NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2011
PRIMARY 6

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 marks)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		/ 60
Booklet B		/ 40
Total		/100

Name: _____ ( ) **Class: P 6** _____

Date : 12 May 2011 **Parent's Signature:** _____

Section A: (30 x 2marks = 60marks)
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. Which of the following are needed for plants to photosynthesize?

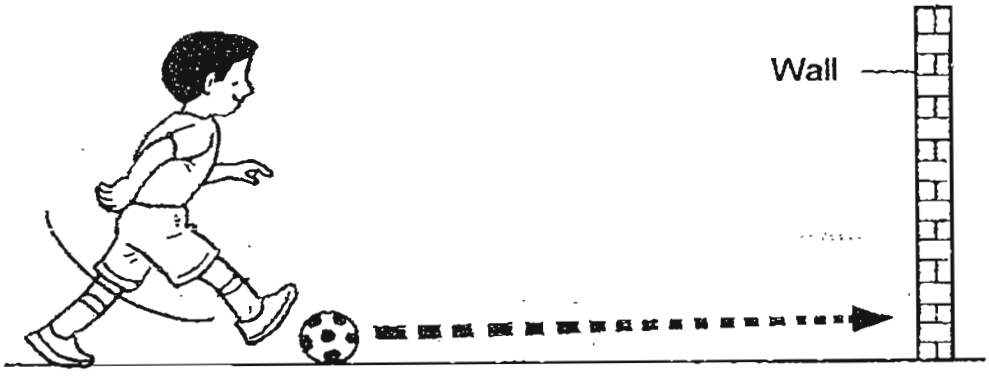
   A Water
   B Oxygen
   C Sunlight
   D Carbon dioxide

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

2. Which forms of energy can be obtained directly from the Sun?

   (1) Heat and light energy
   (2) Heat and chemical potential energy
   (3) Light and chemical potential energy
   (4) Kinetic and gravitational potential energy

3. Jerry kicks a soccer ball towards a wall. What happens when the soccer ball hits the wall?



   A The moving soccer ball changes its shape.
   B The moving soccer ball changes its direction.
   C The speed of the moving soccer ball decreases.
   D The moving soccer ball comes to a stop immediately.

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

4. A group of pupils made some remarks about living things.

Amy : All organisms can respond to stimuli.
Bernard : All organisms can be seen with our naked eyes.
Chris : Some organisms are able to produce their own food.
Devi : Some organisms reproduce by giving birth to their young alive.

Based on the above, which pupil has a misconception on living things?

(1) Amy
(2) Bernard
(3) Chris
(4) Devi

5. Why are aquatic plants important to the other organisms in an aquatic habitat?

A They provide food for the organisms.
B They provide shelter for the organisms.
C They attract the predator of the organisms.
D They provide a continuous supply of oxygen to the organisms.

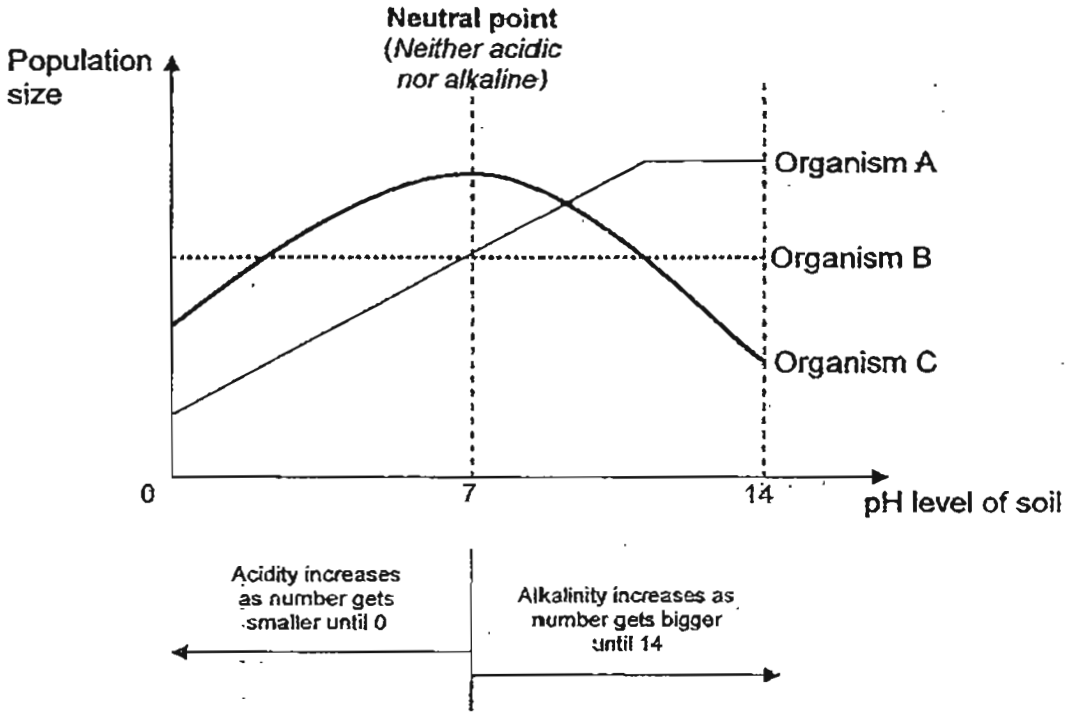
(1) B only
(2) A and B only
(3) A, B and D only
(4) A, C and D only

6. Which of the following factors affect the environment of a seashore habitat?

A The duration of time it receives light.
B The presence of bacteria-infected water.
C The presence of oil spilled from a ship in the surroundings.
D The presence of chemical waste disposed illegally into the sea by factories.

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

7. The pH level of the soil in the environment has an effect on certain organisms living in it. Study the graph below and answer the following question.



What conclusion can you draw based on the graph above?

(1) Organism A is not affected by the pH level of the soil.
(2) Organism C thrives best in soil with a pH level of around 7.
(3) Both organisms B and C prefer soil with high acidity level.
(4) The population of Organism A decreases when the pH level increases beyond 7.

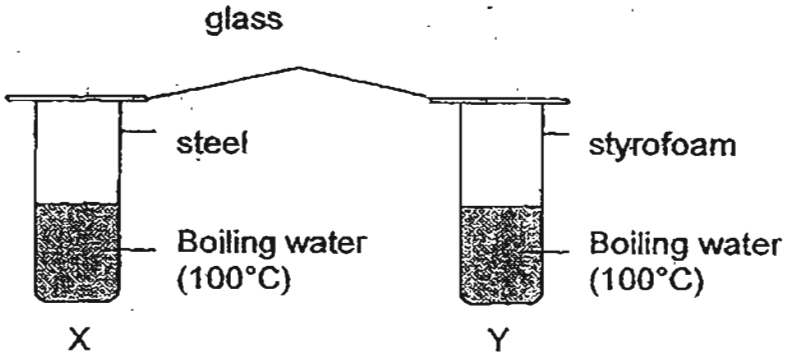
8. Study the food chain below carefully.

Which of the following statements about the food chain above is/are true?

A Leaf is a food producer
B There is one decomposer in the food chain
C There are two food consumers in the food chain
D The sparrow gets its energy directly from the leaf

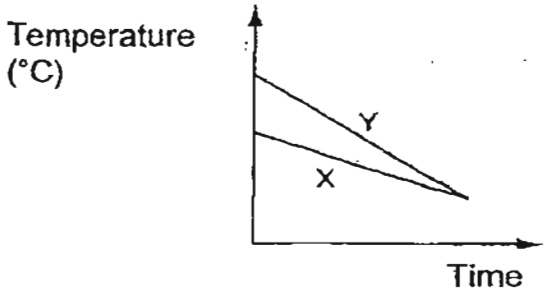
(1) B only
(2) A and C only
(3) A, B and C only
(4) A, B, and D only

9. There are two containers, X and Y, of similar size and thickness. Container X and Y is made of steel and Styrofoam respectively. Each container is filled with 500 ml of boiling water before they are covered with a sheet of glass and left unattended at room temperature for an hour.



Which one of the following graphs most likely shows the change in the temperature of the water in the Container X and Y respectively?

