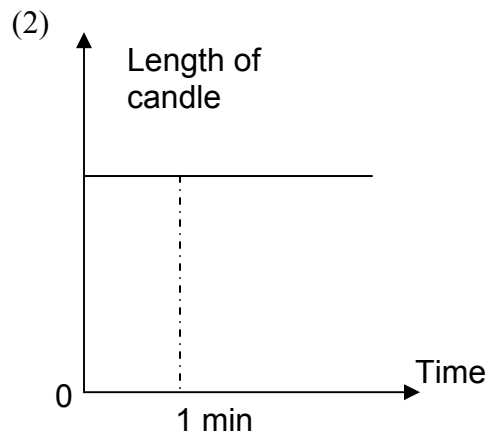
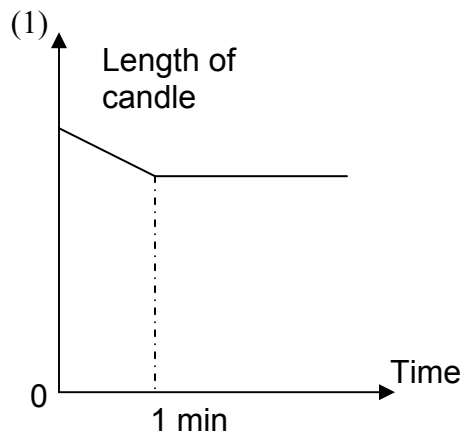
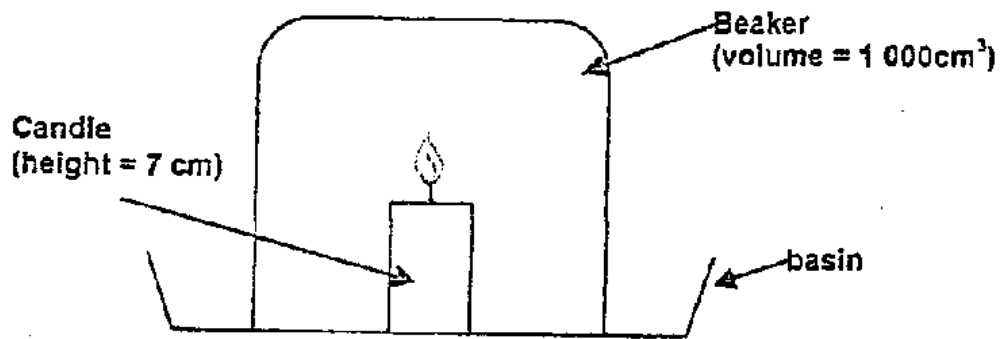


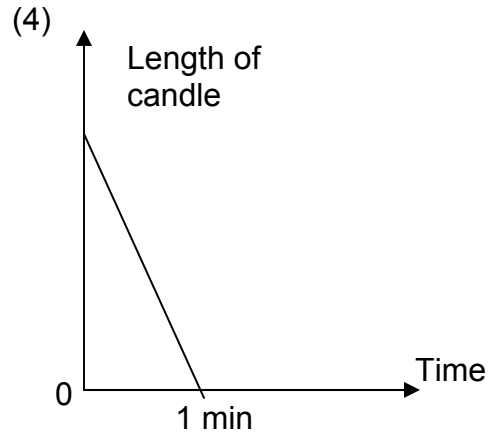
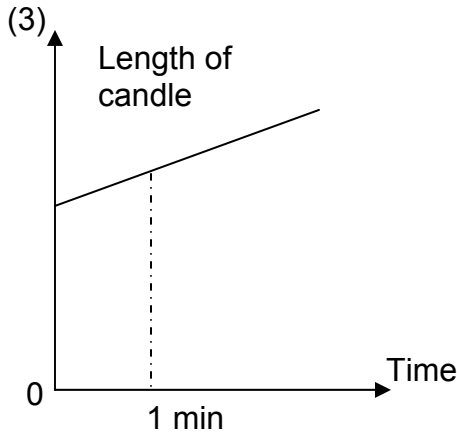
**Primary Five  
Science  
Semestral Assessment Two**

**Section A**

For each question from 1 to 30, four options are given. One of them is correct. Make your choice (1, 2, 3 or 4) and write your answer in the boxes provided.

1. Linda set up the experiment below and plotted the results on a graph showing the length of the candle through time. Which of the following graphs shows a correct representation of the results?






2. Lynn used weights to stretch four 3-cm long elastic bands made of different materials. The extension of the elastic bands were measured and recorded in the table below.

Weights	Length of extension (cm)				
	50g	70g	100g	125g	150g
Composition of elastic band					
Material A – 100%	5.5	10.5	14	-	-
Material A – 70% Material B – 30%	5	9.5	12.5	-	-
Material A – 40% Material B – 60%	4.5	7.5	10	13.5	-
Material B – 100%	3	5	7	9	11

Note: -- indicates that the rubber band broke and no reading could be taken.

