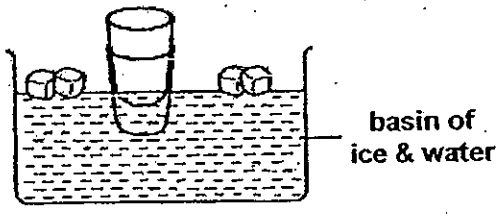
1) Air has mass.
2) Air can be compressed.
3) There is air in the water.
4) Water and air can be compressed.

19 Two glasses were stuck together as shown below.

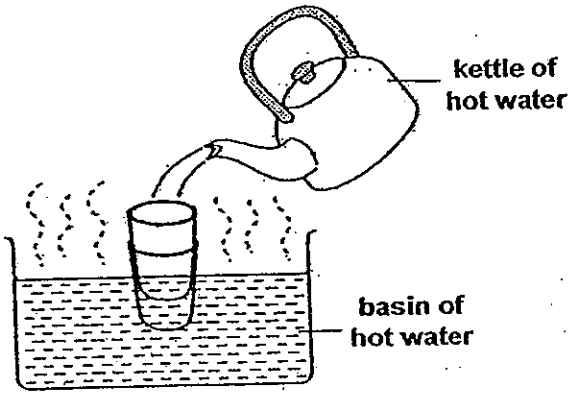


Which one of the following would be the most suitable method to separate the two glasses?

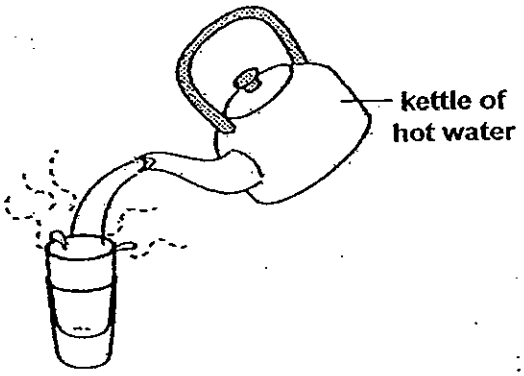
1)



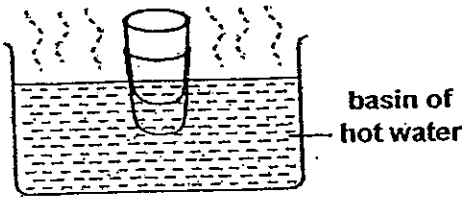
2)



3)

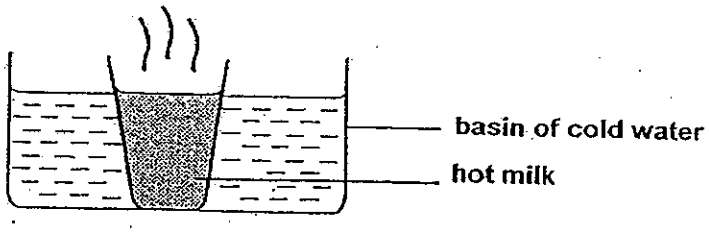


4)



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20 A glass of hot milk is placed into a basin of cold water as shown below.



Which of the following statements are correct?

A The temperature of hot milk falls.
B The cold water gains heat from the air.
C The cold water loses its heat to the hot milk
D The hot milk loses its heat to the cold water.

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

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ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 2 (2010)
PRIMARY 4

SCIENCE

BOOKLET B

Monday **1 November 2010** **1 hour 30 minutes**

Name : _____

Class : P_____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 14 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [ ] at the end of each question or part question.

The total marks for this booklet is 40.

The total time for Booklets A and B is 1 hour 30 minutes.

This question paper consists of 14 printed pages. (Inclusive of cover page)

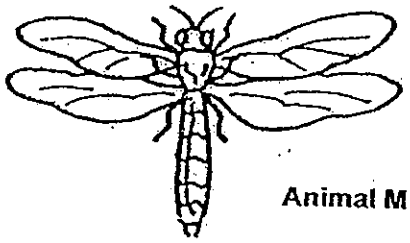
BOOKLET A	/ 40
BOOKLET B	/ 40
TOTAL	/ 80
Parent's signature/ Date:	

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Section B (40 marks)

For questions from 21 to 34, write your answers in this booklet. The number of marks awarded is shown in the brackets [ ] at the end of each question or part question.

