SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2009

NAME: _____( ) DATE: _____

CLASS: PRIMARY 6SY / C / G / (SE) / P

SCIENCE

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

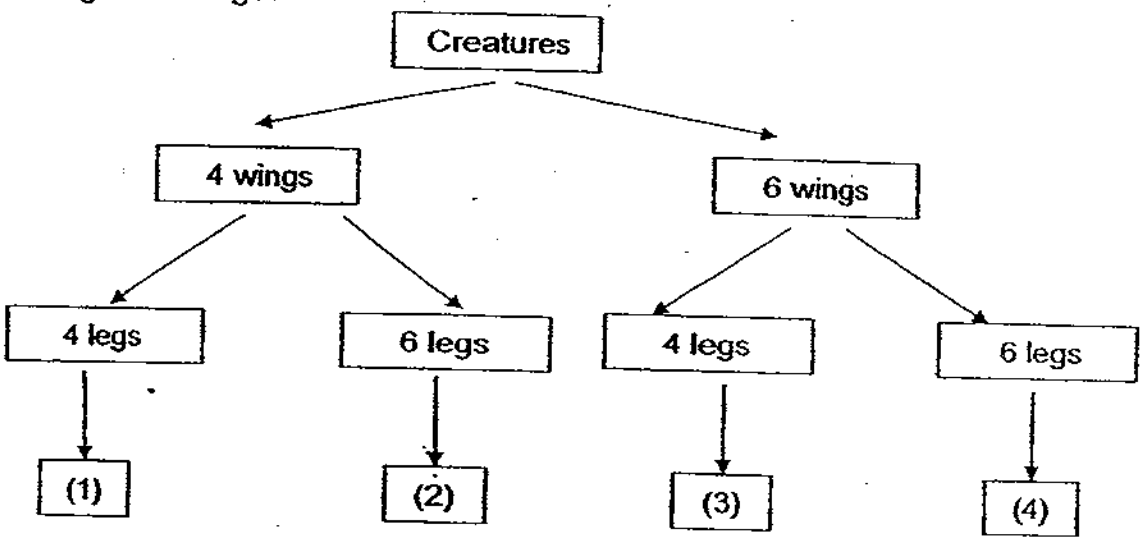
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

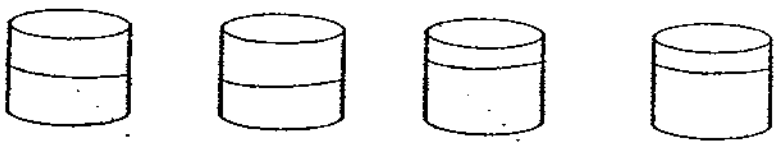
Booklet A (60 marks)

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

1 Study the classification chart below. Which of the creatures below has 4 wings and 4 legs?



2 Jenny measured the temperature of the 4 containers as shown below.



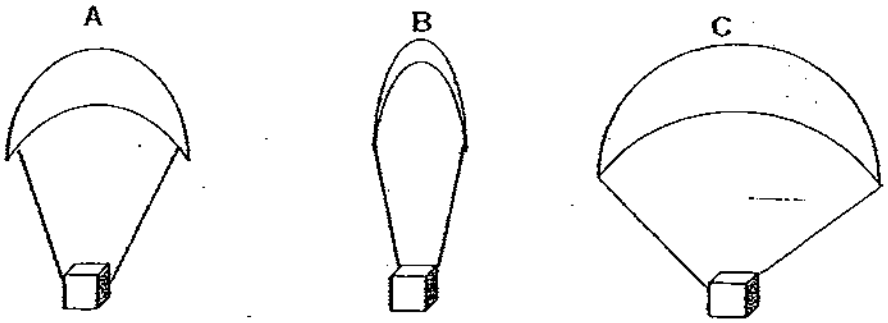
400ml 30^0C (1)	400ml 50^0C (2)	600ml 50^0C (3)	600ml 80^0C (4)

Which container has the ~~second greatest~~ amount of heat?

3 Four living organisms were placed in separate pots under different conditions as shown in the table below. Which one of the following is most likely to survive after one week?

	Organisms	Air	Water	Sunlight
1)	Boungainvillea	✓	X	X
2)	Ladder Fern	✓	✓	X
3)	Bracket Fungus	✓	✓	X
4)	Allamanda	X	✓	✓

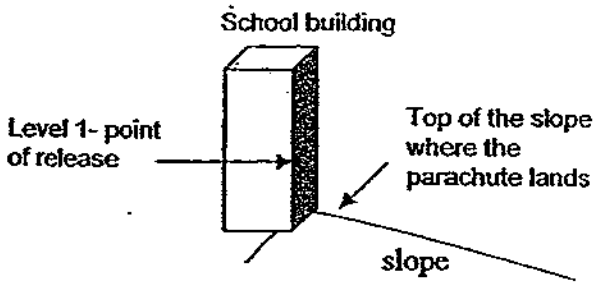
Study the diagram below carefully and answer Questions 4 and 5



4 The diagram above shows 3 parachutes tied to a 300g wooden block. James dropped all 3 parachutes from the first storey of his school building. The table below shows the results of the experiment. Which one of the following correctly shows the time that the 3 parachutes take from the time of release to the time it touches the ground?

	A	B	C
1)	30 secs	40 secs	60 secs
2)	40 secs	60 secs	30 secs
3)	40 secs	20 secs	90 secs
4)	60 secs	40 secs	30 secs

5 If James dropped the parachutes from the first story and they landed on the top of a slope as shown below. What is the energy conversion from the point where he releases the parachutes to the point where they land on the top of the slope?



1)	Potential energy	→	Kinetic energy	→	Sound energy		
2)	Kinetic energy	→	Sound energy	→	Potential energy		
3)	Potential energy	→	Kinetic energy	→	Sound energy	+	Potential energy
4)	Potential energy	→	Kinetic energy	+	Sound energy	→	Potential energy

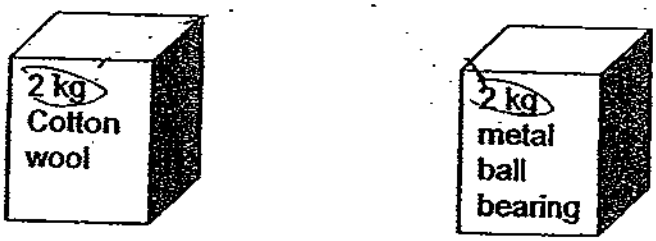
6 A Science teacher mixed 5 substances in a container of water. The table below gives some properties of the five substances A, B, C, D and E.

Substances	Colour	Can it dissolve in water?	Is it a magnetic material?	Does it leaves solid particles after water evaporates?
A	White	Yes	No	Yes
B	White	Yes	No	No
C	White	Yes	No	No
D	Black	No	Yes	Yes
E	White	No	No	Yes

She asked her pupils to carry out an experiment to separate the 5 substances. She gave them a filter and a magnet. Which substances would be most difficult to separate from the each other?