What was she trying to investigate?

- (1) Which elastic band is longer.
- (2) Which elastic band is stronger.
- (3) Which elastic band exerts a greater force.
- (4) Which elastic band can withstand high temperatures.

3. Alfred wanted to carry out an experiment to find out how well different quality paper absorbs water. What are the variables that he should keep constant to conduct a fair test?

- A. Type of paper
- B. Size of the paper
- C. Amount of water used
- D. Duration the paper was soaked in water

- (1) C and D
- (3) A, B and D

- (2) A, B and C
- (4) B, C and D

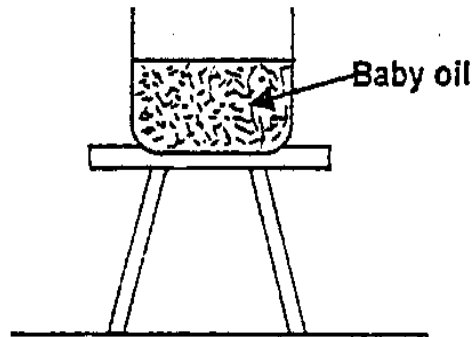
4. Tracy forgot to hang out the towels one day and they were left in a basin overnight. When she touched them the next day, they were not as wet but still damp. When she spread out the towels on the clothes line and left them under the hot breezy weather, they dried within two hours. She can infer from her observation that the rate of evaporation depends on \_\_\_\_\_.

- A. presence of wind
- B. temperature
- C. exposed surface area
- D. type of towel

- (1) A, B and C
- (3) B, C and D

- (2) A, B and C
- (4) A, C and D

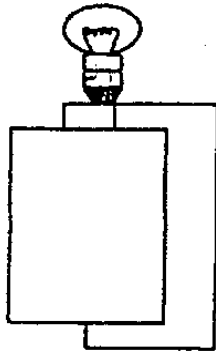
5. Heather filled a beaker with some baby oil and dropped in some iron filings as shown below. She then used a bar magnet and put it near the bottom of the beaker. What do you think she would observe about the iron filings?



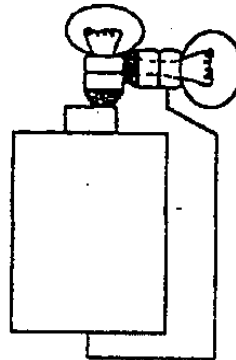
- (1) Nothing would happen.
- (2) The iron filings would start to float upwards.
- (3) The iron filings would move in a circular motion.
- (4) The iron filings would concentrate near where the magnet was.

6. In which of the following set-ups would at least one bulb light up?

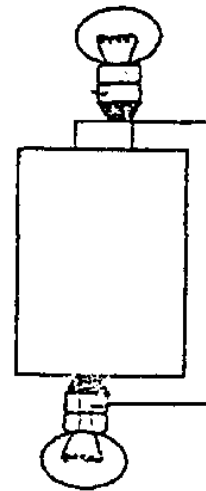
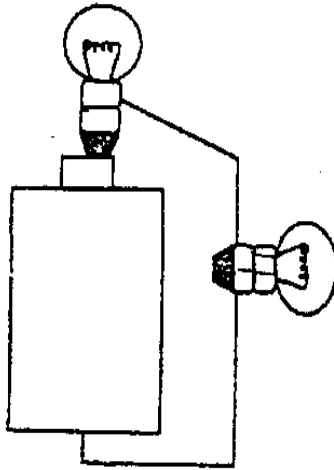
A.



B.



C.



- (1) A and B
- (3) A, C and D

- (2) B and D
- (4) B, C and D

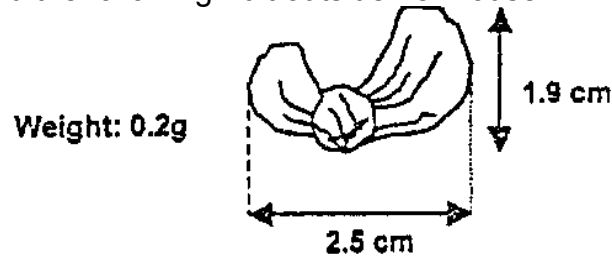
7. John set up four identical sized pots A, B, C and D with the same amount of garden soil. He placed some green bean seedlings into each pot. He then placed the pots where they would get sufficient sunlight and watered them regularly. Which pot is most likely to have tall, thin plants after 2 weeks?