(1)



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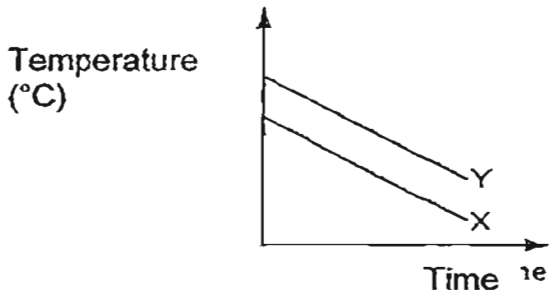

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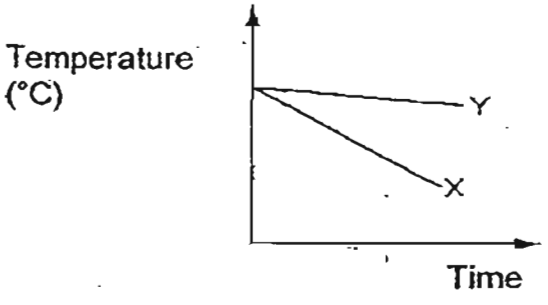

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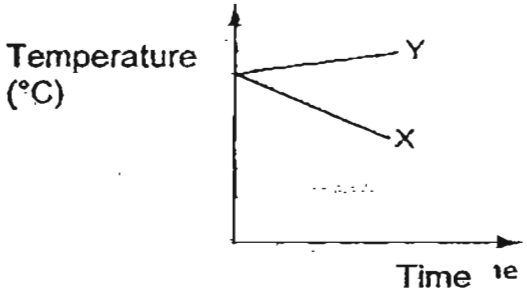


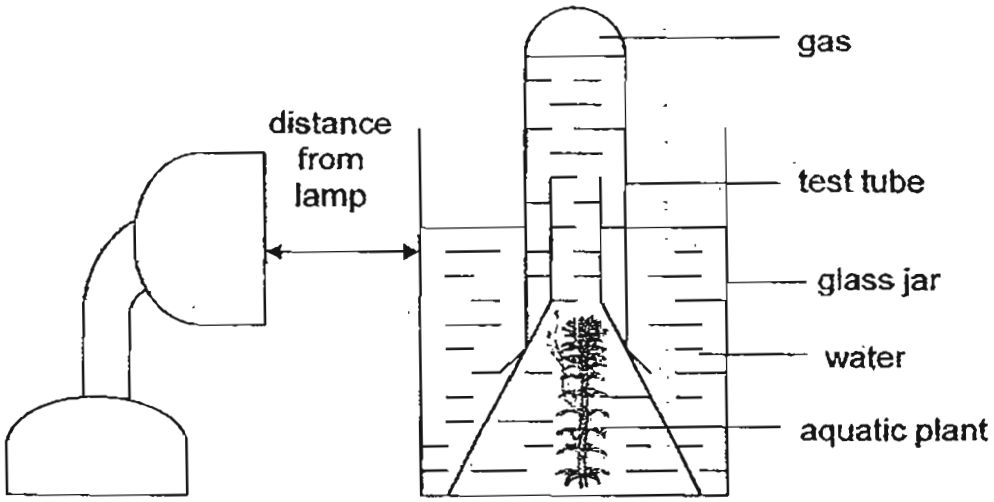
10. Mary listed out the boiling point and melting point of 4 substances, A, B, C and D in the table below.

Substance	Melting point (°C)	Boiling point (°C)
A	0	100
B	-10	85
C	25	70
D	40	130

At which of the following temperatures would all the substances be at the same state?

(1) 0°C
(2) 30°C
(3) 100°C
(4) 150°C

11. Andy set up an experiment in a dark room as shown below.

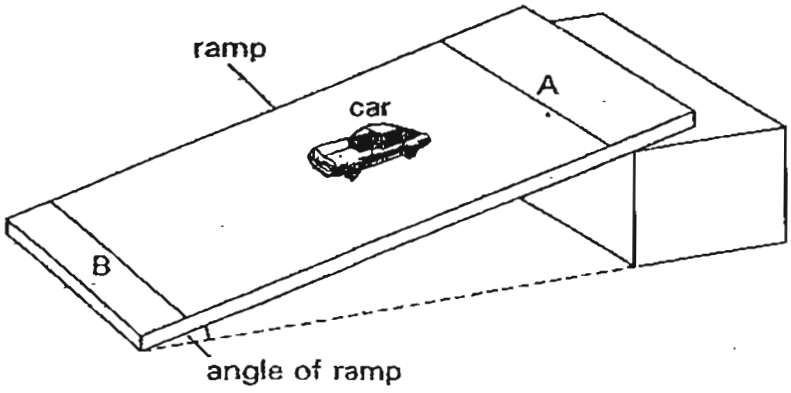


He placed a table lamp at a distance of 15 cm from the glass jar. After one hour, he observed that the test tube had collected 5 cm^3 of gas.

Which of the following results most likely shows the correct amount of gas collected corresponding to the distance from the lamp?

	Distance from lamp (cm)	Volume of gas collected (cm^3)
(1)	5	less than 5
(2)	10	equal to 5
(3)	20	less than 5
(4)	25	more than 5

12. Mary carried out an experiment using the apparatus below.



She recorded the time taken for the car to travel from A to B.

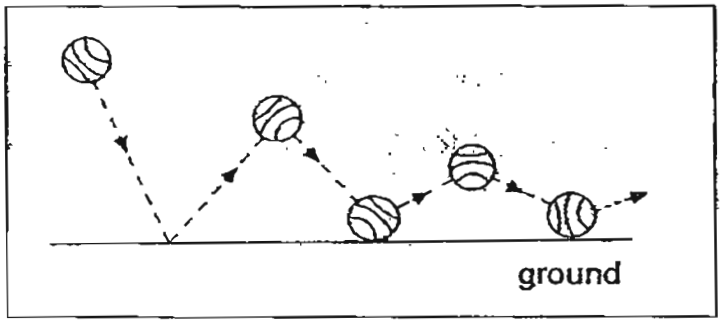
The experiment was repeated and the results were recorded as shown in the table below.

	1st attempt	2nd attempt
Length of ramp (cm)	100	100
Distance between A and B (cm)	80	80
Angle of ramp (°)	30	30
Surface of ramp	wood	Wood
Mass of car (g)	30	40
Time recorded (sec)	5.1	6.0

What is the aim of Mary's experiment?

(1) To find if the mass of the car affects how fast the car travels from A to B.
(2) To find if the angle of the ramp affects how fast the car travels from A to B.
(3) To find if the length of the ramp affects how fast the car travels from A to B.
(4) To find if the surface of the ramp affects how fast the car travels from A to B.

13. Alice dropped a rubber ball from a height of 50 cm onto the ground and it rebounded a number of times. She measured the height of rebound by the ball after the first, second and third rebound respectively. She repeated the experiment twice after that, dropping the ball from heights of 100 cm and 150 cm respectively.



The results were recorded in the table as shown.

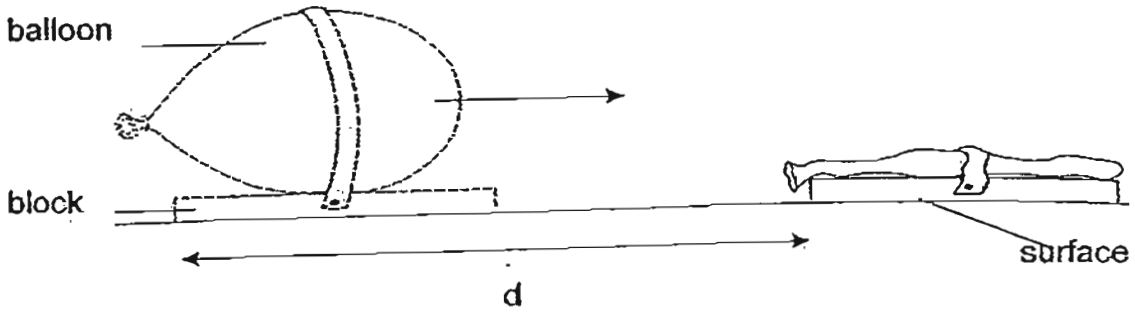
Height from where the ball was dropped (cm)	Height of rebound (cm)			
	1st rebound	2nd rebound	3rd rebound	Average
50	30	20	10	20
100	50	40	30	40
150	130	90	50	90

What conclusions can she make from her experiment?

A The ball had the greatest amount of gravitational potential energy when it completed the 3rd rebound.
B Gravitational potential energy of the ball changed to kinetic energy and then back to gravitational potential energy.
C The higher the height from where the ball dropped, the lower the height of the first rebound.
D For each drop of the ball, the heights of the second and third rebound decrease respectively.

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

14. Tom made a toy with a block and a balloon. He pumped 500 cm^3 of air into the balloon and then released it. He then measured the distance, d, moved by the toy.