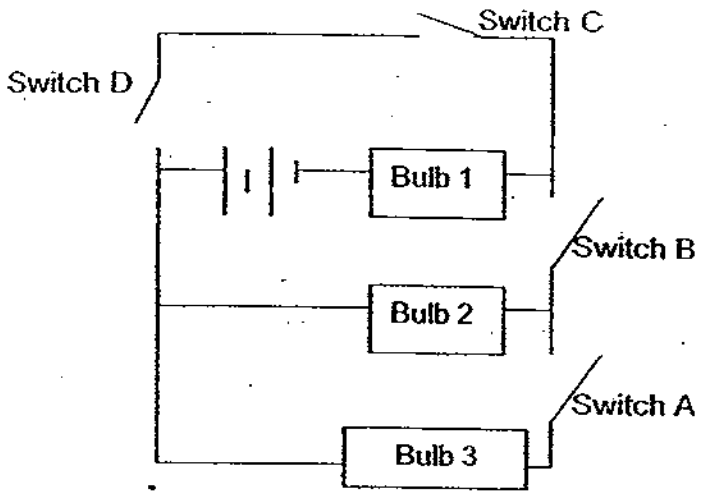
1) A and D only
2) B and C only
3) A and E only
4) A, B, C and D only

7 A box of cotton wool and metal ball bearing were thrown from the top of a building at the same time. Both were packed and sealed as shown in the diagram below. What will happen?



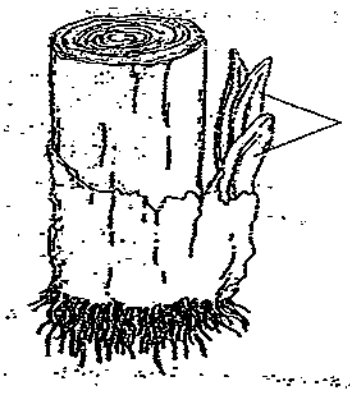
1) They will land at the same time.
2) The box containing cotton wool will land first.
3) The box containing metal ball bearing will land first.
4) The box containing metal ball bearing will land with a louder thud.

8 Alan set up a circuit as shown below. What is the least number of switch/es he must close in order to light up all the bulbs?



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

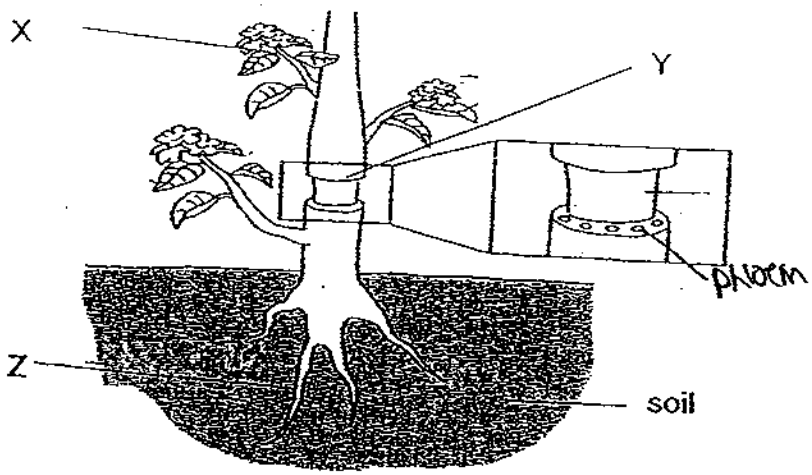
9 The diagram below shows a banana plant.



Which one of the following is **not true**? The sucker _____.

1) supports the plant
2) grows into a new plant
3) makes food for the plant
4) will have the similar characteristics as the adult plant.

10 An outer ring of a stem was removed from a plant, as shown below. As a result, the tubes carrying food and water were removed.



Which one of the following is **not** likely to happen after 2 days?

1) Part X may wilt due to lack of water.
2) Part Z may swell because it is unable to receive food.
3) Part Z may swell up because water is stored in the roots.
4) Part Y will swell up because food made in the leave is unable to travel downwards.

11

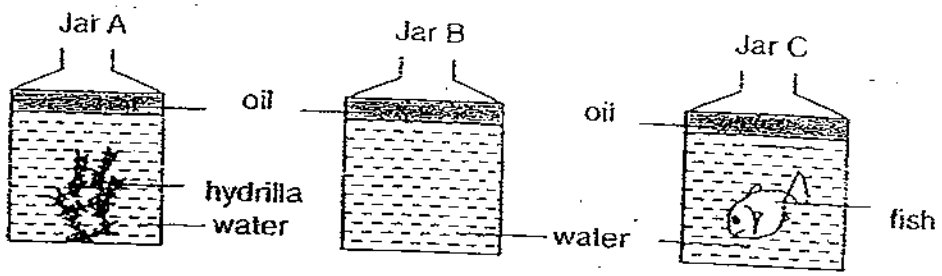
The table below shows the weather forecast from Monday to Sunday.

Days	Mon	Tue	Wed	Thurs	Fri	Sat	Sun
Temp ^{o}C	24	26	34	33	34	32	31

It rained on two days and the road was extremely wet and slippery. Which are the two most likely days?

1) Monday and Tuesday
2) Tuesday and Wednesday
3) Thursday and Saturday
4) Wednesday and Sunday

12 The three jars shown below were placed at the window sill on a sunny afternoon.

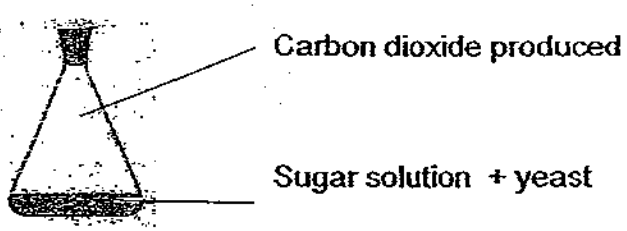


How will the amount of dissolved oxygen change after 90 minutes?

	Jar A	Jar B	Jar C
1)	Increase	Remain the same	Decrease
2)	Increase	Decrease	Decrease
3)	Decrease	Remain the same	Increase
4)	Remain the same	Remain the same	Remain the same

13 The diagram below shows an air-tight flask containing a sugar solution with yeast. The yeast extracts energy from sugar in the solution.

1 hour later



Which one of the following processes best describes this chemical reaction?

1) Digestion
2) Respiration
3) Reproduction
4) Photosynthesis

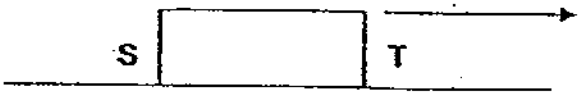
14 The table shows the height of a boy and a girl.

Age	Height	
	Boy	Girl
6	116	116
8	122	123
10	134	134
12	143	145
14	162	151
16	168	156
18	172	160

At which age is the onset of puberty for the boy?

1) 10 to 12
2) 12 to 14
3) 14 to 16
4) 16 to 18

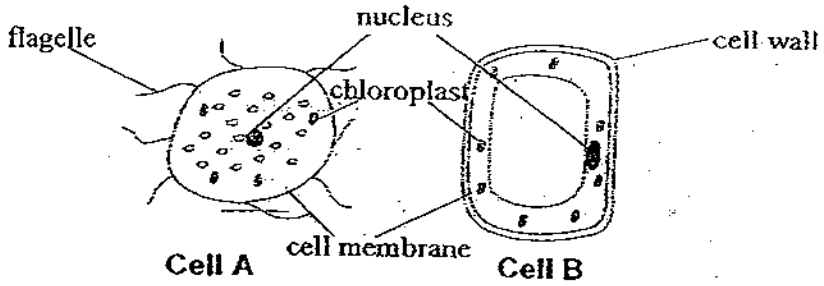
15 Study the diagram below.



Which one of the following statements is possible?