21 The diagram below shows Animal M.

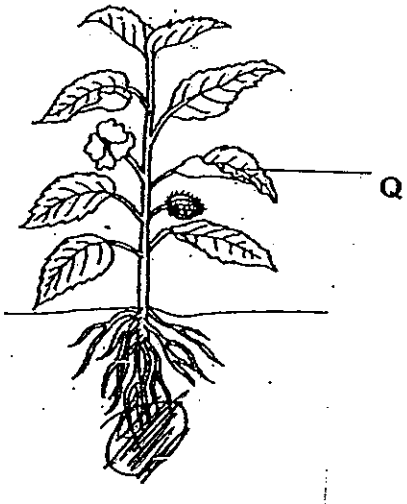


Animal M

Irina said that Animal M is an insect. Tick (✓) the statement(s) that support what Irina said. [2]

Statement	Put a tick (✓) if the statement(s) is/are true.
It can fly.	
It has 6 legs.	
It has wings.	
It has 3 body parts.	

22 The diagram shows a plant.



(a) Label plant part Q. [1]

Q - _____

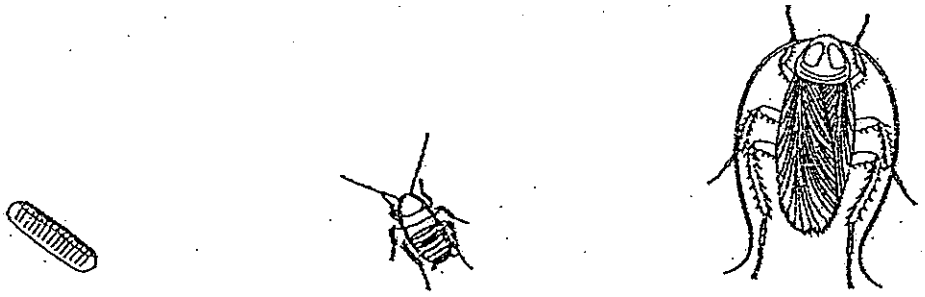
(b) Name a substance that part Q takes in to make food. [1]

_____

Sub-total: [ ]

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23 The diagram below shows the stages in the life cycle of a cockroach.



A B C

Name the stages A and B in the life cycle of the cockroach. Choose the correct words from the box to fill in the blanks below. [2]

egg	larva	nymph	adult	pupa

(i) Stage A - _____

(ii) Stage B - _____

24 Maggie placed a magnet near a steel nail as shown below. The steel nail moved towards the magnet.



steel nail magnet

(a) Fill in the blanks with a suitable word.

The magnet exerted a_____ on the steel nail. [1]

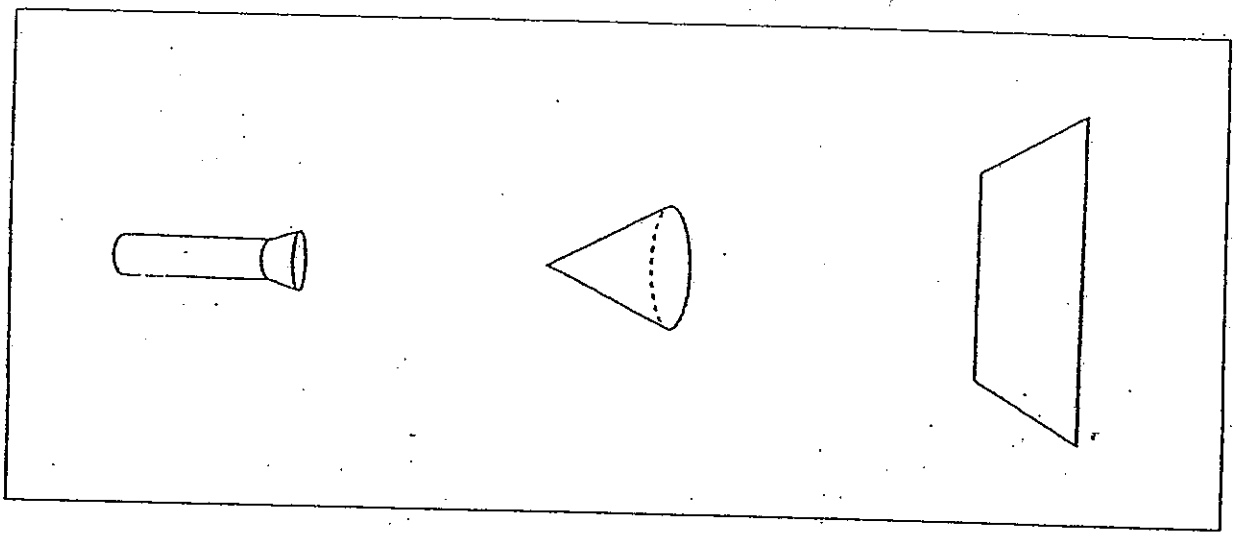
(b) Choose the correct word from the box to fill in the blank below.

hard	magnetic	strong

Maggie's observation shows that steel is a_____ material. [1]

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25 Tom shines a torch on object Z and a shadow is formed on the screen.

