



PRIMARY 6 SEMESTRAL ASSESSMENT 2
EXAMINATION 2013

Name : _____ () Date : 25 July 2013

Class : Primary 6 ()

Time : 8.00 a.m. to 9.00 a.m.

Parent's Signature : _____

Marks : _____ / 50

SCIENCE

BOOKLET A



INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

Do not turn over this page until you are told to do so.

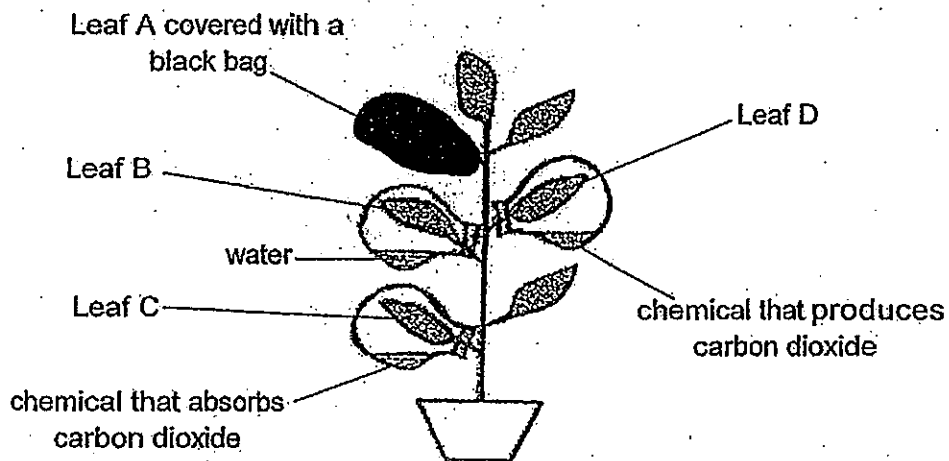
Follow all instructions carefully.

Answer all questions.

Section A (15 x 2 marks)

For each question, 1 to 15, four options are given. One of them is the correct answer. Shade your choice, (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Victoria placed the following set-up in a field under the sun for six hours.



She then dripped some iodine on Leaf A, Leaf B, Leaf C and Leaf D. Which of the following leaves would turn the iodine dark blue?

- 1) Leaf A and Leaf B
 - 2) Leaf A and Leaf C
 - 3) Leaf B and Leaf D
 - 4) Leaf C and Leaf D
2. When the weather becomes very hot and dry, forest fires can occur. Which of the following is an immediate harmful effect of forest fires on the health of human beings?
- 1) More heat is in the environment.
 - 2) More carbon dioxide is in the environment.
 - 3) More smoke particles are in the environment.
 - 4) More oxygen from the environment is used up.

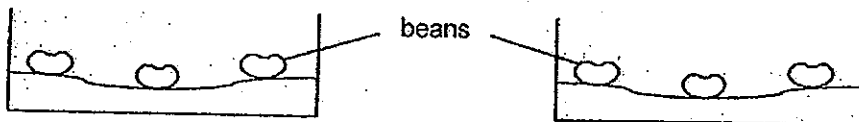
3. Study the food chain below.

A → B → C → D → E

Which of the following is true?

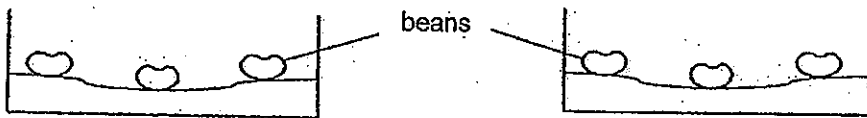
- 1) C preys on D.
- 2) E is a food producer.
- 3) B is the predator of A.
- 4) D is both a prey and predator.

4. Nicholas placed 3 similar beans in each of the different containers as shown in the set-ups below.



Set-up A
Temperature at 16°C
Moist Cotton Wool
Put in the dark

Set-up B
Temperature at 16°C
Dry Cotton Wool
Put under light



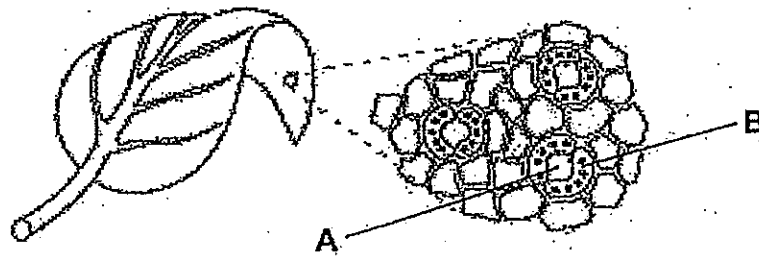
Set-up C
Temperature at 30°C
Moist Cotton Wool
Put in the dark.