He repeated the experiment again by pumping different amounts of air into balloon.

When he pumped 100 cm^3 of air in the balloon, the distance moved by the toy was recorded as 0 cm when the air in the balloon was released.

Which of the following best explains why the toy remained in the same position when the air in the balloon was released?

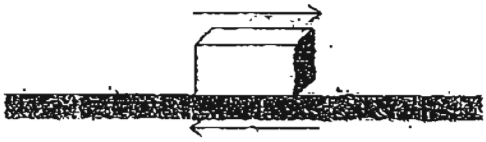
(1) The amount of air in the balloon increased the friction between the surface of the table and the block.
(2) The amount of air in the balloon decreased the friction between the surface of the table and the block.
(3) The force expelled by the released air is less than the friction between the surface of the table and the block.
(4) The force expelled by the released air is more than the friction between the surface of the table and the block.

15. Which of the following shows the direction of motion of the box and frictional force as a result of the exerted force?

(1)

Direction of exerted force →

Direction of friction

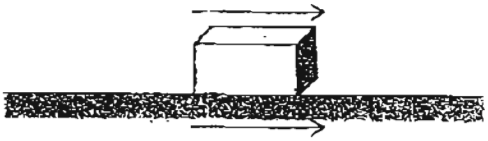


Direction of motion of the box as a result of the exerted force

(2)

Direction of exerted force →

Direction of friction

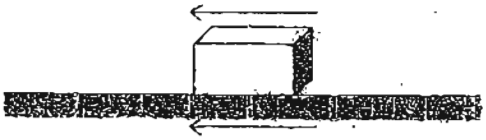


Direction of motion of the box as a result of the exerted force

(3)

Direction of exerted force →

Direction of friction

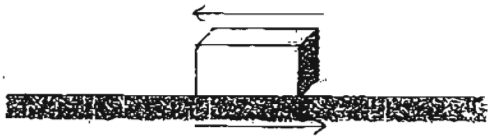


Direction of motion of the box as a result of the exerted force

(4)

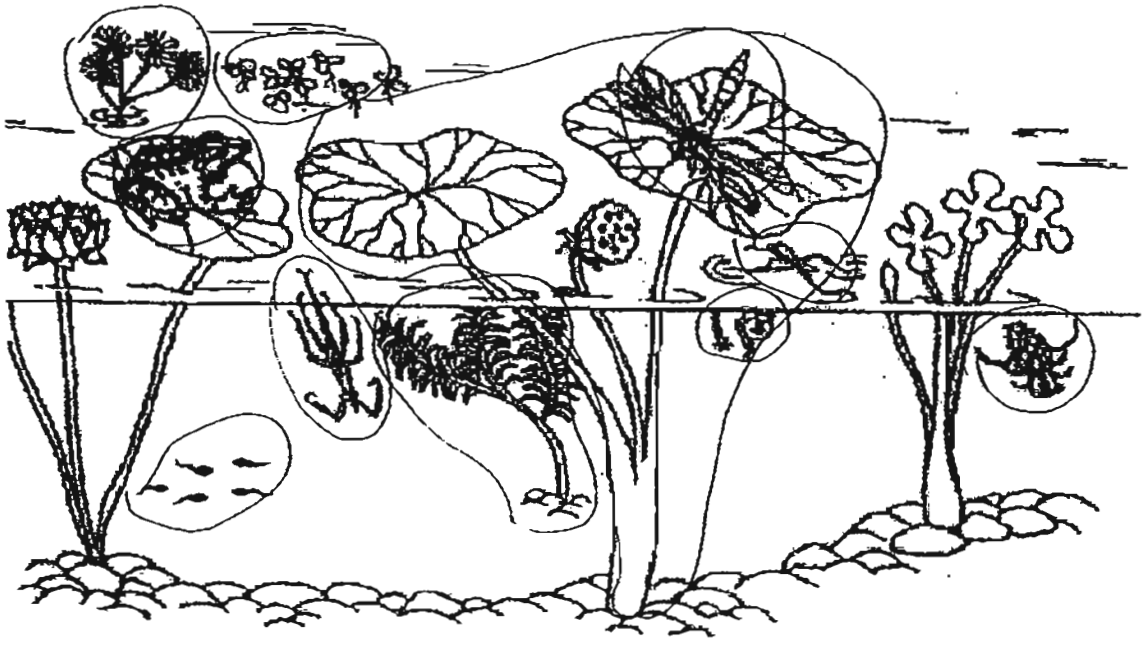
Direction of exerted force →

Direction of friction



Direction of motion of the box as a result of the exerted force

16 Study the picture below carefully.



Based on the picture above, which of the following statements is correct?

(1) There are eleven populations of organisms in the pond.
(2) There are eleven communities of organisms in the pond.
(3) There are thirteen populations of organisms in the pond.
(4) There are thirteen communities of organisms in the pond.

17. A study was conducted on Organism X. It was discovered that Organism X prefers to live in dark and dry areas. It can even survive up to 1 month without water.

Study the table below carefully.

Habitat	Amount of sunlight received daily	Amount of rainfall per year (cm)
A	low	15
B	low	160
C	high	25
D	medium	100

Based on the information shown in the table above, in which habitat will Organism X most likely be found?

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

18 . Jane studied the habitats of some organisms and discovered that different organisms grow well under different conditions.

		CHARACTERISTIC X: High	CHARACTERISTIC X: Low
CHARACTERISTIC Y	High	Organism A	Ferns Woodlice Earthworms
	Low	Cacti Sand-diving lizard	

She grouped the organisms according to the 2 characteristics of the habitat that they live in, X and Y. For example, Organism A survives well under the condition that there are high level of of X and Y in the habitat.

Which of the following best represent characteristics X and Y respectively?

	Characteristic X	Characteristic Y
(1)	Amount of water in the soil	Temperature level
(2)	Amount of food	Amount of light
(3)	Amount of air	Amount of heat
(4)	Temperature level	Amount of water in the soil

19. Mary collected some samples of water from different rivers and used them to rear some snails, aquatic plants and mollies. She placed identical amount of water from different rivers, labelled Sample A, B and C, into each tank respectively. Each tank contained similar number of snails, aquatic plants and mollies.

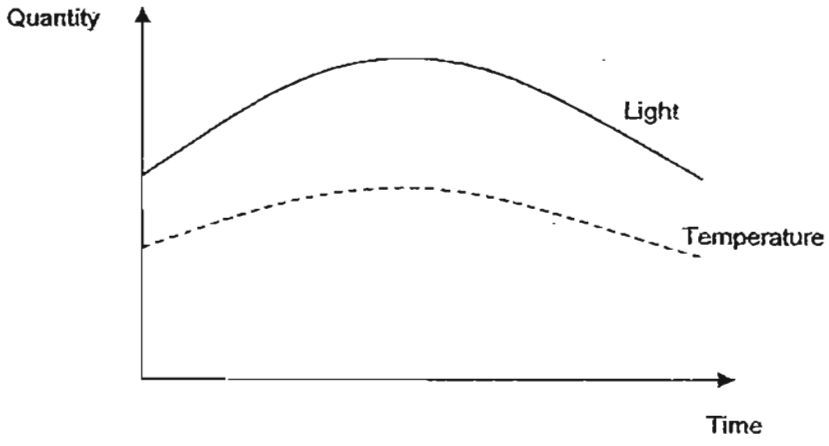
The table below shows the number of snails, aquatic plants and mollies left after 5 days in the fish tanks.

	Start of Experiment			End of Experiment (after 5 days)		
Sample	**Number of snails**	**Number of aquatic plants**	**Number of mollies**	**Number of snails**	**Number of aquatic plants**	**Number of mollies**
A	4	3	4	0	3	0
B	4	3	4	0	3	0
C	4	3	4	4	0	0

Which sample(s) of water is/are unsafe for the aquatic plants and mollies?

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

20. Henry measured the amount of light and the temperature in a field on sunny day. He plotted a graph to show the changes in the amount of light and temperature throughout the day.



Based on the above graph, what can you infer about the relationship between temperature and the amount of light in the field?

A Any change in the amount of light will not have any effect on the temperature of the surroundings.

B When the amount of light decreases, the temperature of the surroundings will also decrease.