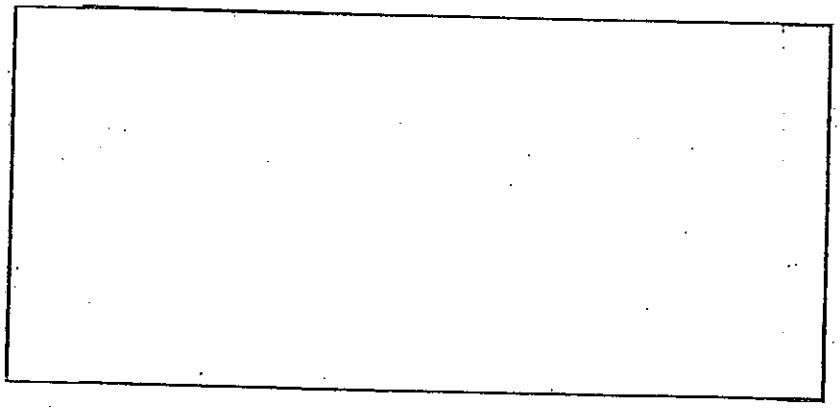


torch object Z screen

(a) Fill in the blank below with a suitable word.

A shadow is formed when light is _____ by an object. [1]

(b) Draw the shadow of object Z that is formed on the screen in the box below. [1]

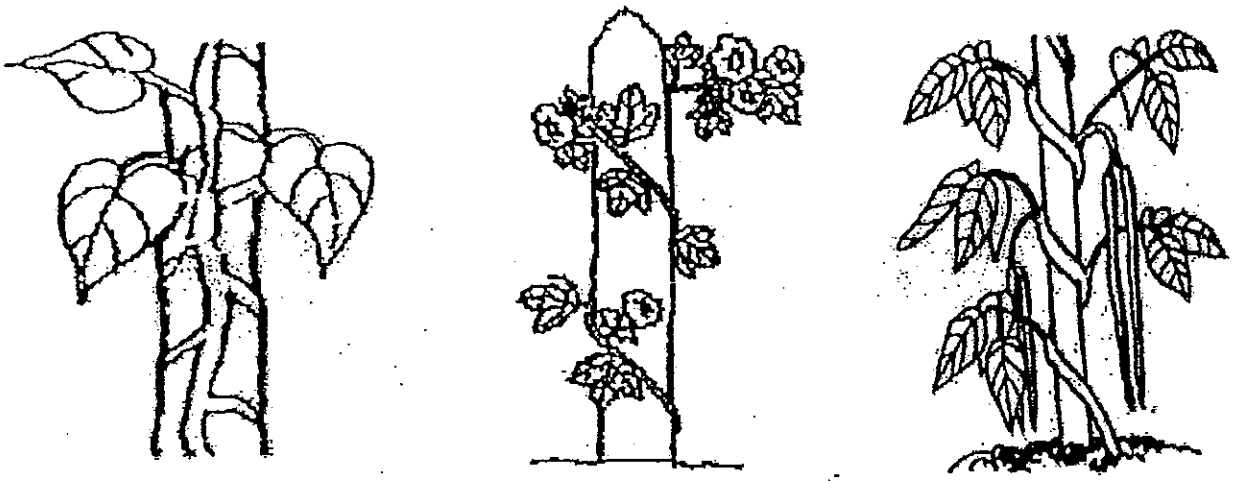


screen

Sub-total:

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26 Look at the diagram below.



Money plant | Morning Glory | Bean plant

These plants are known as creepers. They usually need support to climb upwards.

(a) Why do these creepers need support? [1]

_____

_____

(b) Explain why it is necessary for the plants to climb upwards? [1]

