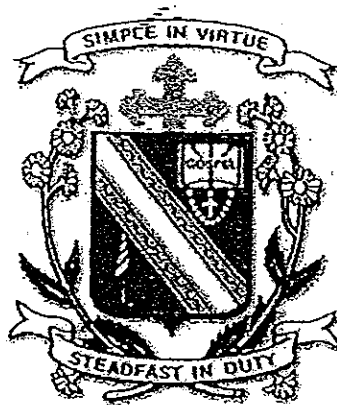


Name : \_\_\_\_\_ ( )

Class : Primary 5 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



德 純 义 坚

Primary 5

Semestral Assessment 2- 2008

SCIENCE

3<sup>rd</sup> October 2008

Booklet A

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

Do not open this booklet until you are told to do so.  
Follow all instructions carefully.

**Section A : (30 x 2 marks)**

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

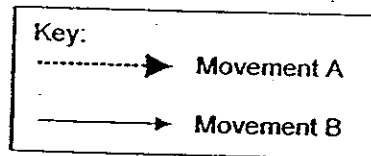
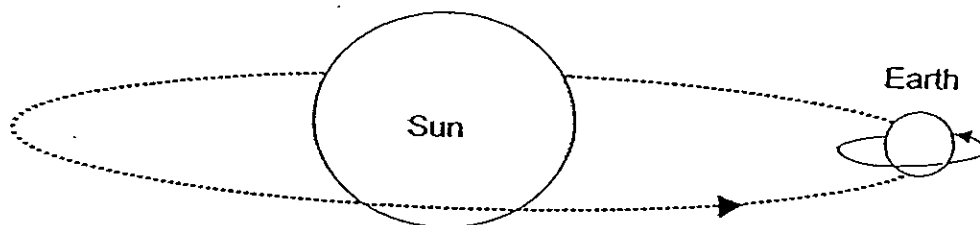
1. Study the table below.

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune	Pluto
Distance from the Sun in million of km	58	108	150	228	778	1427	2871	4497	5913

On Earth, there are 365 days in a year. Based on the information in the table above, on which one of the following planets will the length of a year be shorter than 365 days?

- (1) Pluto
- (2) Jupiter
- (3) Mercury
- (4) Neptune

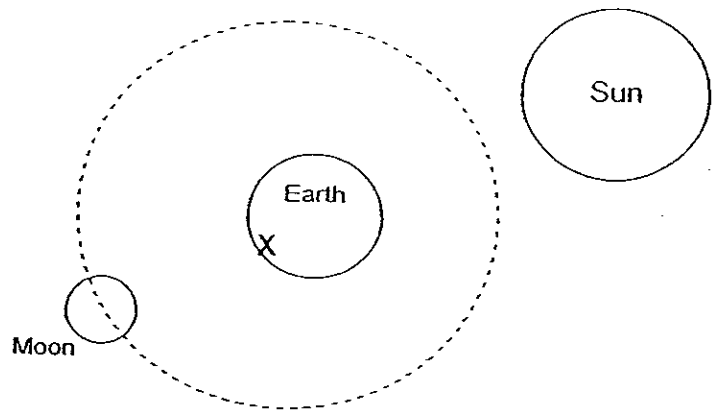
2. The diagram below shows the movements of the Earth.



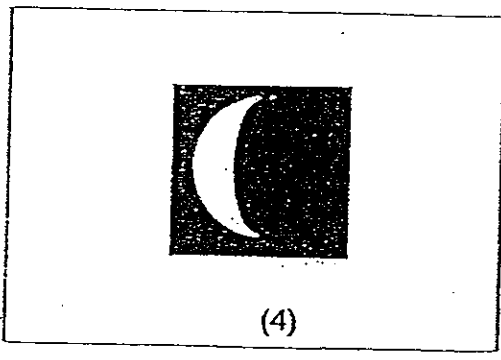
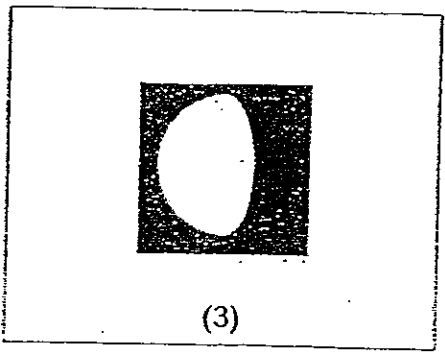
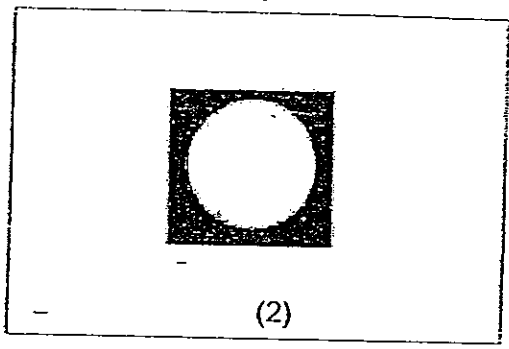
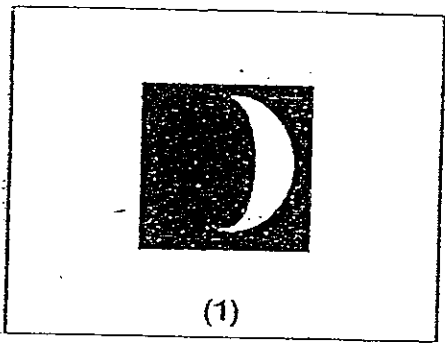
Which one of the following represents the two movements of the Earth and their effects?