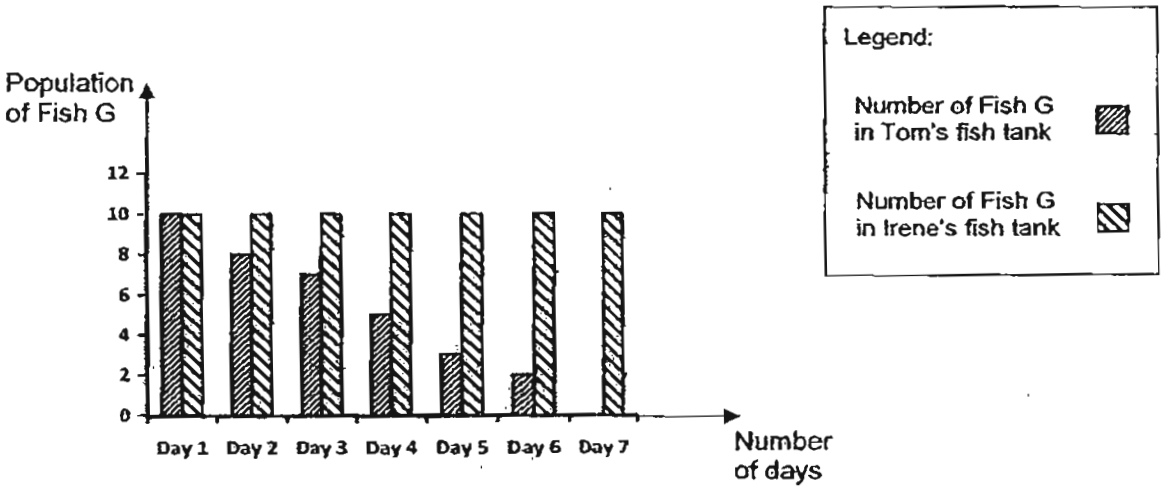
C Places that do not receive much light will have a lower temperature than places exposed to direct light.

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

21. Tom bought one fish tank with 10 Fish G in it. His sister, Irene, also bought a similar fish tank with 10 Fish G in it. They set up their fish tank such that all conditions in both fish tanks are similar.

Tom fed his fish with 10g of Food X everyday.
Irene fed her fish with 10g of Food Y everyday.

They recorded the progress of their fish in a chart.



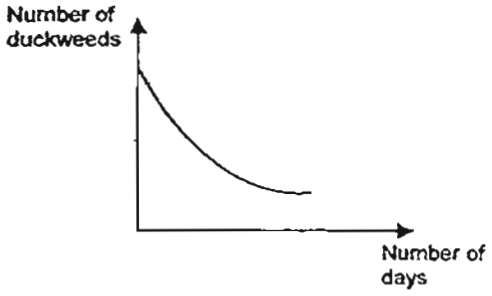
Which of the following is/are most likely to be the conclusion(s) drawn from the graph above?

A Fish G does not feed on Food X.
B Food Y is not a suitable food for Fish G.
C At the end of 7 days, there are 10 Fish G remaining in Tom's fish tank.
D The population of Fish G in Tom's fish tank decreases as the days go by.

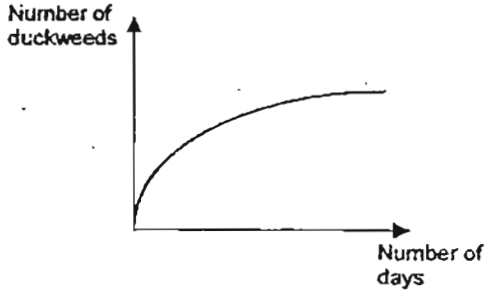
(1) A only
(2) A and C only
(3) A and D only
(4) A, C and D only

22. Ducks feed on duckweeds. Which of the following graph shows the possible change in the population of duckweeds after a family of ducks is introduced to a pond where duckweeds are grown?

(1)



(2)



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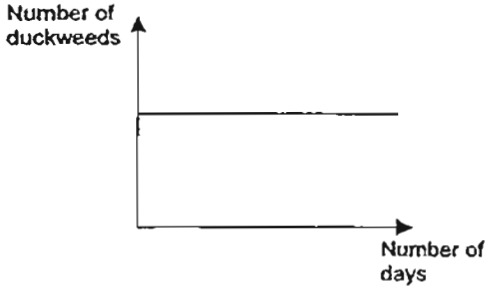

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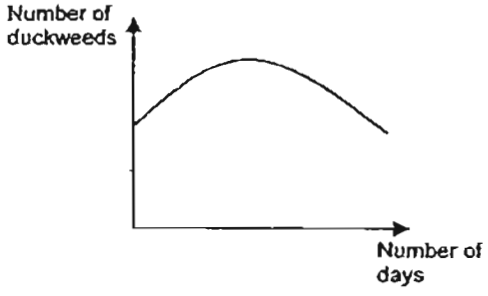
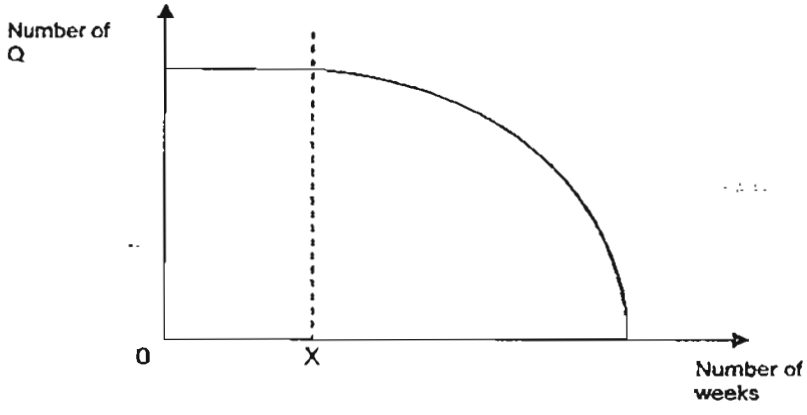


23. The graph below shows the changes in the population size of Organism Q in a pond. At point X, the population of Q started decreasing.



Which of the following could be the reason that caused the decrease in the number of Organism Q in the pond?

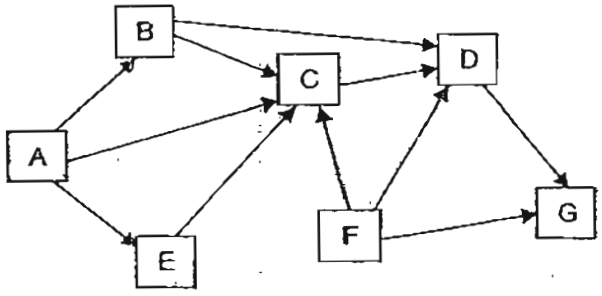
(1) A deadly bacterium infected the water in the pond.
(2) There is an increase in the amount of rainfall in the region.
(3) There is an increase in the prey of Organism Q in the pond.
(4) There is a decrease in the predators of Organism Q in the pond.

24. Study the information given in the box below and identify the correct order of organisms in the food chain.

- C is a storage stem
- B helps to control the number of D
- When the number of A increases, the number of B will decrease

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

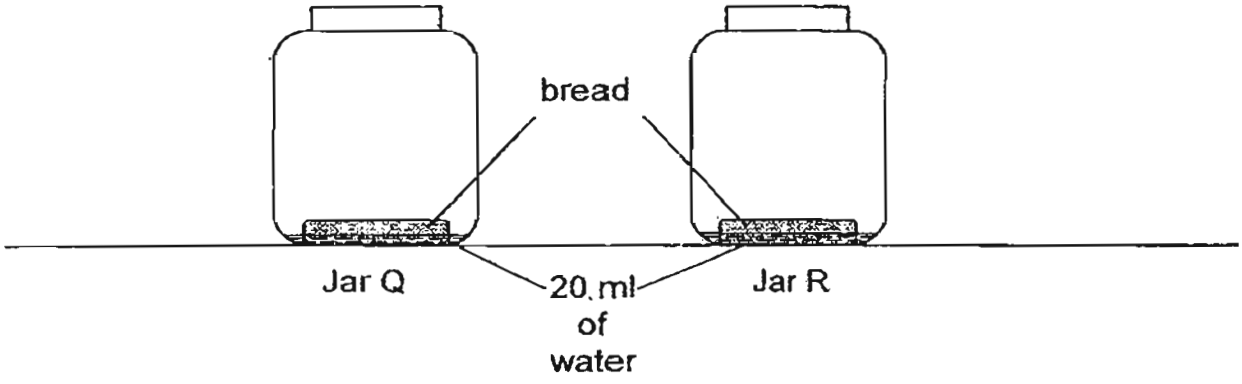
25. Study the food web below.



Based on the food web above, which of the following is incorrect?