Set-up D
Temperature at 30°C
Moist Cotton Wool
Put under light

Which two set-ups should Nicholas use to find out if light is needed for the beans to germinate?

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

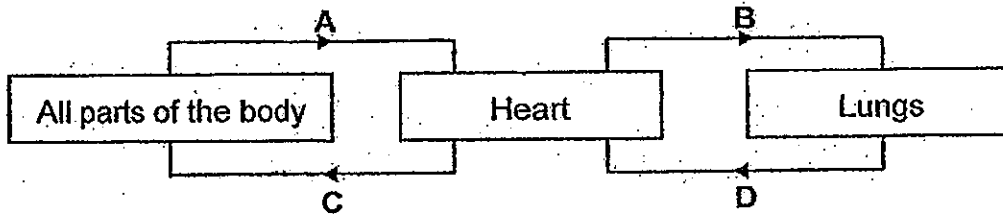
5. A magnified picture of the surface of a leaf is shown below during respiration.



Which of the following matches correctly the function of Part A and Part B?

	Part A	Part B
1)	To take in oxygen	To control the size of Part A
2)	To take in water	To give out oxygen
3)	To take in carbon dioxide	To release water vapour
4)	To take in sunlight	To make food for the leaf

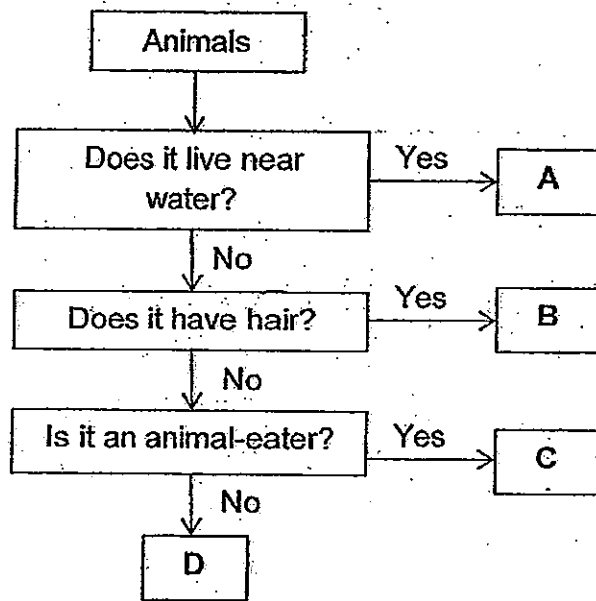
6. A, B, C and D represent the blood flowing in different blood vessels of the human body. The arrows represent the direction of blood flow.



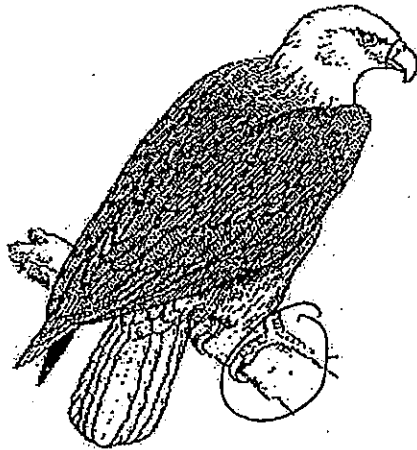
Which of the following is correct?

- 1) The blood in A contains more oxygen than the blood in C.
- 2) The blood in B contains less oxygen than the blood in A.
- 3) The blood in C contains more oxygen than the blood in D.
- 4) The blood in D contains less oxygen than the blood in B.