1) There is equal force applied at T and S.
2) There is no force applied at S but a force applied at T.
3) There is greater force applied at S than at T in opposite direction.
4) A greater pushing force acted on the object is applied at T than at S in opposite direction.

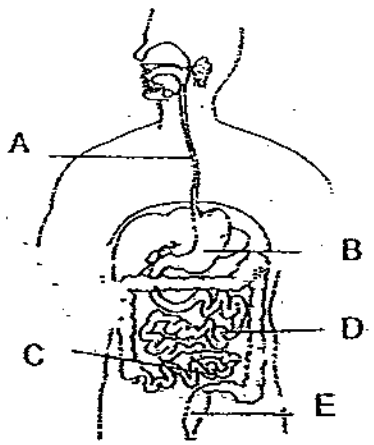
16 The diagram below shows two cells.



Which one of the following statements is a possible conclusion that can be made from the above diagram?

1) Cell A multiplies to form Cell B.
2) Both cells can make their own food.
3) Cell A is definitely not a micro-organism.
4) Cell A and Cell B are from the same plant.

Refer to the diagram for Questions 17 and 18.



17 Which part of the digestive system is for temporary storage of faeces?

1) B
2) C
3) D
4) E

18 Proteins are digested in the _____.

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

19 Which of the following groups shows the correct order of organisation in a multicelluar organism? (Starting from the highest to the lowest order)

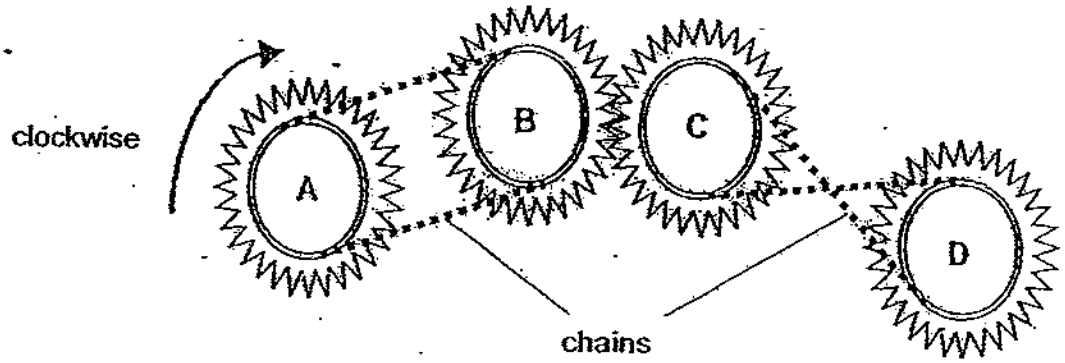
1) cell → organ → tissue → system

2) organ → system → tissue → cell

3) system → organ → tissue → cell

4) cell → tissue → organ → system

20 The diagram below shows a series of 4 identical gears connected by 2 chains.



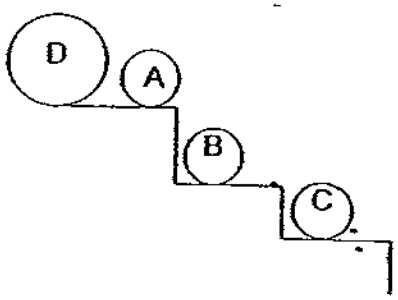
If Gear A is being rotated in the direction as indicated, which one of the following correctly indicates the directions in which B, C and D will rotate?

	Gear B	Gear C	Gear D
1)	clockwise	anti-clockwise	anti-clockwise
2)	anti-clockwise	clockwise	anti-clockwise
3)	clockwise	anti-clockwise	clockwise
4)	anti-clockwise	clockwise	anti-clockwise

21 Which one of the following involves a push and a pull?

1) A man opening a bottle.
2) A boy hitting a tennis ball.
3) A lady leaning against the wall.
4) A lady lifting a baby from the cot.

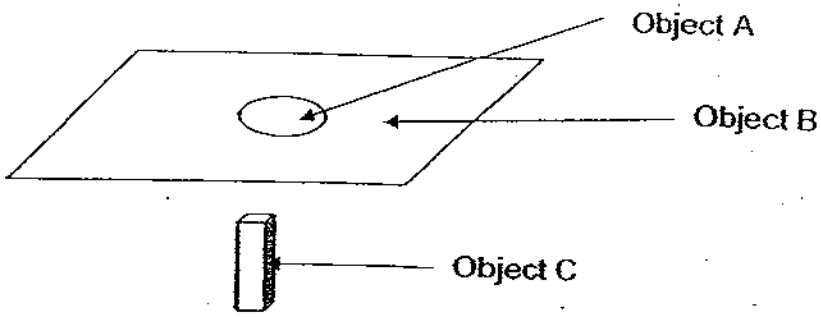
22 Four iron balls were placed on top of the steps of a platform. The mass of balls A, B and C are 600g but that of ball D is 1200g.



When the balls are arranged from the one with the most potential energy to the one with the least potential energy, the order is _____.

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

23 In the diagram below, Object A rests on Object B, and Object C lies directly below them.

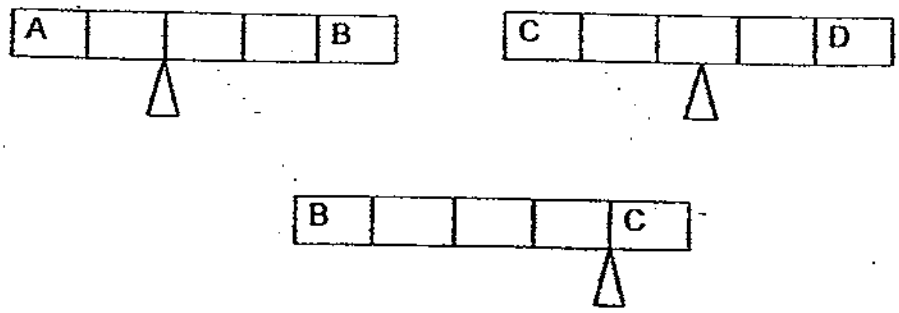


When Object C is shifted, Object A moves along above. Which of the following statement/s is / are **correct**?

A) Object A is a magnetic material.
B) Object B is a magnetic material.
C) Object C is made of aluminum.
D) Object B is a non-magnetic material.

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

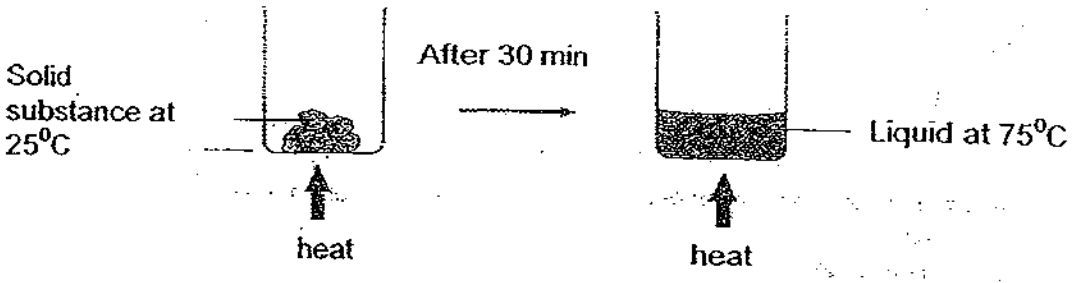
24 Study the diagram below. 4 weights A, B, C and D are placed on the levers as shown.



