



新加坡福建会馆属下五校小六统一考试

道南·爱同·崇福·南侨·光华

SINGAPORE HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 6

COMBINED PRELIMINARY EXAMINATION

TAO NAN · AI TONG · CHONGFU · NAN CHIAU · KONG HWA

2005
科学 SCIENCE
BOOKLET A

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

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

School : _____

Name : _____

Class : _____

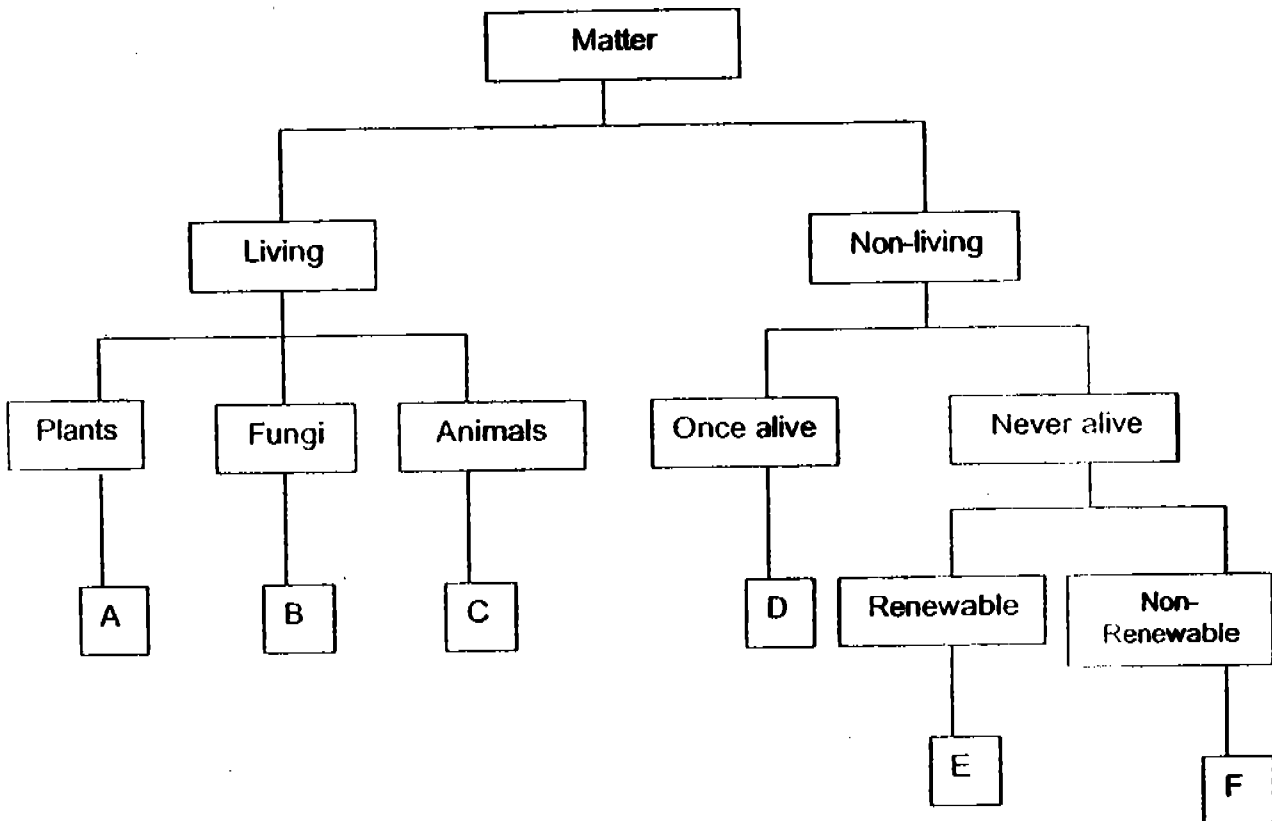
Date : 15 September 2005

TOTAL	60
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PART I

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 your answer in the Optical Answer Sheet (OAS) provided.

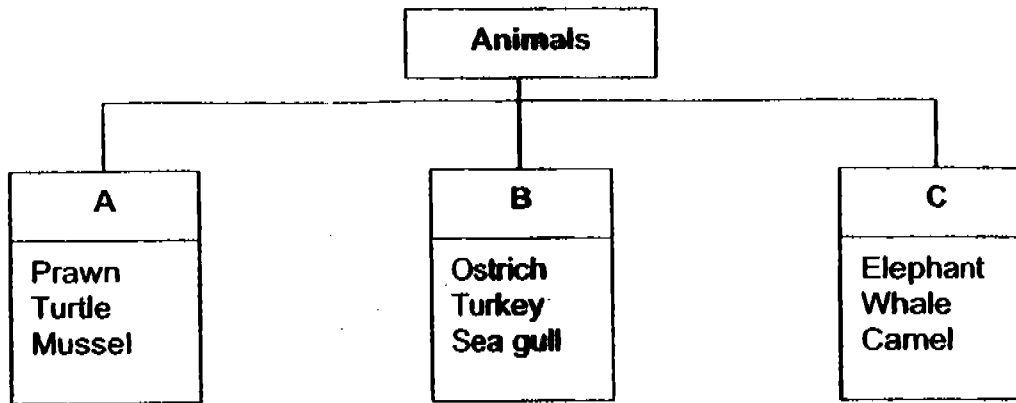
1.



Study the classification table above. Which of the following consists of thing(s) that is / are classified wrongly?

	A	B	C	D	E	F
(1)	Balsam	Mushroom	Frog	Paper	Oxygen	Coal
(2)	Fern	Mould	Ant	Leather	Water	Oil
(3)	Moss	Amoeba	Fish	Feather	Natural gas	Gold
(4)	Grass	Toadstool	Spider	Wool	Carbon dioxide	Silver

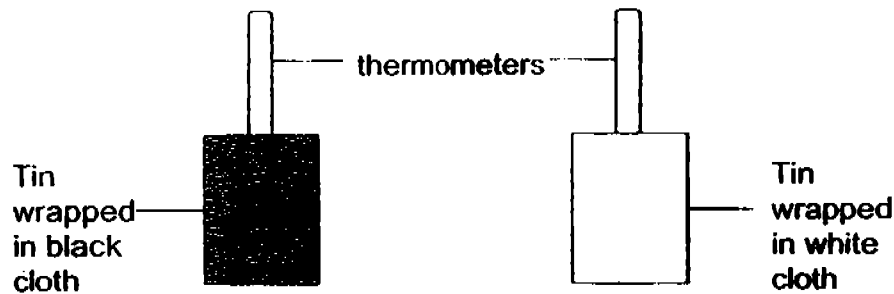
2. Study the classification table below.



The animals above are grouped according to their _____.

- (1) diet
- (2) movement
- (3) outer body covering
- (4) habitat

3. The 2 set-ups below are placed in the sun for 2 hours. Predict the results for the 2 set-ups and answer the question below.

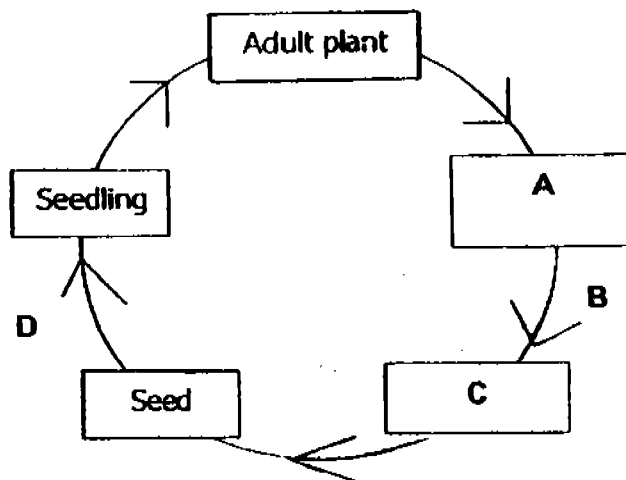


Which of the following listed below make use of the result from the experiment above?

- A: The outer surface of an umbrella is silver in colour.
- B: Cyclists wear luminous clothing at night.
- C: The body covering of a polar bear is white in colour.
- D: A man wearing a white T-shirt on a hot day.

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

4. The diagram below shows the stages of growth of a plant.



Which one of the following shows the correct representation of A, B, C and D?