**Results at the end of 4 days.**

Pot	Number of seedlings
A	4
B	5
C	8
D	2

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

8. Stefanie found the following fruit outside her house.

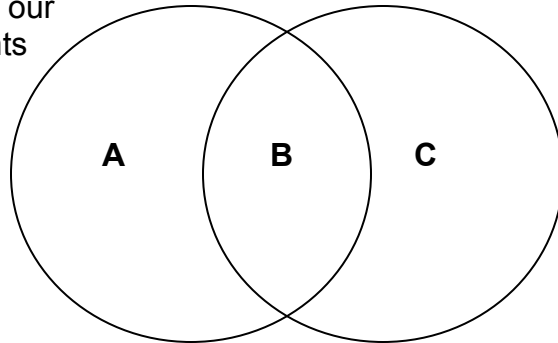


She examined the fruit closely and concluded that it was probably dispersed by wind. What were the characteristics which helped her make this conclusion?

- A. soft and juicy  
B. light and small  
C. tiny bristle-like hair  
D. wing-like structure
- (1) A and B (2) B and D  
(3) A, B and C (4) B, C and D

9. In the Venn diagram below, A, B and C represent three different types of bones that are found in our body.

Bones that protect help us in our movements



Bones that protect our organs

Which of the following represents the types of bones correctly?

	A	B	C
(1)	Backbone	Ribs	Skull
(2)	Thigh bone	Backbone	Ribs
(3)	Thigh bone	Leg bone	Ribs
(4)	Skull	Backbone	Leg bone

10. Marilyn shone different coloured light on a red apple. Her observations are recorded in the table below.

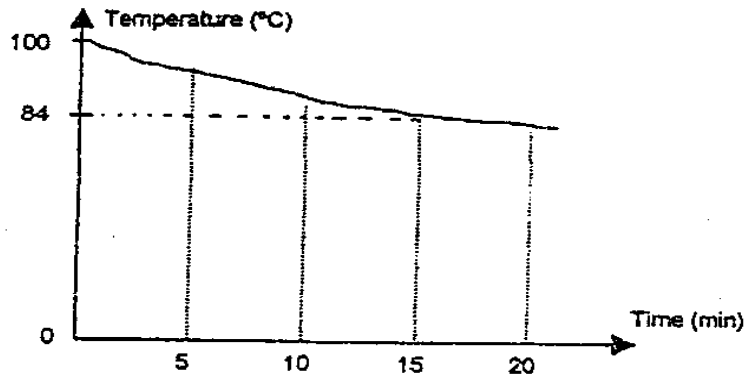
Colour of Light	Colour of Apple
Red	Red
Blue	Black
White	Red
Yellow	Red

Which of the following statements is correct?

The apple appears \_\_\_\_\_.

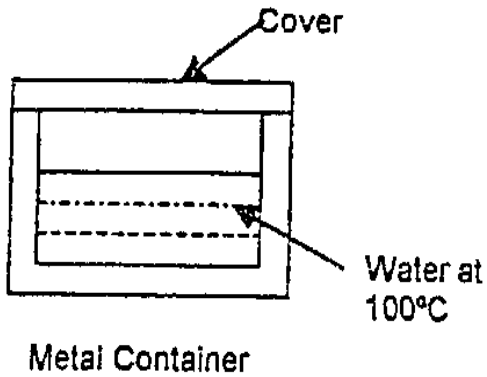
- (1) black in blue light because it reflects all the lights.
- (2) black in blue light because it reflects the blue light.
- (3) red in yellow light because it reflects yellow light and absorbs the red light.
- (4) red in white light because it reflects red light and absorbs all the other colours of white light.

11. Rachel carried out an experiment with the aim of finding which container was a good insulator. She plotted the temperature of water in °C against time in minutes in a graph to show the results of one of the containers.

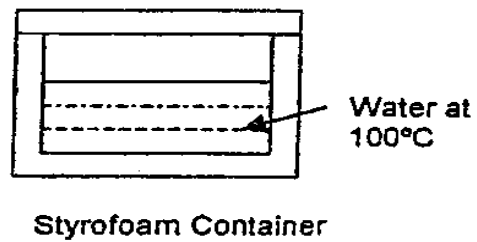


Which of the following experiment set ups would give the above results?