Which one of the weight is the lightest?

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

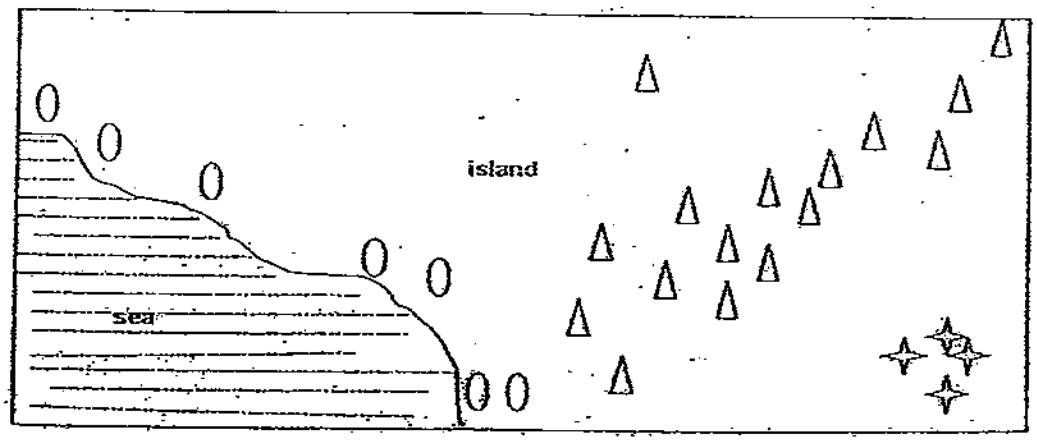
25 The diagram below shows a solid substance at a temperature of 25°C being heated.



Which one of the following can be deduced from the above experiment?

1) The boiling point is 75°C.
2) The melting point is 75°C.
3) The freezing point is 25°C.
4) The melting point is above 25°C.

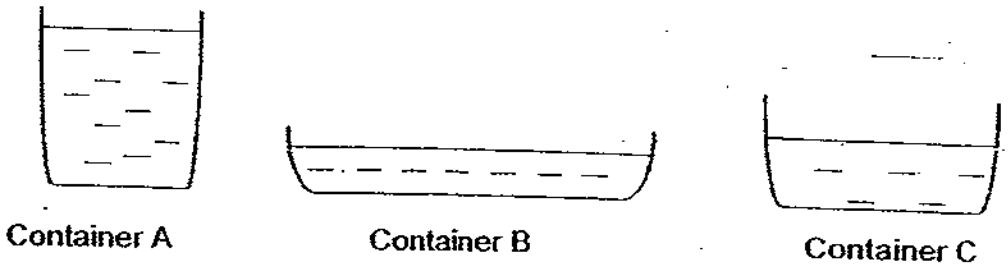
26 The drawing below shows how 3 types of plants are found growing on parts of an island.



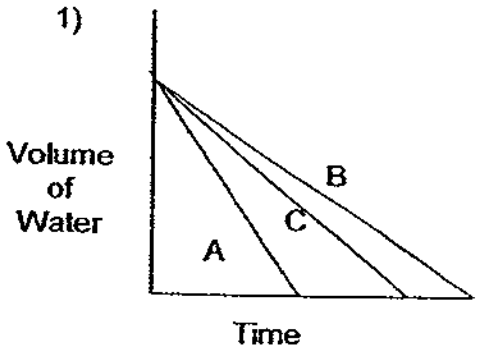
Which one of the following best describes the fruit /seed of each plant?

	O	Δ	✦
1)	Dry and light	Fruit walls are hard	Fibrous husk
2)	Fibrous husk	Dry and light	Fruit walls are hard
3)	Have hooks	Fibrous husk	Dry and light
4)	Fibrous husk	Dry and light	Have hooks

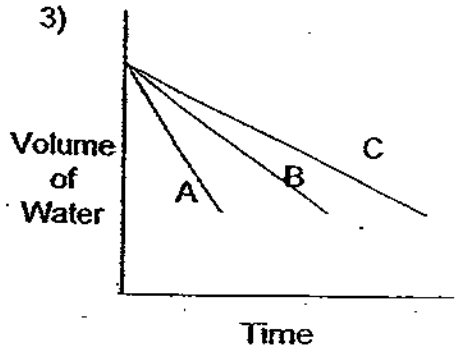
27 The same amount of water was poured into three containers as shown in the diagram below. The containers were left in a room for a period of time. If the containers had the same volume of water at the beginning, which of the following graphs correctly shows the volume of water in the three containers after 3 hours?



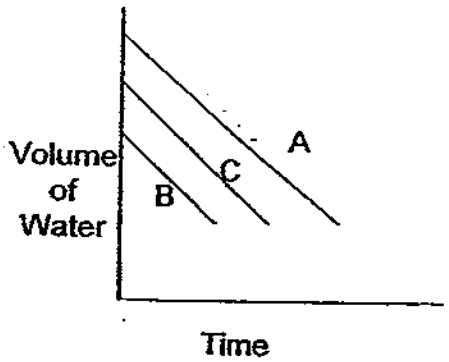
1)



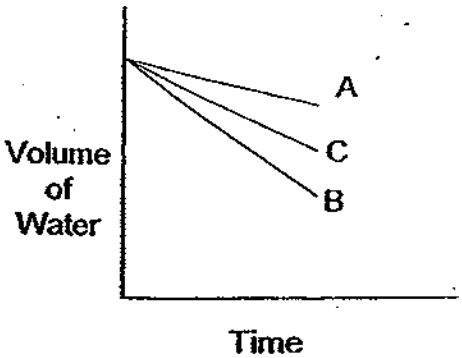
3)



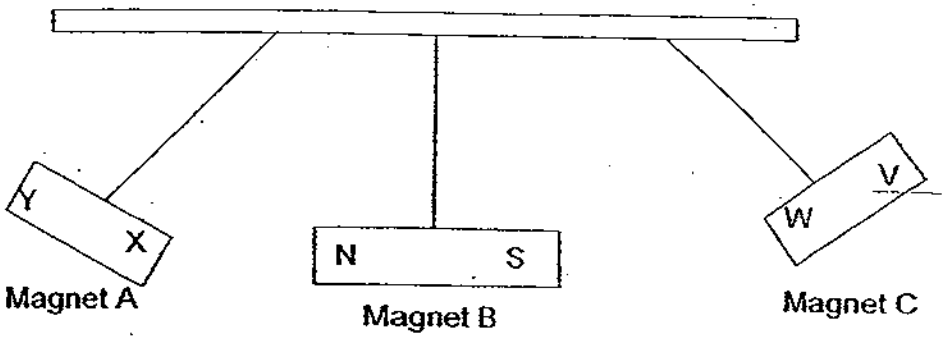
2)



4)



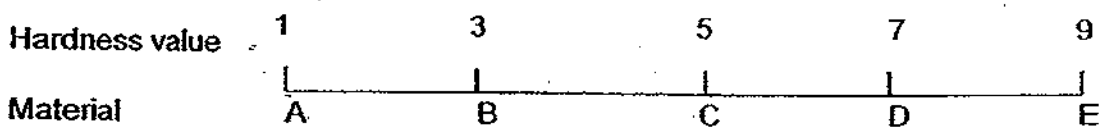
28 The diagram shows what happens when 3 magnets are suspended. The poles of magnet B is labelled.



Which one of the following **correctly** shows the poles of Magnet A and C?