	Movement A	Effects	Movement B	Effects
(1)	Revolution	Day and Night	Rotation	Change of seasons
(2)	Revolution	Change of seasons	Rotation	Day and night
(3)	Rotation	Day and night	Revolution	Change of seasons
(4)	Rotation	Change of seasons	Revolution	Day and Night

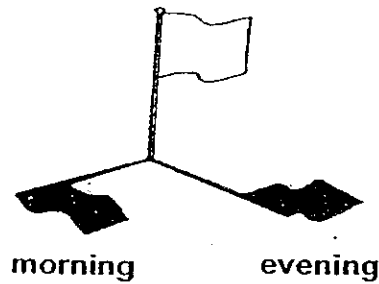
3. The diagram below shows the positions of the Sun, the Earth and the Moon.



Which one of the following shows how the Moon looks like when viewed from the Earth at X?

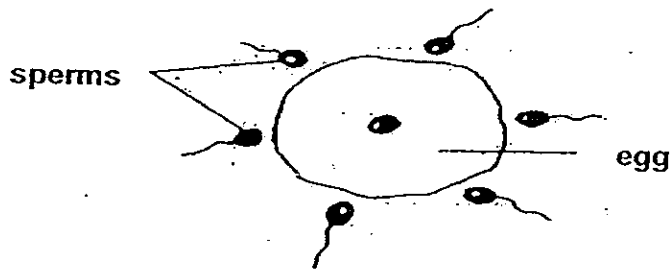


4. Emily observed the shadow of a flagpole and noticed that it was formed on one side of the flagpole in the morning and on the other side in the evening.



The change is a result of the \_\_\_\_\_.

- (1) rotation of the Moon
  - (2) rotation of the Earth about its own axis
  - (3) revolution of the Earth around the Sun
  - (4) revolution of the Sun around the Earth
5. The diagram below shows some sperms near an egg.



Which of the following statements about sexual reproduction in animals are correct?

- A: Sperms are produced by male animals.
- B: Usually one egg is fertilised by many sperms.
- C: Fertilisation in animals takes place internally only.
- D: After fertilisation, the egg will grow and develop into a young animal.

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

6. Which one of the following living things is made up of more than one cell?

(1)



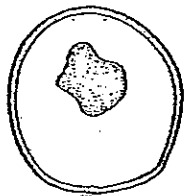
Nerve cell

(2)



Paramecium

(3)



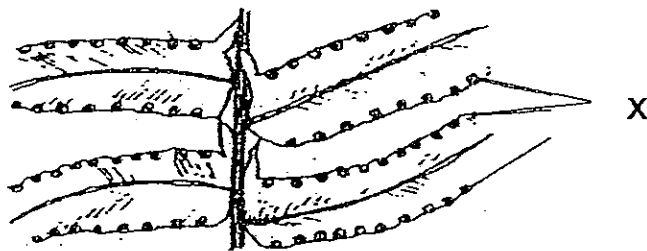
Yeast

(4)



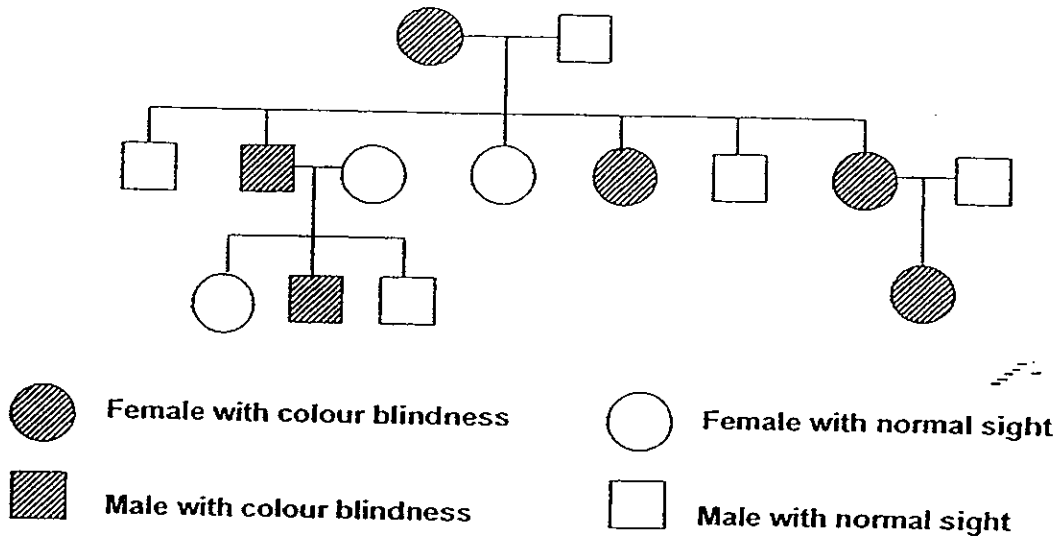
Jellyfish

7. The diagram below shows the underside of a mature fern frond. Identify the parts marked "X".



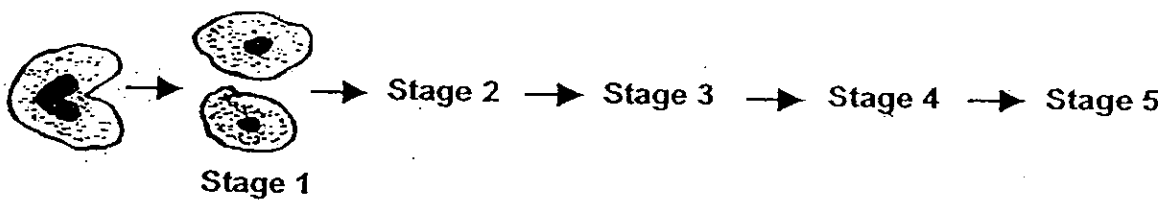
- (1) Buds
- (2) Fruits
- (3) Seeds
- (4) Spore Bags

8. The family tree below shows an inherited characteristic, colour blindness, in a family.



Based on the information above, which one of the following statements is likely to be true?