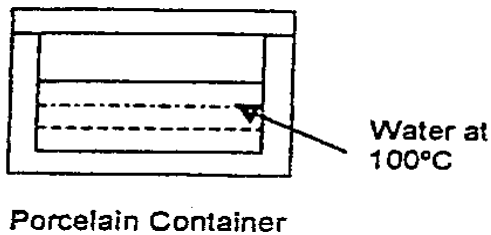
(1)



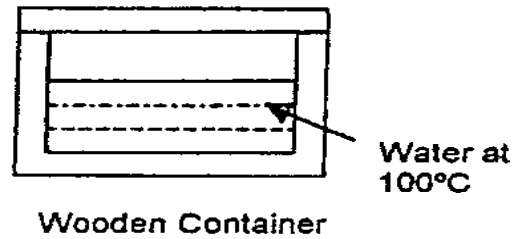
(2)



(3)



(4)

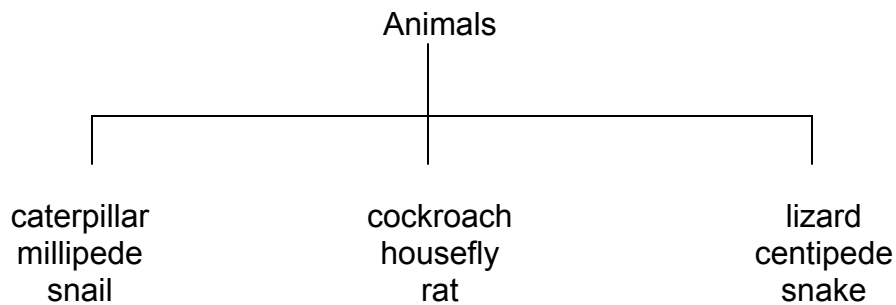




12. Which of the following sets of habitats have very similar living conditions?

- (1) grassland and tree
- (2) rotting log and tree
- (3) grassland and leaf litter
- (4) leaf litter and rotting log

13. Study the classification diagram below:



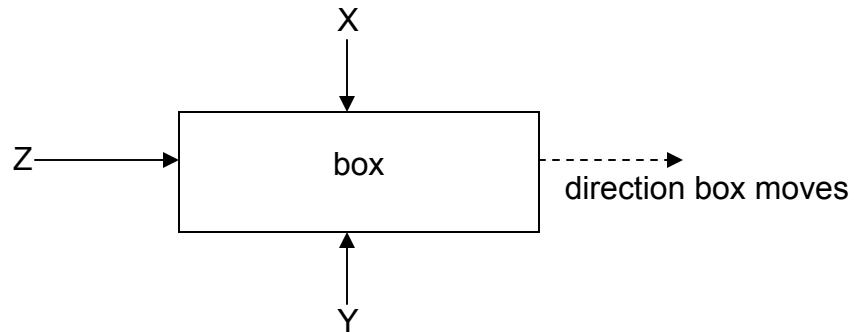
The animals are classified according to the \_\_\_\_\_.

- (1) way they move
- (2) food they feed on
- (3) places they are found
- (4) method of reproduction

14. Which three animals have life cycles that are very similar to the life cycle of a butterfly?

- (1) moth, ant and grasshopper
- (2) cockroach, dragonfly and mosquito
- (3) frog, cockroach and mealworm beetle
- (4) housefly, mosquito and mealworm beetle

15. Three girls X, Y and Z are exerting a force on the box as indicated by the arrows in the diagram. Which of the following statements are **correct**?

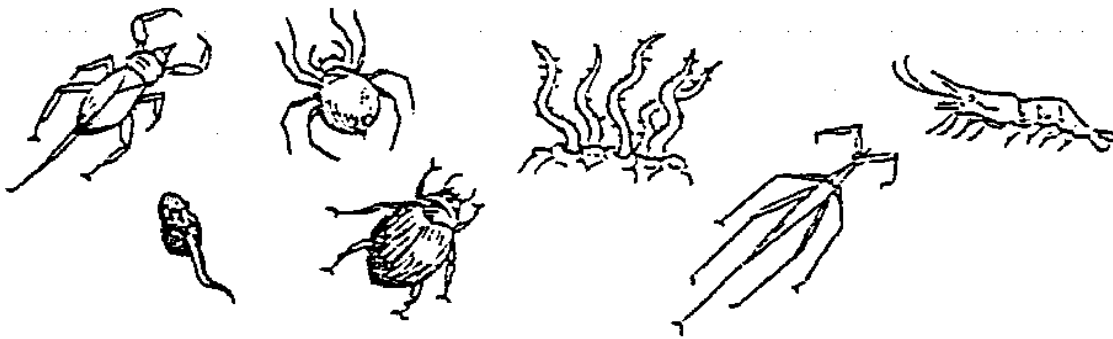


- A. X and Y are not doing work
- B. X, Y and Z are all doing work
- C. Z has to work against friction
- D. X and Y are exerting pushes and pulls

- (1) A and C
- (3) A, C and D

- (2) B and C
- (4) B, C and D

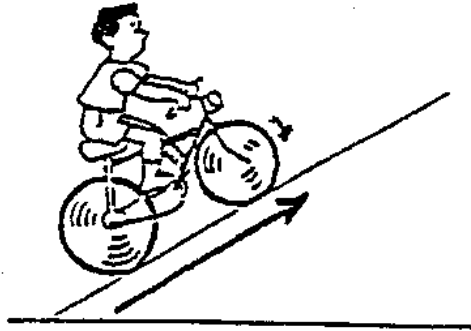
16. Some fresh water aquatic animals are shown below:



Which one of the following is **not** true?