_____

_____

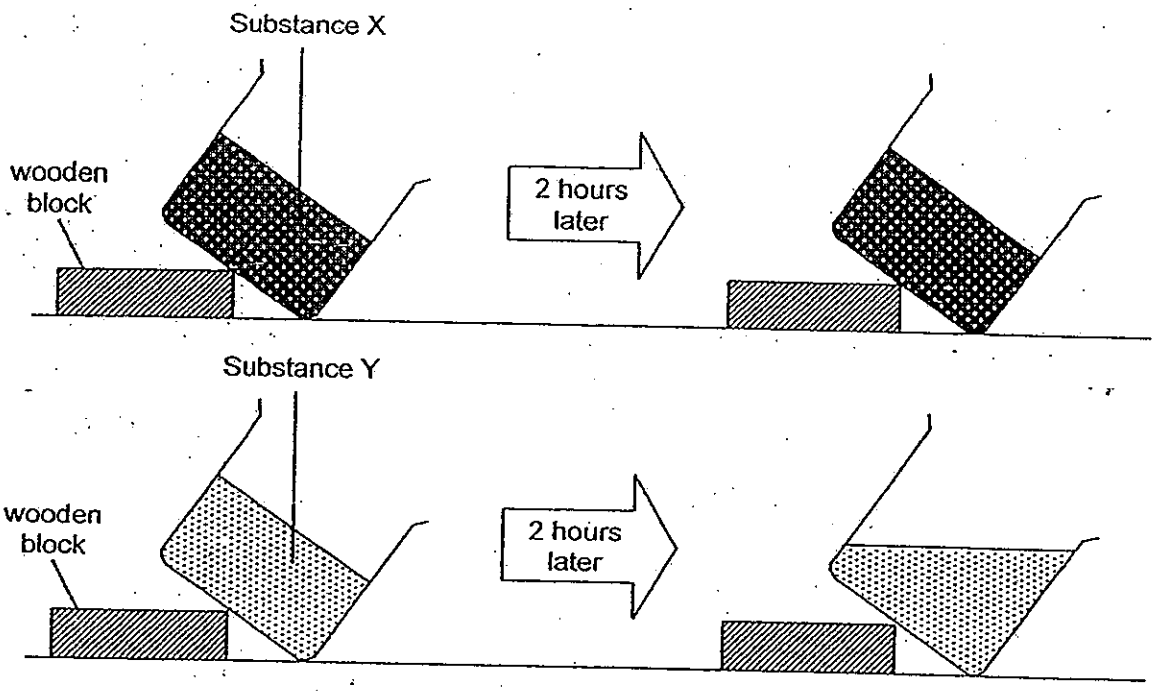
(c) Put a tick (✓) if the statement is true, false or not possible to tell. [2]

Statements	True	False	Not possible to tell
(i) All plants grow from seeds.			
(ii) A plant with green leaves will make more food than a plant with purple leaves.			
(iii) Seeds need air, water and warmth to germinate.			
(iv) Only fungi reproduce by spores.			

Sub-total: ☐

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27 Jamie set up an experiment in the classroom as shown below.



After 2 hours, Jamie noticed some changes to one of the substances.

(a) What is the state of Substance X and Y at the start of the experiment? [1]

Substance X - _____

Substance Y - _____

(b) Describe what had happened to Substance Y after 2 hours. [1]

_____

_____

(c) Give an example of what Substance X and Y could have been at the start of the experiment.

[1]

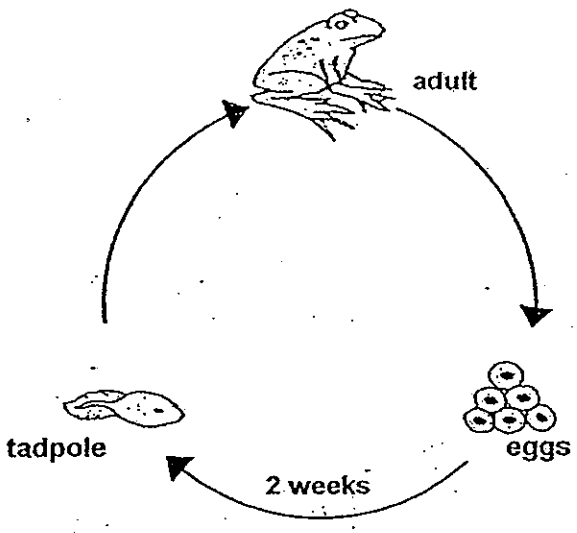
Substance X - _____

Substance Y - _____

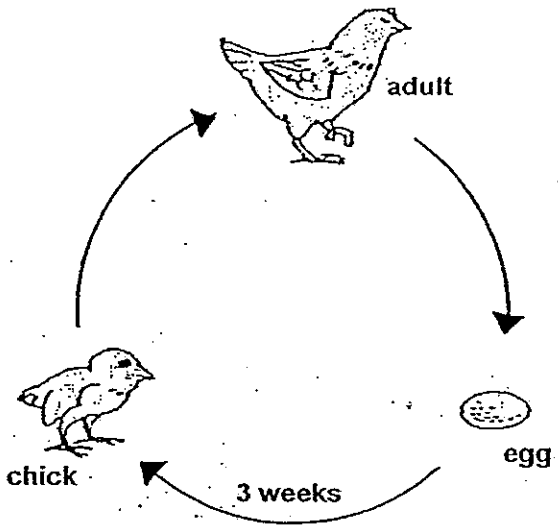
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28 Compare the two life cycles below.