	Magnet A		Magnet B C	
	Y	X	W	V
1)	South	North	North	South
2)	North	South	South	North
3)	South	North	South	North
4)	North	South	North	South

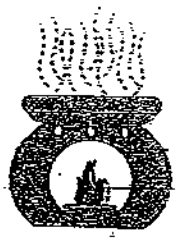
29 The scale of hardness for different materials is shown below. A higher value shows a higher degree of hardness.



Which one of the following is true?

1) A is able to scratch E.
2) C is able to scratch D.
3) D is only able to scratch one object.
4) B is unable to scratch C.

30 The following diagram shows a pot used for heating scented oil.



The function of the pot is to turn the liquid oil into vapour which will then add fragrance to the room. To make an effective pot, which of the following physical properties should be considered in choosing the pot's material?

A) Weight of pot
B) Colour of the pot
C) High Melting point
D) Thermal Conductivity

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

SINGAPORE CHINESE GIRLS' SCHOOL (PRIMARY)

FIRST SEMESTRAL ASSESSMENT 2009

NAME:_____( ) DATE:_____

CLASS: PRIMARY 6SY / C / G / (SE) / P

SCIENCE

BOOKLET B

15 questions

40 marks

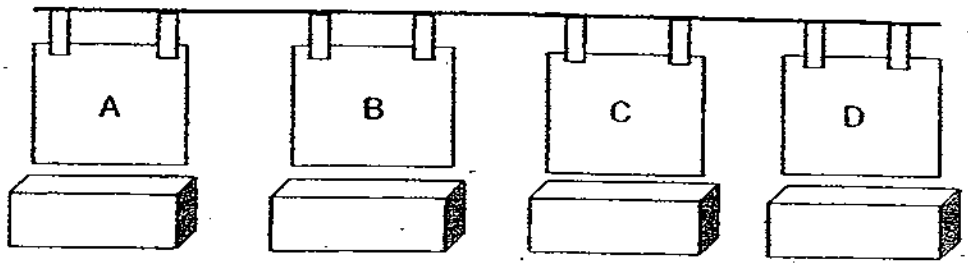
Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B (40 marks): Answer all the following questions.

31 Amanda poured 800ml of water over materials A, B, C and D. She placed a trough under each material to collect the water that dripped from the cloth.



The amount of water collected was recorded in the table below.

A	B	C	D
800ml	200ml	400ml	100ml

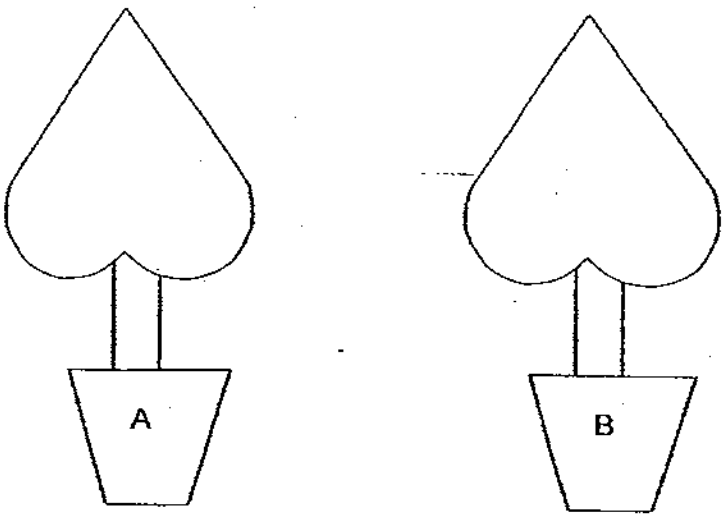
a) Which material should she used to make a raincoat and why? (2m)

_____

_____

2

32 Lily sprayed the leaves of the plants for a school concert.



For plant A, she sprayed blue oil paint on the top and underside of the leaves. For plant B, she sprayed red oil paint only on the top side of the leaves. She faithfully gave them equal amount of water and ensured they had sufficient sunlight. Three days later, Plant A died while plant B remained alive. (2m)

Give a possible reason why plant A died while plant B survived.

_____

_____

33 The table shows the heart rate of a woman jogging.

Time (min)	0	10	15	20	25	28	30	35	40	50	60
Pulse (heart rate per min	100	130	140	150	230	250	200	160	?	140	100

a) At which time interval was she sprinting up a slope? (1m)

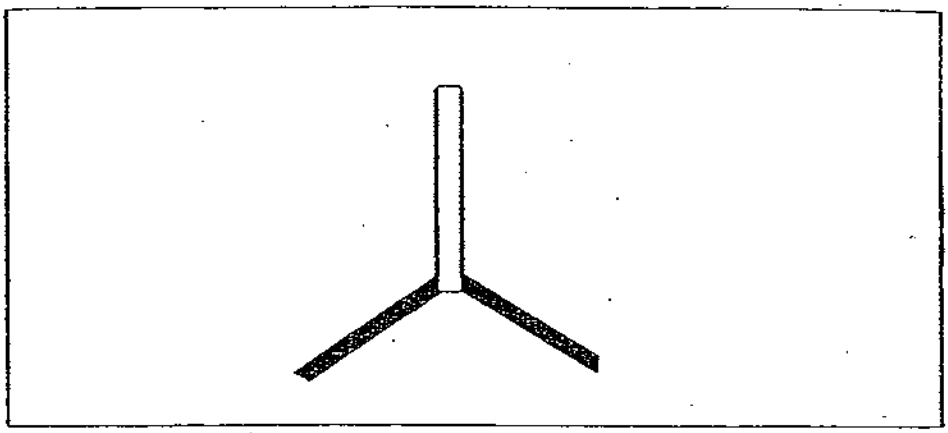
_____

b) What would be her approximate heart rate per minute at 40 minutes? (1m)

_____

4

34 Megan was walking along a pavement one night. She noticed that a pole cast two shadows as shown in the diagram. Draw "X" on the diagram to represent the light source/s. (2m)