(1) D is a carnivore
(2) B is a ~~food producer~~ herbivore
(3) C is a prey and predator
(4) G feeds on both plants and animals

26. Bala conducted a study to find out how temperature affects the rate of decomposition. He set up the experiment below.



The set-ups were set aside in different locations for 3 days. He recorded the results of the experiment in the table below.

Jar	Temperature	Amount of carbon dioxide in jar			
		At the start of experiment	At the end of Day 1	At the end of Day 2	At the end of Day 3
Q	T1	400cm^3	445 cm^3	550 cm^3	750 cm^3
R	T2	400 cm^3	410 cm^3	450 cm^3	510 cm^3

What could he infer based on the data in the table above?

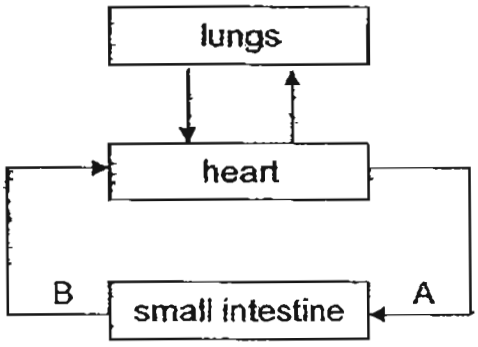
A The temperature T1 was higher than T2.

B Only the bread in Jar Q was decomposing.

C The bread in Jar Q was decomposing at a faster rate than the bread in Jar R.

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

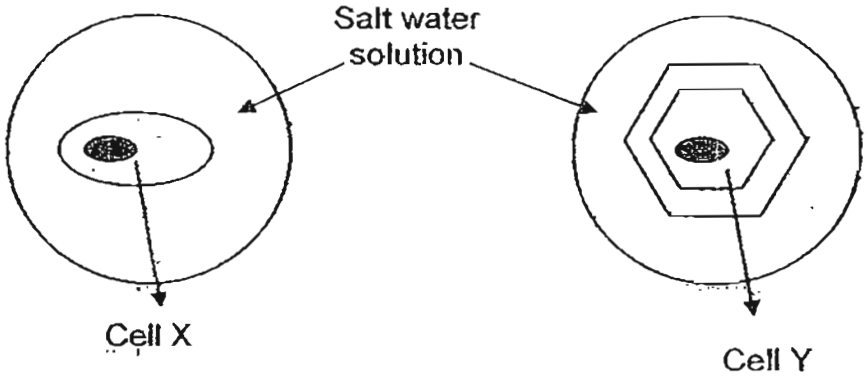
27. The diagram below shows how blood flows in certain parts of the body a few hours after a meal.



When compared to the blood in A, the blood in B has _____.

(1) less oxygen and less digested food.
(2) less oxygen and more digested food.
(3) more oxygen and less digested food.
(4) more oxygen and more digested food.

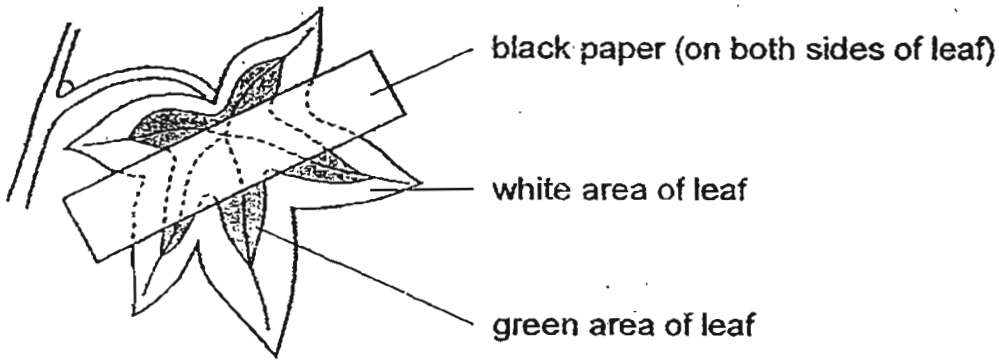
28. Mabel placed 2 cells in a salt water solution. After some time Cell X swelled up and burst but Cell Y remains the same.



What is the possible reason why Cell Y did not shrivel up like Cell X?

(1) Cell Y has a nucleus which controls the movement of substances in the cell.
(2) Cell Y has chloroplast that prevents the salt solution from entering the cell.
(3) Cell Y has a cell wall that kept its shape and prevented the cell from swelling up.
(4) Cell Y has a semi-permeable membrane that prevents the salt solution from entering.

29. A geranium plant has leaves that are green in the centre and white around the edges. The plant is left in a dark room for 3 days and one of its leaves was partly covered with black paper on both sides of the leaf as shown below.



The plant is then placed in bright light for 48 hours and the leaf is tested for starch. Which of the following diagrams correctly show the area(s) that contain starch?

(A)

(B)

(C)

(D)

KEY:

Starch present

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

30. When starch is mixed with saliva, it is broken down into sugar.
Tom wanted to find out if the temperature of the mixture, starch and saliva, would affect the rate at which the starch was broken down into sugar.
He prepared 6 setups, **A**, **B**, **C**, **D**, **E** and **F** as follows.

Setup	Amount of starch (ml)	Amount of saliva (ml)	Temperature of mixture (°C)
A	20	35	40
B	25	30	35
C	20	30	40
D	25	35	35
E	25	30	40
F	25	30	35

Which 2 setups should Tom use in his investigation?

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

NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2011
PRIMARY 6

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

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

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

Section B		/40

Name: _____ ( ) **Class: P 6** _____

Date : 12 May 2011 **Parent's Signature:** _____

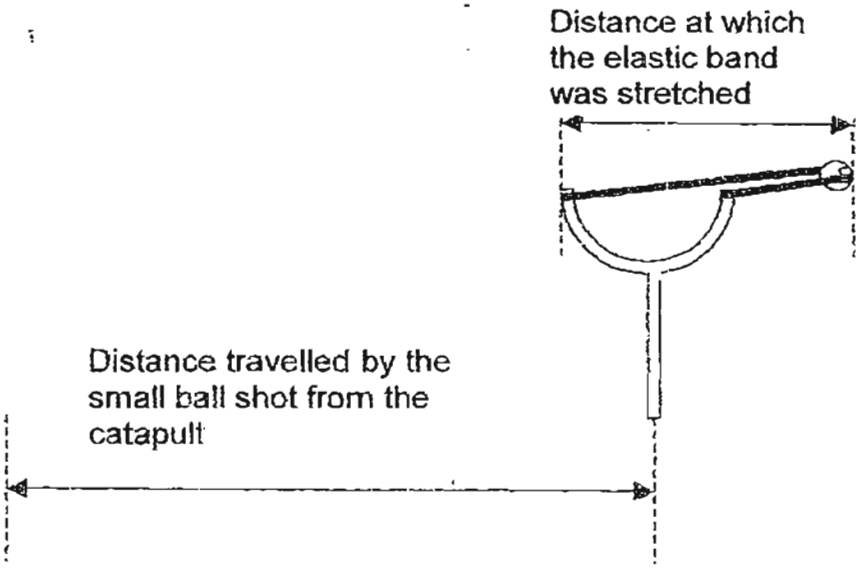
Section B: (40marks)
Write your answers to question 31 to 44.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Write down 'push' or 'pull' in the table below to describe the force used for the following actions. [2]

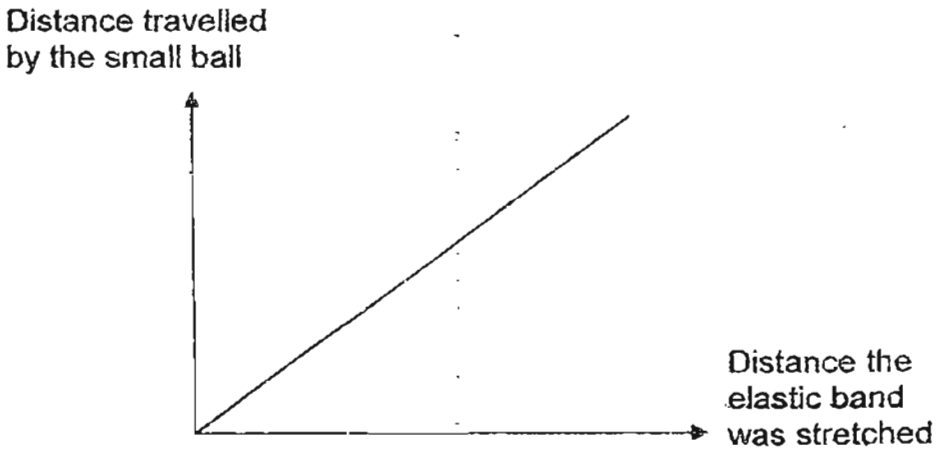
	Action	Force
(a)	Stretching a piece of rubber band	
(b)	Pressing a button on the lift	
(c)	Squeezing a sponge	
(d)	Kicking a ball	

Score	
	2

32. Thomas carried out an experiment to investigate the energy possessed by the elastic band of a catapult when it was stretched. He measured the distance the elastic band that was stretched and the distance travelled by the small ball shot out from the catapult.