7. Study the flowchart below.

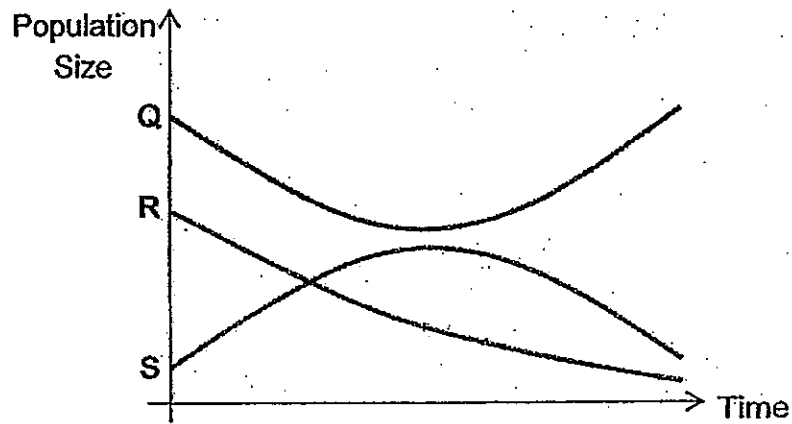


Which part of the flowchart would the following animal belong to?



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

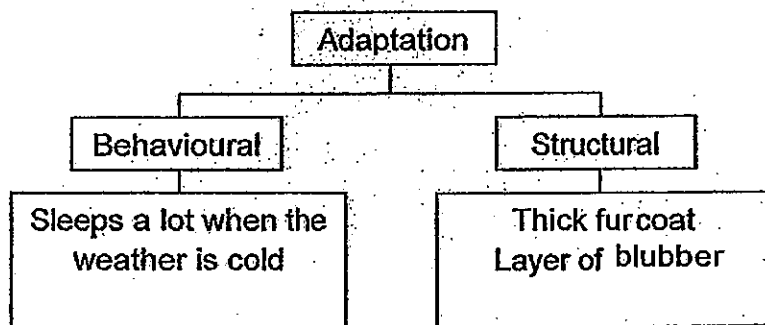
8. Study the graph below.



Which of the following is true?

- 1) R is a prey of S.
- 2) Q is a prey of R.
- 3) R is a predator of S.
- 4) S is a food producer.

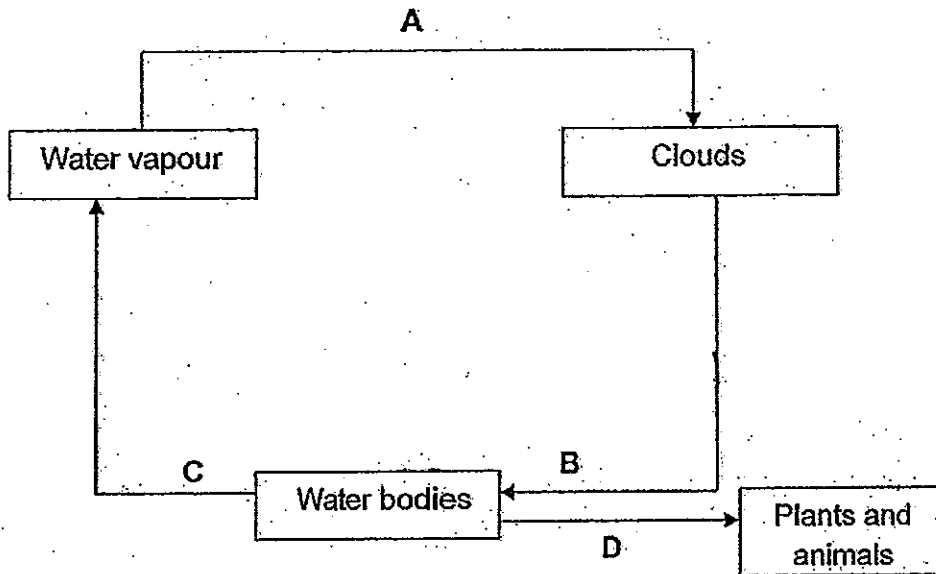
9. Study the classification chart below.



Which of the following environments best matches the organism's adaptations as mentioned above?

- 1) Arctic
- 2) Forest
- 3) Desert
- 4) Swamp

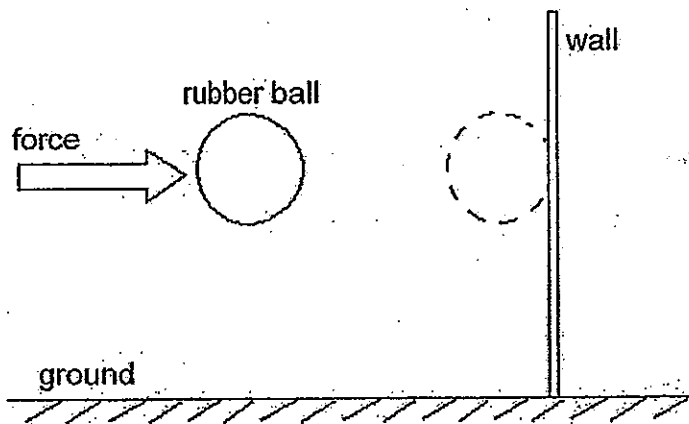
10. The diagram below shows part of the water cycle.