	A	B	C	D
(1)	Fruit	Dispersal	Flower	Germination
(2)	Flower	Fertilisation	Fruit	Pollination
(3)	Fruit	Germination	Flower	Dispersal
(4)	Flower	Fertilisation	Fruit	Germination

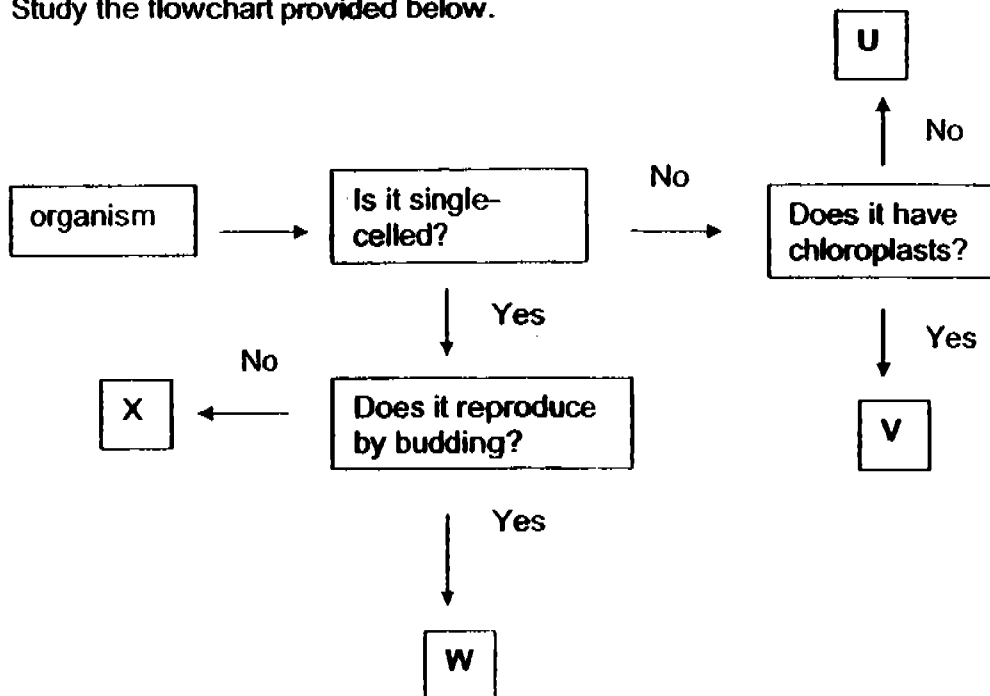
5. Suresh caught two animals, S and T. He observed the animals over a period of time and recorded his observations in the form of a table below.

	Animal S	Animal T
It has six legs.	Yes	No
The eggs are laid in water.	Yes	Yes
There are three stages in its life cycle.	No	Yes

Can you help Suresh to identify animals S and T from the information provided below?

	Animal S	Animal T
(1)	Housefly	Millipede
(2)	Grasshopper	Dragonfly
(3)	Mosquito	Toad
(4)	Damselfly	Butterfly

6. Study the flowchart provided below.



Which organisms do the letters, U, V, W and X represent?

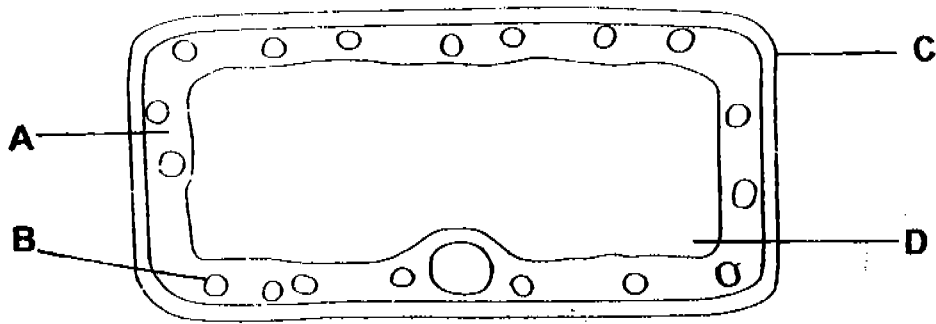
	U	V	W	X
(1)	Coleus	Fern	Yeast	Amoeba
(2)	Fern	Mushroom	Yeast	Paramecium
(3)	Mould	Moss	Amoeba	Bacterium
(4)	Toadstool	Cactus	Yeast	Bacterium

7. Substance H melts at 10 °C and boils at 65 °C. It is a solid at S °C and a liquid at T °C in its pure form.

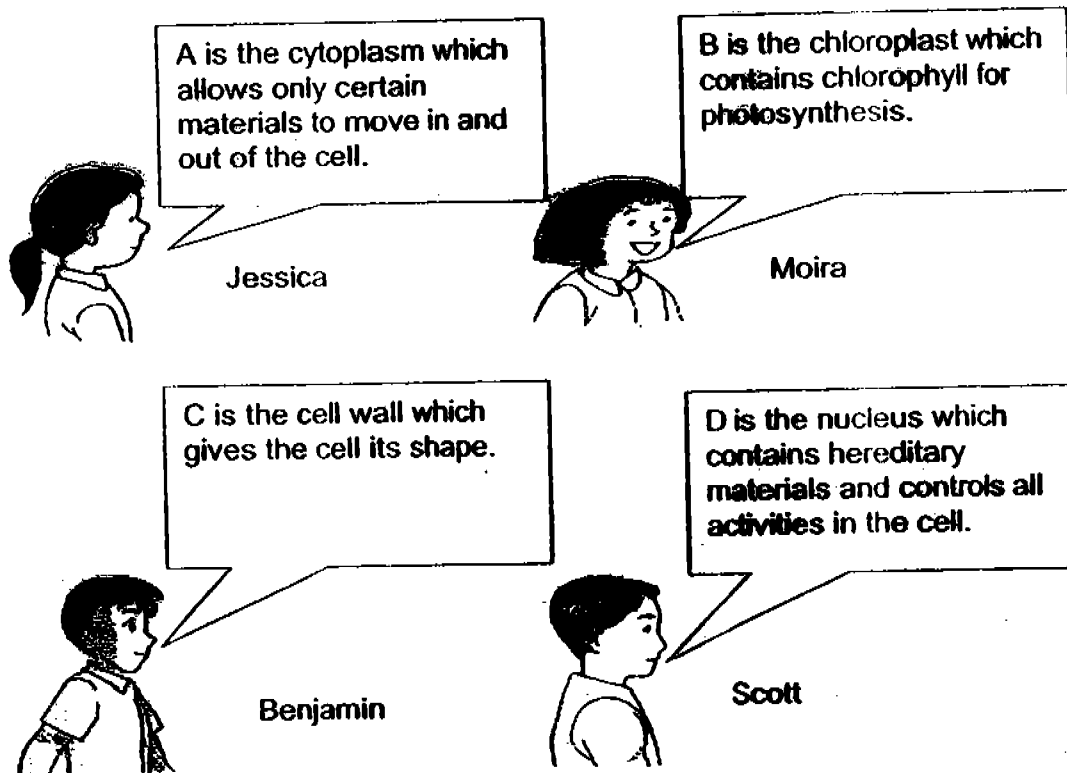
Which of the following shows the correct temperatures for S and T respectively?

	S °C	T °C
(1)	5	55
(2)	7	70
(3)	-2	66
(4)	12	60

8. Jessica, Moira, Benjamin and Scott were asked to study the diagram of a cell below.

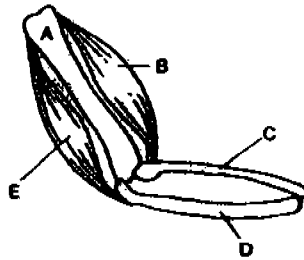


Each child selected a labelled part of the cell and gave a comment on the part. Who made the correct comment(s)?



- (1) Moira only
- (2) Moira and Benjamin only
- (3) Jessica and Scott only
- (4) Moira and Scott only

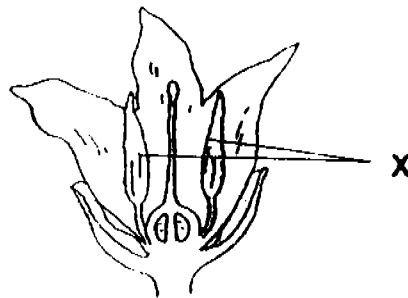
9. The diagram shows part of a human arm.



When _____ contracts and _____ relaxes, the arm will straighten.

- (1) A; B
- (2) B; E
- (3) D; C
- (4) E; B

10. Study the diagram of the flower below.



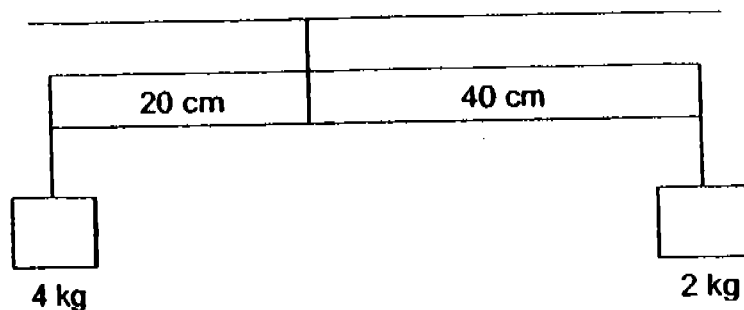
What will happen to the flower if X is cut off?

- A: Fertilisation will not be possible.
- B: The flower will wither and die immediately.
- C: The flower cannot produce pollen grains.