He repeated the process several times by stretching the elastic band to different distances. He presented the results obtained in the form of the graph as shown.



(a) What energy was possessed by the elastic band when it was stretched? [1]

_____

(b) Based on the experiment, what is the relationship between the distance the elastic band was stretched and the distance travelled by the small ball shot from the catapult? [1]

_____

_____

Score	2

33. Ali wanted to conduct an experiment to find out if woodlice prefer to live in bright or dark areas.

He gathered the following materials for the experiment:

- A 50cm(L) by 15cm(B) by 2cm (H) box
- A piece of black cloth
- Soil
- 20 woodlice
- Decaying leaves
- A beaker with 250ml of water

(a) Identify the independent variable and dependent variable respectively. [1]

(i) Independent variable: _____

(ii) Dependent variable: _____

(b) Write down the steps he should take to conduct the experiment clearly in the box below. [4]

Steps:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Score	/ 5

34. Wayne recently set up a pond in his garden. He bought some cabomba, which are fully submerged plants, and 50 guppies and added them to his pond. After a few weeks, both populations of organisms were thriving in the pond.

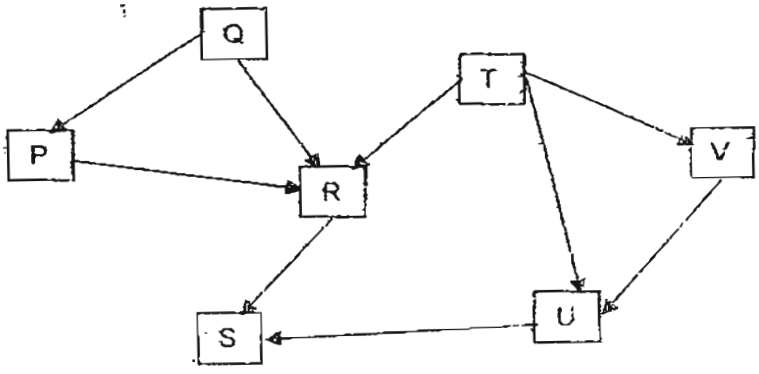
(a) One month later, he added some duckweeds in the pond. A few weeks later, he observed that the population of duckweeds was multiplying at a rapid rate. Following that, the population of cabomba decreased.

Give the reason for his observations on cabomba. [2]

(b) What can he do to ensure that the cabomba will start to flourish in his pond again without removing the duckweed? [1]

Score	
	3

35. Study the food web below carefully.



(a) How many food chains can be formed from the food web above? [1]

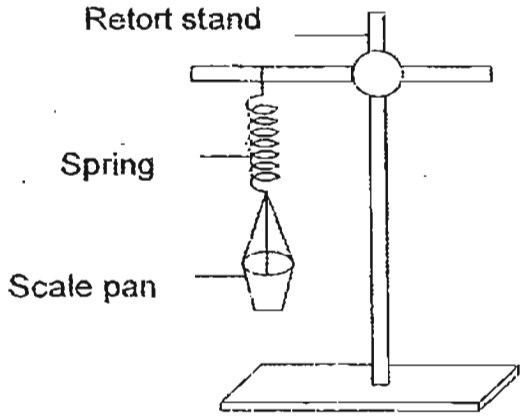
_____

(b) Based on the food web above, identify the organism(s) that is/are both a predator and prey. [1]

_____

Score	2

36. John wanted to find out if the weight of an object will affect the extension of the spring. He placed objects of different weights in the scale pan and measured the extension of the spring caused by the objects.



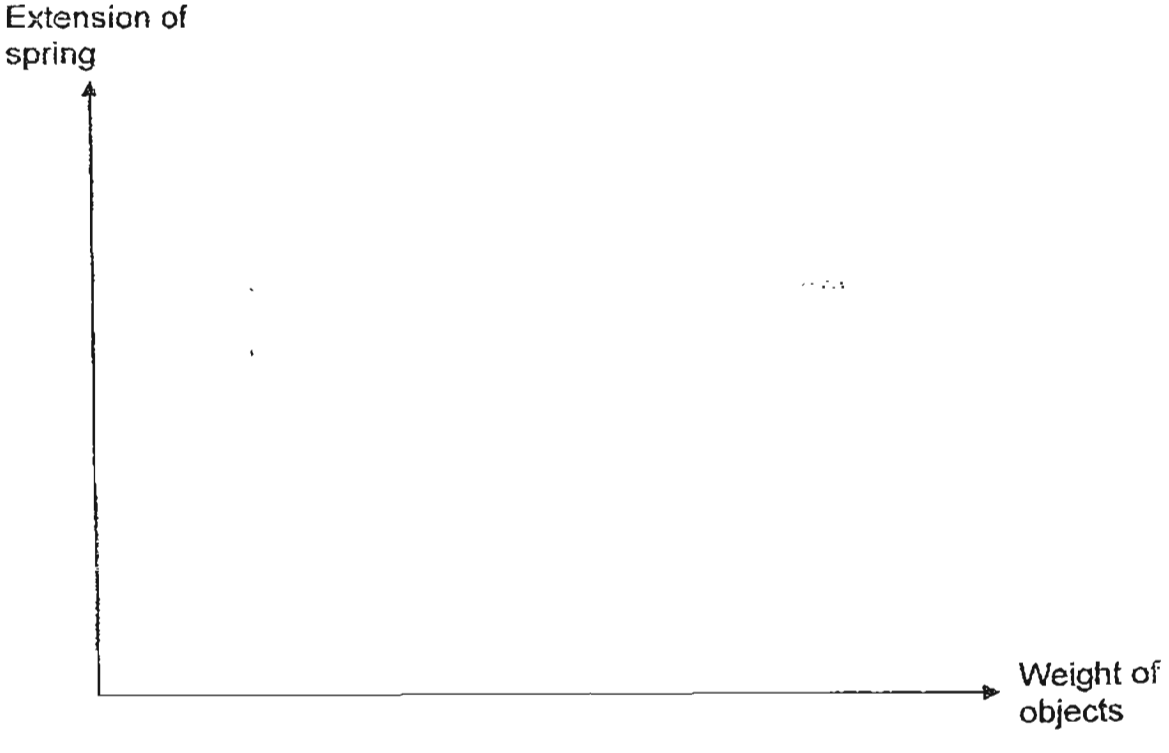
(a) Name the independent variable in this experiment. [1]

_____

(b) Name a variable that must be kept the same in the experiment. [1]

_____

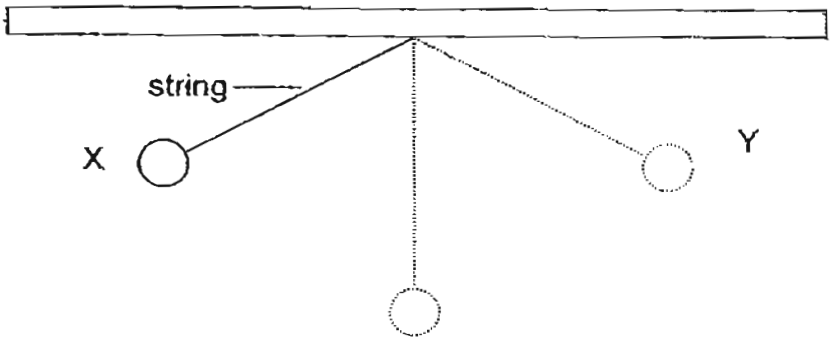
(c) **Draw a line graph** below to show the extension of the spring as they add more weights into the scale pan. [2]



Score	4

37. Sally wanted to conduct an experiment to find out how long it would take for a pendulum to swing from X to Y and back to X again. She repeated the experiment with strings of different lengths and bobs of different masses.

The table below shows the results of her experiment.