	Method of breathing in water	Number of animals
(1)	Through gills	2
(2)	Through skin	1
(3)	Through air bubble	2
(4)	Through breathing tube	1

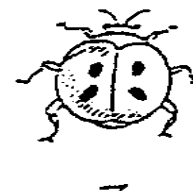
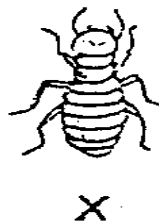
17. A boy is cycling up a slope as shown below:



An **incorrect** statement about the diagram is:

- (1) No work is done by the cyclist
- (2) Pushes and pulls control the bicycle handle
- (3) Pushes on the pedals make the bicycle move
- (4) Friction on the wheels is in the direction shown by the arrow

18. Some animals are shown below:



Which of these animals belong to the same community as the arrowhead?

- (1) W and X
- (2) W and Y
- (3) X, Y and Z
- (4) W, Y and Z

19. Which one of the following statement/s about the life cycles of animals is/are **correct**?

- A. Different animals have different life cycles.
- B. The life cycles of animals follow a pattern.
- C. All insects have the same number of stages in their life cycle.

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

20. When you pull a rubber band it will stretch. The energy in your hands is used to stretch it. Where did the energy which enables the rubber band to return to its original shape come from?

- (1) It came from the heat energy in your hands
- (2) Stored energy from your hand was transferred to the rubber band.
- (3) There was no energy involved as the rubber band simply contracted.
- (4) It was stored in the rubber band when the rubber band was stretched.

21. A force can \_\_\_\_\_.

- A. reduce friction
- B. cause an object at rest to move
- C. make a moving object move faster
- D. reverse the direction of movement of an object

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

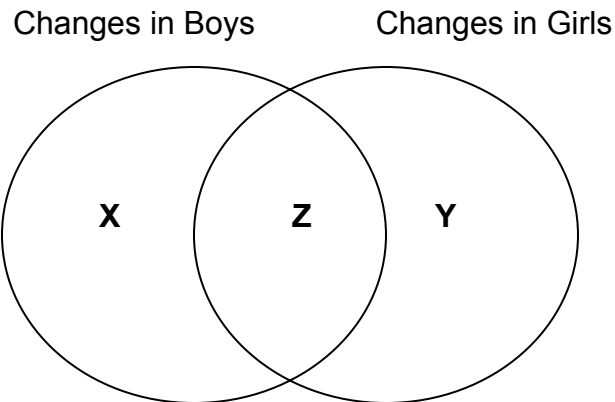
22. The force of gravity acting on a body is called its \_\_\_\_\_.

- (1) pull
- (2) weight
- (3) friction
- (4) volume

23. Which one of the following statements about energy is **incorrect**?

- (1) Energy is a form of matter.
- (2) Energy is the ability to do work.
- (3) Energy cannot be created nor destroyed.
- (4) Energy can be changed from one form to another.

24. The Venn diagram shows changes in boys and girls during puberty.



Which of the following are some common changes in both genders represented by **Z**:

- A. Hips widen
- B. Height increases
- C. Sex organ develops
- D. Voice breaks and deepens

- (1) A and B
- (3) A, B and C

- (2) B and C
- (4) A, B, C and D

25. Mosquito larvae feed on \_\_\_\_\_.

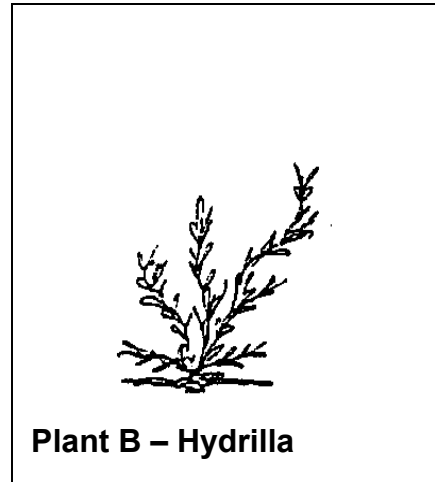
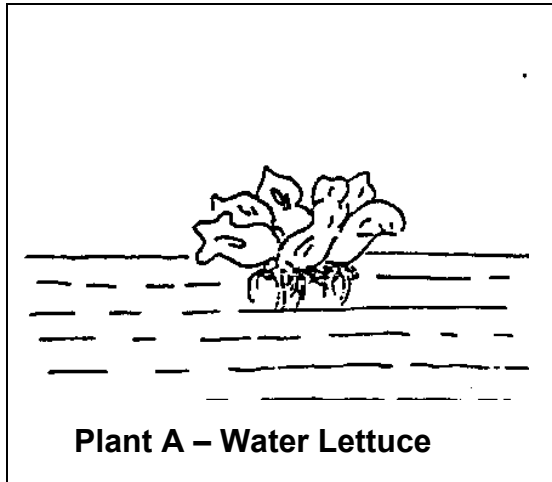
- (1) plankton
- (3) water weeds