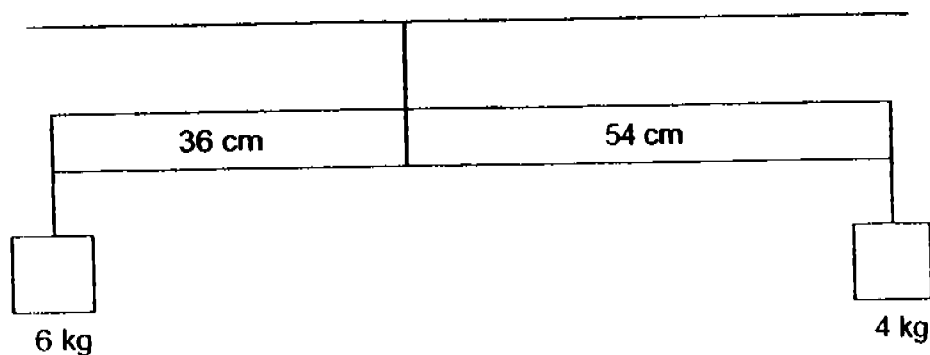
- (1) A only
- (2) C only
- (3) A and B only
- (4) B and C only

11. The levers in the set-ups below are balanced.

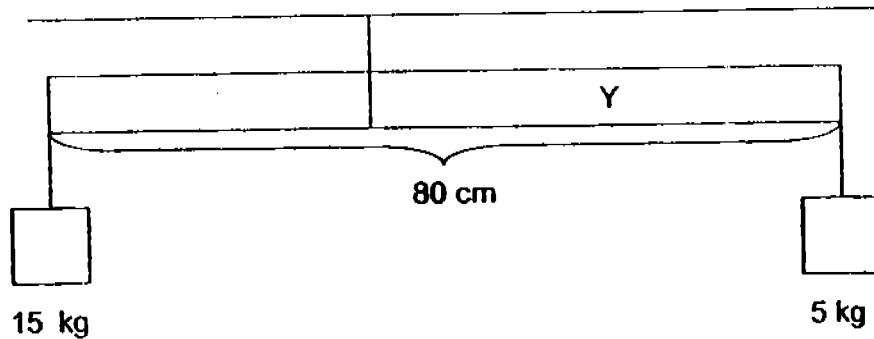
Set-up 1:



Set-up 2:



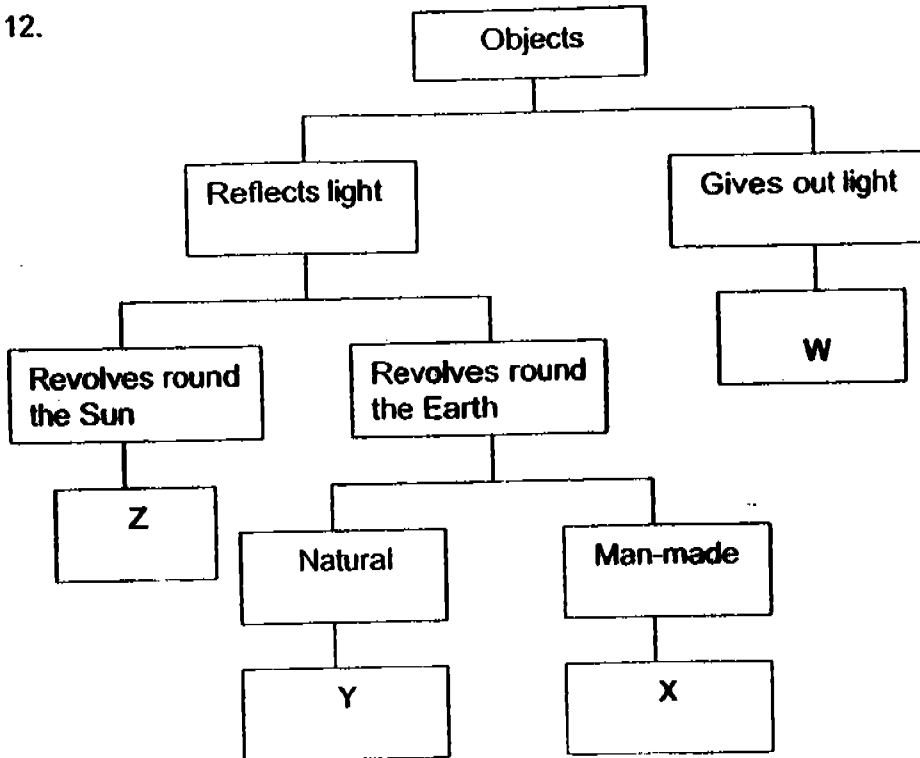
Set-up 3:



In order for the lever in Set-up 3 to be balanced, what should be the value of Y?

- (1) 20 cm
- (2) 30 cm
- (3) 50 cm
- (4) 60 cm

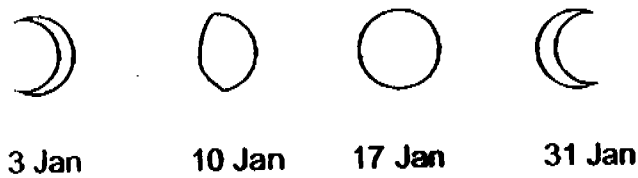
12.



What objects do W, X, Y and Z represent?

	W	X	Y	Z
(1)	Sun	Star	Weather satellite	Moon
(2)	Star	Venus	Mars	Navigation satellite
(3)	Sun	Weather satellite	Star	Mars
(4)	Star	Communication satellite	Moon	Venus

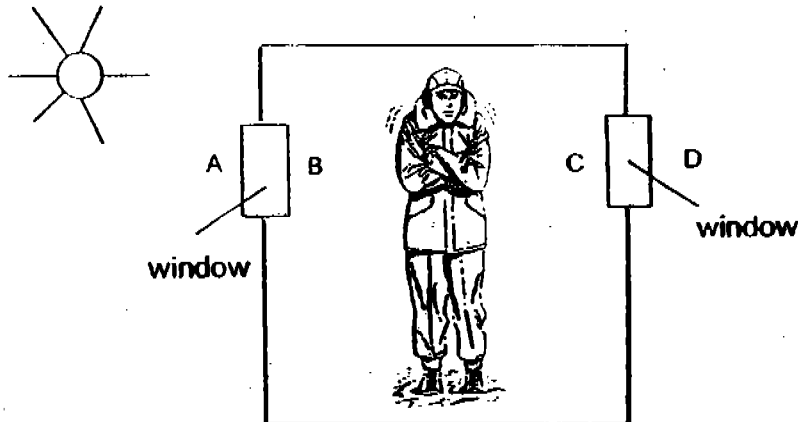
13. The shapes of the Moon changes every night. Kelvin recorded some of the dates and shapes of the Moon in his Science journal as shown below.



Kelvin forgot to record the shape of the Moon on 23 Jan. How would the Moon have looked like on that night?

- | | | | |
|-----|--|-----|--|
| (1) | | (2) | |
| (3) | | (4) | |

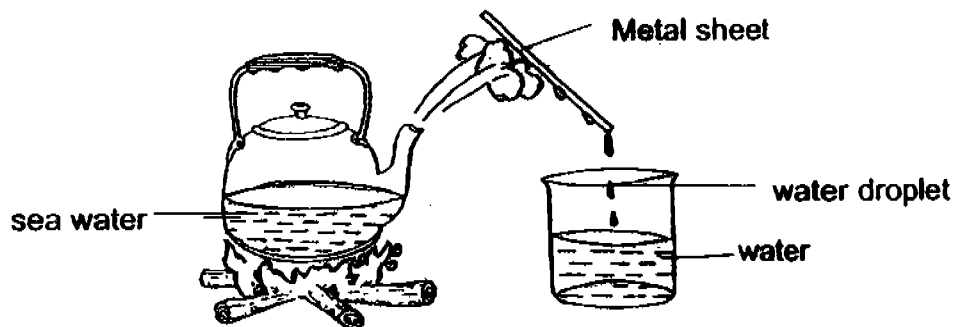
14. Jason was standing in a cold room with two windows as shown in the diagram below.



A while later, he observed some tiny water droplets on the windows. On which sides of the windows would Jason find the water droplets?

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

15. Some scouts were trying to get drinking water from sea water.



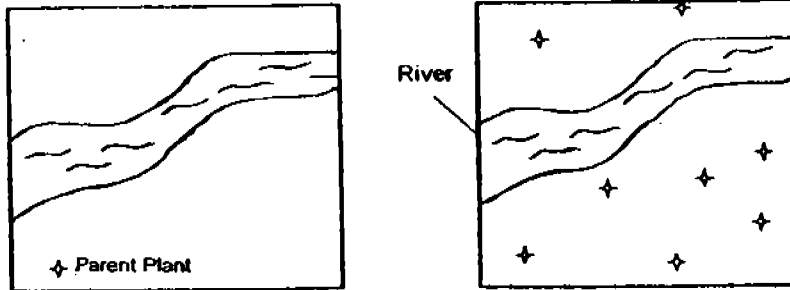
They boiled some sea water in a kettle over a fire. They noticed that after some time, the number of water droplets formed on the metal sheet became fewer and fewer.

Why was this so?