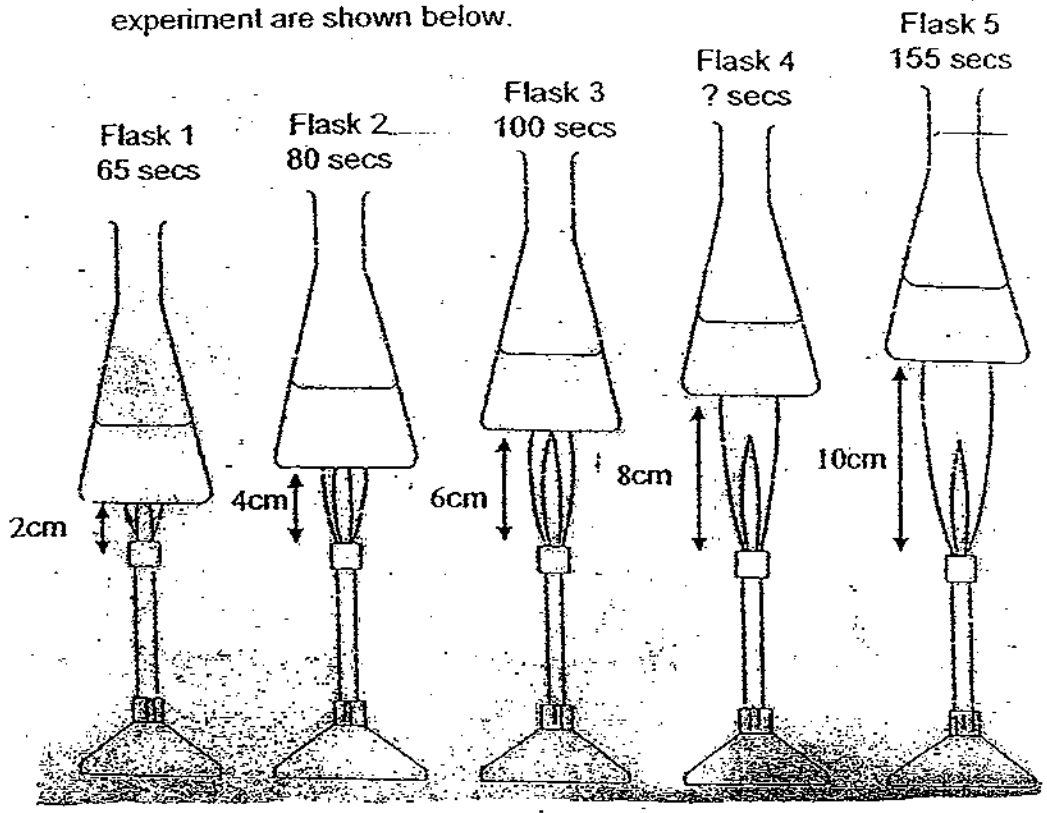


35 Mary set up 2 sets of experiment. She placed Set A near an open window and Set B in a dark room for a few days. Each set contained 4 different types of food in 4 different jars of similar shape and size. The results of the food in two different places are shown below.

	Set A Near an open window			Set B In a dark room		
Contents of Jar	Conditions	Change in		Conditions	Change in	
		Colour	Smell		Colour	Smell
Bread	Moist	Yes	Yes	Moist	Yes	Yes
Toast bread	Dry	No	No	Dry	No	No
A slice of apple	Moist	Yes	Yes	Moist	Yes	Yes
Green bean	Dry	No	No	Dry	No	No

What are 2 conclusions about decomposition that Mary can make? (2m)

36 Rachel designed and carried out an experiment to investigate how the time taken for water to boil changed when the distance between the Bunsen burner and the beaker was changed. The results of the experiment are shown below.



a) What would be the estimated time taken for the water to boil in flask 4?(1m)

b) What is the relationship between the distance of the flask from the burner and the time taken for the water to boil? (1m)

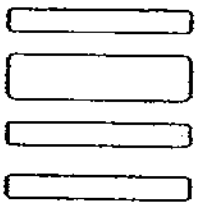
2

37 A basketball was pushed with the same amount of force across four different types of surfaces **sand, cement, polished wood and oiled glass**. The table below shows the distances travelled by the basketball before it came to a stop.

Match and fill in the type of surface in the appropriate box. (2m)

Surface	a)_____	b)_____	c)_____	d)_____
Distance travelled (cm)	20	35	79	89

38 Diana carries out an experiment to test which band would be most suitable to use for her catapult. The diagram below shows the length and width of the bands before they are stretched.



A - 4cm in length and 2cm in width

B- 4cm in length and 6cm in width

C- 4cm in length and 2cm in width

D- 4cm in length and 2cm in width

The table below shows the distance travelled by each band when they were released.

Band	**A**	**B**	**C**	**D**
Distance travelled	8 cm	8cm	4cm	6cm

a) Which bands should she choose to ensure that the experiment is a fair test? (1m)

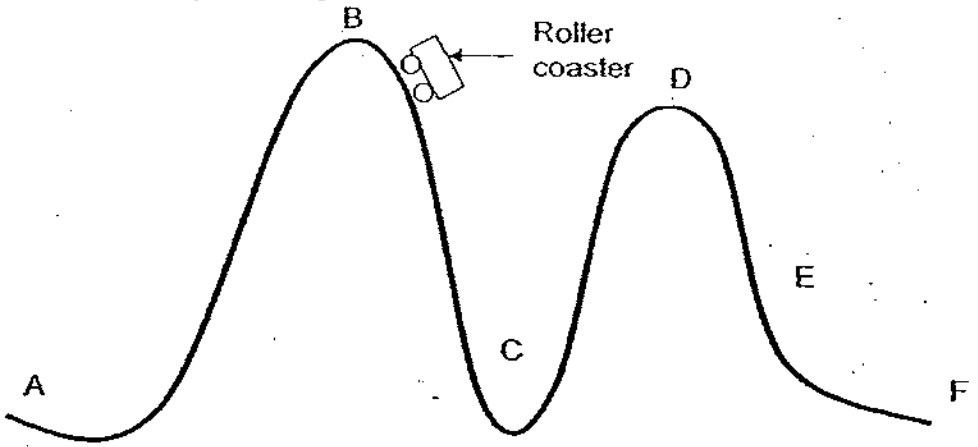
_____

b) Based on your answer in (a), which band shows the greatest elastic spring force? (1m)

_____

4

39 Study the diagram.



a) At which point does the roller coaster have the highest potential energy? (1m)

_____

b) What is the energy conversion from point D to F? (1m)

_____

40 Observe the diagram.

Bird's Nest Fern Bracket Fungus

a) List two ways in which the above living things are similar.(2m)

i) _____

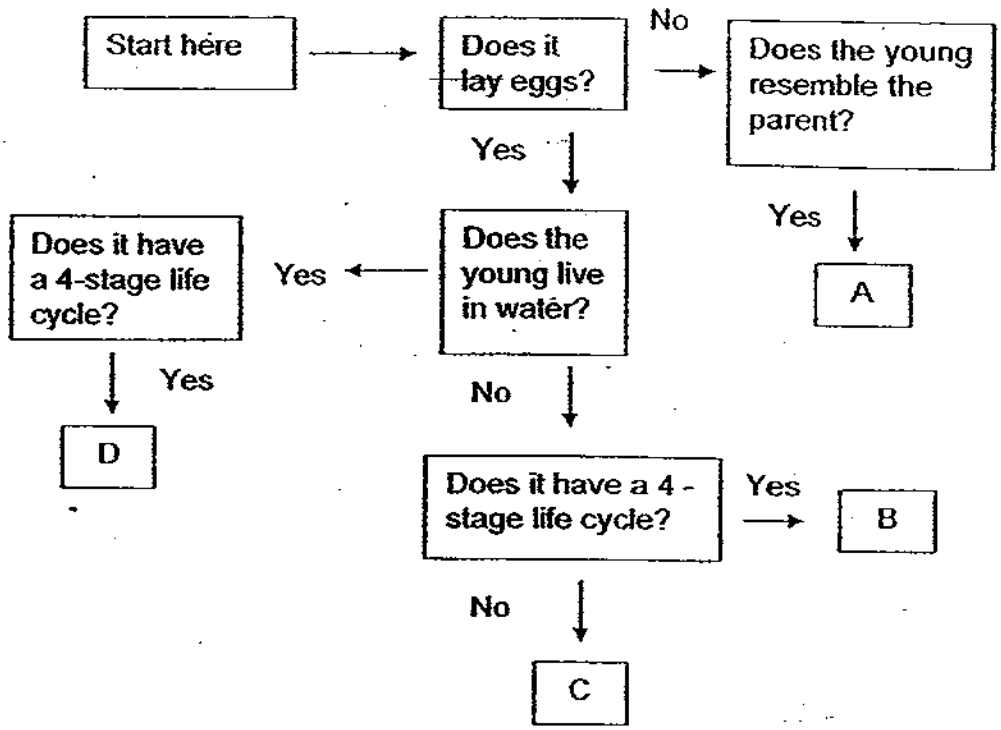
ii) _____

b) List one way in which they are different.(1m)