Which of the following shows the correct change in state of water?

	A	B	C	D
1)	Gas to liquid	No change	Liquid to gas	Liquid to gas
2)	No change	Gas to liquid	No change	Liquid to gas
3)	No change	Gas to liquid	Liquid to gas	No change
4)	Gas to liquid	No change	Liquid to gas	No change

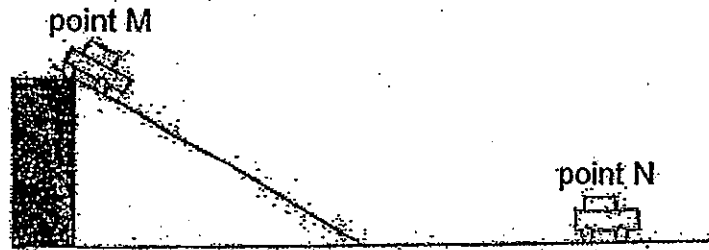
11 A rubber ball is thrown and it hits the wall as shown below.



What happens to the ball after it hits the wall?

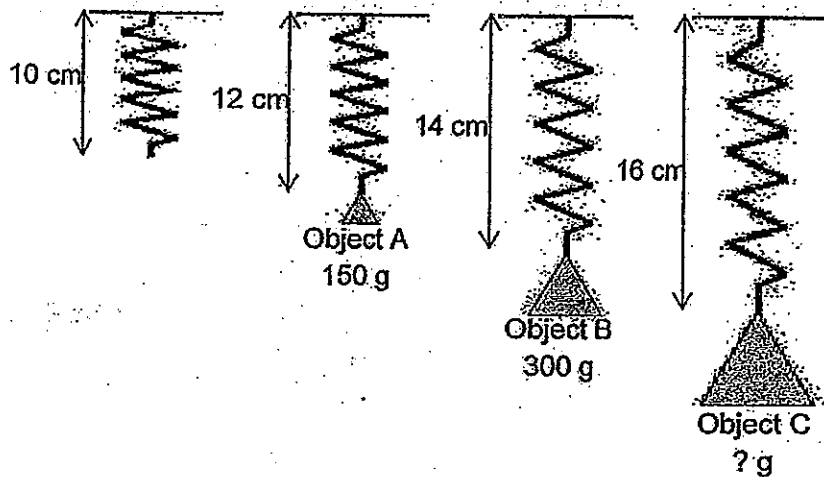
- 1) The ball moves faster in the same direction as the force.
- 2) The ball moves slower in the same direction as the force.
- 3) The ball moves faster in the opposite direction of the force.
- 4) The ball moves slower in the opposite direction of the force.

12. A toy car was released at the top of a ramp at point M and came to a stop at point N as shown below.



Which of the following shows the correct energy conversion of the car?

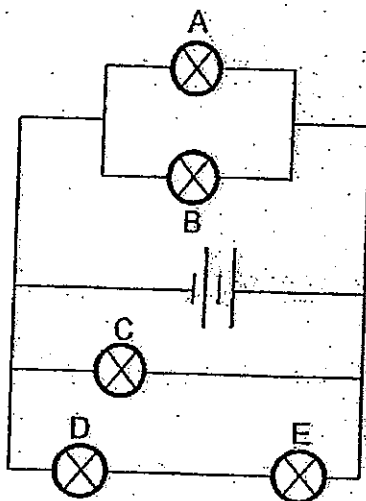
- 1) Kinetic energy \rightarrow gravitational potential energy \rightarrow sound energy + heat energy.
 - 2) Gravitational potential energy \rightarrow kinetic energy \rightarrow sound energy \rightarrow heat energy.
 - 3) Gravitational potential energy \rightarrow kinetic energy \rightarrow sound energy + heat energy.
 - 4) Gravitational potential energy \rightarrow kinetic energy \rightarrow sound energy + light energy.
13. Cecilia hung 3 objects of different masses on a spring and measured the extension as shown below.