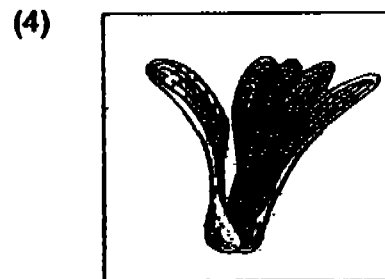
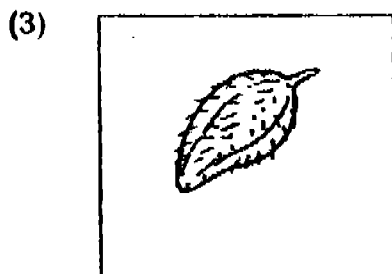
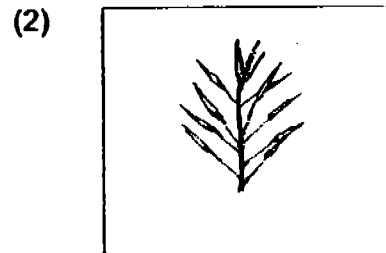
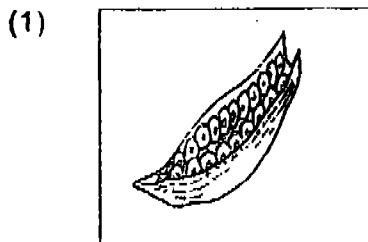
- A : The temperature of the metal sheet decreased.
- B : The temperature of the metal sheet increased.
- C : Less condensation took place.
- D : The kettle had become hotter.

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

16. The diagram on the left shows the location of a parent plant before it disperses its fruits. The diagram on the right shows its seedlings after seed dispersal.



The fruit that could **NOT** have been dispersed in the way shown is _____.



17. Diagram A shows the major regions of the human brain. Diagram B shows the regions of the brain that control particular functions of the body.

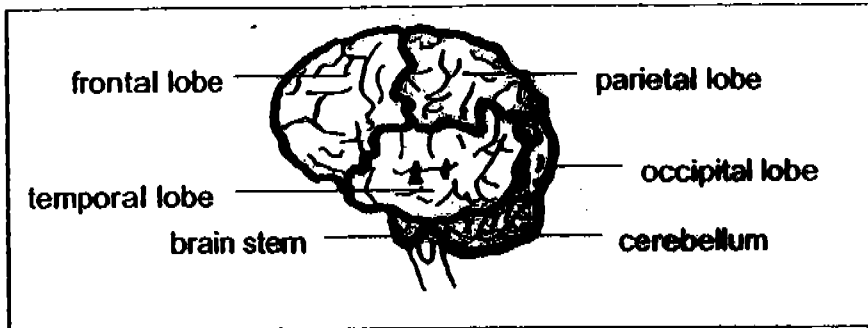


Diagram A

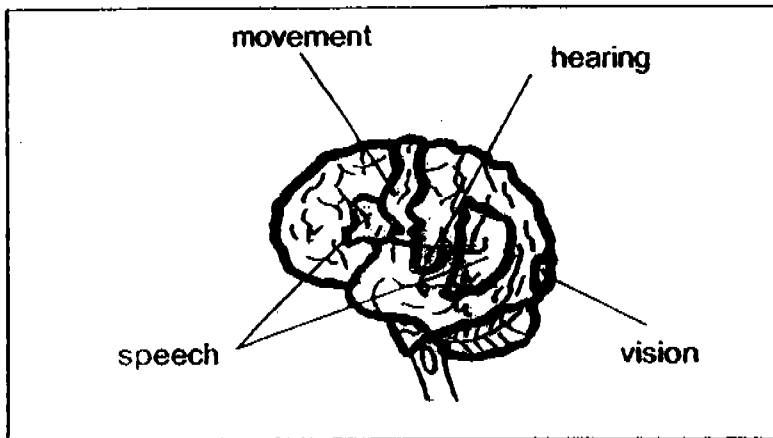
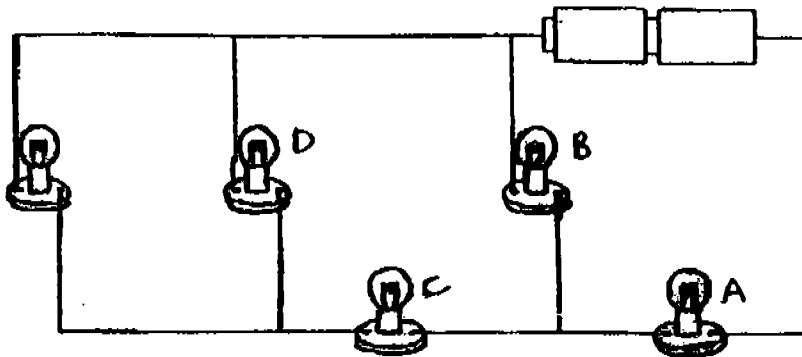


Diagram B

Damage to the temporal lobe would most likely result in changes to _____

- (1) movement and speech
- (2) movement and vision
- (3) hearing and movement
- (4) hearing and speech

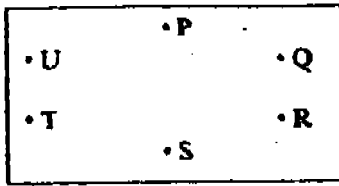
18. The diagram below shows five bulbs connected to two batteries.



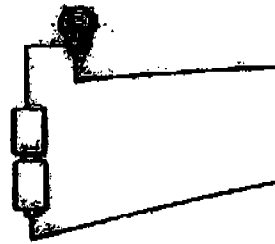
When one of the bulbs is fused, only two bulbs remain lighted.
Which bulb, A, B, C or D is FUSED?

- (1) A
(2) B
(3) C
(4) D
19. In Singapore, some refuse is disposed by incineration. Which of the following are advantages of incinerating the refuse?
- A: It does not require a large land area for landfill.
B: Scrap iron in the refuse can be recovered and recycled.
C: It reduces air pollution as compared to burning rubbish in the open.
D: The heat produced can be used to generate electricity.
- (1) A and C only
(2) B and D only
(3) A, B and C only
(4) A, B, C and D
20. John found the skull of an animal. Although he did not know what the animal was, he could guess that it preyed on other animals for food by looking at the _____.
- (1) size of the jaws
(2) size of the skull
(3) shape of the skull
(4) shape of the teeth

21.



A circuit card



A circuit tester

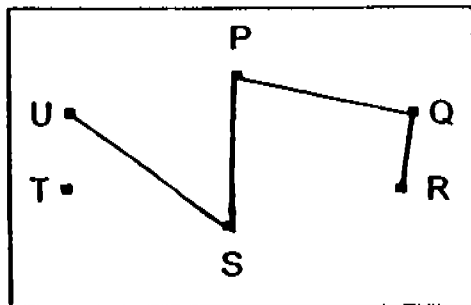
The circuit card shown above has a metal thumbtack at each of the points P, Q, R, S, T and U. Some of the thumbtacks are connected by wires behind the circuit card.

Jackie conducted a test to find out how these thumbtacks are connected using a circuit tester. Some of the test results are shown in the table below.

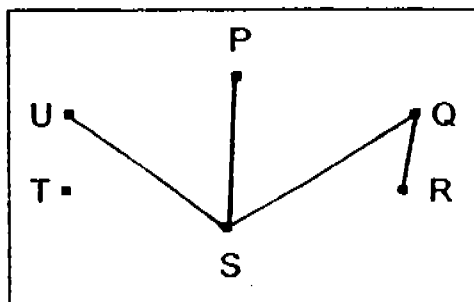
Circuit tester connected to thumbtacks at	Does the bulb light up?
R and U	Yes
S and T	No
P and Q	Yes
R and S	No

Based on the results, which one of the following shows a possible arrangement of the wires behind the circuit card?

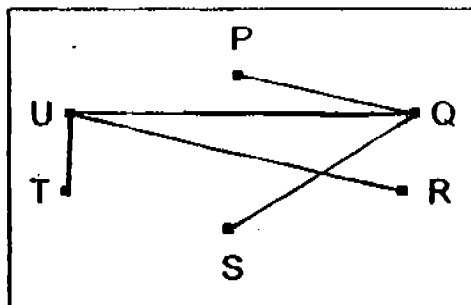
(1)



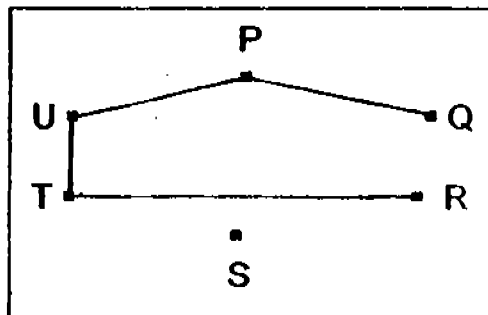
(2)



(3)



(4)



22. Compare photosynthesis and respiration in plants.

	Photosynthesis	Respiration
A	Produces oxygen	Uses oxygen
B	Uses carbon dioxide and water	Produces carbon dioxide and water
C	Makes food using light energy	Breaks down food to produce energy
D	Takes place only in the presence of light	Takes place when plants are not photosynthesizing

Which of the above comparisons are true?