- (2) water plants
- (4) small insects

**Section B (40 marks)**

**Answer the questions 26 to 37 in the spaces provided.**

26. The two aquatic plants shown below can be found in the pond.



(a) Which part of the pond can the plants be found? [2 marks]

Plant A: \_\_\_\_\_

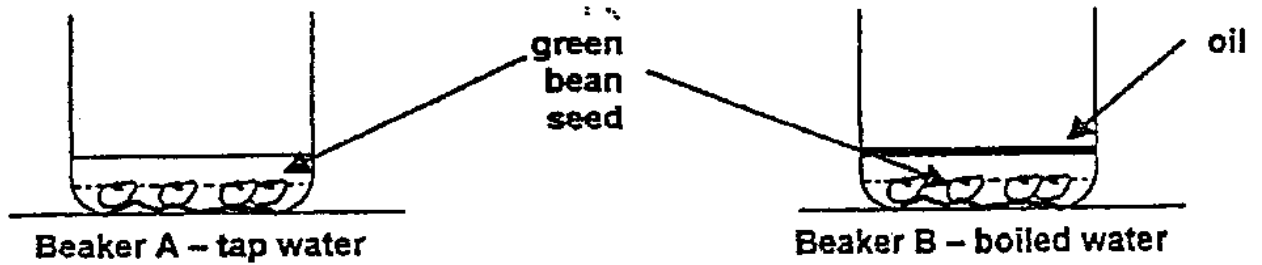
Plant B: \_\_\_\_\_

(b) Name one way how plant A may be harmful to plant B. [1 mark]

\_\_\_\_\_  
\_\_\_\_\_

27. Linda set up the experiment below. She wanted to find out if air is needed for seed germination.

Set-up on the first day



After a few days



- (a) Explain why there was no change observed in the green bean seed in Beaker B. [2 marks]

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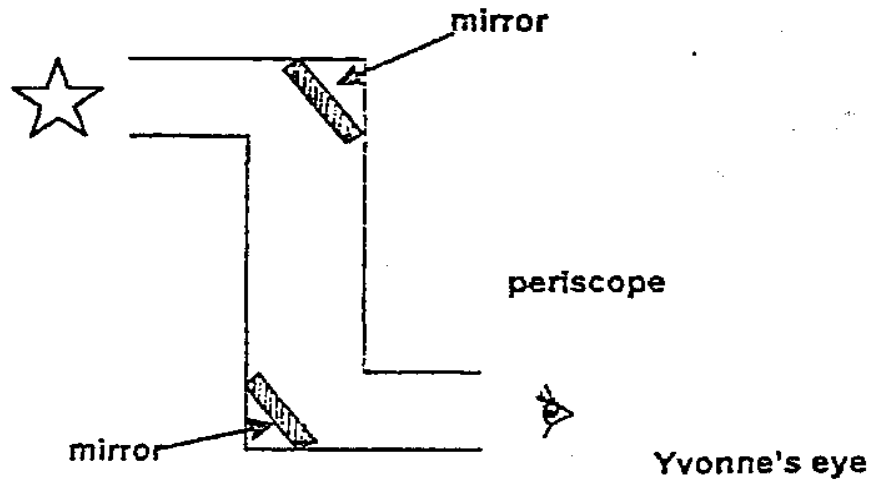
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- (b) What was the purpose of using oil in the experiment? [1 mark]

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28. Yvonne learnt in science class that light travels in a straight line. It cannot bend around objects. However, when she looked through the periscope, she could see the star-shaped object at the end with the help of the mirrors in the periscope.



- (a) How did the mirrors help Yvonne see the star-shaped object at the end of the periscope? [1 mark]

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- (b) Draw lines with arrows in the above diagram to show how light falling on the star shaped object reaches Yvonne's eye. (Note: Use lines to represent the path of light and arrows to show the direction of light.) [1 mark]



29. Fill in each blank with a suitable word [4 marks]

Our blood carries oxygen, nutrients and (a)\_\_\_\_\_ from the heart to the other parts of our body through arteries. Besides regulating our body temperature, kill bacteria and virus that cause illness, blood also carries away (b)\_\_\_\_\_ and other waste substances produced by the body through veins. Our (c)\_\_\_\_\_ is the muscular organ that pumps blood round the body. This important organ is protected by the (d)\_\_\_\_\_

30. Cheryl filled a plastic cup to the brim with water and left it in the freezer. She forgot all about it the next day and suddenly remembered a week later. By then, she found that ice had bulged out of the cup.