_____

_____

41 In the diagram shown below, A, B, C, D, E and F represent the different animals.

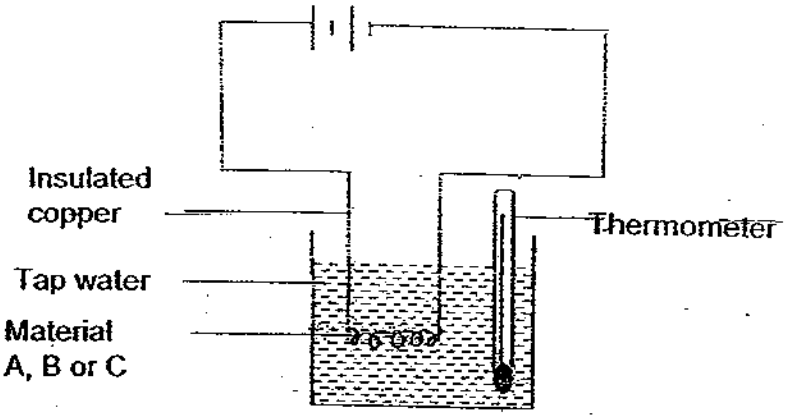


Identify the letter that represents each of the following parents of the young animals. (2m)

	Animals	Letters
a)	Mosquito	
b)	Monkey	
c)	Housefly	
d)	Cockroach	

2

42 Tricia carried out an experiment testing 3 different materials A, B and C in the set-up shown below. The materials were of the same thickness and diameter.



She connected one of the materials to the circuit and measured the temperature of the water regularly. The experiment was repeated for the other two materials, using the same set-up. The table below shows the results of the experiment.

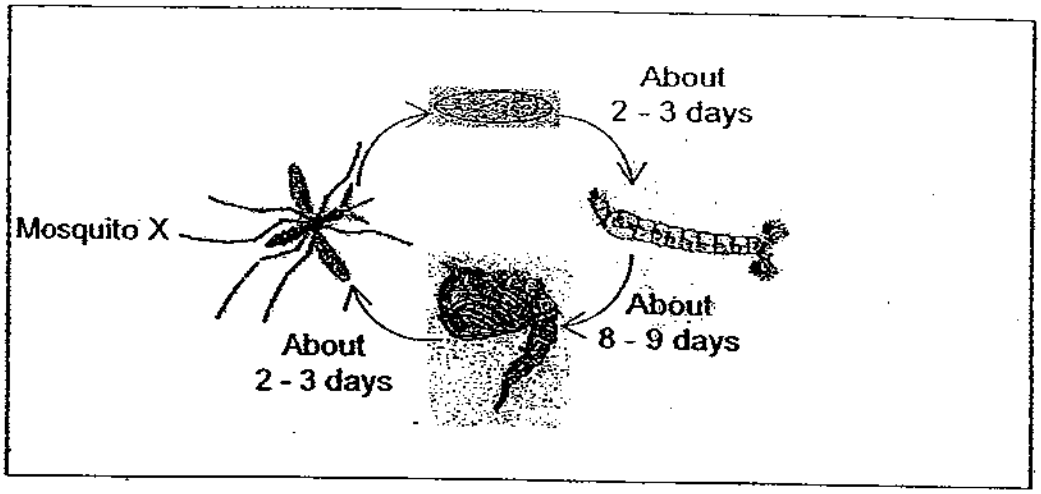
Tim (min)	Temperature of water (°C)		
	Material A	Material B	Material C
0	20	20	20
3	20	25	21
6	20	34	22
9	20	48	33
12	20	68	46
15	20	70	50

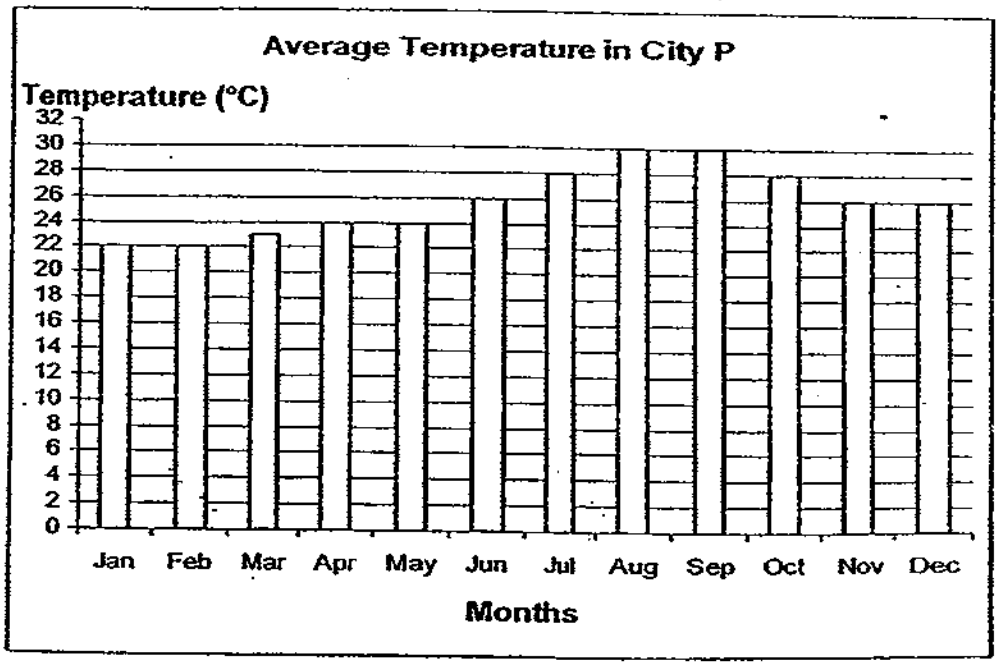
a) What is the aim of the experiment? (1m)

b) What two variables must be kept constant to ensure a fair test? (1m)

c) Based on the results for material B and C, what can you conclude? (2m)

43 Mosquito X spreads dengue among Man. The diagram below shows Mosquito X developing from an egg to an adult when the average daily temperature is around 26°C.





a) Based on the graph above, in the beginning of which month would the people living in City P begin to face a higher threat of dengue than usual? (1m)

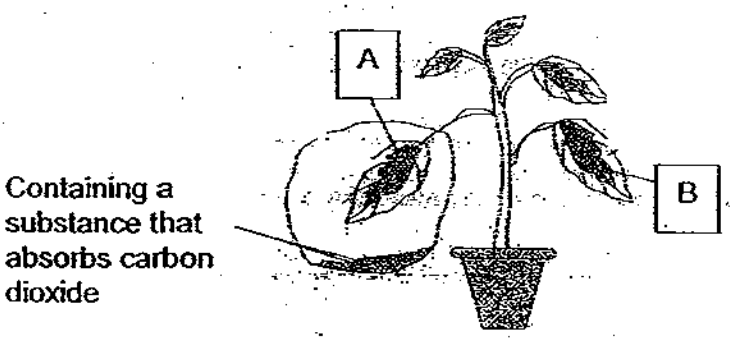
_____

b) Give 2 reasons why it is easier to eliminate the mosquito population at its larva and pupa stage instead of its adult stage? (2m)

i) _____

ii) _____

44 The diagram below shows an experiment to investigate the process of photosynthesis in a plant. The leaves are green in the middle and white around the edges. The plant has sufficient water and is placed under suitable light intensity. A plastic bag containing a substance that absorb carbon dioxide is tied around a leaf.