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

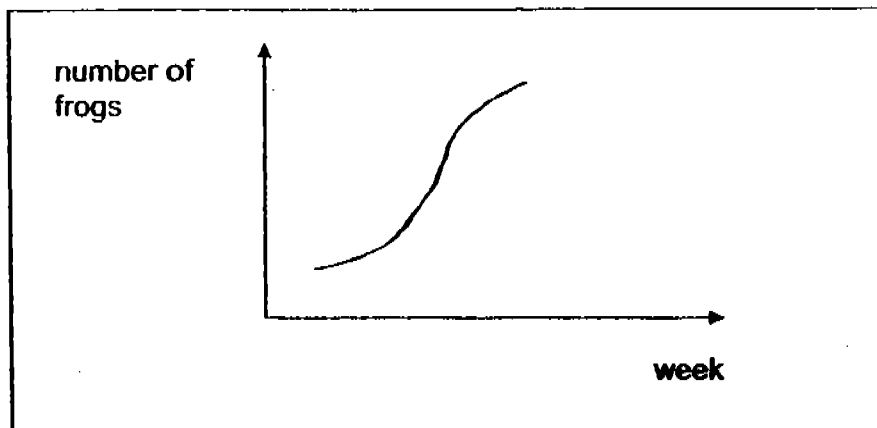
23. Study the table below.

Animal	Adaptation	Function
Seal	A	To stay buoyant
Turtle	B	To propel the body forward
Crab	C	To allow breathing on land
Fish	D	To overcome water resistance

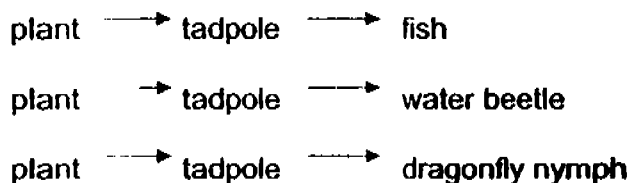
From the list of adaptations below, which one correctly represents A, B, C and D?

	A	B	C	D
(1)	Hairy body covering	Short tail	Gill chamber	Scales
(2)	Layer of fat	Short tail	Swim bladder	Scales
(3)	Hairy body covering	Flippers	Swim bladder	Streamlined body
(4)	Layer of fat	Flippers	Gill chamber	Streamlined body

24. The graph shows the change in the frog population near a pond.



The food chains below show the food relationships between the tadpoles and other organisms in the pond.

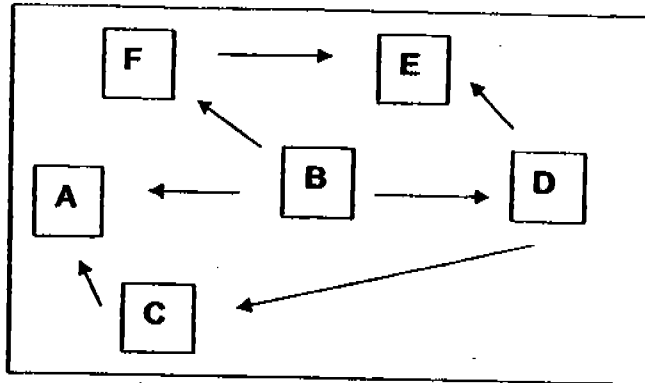


What are the possible causes for the change?

- A: A significant decrease in the water level of the pond.
- B: A significant decrease in the number of fish in the pond.
- C: A significant decrease in the number of water beetles and dragonfly nymphs in the pond.
- D: The presence of disease-causing organisms that kill the prey of frogs.

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

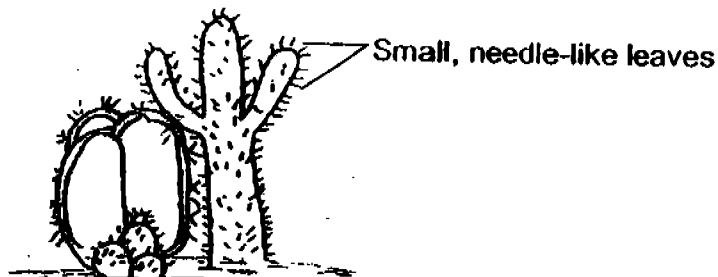
25. The diagram below shows a food web. The letters A to F represent organisms.



Which of the following given is true about the organisms in the above food web?

	Food producer	Predator only	Prey only	Prey and predator
(1)	D	A	C	F
(2)	B	E	D	C
(3)	E	A	D	C
(4)	B	E	F	A

- 26.



Needle-like leaves are common features of cacti.
The leaves help the cacti to _____.

- (1) reduce the rate of water loss
- (2) reduce the loss of carbon dioxide during respiration
- (3) store water
- (4) increase the rate of photosynthesis

27. A ball is tossed directly upwards into the air and four children made the following statements.

Ashley: There is no force acting on the ball when it reaches its highest point.

Bonnie: The ball moves upwards until at its highest point gravity begins to act on it.

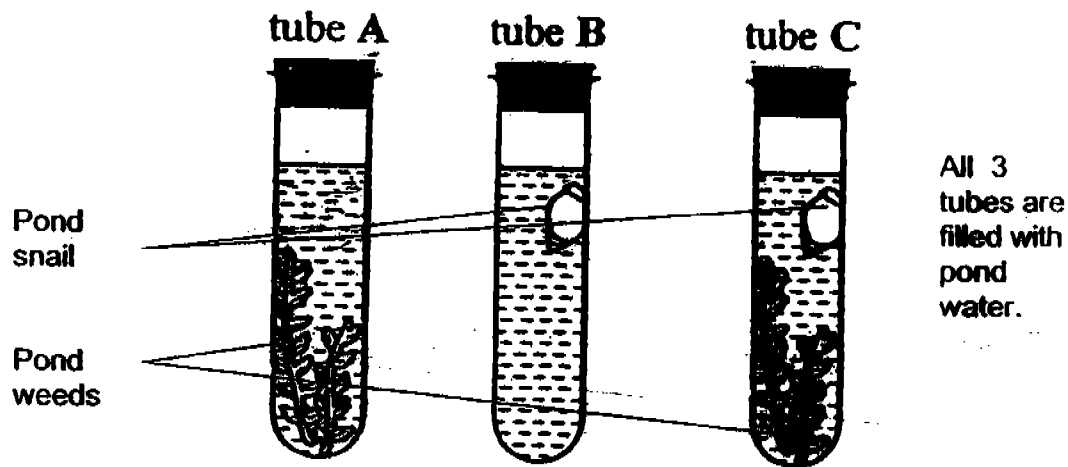
Melanie: Gravity only acts on the ball when all the upward force it is given have been used up.

Gerald: The ball will be acted on by gravity throughout its journey up and down.

Which one of them is correct?

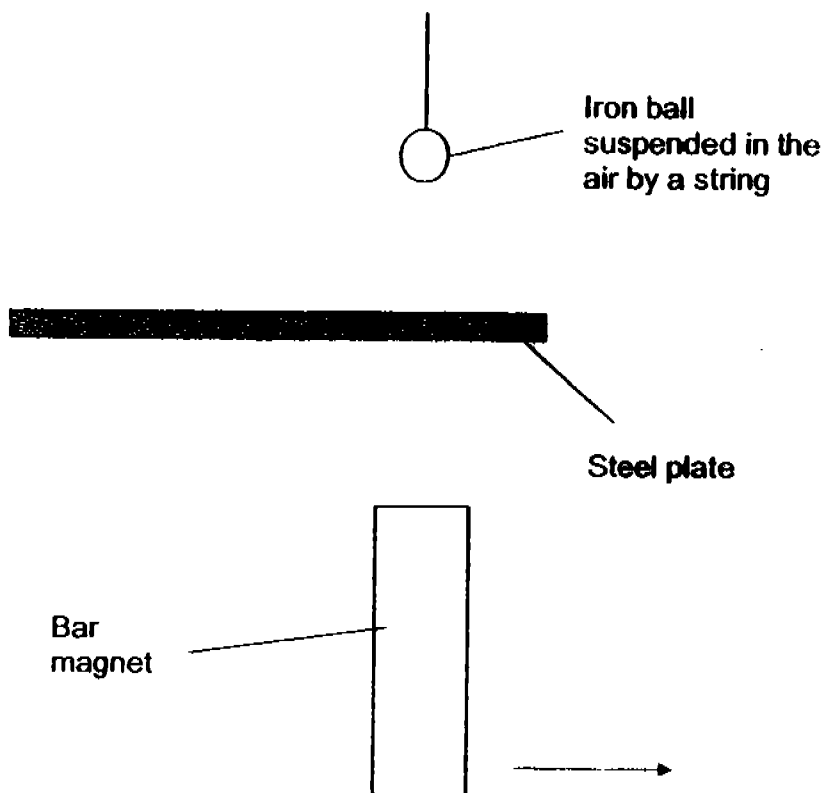
- (1) Ashley
- (2) Bonnie
- (3) Melanie
- (4) Gerald

28. Study the set-ups below. The 3 tubes are put in the Sun. After four hours, what changes will there be in the amount of dissolved carbon dioxide in the water in each of the 3 tubes?