Length of string (cm)	Average time taken to complete 10 swings (seconds)		
	50g bob	150g bob	200g bob
30	12.6	12.4	12.5
60	16.7	16.6	16.3
100	21.5	21.7	21.7
130	24.3	24.2	24.5

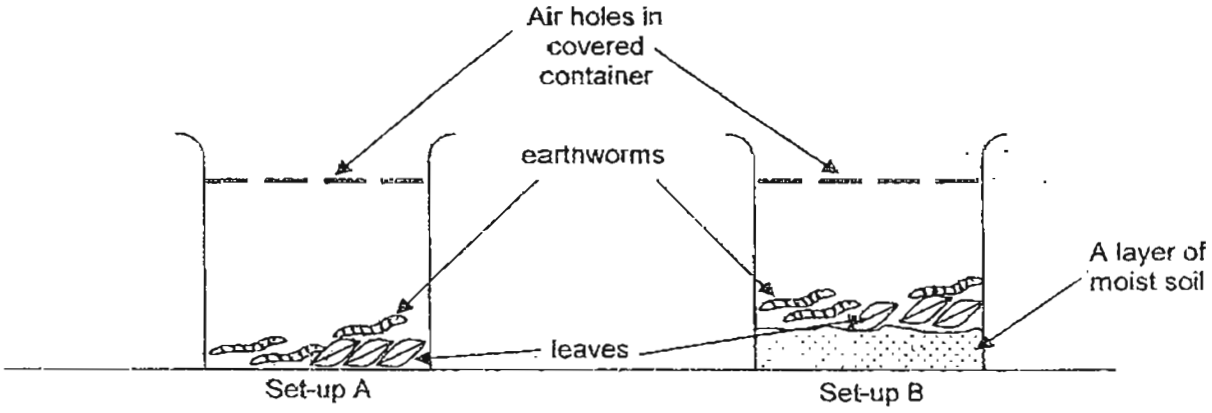
(a) Based on the data above, what is the relationship between the length of the string of the pendulum and the time taken to complete 10 swings? [2]

(b) What should she do to ensure that the pendulum completes10 swings in less than 12.4 seconds? [1]

Score	
	3

38. James is interested to find out how the temperature of the surroundings affects the organisms living in a habitat. Earthworms breathe through their skin. Their skin needs to be kept moist at all times to allow the earthworms to take in dissolved oxygen in order to survive.

He prepared 2 set-ups as shown in the diagram below in his garden.



He placed Set-up A under a tree.
He placed Set-up B under direct sunlight.

After 3 days, the earthworms under direct sunlight died.

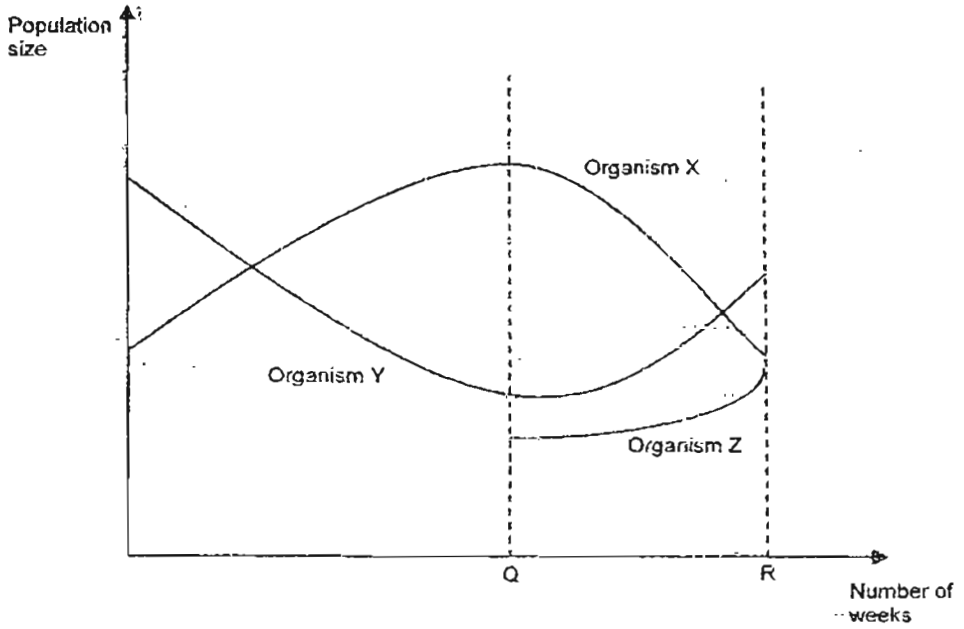
Upon looking at the experimental results, James said, "The earthworms died because the temperature is too high."

James' friend, Susan, said, "It is not a fair experiment."

Do you agree with Susan? Explain your answer clearly. [2]

Score	
	2

39. The chart below shows the population size of 3 organisms living on a grassland. Organism X feeds on Organism Y.



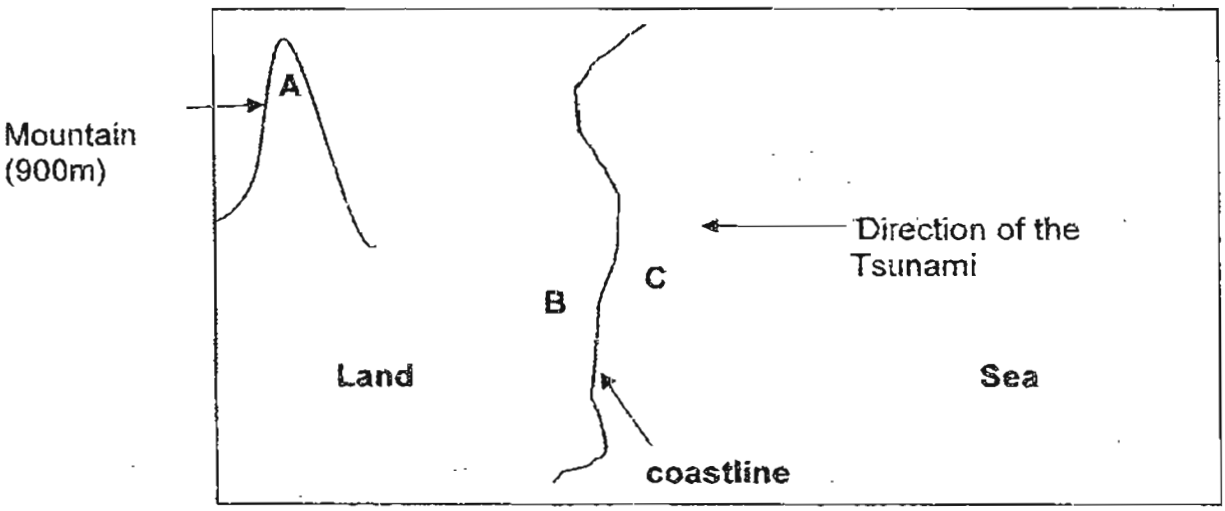
(a) At point Q, some Organism Z was introduced to the grassland. Explain clearly how the population of Organism X is affected by the introduction of Organisam Z. [1]

(b) A poaching activity on Organism Z started in that area from Point R onwards. How would this poaching activity affect the population of the organisms in the habitat? [2]

Score	3

40. Recently, an underwater earthquake erupted in the eastern part of Japan and gave rise to a Tsunami which destroyed many coastal towns along the eastern coast of Japan.

A Tsunami is a giant wave that is produced by underwater activities such as an earthquake or a volcanic eruption. The series of giant waves arises when a large volume of water is displaced by the disturbances. The height of the waves further increases once the waves reach the shallower shoreline.