The leaves from the plant are tested with iodine solution. Complete the following table with the results you would expect to obtain for parts A and B. (2m)

a)

	Part	Results Colour of Iodine on leaf plant
i)	A	
ii)	B	

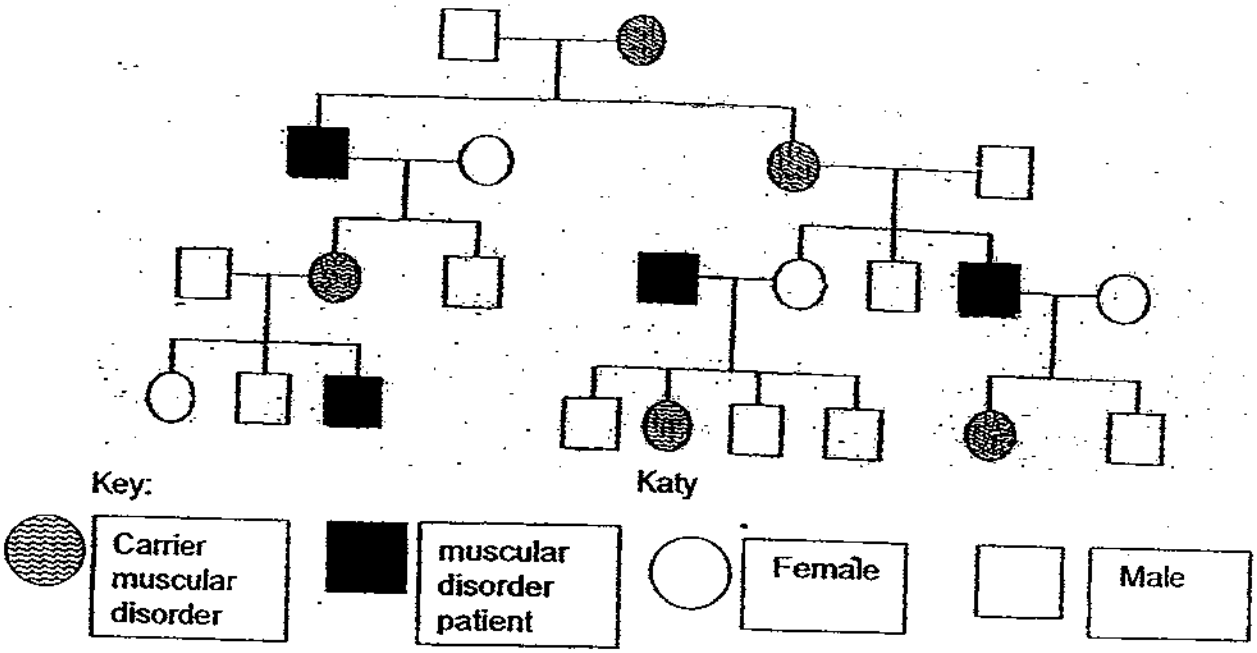
b) Explain the results in part (a)? (1m)

_____

_____

3

45 The diagram below shows Katy's family tree of 4 generations that carry the genetic trait for a muscular disorder. Study the family tree carefully and answer the following questions.

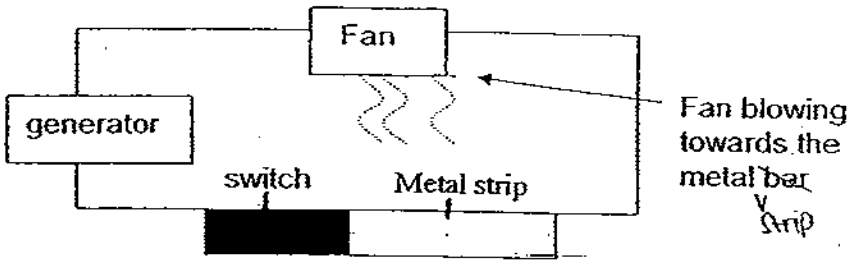


Read the following statements. ~~Write 'T' for every true statement and 'F' for every false statement.~~ (4m)

	Descriptions	True	False	Not Possible to tell
a)	All Katy's maternal uncles are patient of muscular disorder.			
b)	There is a possibility that Katy's son will inherit the muscular disorder gene.			
c)	Katy's nephew will most likely not inherit the muscular disorder gene.			
d)	Only the male members of the family will have muscular disorder.			

4

46 Johnny found a piece of metal that contract at the temperature of 16°C. He set up an experiment as shown below.



a) What do you think will happen to the circuit and the fan when the metal is cooled to 16°C? (2m)

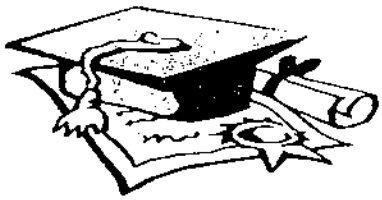
_____

_____

b) Can you think of an electrical appliance in your house that is able to use this circuit to conduct electricity? (1m)

_____

3

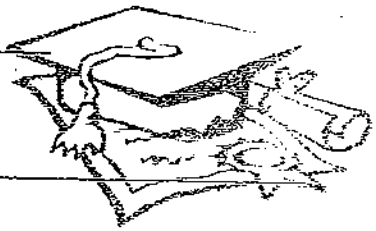


ANSWER SHEET

EXAM PAPER 2009

SCHOOL : SCGS PRIMARY SCHOOL
SUBJECT : PRIMARY 6 SCIENCE

TERM : SA 1



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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	4	3	1	4	4	2	4	2	4	3	4	3

31)a)A. A raincoat has to be waterproof and since A did not absorb any water, she should use A to make a raincoat.

32)Plants B's stomata is not locked so respiration could take place.

33)a)20-28 min. b)150

34) X  X

35)Decomposition will not take place if the food is dry.

36)a)120 seconds.
b)The further the distance of the flask from the burner, the longer the time taken for the water to boil.

37)a)sand b)cement c)polished wood d)oiled glass

38)a)A, C and D.
b)A.

39)a)B.
b)Potential energy→kinetic energy + sound energy + heat energy.

40)a)i)They both grow on trees.
ii)They are non-flowering.
b)The Bird's nest fern is able to make food as chlorophyll is present but the Bracket Fungus is not able to make food as chlorophyll is not present.

41)a)D b)A c)B d)C

42)a)o find out which material electricity the best.
b)The type of thermometer used and the same amount of water used.
c)B is the best conductor of heat out C is the second best conductor of heat ,as the temperature of the water is the highest and the temperature of the water is the second high respect.

43)a)June.
b)i)The larva and pupa cannot fly around.
ii)The adult mosquito can reproduce.

44)a)i)Brown ii)Blue
b)Plants need carbon to make food and produce starch. Since this is a starch test, the colour of iodine would be brown at A as the carbon dioxide has been absorbed by the substance and iodine remains brown when no starch is present.

45)a)F b)T c)Not d)T

46)a)The metal strip would contract and cause the circuit to be open so the fan would be switched off.
b)Air-conditioner.