	Tube A	Tube B	Tube C
(1)	Decrease	Not able to tell	Not able to tell
(2)	Decrease	Increase	Not able to tell
(3)	Not able to tell	Decrease	Increase
(4)	Increase	Not able to tell	Decrease

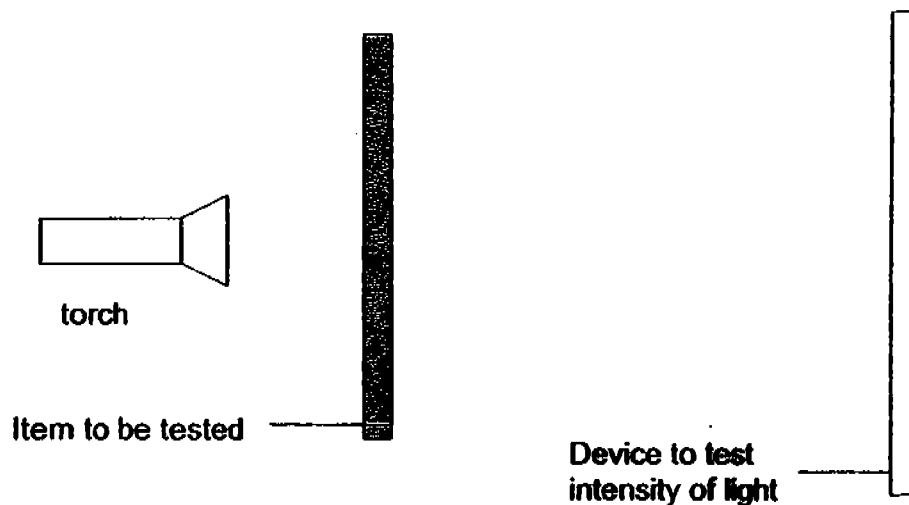
29.



Li Shan set up an experiment as shown above. As she slid a strong bar magnet under the steel plate as indicated by the arrow, the ball did not move at all. Which one of the following is the most likely reason for the observation she made?

- (1) The magnetic force is not strong enough.
- (2) The ball bearing is made of non-magnetic material.
- (3) Magnetic force cannot pass through magnetic material.
- (4) Li Shan did not slide the bar magnet at the correct speed.

30.



In the set-up shown above, different items A, B and C are placed one at a time in front of the torch and the amount of light that can pass through it can be detected by a device which measures the intensity of light. The following data is collected as a result.

Item	Intensity of light detected
A	0 %
B	70 %
C	98 %

Which one of the following can item A, B and C be?

	A	B	C
(1)	Wood	Clear glass	Tracing paper
(2)	Clear glass	Mirror	Wood
(3)	Oil	Light soya sauce	Dark soya sauce
(4)	Mirror	Oil	Water

END OF BOOKLET A



新加坡福建会馆属下五校小六统一考试

道南·爱同·崇福·南侨·光华

SINGAPORE HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 6

COMBINED PRELIMINARY EXAMINATION

TAO NAN · AI TONG · CHONGFU · NAN CHIAU · KONG HWA

2005
科学 SCIENCE
BOOKLET B

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

INSTRUCTIONS TO CANDIDATES

- ✓ Do not open this booklet until you are told to do so.
- ✓ Follow all instructions carefully.
- ✓ Answer all questions.
- ✓ Write your answers in this booklet.

School : _____

Name : _____

Class : _____

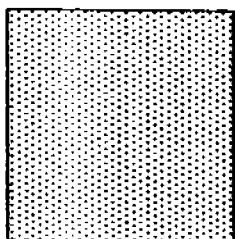
Date : 15 September 2005

TOTAL	40
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PART II

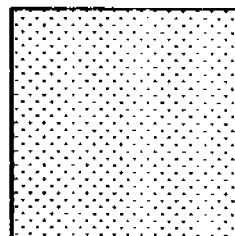
For questions 31 to 46, write your answers in the spaces provided.

31. The diagram below shows the pores on 2 kinds of fabric used for clothing.



A

The dots represent how closely spaced the pores are.

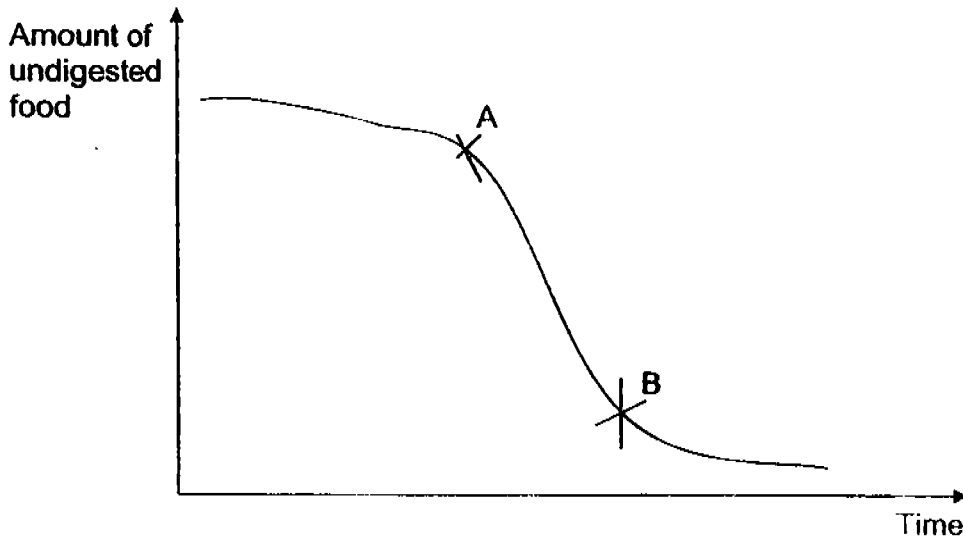


B

(a) Which of the materials, A or B, is more suitable for making a track suit for athletes in hot weather? [1 m]

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

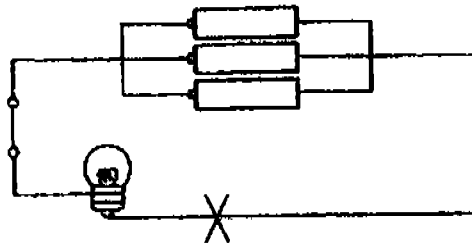
32. Study the graph below, which shows the amount of undigested food in the human digestive system over time.



(a) Why is there a sharp drop in the amount of undigested food from point A to point B? [1 m]

(b) Which part of the digestive system does point A to point B represent? [1 m]

33. Study the diagram carefully.



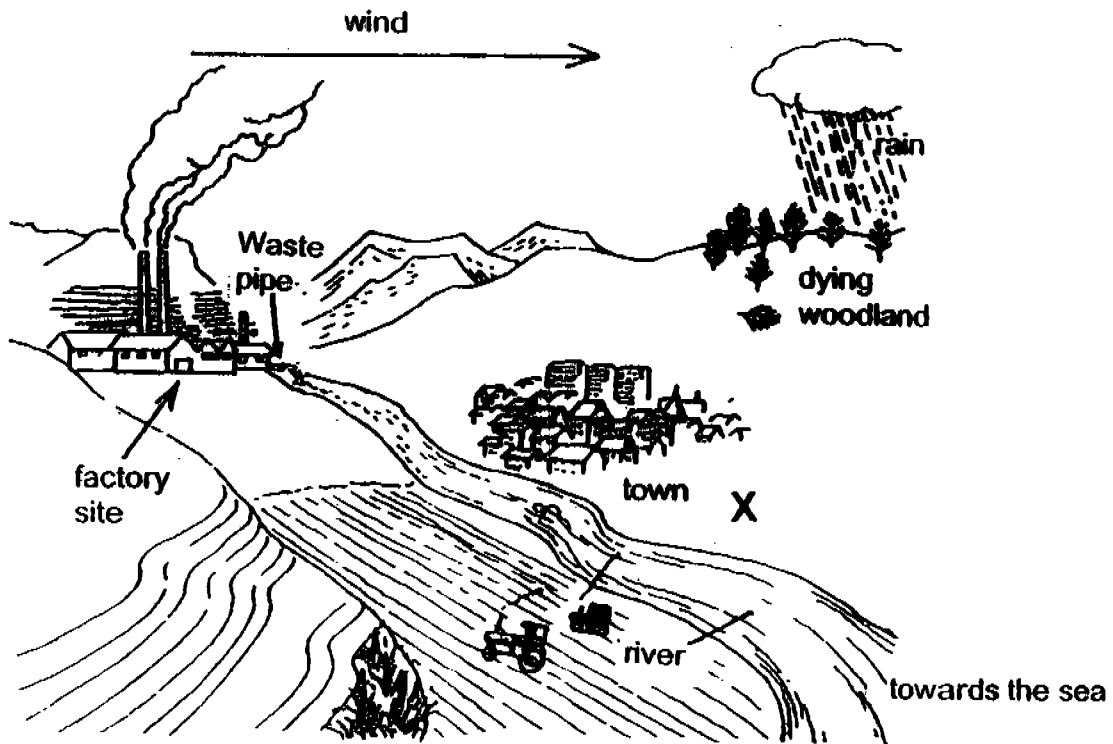
(a) What will happen to the brightness of the bulb if another bulb is placed at the point marked X in the circuit? [1 m]