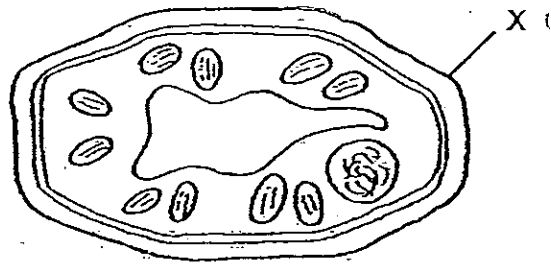
- (1) When a female parent has colour blindness, all her children will have colour blindness. ~~X~~
  - (2) When a male parent has colour blindness, all his sons will have colour blindness. ~~X~~
  - (3) When a child has colour blindness, at least one of the siblings has colour blindness. ~~X~~
  - (4) When a child has colour blindness, at least one of the parents has colour blindness.
9. The diagram below shows the amoeba in the process of reproducing itself.



Which of the following shows the correct number of offspring produced at stages 2, 3, 4 and 5?

	Stage 2	Stage 3	Stage 4	Stage 5
(1)	4	16	32	64
(2)	4	8	12	16
(3)	4	6	8	10
(4)	4	8	16	32

10. The diagram below shows a plant cell.

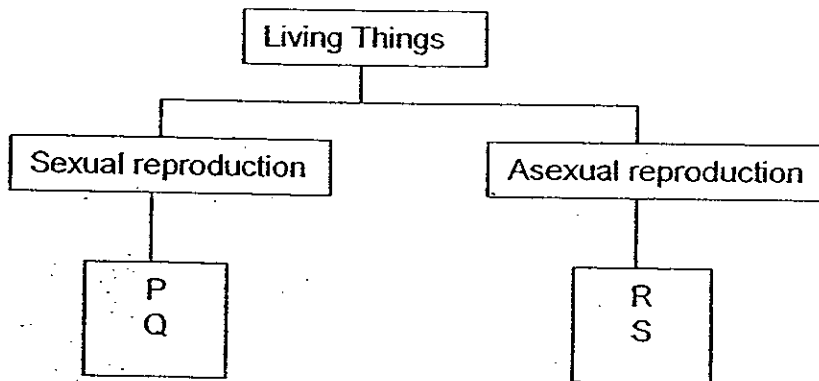


Which of the following statements describe the characteristics of part X?

- A: It makes food for the plant.
- B: It controls all the activities in the cell.
- C: It only allows certain materials to enter the cell.
- D: It is made up of a stiff material which gives the cell its shape.

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

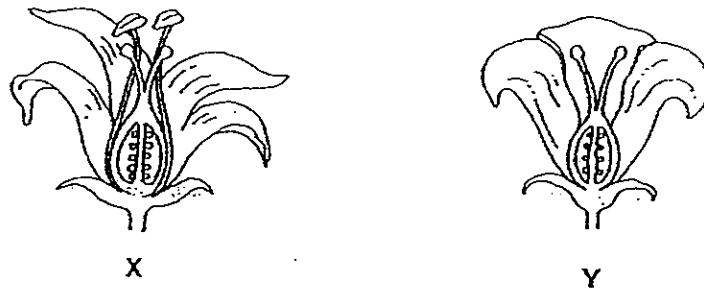
11. Study the classification chart below.



Which one of the following lists gives the correct examples of P, Q, R and S?

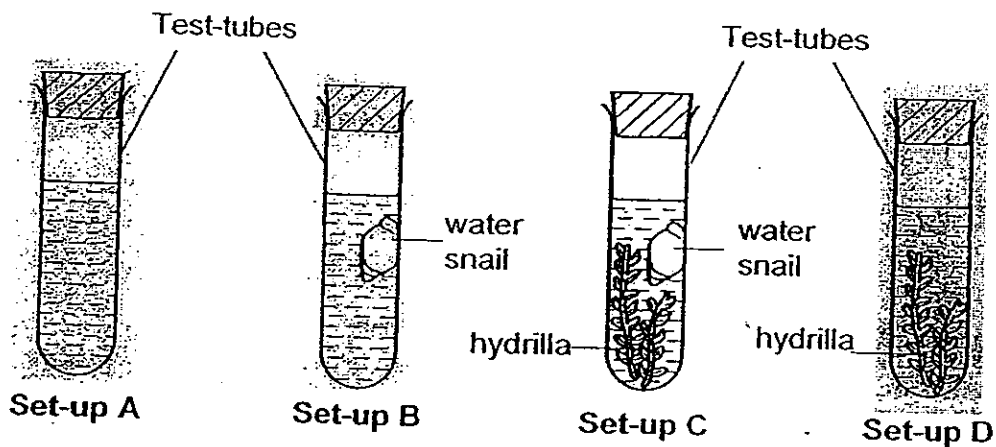
	P	Q	R	S
(1)	Mosquito	Tomato plant	Bacteria	Yeast
(2)	Bacteria	Tomato plant	Mosquito	Yeast
(3)	Mosquito	Amoeba	Bacteria	Orchid
(4)	Amoeba	Bacteria	Mosquito	Orchid

- 12 The diagram below shows the cross-sections of two flowers from two different plants.



What can you infer from the above diagram?

- A: Pollination is not required in Flower X.  
 B: Not all flowers have both male and female parts.  
 C: Flower X can produce both male and female reproductive cells.  
 D: After fertilization, Flower X can develop into a fruit but Flower Y cannot.
- (1) A and D only  
 (2) B and C only  
 (3) A, B and C only  
 (4) B, C and D only
13. Four test-tubes containing different organisms with the same amount of pond water were set up as shown below.