Life cycle of a frog



Life cycle of a chicken

(a) Based on the life cycles above, state 2 differences between them. [2]

(i) _____

_____

(ii) _____

_____

(b) State all the stages in the life cycle of a grasshopper. [1]

_____

_____

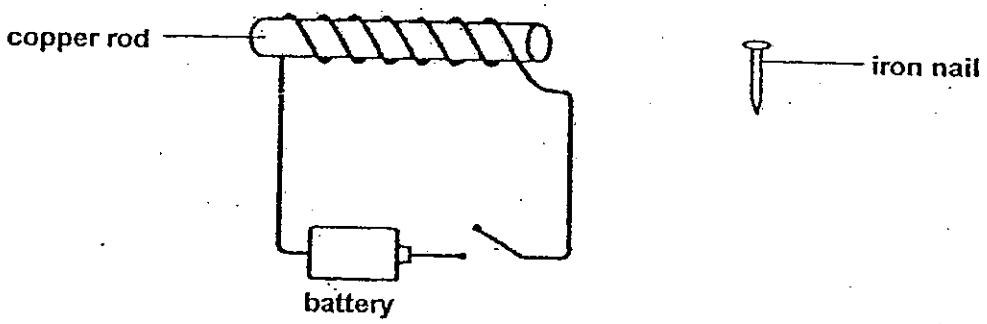
(c) Explain why it is necessary for living things to reproduce. [1]

_____

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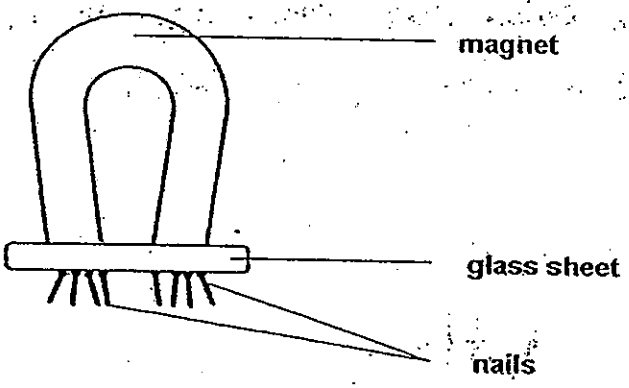
29 Daniel set up the experiment as shown below.



(a) What will be observed when the switch is closed? [1]

(b) Explain your answer in (a). [1]

(c) Daniel set up another experiment as shown below.

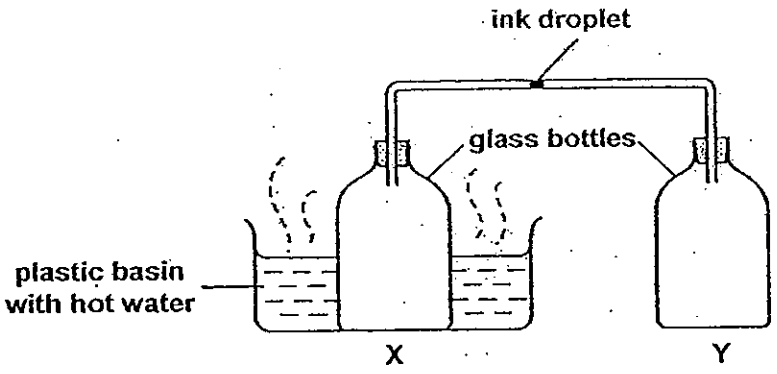


What can the glass sheet be replaced with, so that the magnet can no longer attract the nails? [1]

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30 Peter set up the experiment as shown below using 2 identical glass bottles, X and Y, that are connected by a glass tube.



(a) Predict how the ink droplet will move in the above setup after 2 minutes. [1]

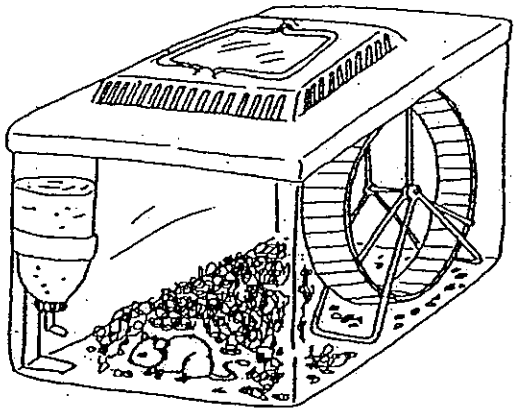
(b) Explain your answer in (a) above. [1]

(c) Without changing the glass bottles or tube, suggest two changes you can make to the original set-up to make the ink droplet move faster. [2]

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31 Jamie went to the pet store and bought a male hamster.