Predict the mass of Object C.

- 1) 450 g
- 2) 600 g
- 3) 750 g
- 4) 900 g

14. A circuit is shown below.



Which of the following statements is true about the circuit?

- 1) Bulb A is as bright as Bulb E.
- 2) Bulb B is as bright as Bulb C.
- 3) When Bulb B is removed, Bulb C will not light up.
- 4) When Bulb D is removed, Bulb A will not light up.

15. The melting point and boiling point of three substances are shown in the table below.

Substance	Melting Point ($^{\circ}\text{C}$)	Boiling Point ($^{\circ}\text{C}$)
A	-10	48
B	23	100
C	137	333

Which of the following observation about the three substances' state is correct when the temperature of the substances is 50°C ?

	Substance A	Substance B	Substance C
1)	Solid	Liquid	Gas
2)	Solid	Gas	Liquid
3)	Gas	Solid	Gas
4)	Gas	Liquid	Solid

End of Booklet A



PRIMARY 6 SEMESTRAL ASSESSMENT 2
EXAMINATION 2013

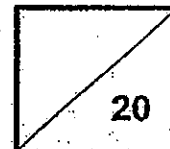
Name : _____ () Date : 25 July 2013

Class : Primary 6 () Time : 8.00 a.m. to 9.00 a.m.

Parent's Signature : _____

SCIENCE

BOOKLET B



INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

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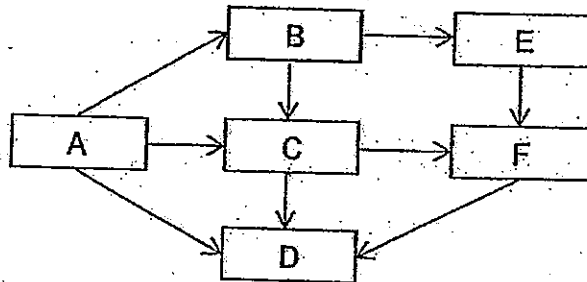
Follow all instructions carefully.

Answer all questions.

Section B (20 marks)

For the questions, 16 to 22, write your answers in the spaces provided.

16. Study the food web below.



(a) Give two food chains with four organisms.

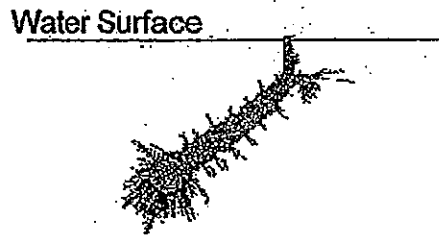
[1]

_____ → _____ → _____ → _____

_____ → _____ → _____ → _____

(b) What will happen to the population size of Organism C if Organism D is removed? Explain your answer. [1]

17. The picture below shows the larva of a mosquito.

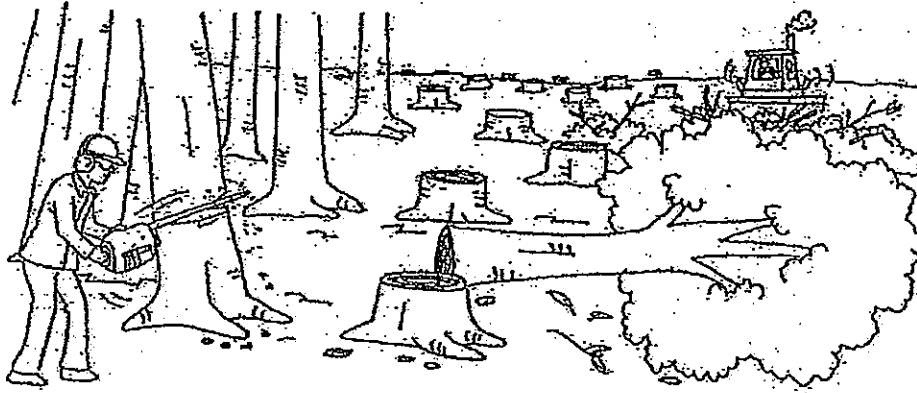


(a) Identify and label, in the picture above, the part that enables the larva to obtain air from the environment. [1]

(b) One method of killing the larva is by adding a layer of oil over the water surface. Explain how the layer of oil kills the larva. [1]

(c) The mosquito lays many eggs at a time. Give a reason how this adaptation benefits the mosquito. [1]

18. Study the picture below.



(a) Identify the process shown in the picture.