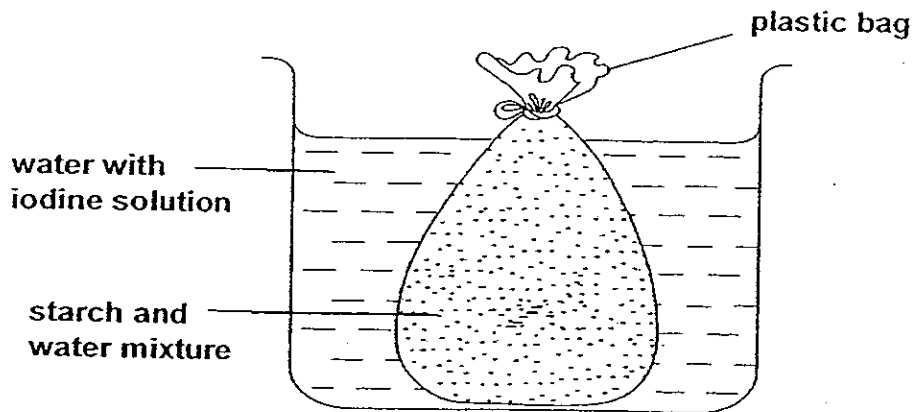


The set-ups were placed on a rack on a table in a dark room. Which one of the following set-ups would have the highest amount of dissolved oxygen after six hours?

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



14. The diagram below shows an experiment that Rajesh conducted overnight.



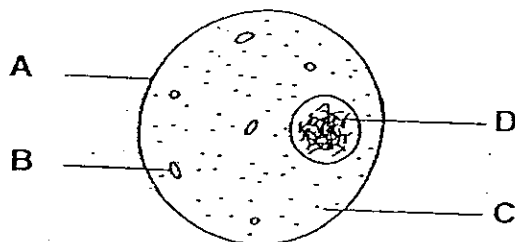
Rajesh placed a bag of a mixture of starch and water in a beaker, containing water with some brown iodine solution. He knew that iodine would turn dark blue when mixed with starch.

The next day, he noted the colour change and recorded his observation in a table.

Which one of the following sets of observations is correct?

	Beaker: Water with iodine solution	Bag: Starch and water mixture
(1)	Light Brown	Dark blue
(2)	Dark blue	Brown
(3)	Dark blue	Dark blue
(4)	Brown	Brown

15. The diagram below shows an animal cell.



Which part(s) of the cell above contain(s) substances which determine the colour of our eyes?

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

16. Some plants are classified according to their methods of dispersal. Which of the following classification is correct?

	Method	Examples
(1)	Wind	Lalang plant, African tulip and Shorea.
(2)	Water	Pong pong, Coconut and Durian.
(3)	Animals	Tomato plant, mangrove plant and cherry plant.
(4)	Splitting	Rubber plant, Palm tree and Mango.

17. Dalini found a fruit in a park. She wanted to find out whether the fruit is scattered in the same way as the coconut. Which of the following steps should she carry out?

- A: Open to see if it contains water.  
 B: Examine to see if it has a fibrous husk.  
 C: Place it in water and observe if it floats.  
 D: Measure its mass before placing it in the water.

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

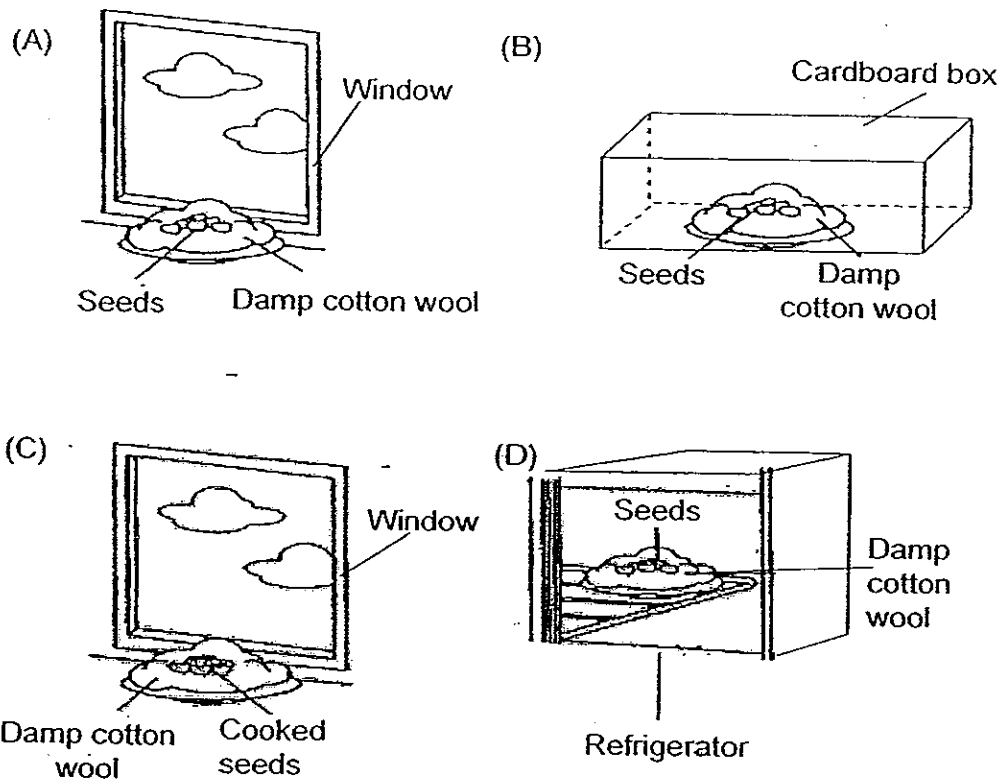
18. The statements below describe how fruits and seeds are produced.

- A: Pollen tubes reach the ovaries.  
 B: Petals and styles wither and drop off.  
 C: Pollen tubes grow from the pollen grains.  
 D: Male reproductive cells fuse with female egg cells.  
 E: Ovules develop into seeds and ovaries develop into fruits

Which of the follow shows the correct order of how the fruits and seeds are produced?

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

19. Sam set up the following experiments to find out the conditions necessary for seeds to germinate.



In which of the above experiments would the seeds germinate?