(a) While cleaning the cage, Jaime wanted to catch the hamster but it ran away. State two characteristics of living things which the hamster has shown. [2]

(i) _____

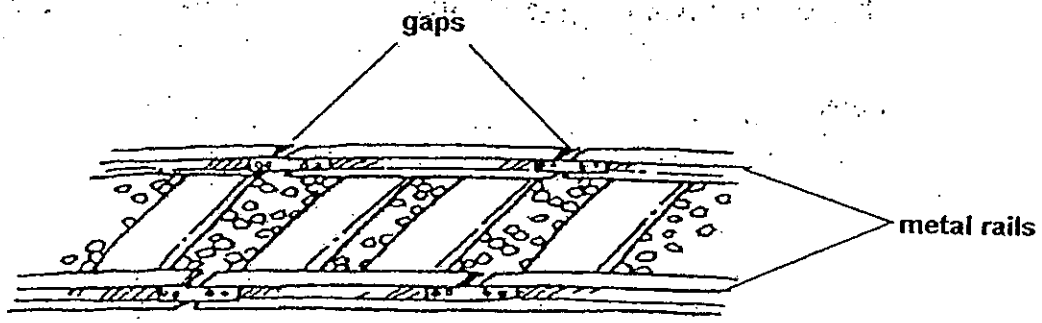
(ii) _____

(b) Jaime wanted her hamster to have some young. What must she place in the cage to help the hamster to reproduce? [1]

_____

_____

32 Lizzy took the Mass Rapid Transit (MRT) to school one morning. She noticed that there were gaps between the metal rails of the MRT track.



(a) Explain why there are gaps on an MRT track. [1]

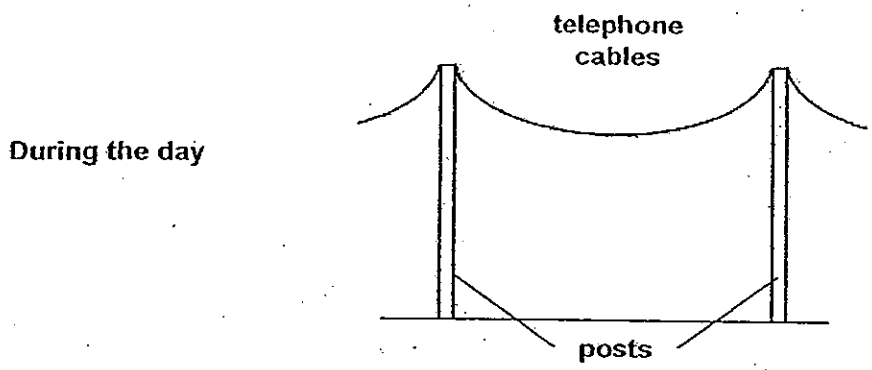
_____

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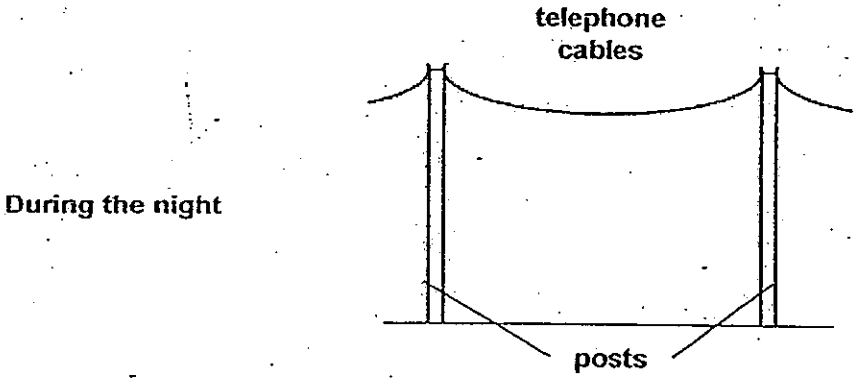
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32 In December, Lizzy followed her parents to a foreign country for a holiday. During the day, Lizzy observed that telephone ~~wires~~ Cables were hanging loosely between their posts, as shown in the diagram below.



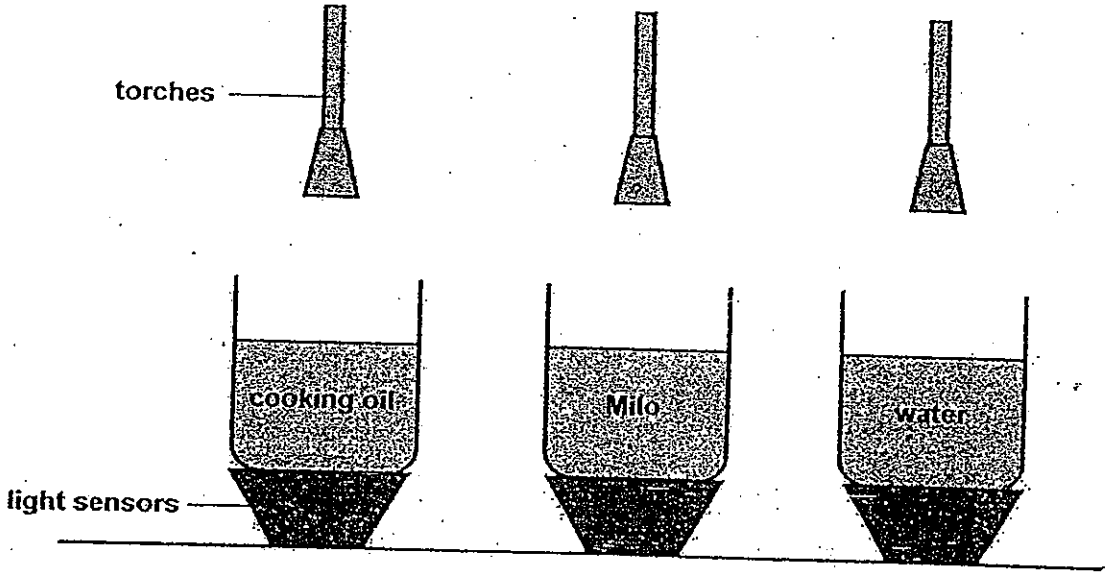
However during the night, she observed that the telephone ~~wires~~ Cables were hanging less loosely between their posts, as shown in the diagram below.