[1]

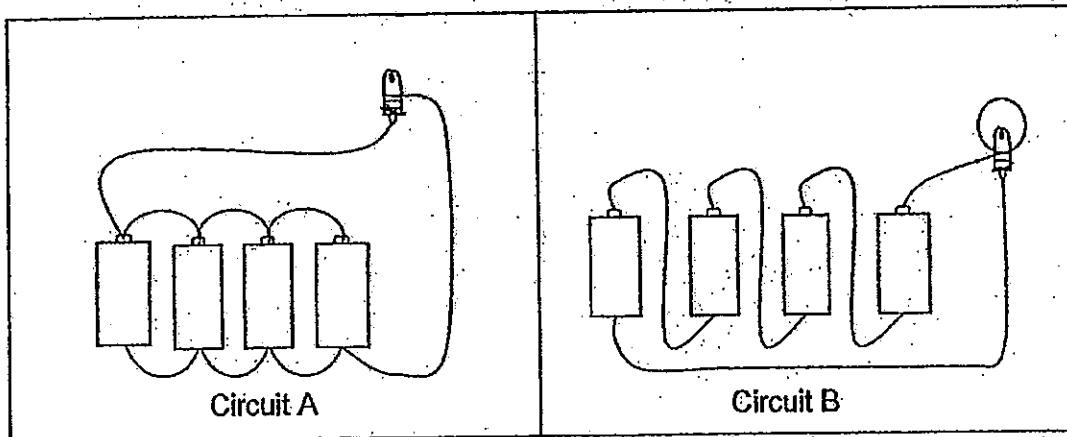
(b) Explain how this process contributes to global warming.

[2]

(c) Other than global warming, give another harmful effect of this process.

[1]

19. Study the two electrical circuits below.

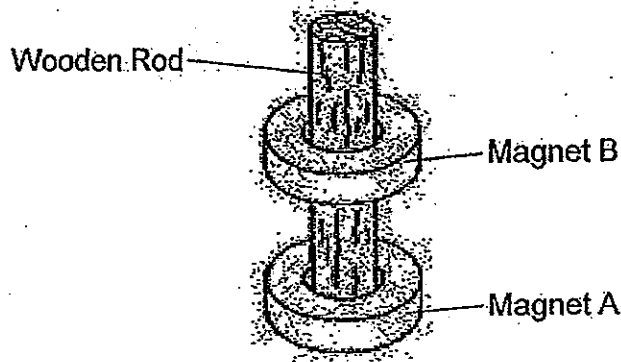


(a) In which circuit would the lit bulb be brighter? Give a reason for your answer. [2]

(b) Draw the circuit diagram of Circuit B, in the space below, with a switch that allows the bulb to be switched on or off. [1]

A large empty rectangular box provided for drawing the circuit diagram of Circuit B, including a switch.

20. Study the following picture.



(a) Explain why Magnet B is floating above Magnet A.

[1]

The picture below shows a Maglev train where both the train and the track contain powerful electromagnets allowing the train to float above the track. The Maglev train has no wheels and can travel faster than trains with wheels.



(b) Give a reason why the Maglev train can travel faster than trains with wheels. [1]

(c) Name the forces that are acting on the moving Maglev train.

[1]

21. Jonathan dropped an iron ball onto a steel plate. He measured the depth of the dent in the steel plate and recorded his data in the table below. He repeated his experiment with two other iron balls of different masses while keeping all other variables constant.

Mass of the iron ball (kg)	Depth of the dent (mm)
1	12
2	19
3	28

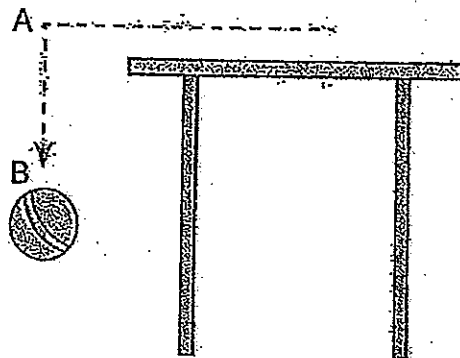
- (a) State the relationship between the mass of the iron ball and the depth of the dent. [1]