- (1) A and B only
- (2) B and C only
- (3) C and D only
- (4) None of the above

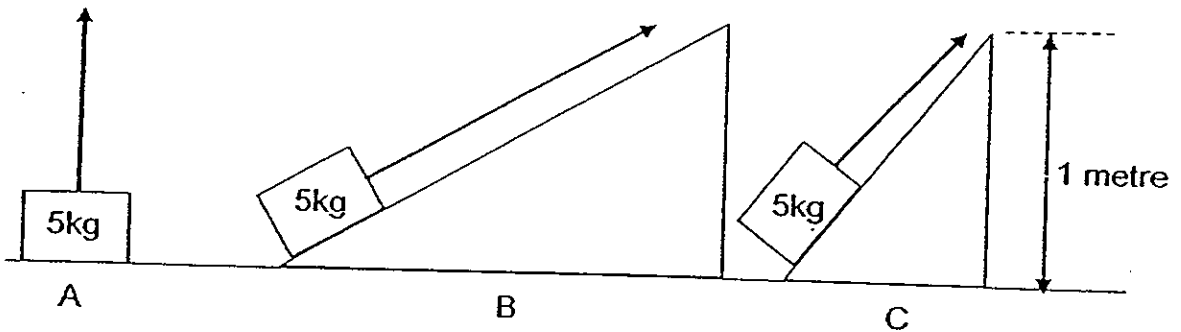
20. During the cross-pollination process, pollen from the <sup>anther</sup> ~~stigma~~ of one flower is deposited on \_\_\_\_\_.

- (1) the anther of a flower on the same plant.
- (2) the stigma of a flower on the same plant.
- (3) the anther of a flower on a different plant of the same species.
- (4) the stigma of a flower on a different plant of the same species.

21. Which one of the following actions requires both a push and a pull?

- (1) Pressing a door bell.
- (2) Stepping on a drinking can.
- (3) Wringing a piece of wet cloth
- (4) Poking holes in a piece of paper

22. Set-ups A, B and C below show how a load of 5kg can be lifted to a height of 1 metre.



From the set-ups show above, which one of the following arrangements shows the amount of effort needed starting from the least effort to the most effort.

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

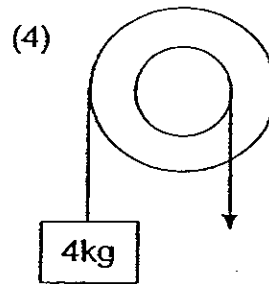
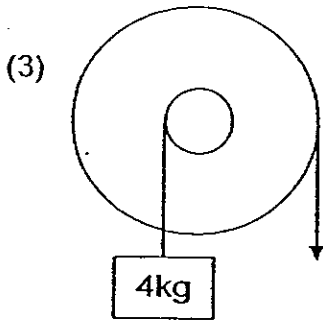
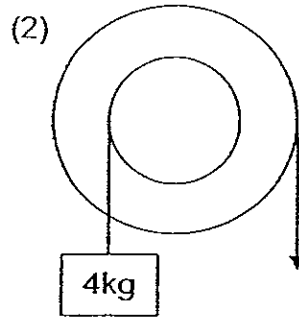
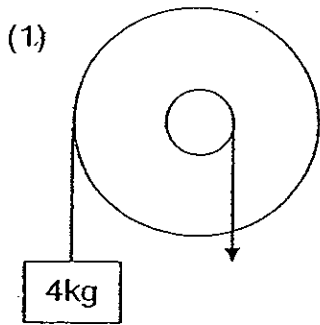
23. Siti carried out an experiment with 4 different simple machines, A, B, C, D, and the results are shown in the table below.

Simple machine	A	B	C	D
Load (kg)	3	3	3	3
Distance travelled by load (m)	10	30	15	5
Distance travelled by effort (m)	25	5	15	25

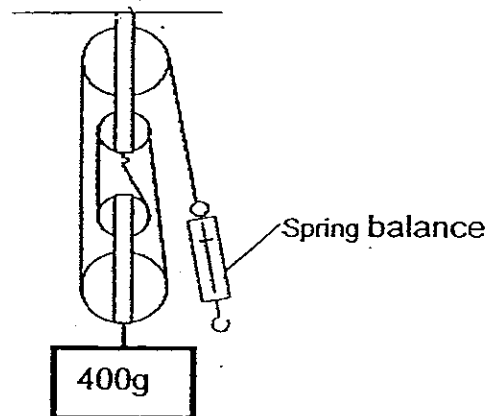
Which simple machine above would help you lift a heavy load using the least effort?

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

24. Which one of the following set-ups uses the least effort to lift a 4kg load?



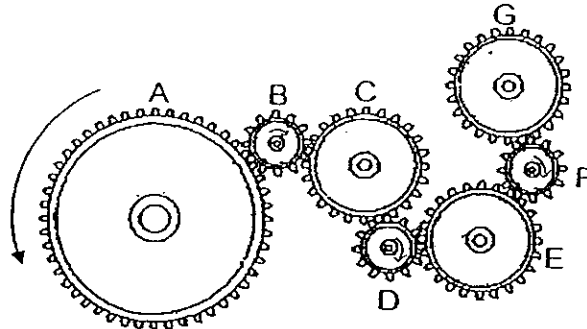
25. The pulley system is used to lift a load of 400g.



What would be the reading on the spring balance above?