(b) Explain why there is a difference in the way telephone ~~wires~~ Cables hang between their posts, during the day and night. [1]

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33 Jack set up the following experiment with 100cm^3 of three different liquids.



He used light sensors to measure the amount of light that passed through each beaker of substance and recorded the data in the table below.

Type of substance	Cooking Oil	Milo	Water
Intensity of light (unit)	100	0	200

(a) Which of the following would be the aim(s) of the experiment? Put a tick (✓) in the correct box(es). [1]

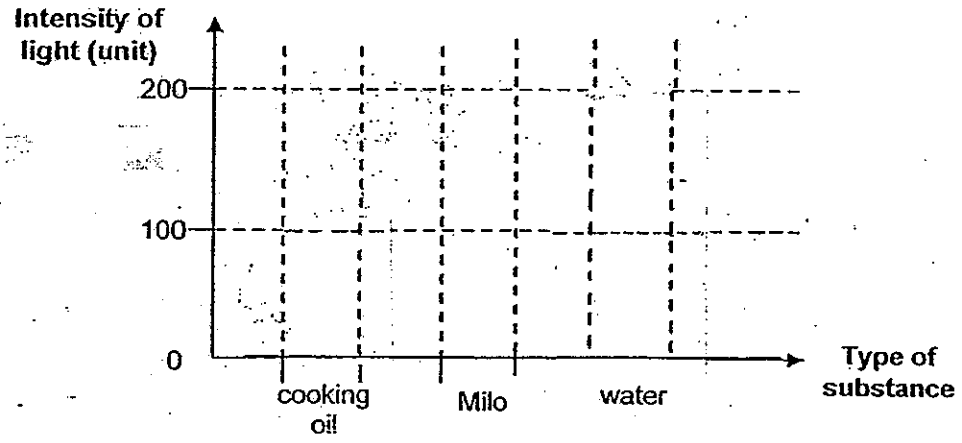
To test if the volume of a substance affects the amount of light that can pass through.	
To test if the state of the substance affects the amount of light that can pass through.	
To test if the type of substance affects the amount of light that can pass through.	

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33 (b) Why did the beaker of cooking oil allow more light to pass through than the beaker of Milo? [1]

(c) Based on the data collected, draw a bar graph to represent the results. [1]

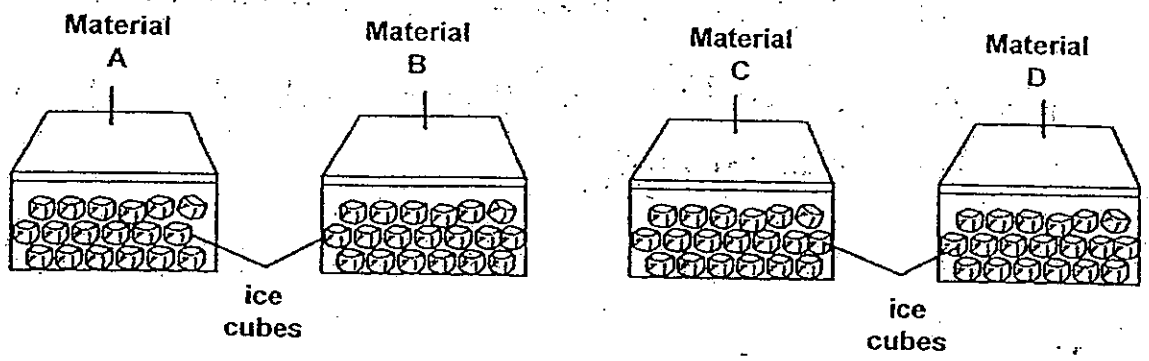


(d) State one variable that Jack needs to keep constant, to ensure that the experiment is a fair test. [1]

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34 Equal amounts of ice cubes were placed in 4 containers which were of the same size but were made of different materials.