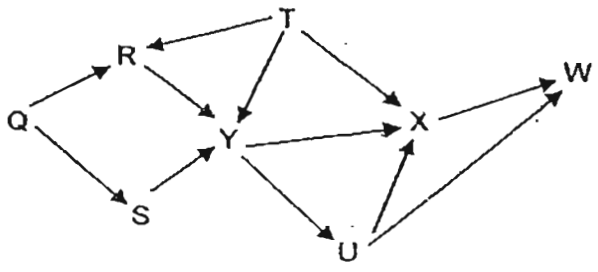


(a) Organism A, B and C live in the regions indicated in the diagram above. Which organism(s), A, B or C, is/are most likely to be affected by the Tsunami? [1]

(b) Explain your answer in part (a) clearly. [3]

Score	/ 4

41. Study the food web below carefully.

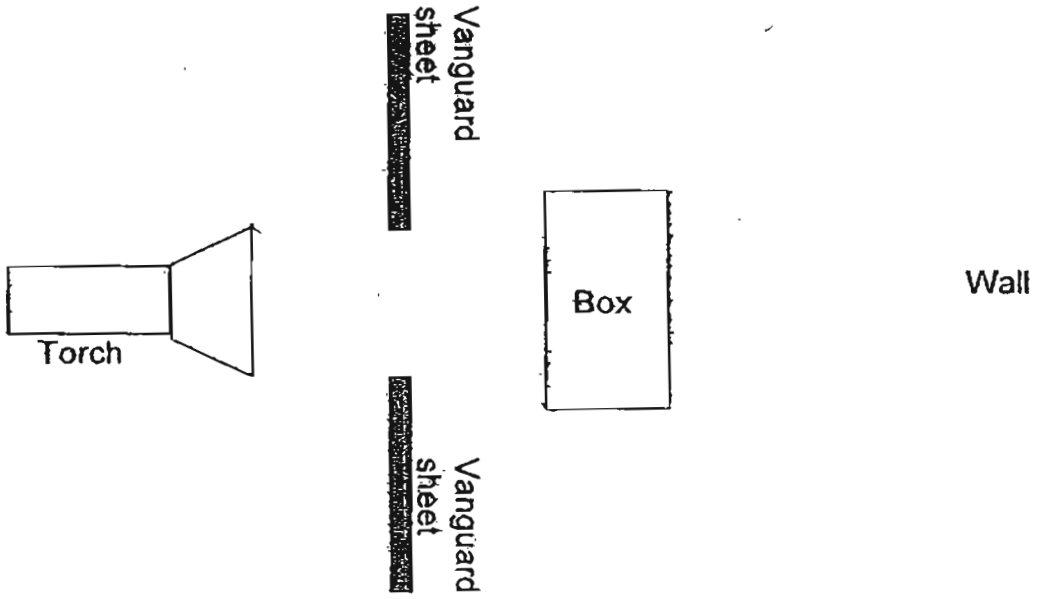


In the table below, classify the organisms according to the different sub-headings provided. [2]

Food producers	Food consumers		
	Herbivore	Omnivore	Carnivore

Score	2

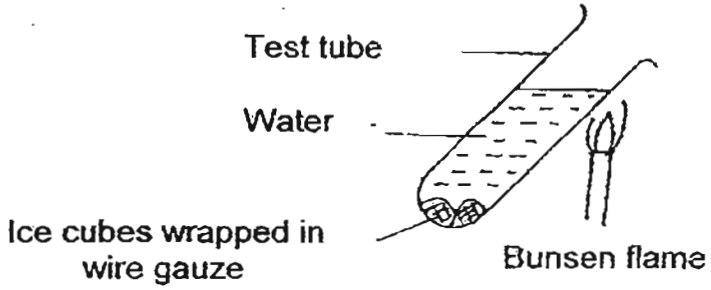
42. Ali shone his torch through a gap of a vanguard sheet as shown in the diagram below. He placed a box behind the vanguard sheets as shown in the diagram below with the aim to create a shadow on the wall.



In the diagram above, **mark 2 'X'** on the wall to indicate the height of the shadow. [2]

Score	2

43. Study the experiment shown below.



(a) Why were the ice cubes wrapped in wire gauze? [1]

_____

_____

When the water near the top started boiling, the ice cubes did not melt.

(b) What does this experiment tell you about water? [1]

_____

_____

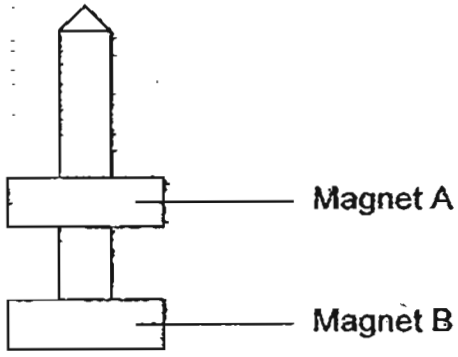
(c) Explain why the ice cubes did not melt. [1]

_____

_____

Score	3

44. Andy placed 2 ring magnets through a pencil as shown in the diagram below .



He observed that Magnet A was floating above Magnet B.

(a) What caused Magnet A to float above Magnet B? [1]

_____

_____

Andy then added another ring magnet, Magnet C, resting on top of Magnet A.

(b) What would he observe now? Explain your answer clearly. [2]

_____

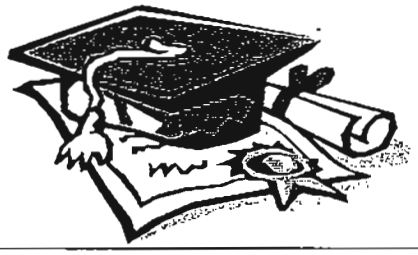
_____

_____

_____

Score	3

End of Paper



ANSWER SHEET

EXAM PAPER 2011

SCHOOL : NAN HUA PRIMARY
SUBJECT : PRIMARY 6 SCIENCE

TERM : SA1

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

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

31)a)pull b)push c)push d)push

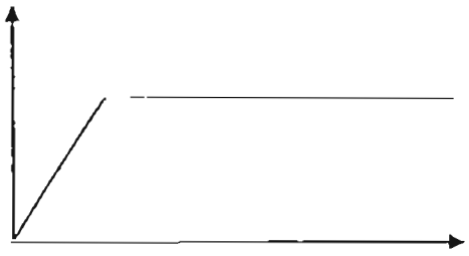
32)a)The elastic band possesses elastic potential energy.
b)The greater the distance the elastic band was stretched, the longer the distance travelled by the small ball shot from the catapult.

33)a)i)The presence of light/ The amount of light presence in each region.
ii)The number of woodlice.
b)1)Put the decaying leaves and soil into the box.
2)pour some water into the box.
3)Cover half of the box with the piece of block cloth.
4)Place the 20 woodlice n the middle of the box.
5)Put the box directly under the sun.
6)Count the number of woodlice on each side.
7)The side with the most number of woodlice is the condition that the woodlice prefer.

34)a)As the number of duckweeds increase, they will cover the surface of the water and block the sunlight passing through the water. Without sunlight the cabomba cannot photosynthesise and some of them die due to lack of food.
b)He could introduce organisms/ ducks which feed on duckweed and not cabomba so that the population of the duckweed can be controlled.

35)a)5 food chains.
b)Organisms R and U.

36)a)The weight of the object.
b)The spring used
c)



37)a)The longer the string, the longer the time taken to complete 10 swings.
b)Use a string that is shorter than 30cm.

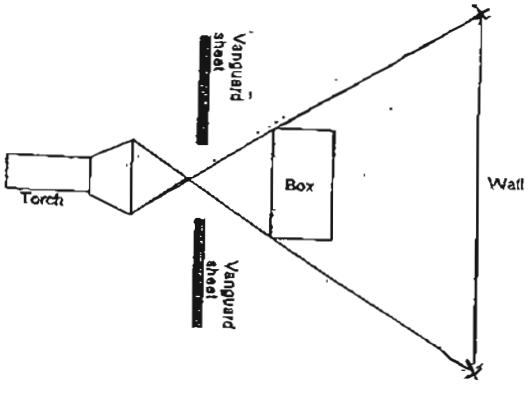
38)The results are not accurate as there are 2 variables that have been changed in the experiment in this experiment, the variable to be changed should be the temperature of the surrounding of the set-ups. He should have included a layer of moist soil in set-up A. Other wise, it was affect the results of the experiment.

39)a)The number of organisms X decreased as organism Z preyed on them.
b)When the number of organism Z decreases, organism X will increase as there is fewer predators to control their population. On the other hand organism Y will decrease as organism X reproduced in large numbers and began feeding a lot on Y.

40)a)Organisms B and C.
b)Organism B live near the shoreline and it would be drowned by the incoming tsunami. Organism C live in the sea near the shoreline and so could have suffocated when the tsunami receded. Organism A lives on top of the tall mountain and thus the waves of the tsunami will not reach or harm it.

41)Q,T R,S X,Y W,u

42)



43)a)The wire gauze prevents the ice cube from floating to the water surface.

b)Water is a poor conductor of heat.

c)Water is a poor conductor of heat. The water near the heated surface would gain heat and boiled first. The heat gained by the water at the top of the test tube will take a long time to travel through the water to reach the ice, hence, the ice remained in tact without melting for a long time even though the water at the top started to boil.

44)a)The like poles of magnet A and B are facing each other, therefore causing them to repel each other.

b)The distance between A and B will be shorter with the additional mass of magnet C, there will be a greater gravitational force acting on magnet(thus lowering the distance between magnet A and B)but the magnetic force of repulsion remains the same.