- (1) 80g
- (2) 100g
- (3) 200g
- (4) 400g

26. Study the diagram below carefully.



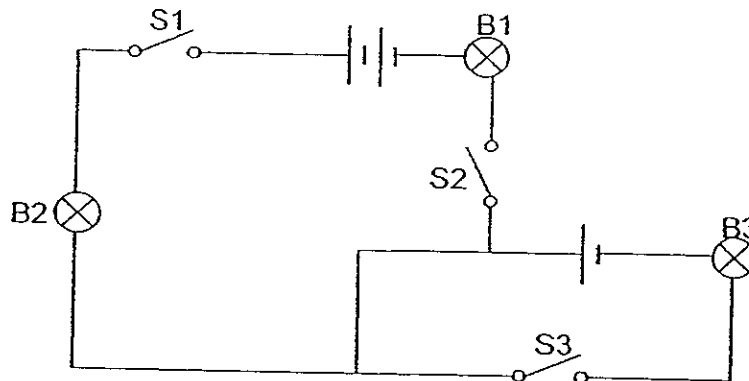
When Gear A turns two rounds, what will happen to the rest of the gears?

- (1) Gear C will turn fewer rounds than Gear A in the same direction.
- (2) Gear E will turn fewer rounds than Gear A in the opposite direction.
- (3) Gear D will turn more rounds than Gear G in the opposite direction.
- (4) Gear F and Gear B will turn equal number of rounds in the opposite direction.

27. Which one of the following statements about living things is correct?

- (1) Living things respire to provide energy to carry out life process.
- (2) Living things respire to allow food to be circulated within the body.
- (3) Plants only carry out photosynthesis during the day and will respire at night.
- (4) When plants carry out photosynthesis, they produce a gas called carbon dioxide.

28. The circuit is set up by using three bulbs, B1, B2 and B3, and three switches, S1, S2 and S3.



The table below shows which bulbs light up when the switches are turned on or off.

Which of the following is correct?

	S1	S2	S3	Does the bulb light up?		
				B1	B2	B3
(1)	On	Off	Off	Yes	No	No
(2)	On	On	Off	No	Yes	Yes
(3)	Off	On	On	No	No	Yes
(4)	Off	Off	On	Yes	No	Yes

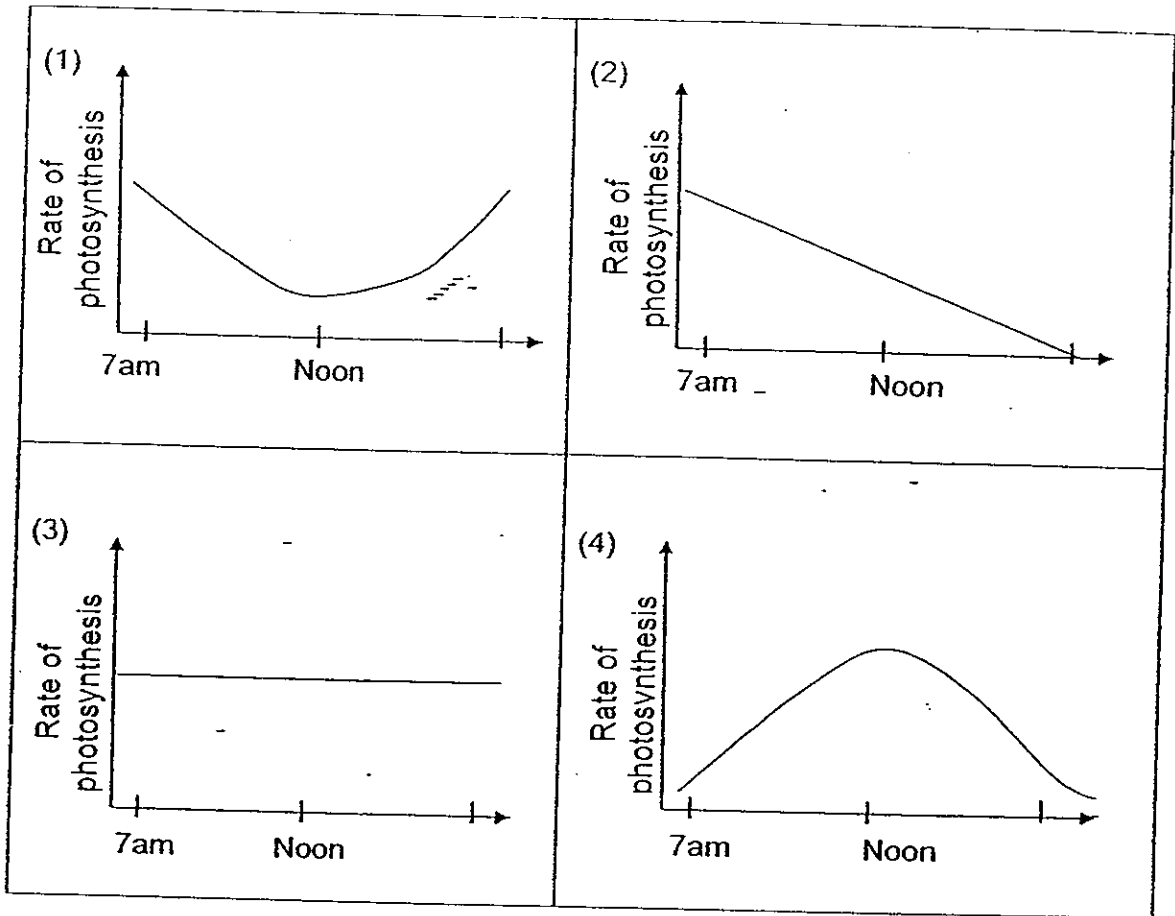
29. Ryan carried out a starch test on 3 food samples. The table below shows the results he observed.

Sample	Results
A	Iodine turns dark blue.
B	Iodine remains the same.
C	Iodine turns dark blue.

Which of the follow could the samples be?

	Sample A	Sample B	Sample C
(1)	Apple	Uncooked rice	Potato
(2)	Chicken	Tapioca	Beef
(3)	Banana	Orange	Sugar
(4)	Potato	Sugar	Cooked rice

30. Devi studies the rate of photosynthesis of a plant on a bright sunny day. Which one of the following graphs correctly shows the rate of photosynthesis at different times of the day?