(b) Using the same number of bulb and batteries, suggest one way to increase the brightness of the bulb in the circuit above. [1 m]

34. Making use of the materials given below, describe the steps you would take to show the kind of living conditions earthworms prefer. [2 m]

a tray	black paper	water
soil	earthworms	

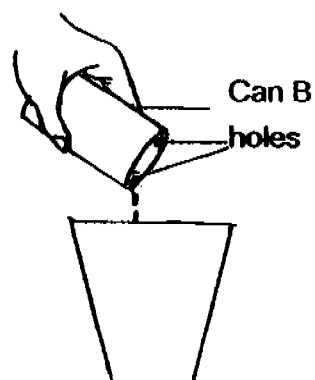
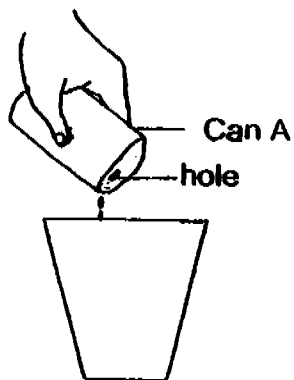
35. Study the diagram below.



(a) The woodland is dying. Explain what has caused the woodland to be in such a state. [2 m]

(b) A water treatment plant to supply water for home use is to be constructed at position X in the diagram. However, this position for the plant is not suitable. Give a reason to explain why. [1 m]

36. Small holes were pierced in two cans of orange juice, A and B, as shown below.



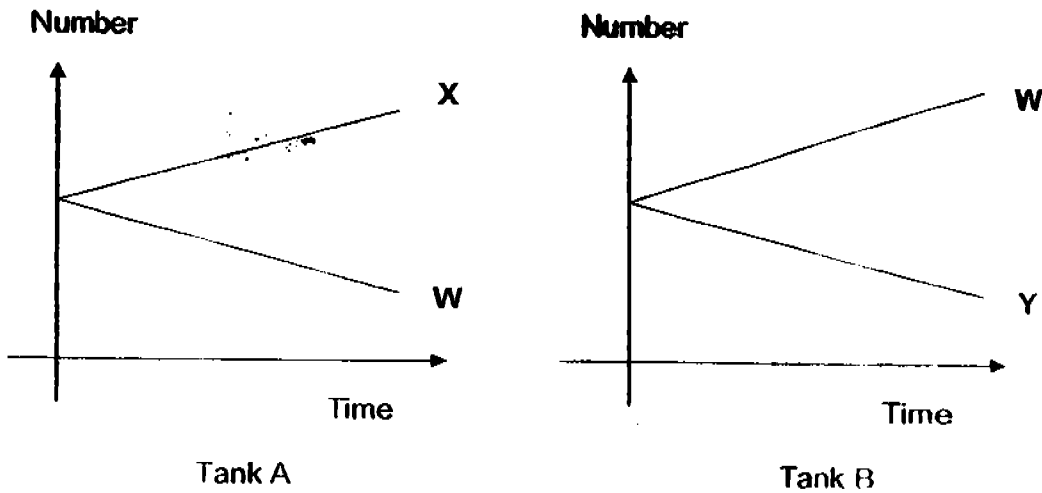
- (a) From which can, A or B would the orange juice flow out faster? [1 m]

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

37. Nicholas caught 3 different types of animals, W, X and Y from a pond. He put equal numbers of the animals in 2 tanks, A and B.

He put animals W and X in tank A.
 He put animals W and Y in tank B.
 Both tanks contain water plants.

He kept a count of the animals in both tanks every week for a month. His results are shown in the graphs below. He did not come across any dead animal in the tanks.



(a) From the graphs given above, what is the food chain linking these 3 animals? Write the letters W, X and Y in the boxes provided below. [1 m]



(b) From the above food chain, identify which animal is

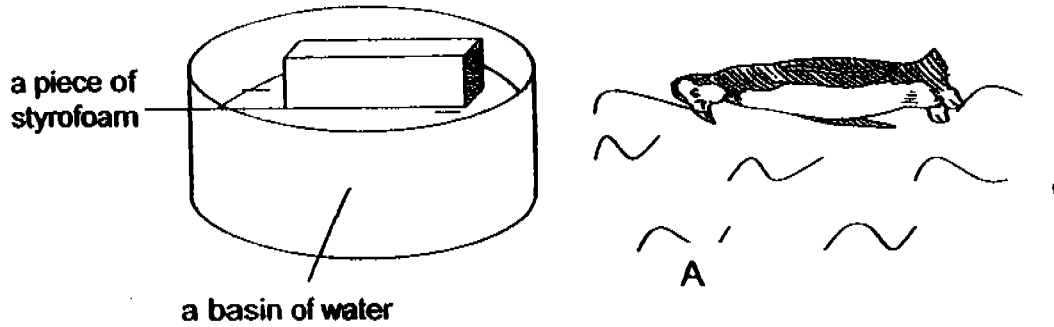
i. a herbivore

Answer : _____ [1/2 m]

ii. a predator only

Answer : _____ [1/2 m]

38. A penguin swims face down in the water so as to look for food in the water. Study the set-up below which uses a styrofoam to simulate a penguin swimming face down in the water.



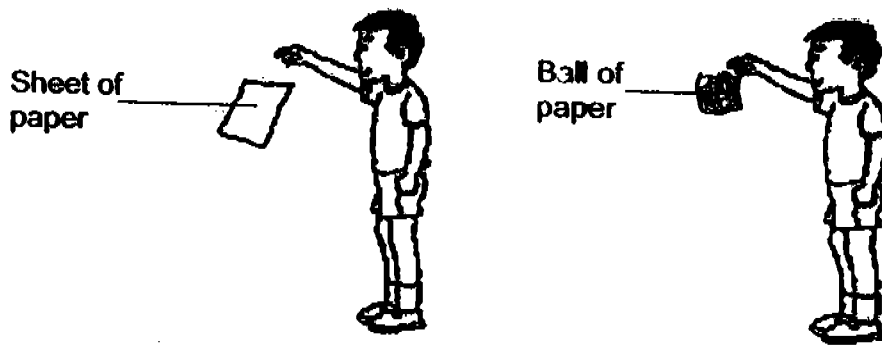
Imagine that the predator of the penguin is underwater at position A. Infer from the styrofoam how the front body of a penguin, which is white, helps the penguin. [2 m]

39. Crop → caterpillar → small bird → hawk

(a) From the food chain above, which organism is both a prey and a predator and which is the food producer? [1 m]

(b) Explain how the spraying of insecticides on crops can lead to the hawks being harmed. [2 m]

40. Patrick took two identical sheets of paper. He squashed one of the sheets into a very tight ball. He let both of them fall to the ground several times as shown in the picture.

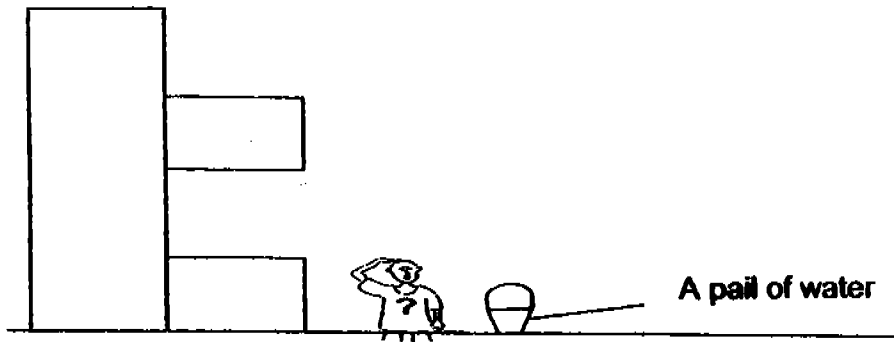


- (a) What made the papers fall to the ground quickly? [1 m]

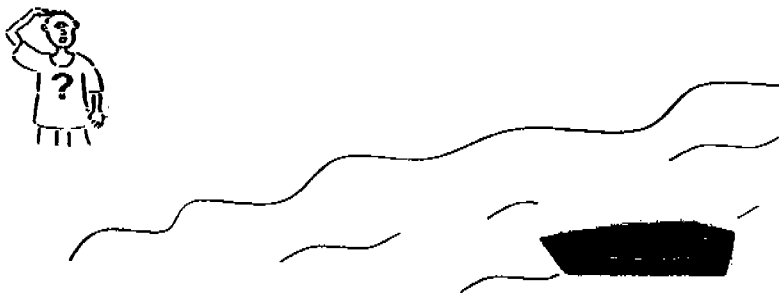
- (b) Which paper reached the ground first? [1 m]

- (c) Explain your answer for (b). [1 m]

41. Study the diagrams below.



Task 1



Task 2

Tom needs to complete two tasks. He has only a fixed pulley and a movable pulley to help him. In Task 1, he has to get many pails of water up to the second storey of a building (only 1 pail is shown in the diagram). In Task 2, he has to pull many boats ashore (only 1 boat is shown in the diagram). As he has to leave either the fixed pulley or the movable pulley at the site of the tasks permanently, he cannot decide which pulley to use for which task. Can you help him to make a decision and explain the reason behind your choices?