(a) Give reasons why there was ice bulging out of the cup. [2 marks]

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(b) She left the cup with the bulging ice on the kitchen table top and went off to do some work. When she came back, she saw that the cup was sitting in a pool of water. Explain where the water came from. [1 mark]

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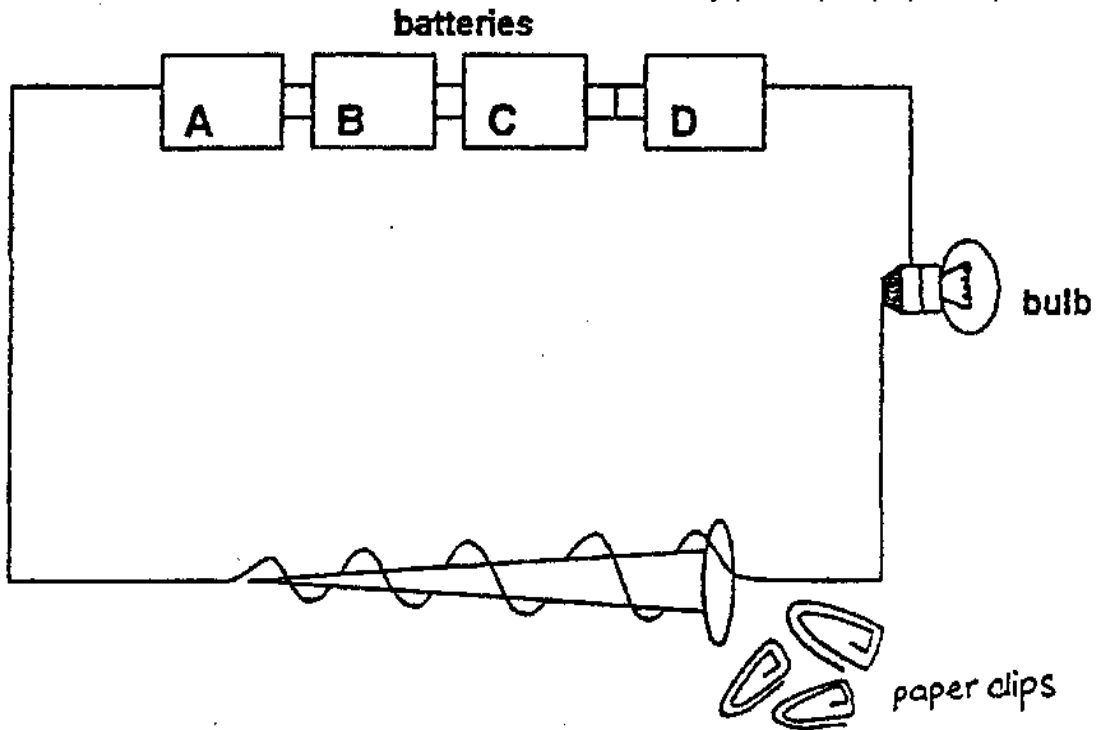
(c) The process in (b) is known as \_\_\_\_\_.[1 mark]

- (d) Cheryl then decided to leave the cup in the refrigerator instead. After a few days, she discovered that all the ice had melted. However, the level of water had fallen. What was the process that took place to cause the water level to drop? [1 mark]

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31. Ruth wanted to make a magnet out of an iron nail. She used the set up below. However, she found that she could only pick up 3 paper clips.



Based on the set up above, suggest **three** things that she should do to increase the strength of her temporary magnet. [3 marks]

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32. Suyan released a marble at the top of the three ramps with different surfaces in turn. She recorded the distance traveled by the marble along the flat ground in the table below.

Ramp	Distance traveled (cm)		
	First try	Second try	Average
A	50	45	47.5
B	32	26	29
C	74	81	77.5

- (a) Arrange the ramps in order, stating with the one with the smoothest surface. [1 mark]

The correct order is \_\_\_\_\_

- (b) Give one variable that is difficult to keep the same in this activity. [1 mark]

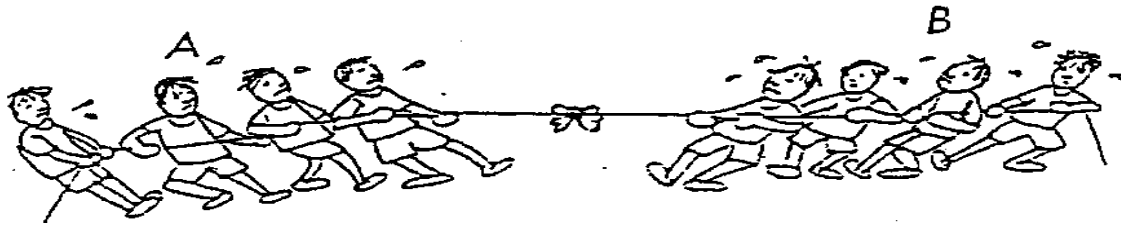
\_\_\_\_\_

- (c) What causes the marble to slow down and finally stop on the flat ground after its release from the top of each of the ramps? [1 mark]