— End of Section A —



Name : \_\_\_\_\_ ( )

Class : Primary 5 \_\_\_\_\_

## CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5

Semestral Assessment 2- 2008

SCIENCE

3<sup>rd</sup> October 2008

Booklet B

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

Booklet A	60
Booklet B	40
Total	100

Do not open this booklet until you are told to do so.  
Follow all instructions carefully.

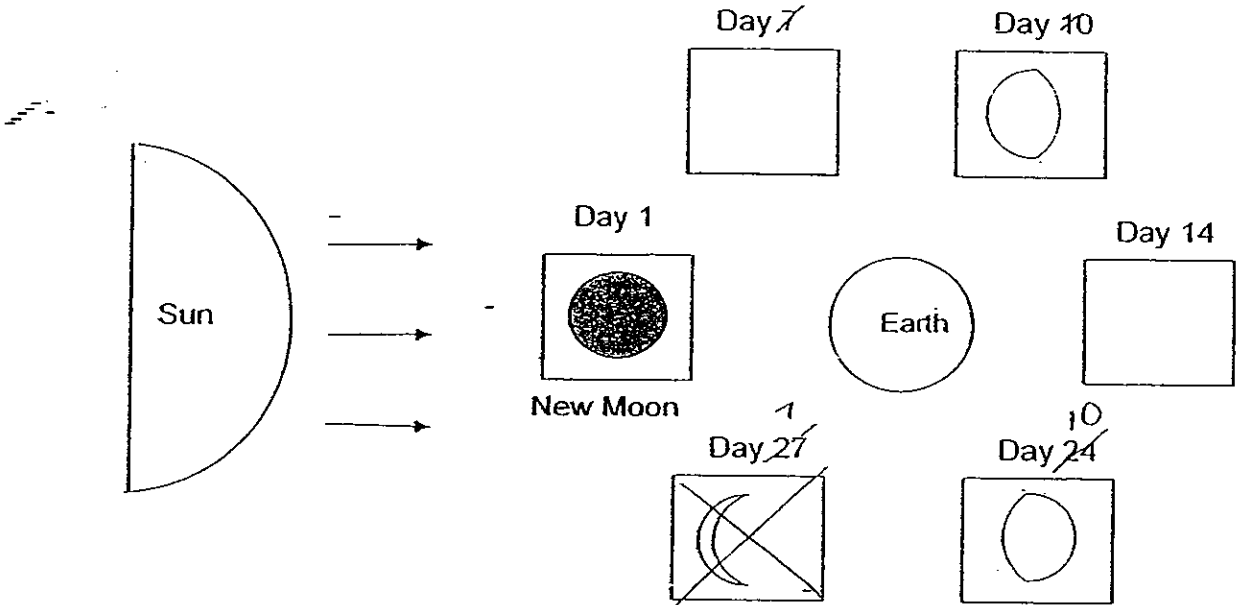
\_\_\_\_\_  
Parent's Signature/Date

**Section B (40 marks)**

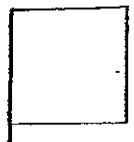
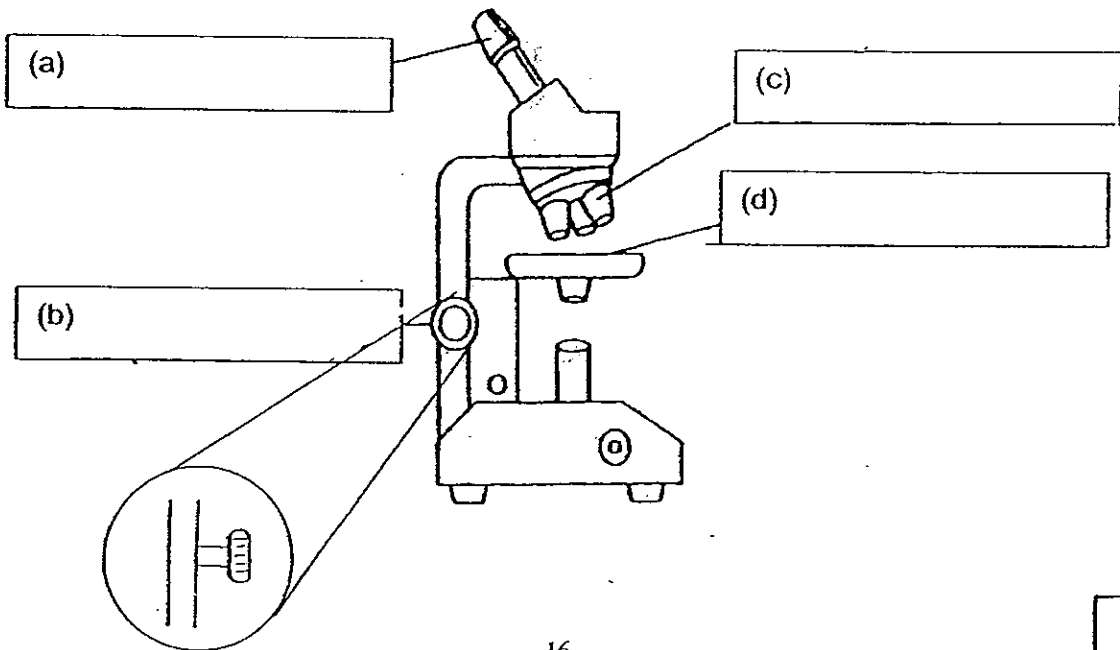
For questions 31 to 46, write your answers in this booklet.

The number of marks available is shown in bracket [ ] at the end of each question or part question.