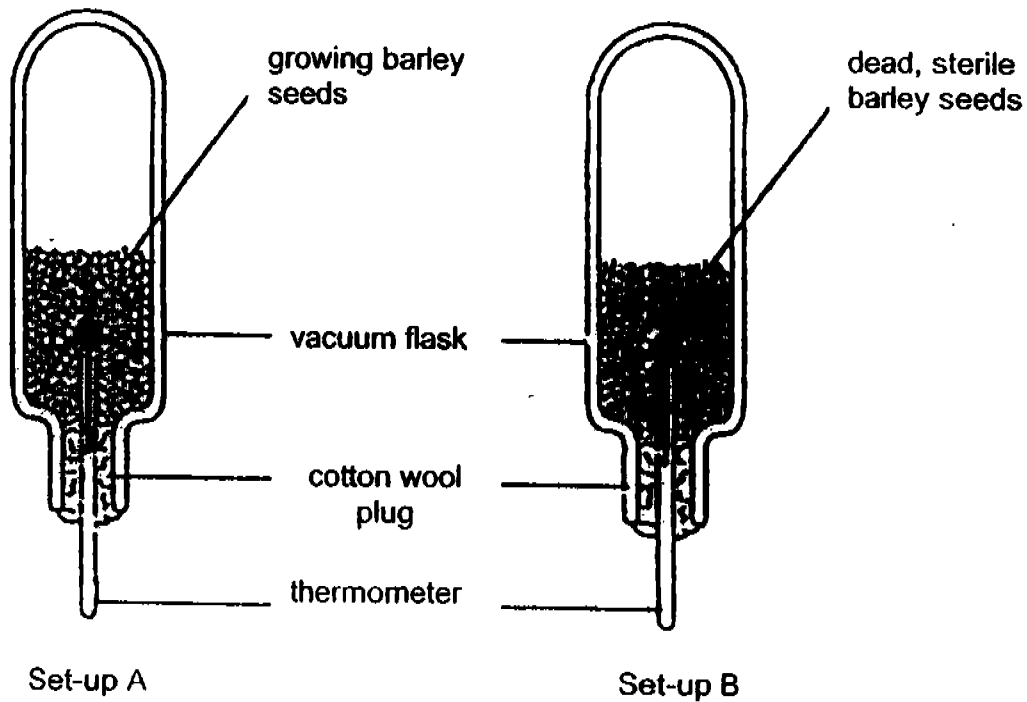
(a) I would choose the _____ pulley for Task 1

because _____
_____. [1 m]

(b) I would choose the _____ pulley for Task 2

because _____

42. The diagram below shows two flasks.



(a) From the set-ups, what is the aim of this experiment? [1 m]

(b) Which set -up is the control? [1 m]

(c) What are the products of respiration in plants? [2 m]

43. The table below shows the breathing rates per minute of Darren and Joshua before and after they had each done 20 sit-ups.

Student	Breathing rates/ breaths per minute					
	Normal breathing rate	At minute intervals after exercise				
		1	2	3	4	5
Darren	15	42	36	30	20	15
Joshua	12	31	22	14	12	12

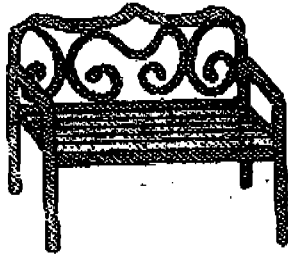
- (a) Who made the quicker recovery from exercise? [1 m]

- (b) Based on the data provided, give a reason for your answer for (a). [1 m]

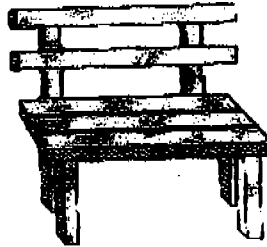
- (c) From the data, which student do you think is the better athlete? [1 m]

44. On a hot and sunny day, John went to a park and saw an iron bench and a wooden bench, both under the direct sunlight. He placed his hand on the iron bench and quickly removed it as he found it to be too hot to the touch. Next he placed his hand on the wooden bench and he could leave his hand on the bench for quite some time.

iron bench



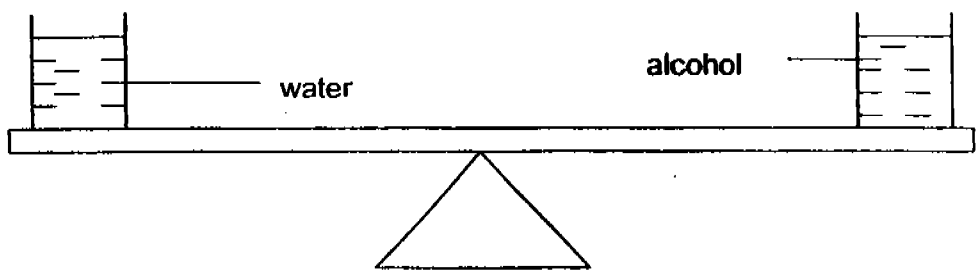
wooden bench



- (a) From John's observations, what conclusion can he make regarding the materials used for the benches? [1 m]

- (b) Explain your answer in (a). [2 m]

45.



The diagram above shows two similar beakers. One beaker contains water while the other contains alcohol. Both beakers are balanced on a lever.

(a) Predict what will happen to the lever after half an hour. [1 m]

(b) Explain your answer in (a). [2 m]

46.



Jim built a toy car which made use of a solar panel to absorb sunlight which in turn powered a motor, causing it to move. It worked perfectly when he tested it on an afternoon. His friend, Ali, borrowed the toy car and tried it on another afternoon but found that it did not move at all.

- (a) What was the likely weather on the day when Ali tested the toy car? [1 m]

- (b) What was the energy change that took place in the activity when the toy car could move? [1 m]

END OF BOOKLET B

SINGAPORE HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 6
COMBINED PRELIMINARY EXAMINATION
SCIENCE - 2005

SIA2

01. 3	11. 4	21. 4
02. 3	12. 4	22. 2
03. 2	13. 1	23. 4
04. 4	14. 1	24. 3
05. 3	15. 3	25. 2
06. (4)	16. (3)	26. 1
07. 1	17. 4	27. 4
08. 4	18. 3	28. 2
09. 4	19. 4	29. 3
10. 2	20. 4	30. 4

31) a) B

b) It allows perspiration to evaporate.

32) a) Most of the food has been digested.

b) The stomach

33) a) It will decrease.

b) Arrange the batteries in series.

34) 1. Cover half of the tray with black paper.

2. Dampen half of the soil with water.

3. Put the earthworms on the centre of the tray.

4. The earthworms will crawl to the side with black paper. *with moisture.*

35) a) Pollutants from the factory dissolve in the rainwater, forming acid rain over the woodlands. The trees take in the polluted rain water from the ground and die.

b) The water will be contaminated with chemicals from the factories.

36) a) B

b) As orange juice flowed out from one hole of the can, air could rush in through the other hole and forced the juice to flow out faster.

37) Y W X

b) i) Y

ii) X

38) The penguin's front body is white, therefore it is comouflaged in the water.

- 39) a) The small bird is both a prey and a predator and the crop is the food producer.
- b) Insecticides sprayed on crops enter the food chain when caterpillars feed on the crops. As the small birds feed on the caterpillar and later the hawks feed on the small birds, the insecticides accumulate in the bodies of the hawks.
- 40) a) Gravitational force
- b) The ball of paper.
- c) The ball of paper has a smaller surface area, therefore there is less air resistance to slow down its movement.
- 41) a) fixed pulley
- it changes the direction of the force.
- b) less effort is used to overcome the load.
- 42) a) To find out if heat is given off during respiration.
- b) B
- c) Carbon dioxide and energy
- 43) a) Joshua
- b) At the fourth interval, Joshua has already recovered from the exercise but Darren has not.
- c) Joshua. He recovered quicker than Darren from the exercise.
- 44) a) Iron is a better conductor of heat than the wood.
- b) Iron is a better conductor of heat, so when John touched the iron bench, heat travelled quickly from the bench to his hand. Wood is not a good conductor of heat, so the heat travelled slowly from the wooden bench to John's hand.
- 45) a) It will tilt downwards towards the beaker of water.
- b) Alcohol evaporates faster than water, so the beaker of alcohol will be lighter than the beaker of water after some time and the lever will tilt downwards where the beaker of water is.
- 46) a) It was a cloudy day.
- b) light energy --- kinetic energy ---- heat + sound energy