\_\_\_\_\_

\_\_\_\_\_

33. The diagram shows two teams involved in a tug-of-war.



- (a) What will happen if Team B exerts a force greater than exerted by Team A? [1 mark]

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- (b) Is there work done by Team B in (a)? Why? [2 marks]

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- (c) The ground where the members of Team A are standing is muddy. How would this help Team B to win if its members are standing on dry ground? [1 mark]

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34. Mengli had a paper race with two similar pieces of paper. She crumpled up one piece into a ball and left the other as a flat sheet. She dropped both of them from the same height.

After three races, she recorded the results in the table below:

Race Number	Crumpled ball of paper		Flat piece of paper	
	Time in sec	Position	Time in sec	Position
1	1.9	1 <sup>st</sup>	4.2	2 <sup>nd</sup>
2	2.0	1 <sup>st</sup>	4.4	2 <sup>nd</sup>
3	2.1	1 <sup>st</sup>	4.0	2 <sup>nd</sup>

- (a) What do her results show? [1 mark]

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- (b) Give a reason for the results. [1 mark]

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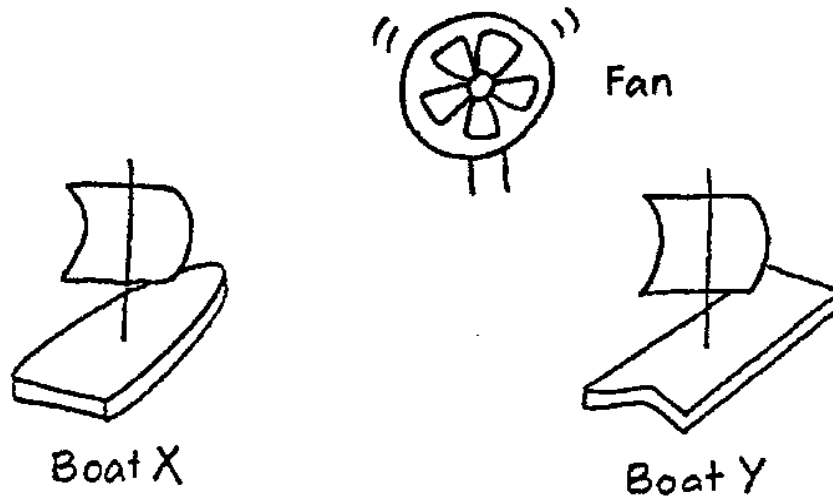
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35. Fill in each blank with a suitable word. [4 marks]

In the life cycle of a mosquito, eggs are laid in (a)\_\_\_\_\_.

The larva, which is also called the (b)\_\_\_\_\_ changes its skin several times. This is known as (c)\_\_\_\_\_. Next, the pupa, which is (d)\_\_\_\_\_ shaped, is formed before it finally becomes an adult mosquito.

36. John carried out an experiment to find out which shape (X or Y) is more suitable for making a sailing boat. He set up a fan to blow directly at the boats. All variables were kept the same except for what is shown in the diagram below.



- (a) What **two** measurements would you take to find the answer?  
[2 marks]

i.

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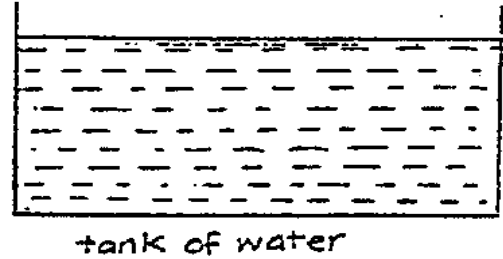
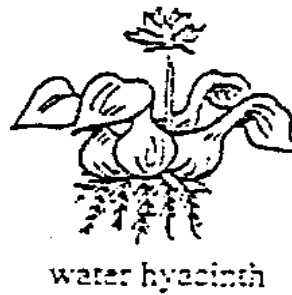
ii.

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- (b) The boats made use of \_\_\_\_\_ energy and the variable being tested was the \_\_\_\_\_ of the boats. [2 marks]

37. Siti is going to carry out an experiment to find out whether there is air in the swollen leaf stalks of the water hyacinth.



- (a) Using the apparatus shown above, what will Siti do? [1 mark]

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- (b) What observation will help Siti find her answer? [1 mark]

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- (c) In which part of the pond does this plant grow? [1 mark]

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