The table below shows the time taken for the ice in each container to melt completely.

Material	Time taken for ice to melt (minutes)
A	12
B	40
C	25
D	55

(a) Fill in each blank with a suitable word.

When ice melts, it _____ heat and changes from solid state to _____ state. [1]

(b) Which material, A, B, C, or D, would be the most suitable for making a container to keep food warm for the longest time? [1]

_____

(c) Explain your choice in (b). [1]

_____

_____

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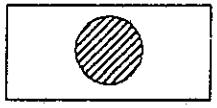
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ANGLO-CHINESE SCHOOL (JUNIOR)
P4 SA2 SCIENCE 2010
SUGGESTED ANSWER KEY

SECTION A

Q1	4	Q5	3	Q9	3	Q13	2	Q17	2
Q2	3	Q6	3	Q10	3	Q14	3	Q18	2
Q3	1	Q7	1	Q11	2	Q15	4	Q19	4
Q4	1	Q8	2	Q12	4	Q16	2	Q20	3

SECTION B

Qn	Suggested Acceptable Answers
21	<table><tr><th>Statement</th><th>Put a tick (✓) if the statement(s) is/are true.</th></tr><tr><td>it can fly</td><td></td></tr><tr><td>it has 6 legs</td><td>✓</td></tr><tr><td>it has wings</td><td></td></tr><tr><td>it has 3 body parts</td><td>✓</td></tr></table>
22a	Leaf
22b	Carbon dioxide / sunlight / light
23(i)	A – Egg
23(ii)	B – Nymph
24a	Force / pull
24b	Magnetic
25a	blocked /
25b	
26a	The plants have weak stems.
26b	To ~~be able~~ enable them to get more sunlight (in order to photosynthesize/ make food).

26c	Statements	True	False	Not possible to tell
	(i) All plants grow from seeds.		✓	
	(ii) A plant with green leaves will make more food than a plant with			✓
	(iii) Seeds need air, water and warmth to germinate.	✓		
	(iv) Only fungi reproduce by spores.		✓	

27a	X – Solid Y – Solid
27b	Substance Y melted / changed from solid to liquid state
27c	Substance X – Any solid Substance Y – Ice
28a (i) & (ii)	The young of the frog does not resemble the adult whereas for the chicken it does. Frogs eggs take a shorter time to hatch than chicken eggs. Frogs lay many eggs at a time while the chicken lays only 1 egg at a time. Frogs lay their eggs in the water while the chicken lays their eggs on land.
28b	Egg → nymph → adult
28c	To ensure the continuity of their own kind.
29a	Nothing happened. / The iron nail did not move.
29b	The rod did not become an electromagnet.
29c	Cobalt / Iron / Nickel / Steel
30a	The ink droplet will move toward (glass bottle) Y.
30b	The (heat in the) hot water caused the air inside (glass bottle) X to gain heat and expand causing the ink droplet to move / pushed the ink droplet (towards glass bottle Y).
30c	Use hotter water / Add more hot water / Put (glass bottle) Y in cold water / ice

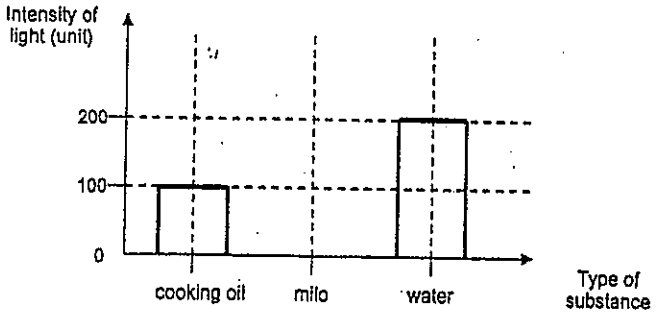
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31a (i) & (ii)	Living things can move on their own. Living things respond to changes / their surrounding.
31b	A female hamster
32a	The gaps allow the metal rails to expand during hot days (so as to prevent buckling of the metal rails).
32b	During the day, the heat from the Sun causes the telephone wires to expand and so they hang loosely. At night, it is cold as there is no Sun. It will cause the telephone wires to contract and so they hang less loosely.

33a	To test if the volume of a substance affects the amount of light that can pass through.	
	To test if the state of the substance affects the amount of light that can pass through.	
	To test if the type of substance affects the amount of light that can pass through.	✓

33b	Cooking oil is translucent but Milo is opaque.

33c



33d	The distance between the torches and the beakers (must be the same) The amount / volume of liquid in each beaker (must be the same).
34a	gains , liquid
34b	D
34c	It is the poorest conductor of heat.

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