- (b) A data-logger with a sound sensor is used to measure how loud each iron ball makes when it lands. The data-logger can only measure a maximum of 50 units of sound. Only the data for the 1kg iron ball is shown in the table below. Fill in the table correctly. [1]

Mass of the iron ball (kg)	Sound (unit)
1	18
2	
3	

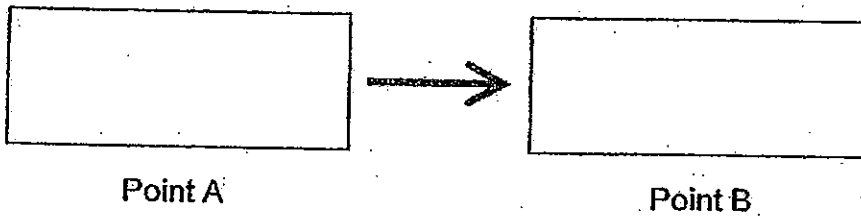
- (c) Explain your answer in (b). [1]

22. A ball is rolled off the table as shown in the picture below.



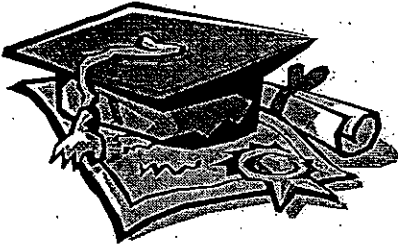
(a) State the energy conversion of the ball from Point A to Point B.

[1]



(b) After the ball comes into contact with the ground, it bounces a few times, rolls and comes to a stop. Explain why this happens.





ANSWER SHEET

EXAM PAPER 2013

SCHOOL : TAO NAN

SUBJECT : PRIMARY 6 SCIENCE

TERM : SA2

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

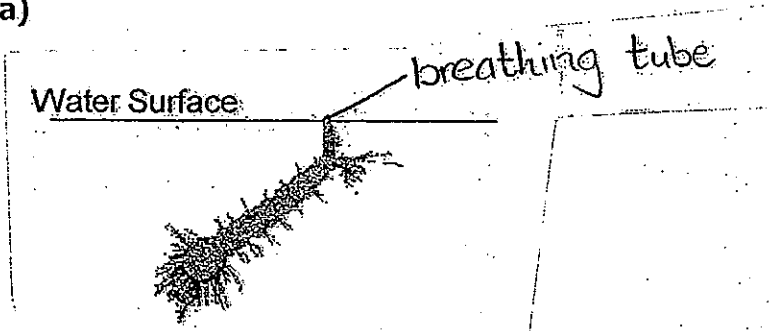
16)a) A → C → F → D

A → B → C → D

b) Increase. Organism C has fewer predators as Organism D feeds on Organism C.

Organism C has less competition for food as Organism D also feeds on Organism A.

17)a)



b) The oil has prevented atmospheric air from entering the breathing tube. The larva does not have oxygen to respire.

c) At least some eggs will hatch.

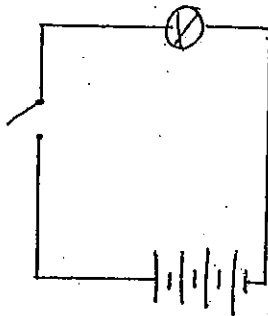
18)a) Deforestation.

b) Fewer trees take in carbon dioxide during photosynthesis. There is more carbon dioxide present in the atmosphere than previously. Hence more heat is trapped.

c) Mudslides will occur and may flow into rivers resulting in water pollution.

19)a) Circuit B. The batteries in B are arranged in series while the batteries in A are arranged in parallel. When batteries are arranged in series there will be more electric current flowing through the circuit to the bulb, hence the bulb in B will be brighter.

b)



20)a) The like poles of Magnet B and Magnet A are facing each other, the magnetic force of repulsion between the two magnets is strong enough to overcome gravity, hence B is floating above A.

b) The bottom of the train is not in contact with the track. Hence there is no friction between the bottom of the train and track.

c) Gravity, Friction, Magnetic Force of repulsion.

21)a) The greater the mass of the iron ball, the lower the depth of the dent.

b) As the mass of the iron increases, the amount of gravitational potential energy in the ball increases. It is converted into more kinetic energy when the ball is dropped. It is converted to more sound energy when the ball hits the steel plate.

22)a) Gravitational Potential energy \rightarrow Kinetic energy

b) All kinetic energy has been converted into sound energy and heat energy.