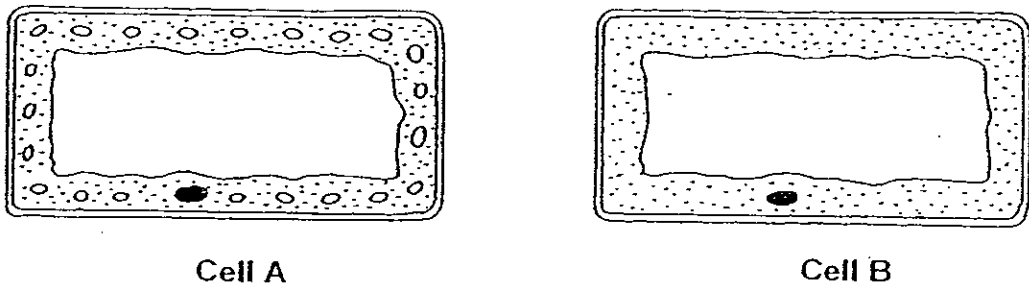
31. John drew the diagram below to show the different phases of the Moon as it revolved around the Earth. Complete the diagram by drawing the correct shape of the Moon for day ~~7~~<sup>21</sup> and day ~~22~~<sup>14</sup> in the empty boxes. [2]



32. Label the parts of a microscope shown below. [2]



33. The diagram below shows two plant cells.



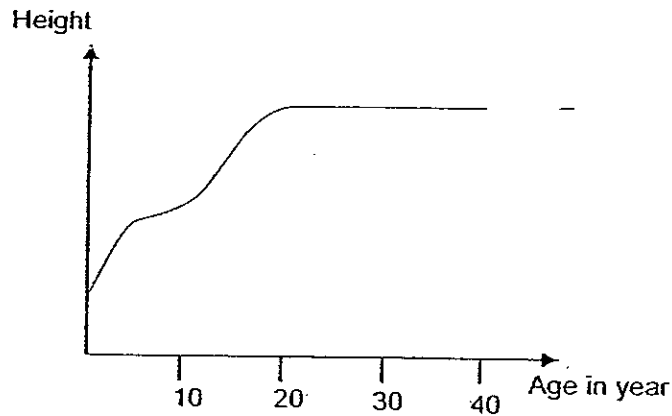
(a) What function can Cell A perform which Cell B cannot? [1]

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

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34. The graph below shows Mr Goh's height from birth until he was 40 years old.



(a) Mr Goh concluded that the increase in his height from birth until he was 21 years old was due to cell division. What other factor contributed to this increase in height? [1]

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(b) Based on the graph, Mr Goh claimed that cell division stopped when he reached 21 years old. Is his claim correct? Explain your answer. [1]

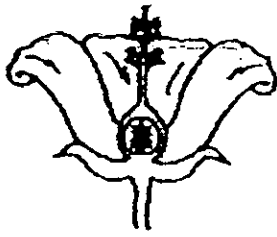
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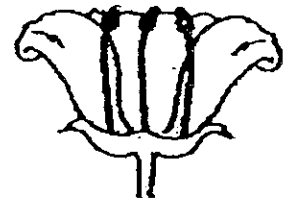
35. The diagram below shows three flowers.



Flower A



Flower B



Flower C

(a) Which one of the flowers cannot develop into a fruit? Explain your answer.

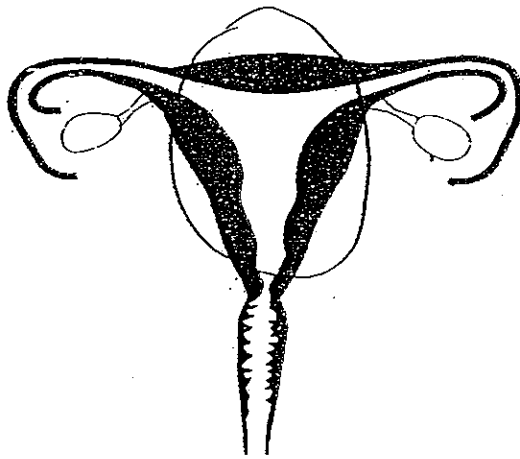
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(b) List two processes that have to take place before a flower develops into a fruit. [2]

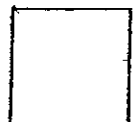
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36. The diagram below shows the human female reproductive system.

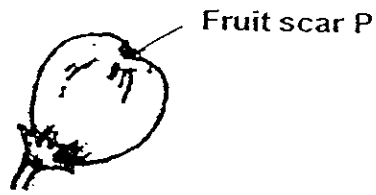


(a) Label the ovary and the fallopian tube on the diagram above. [2]

(b) Circle the part in which fertilised egg develops. [1]



37. The diagram below shows a fully developed fruit.

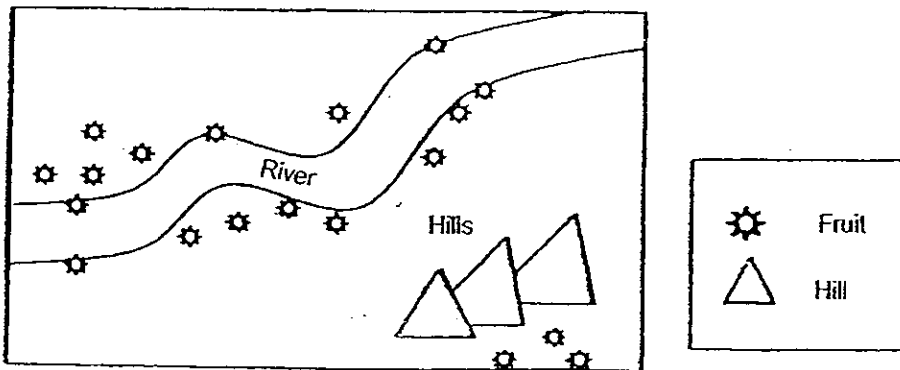


(a) What could have left the scar at P?

[1]

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The map below shows where the fruit of a plant can be found along a river.



(b) How is this fruit dispersed?

[1]

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(c) Explain why some of this fruit can be found behind the hills?

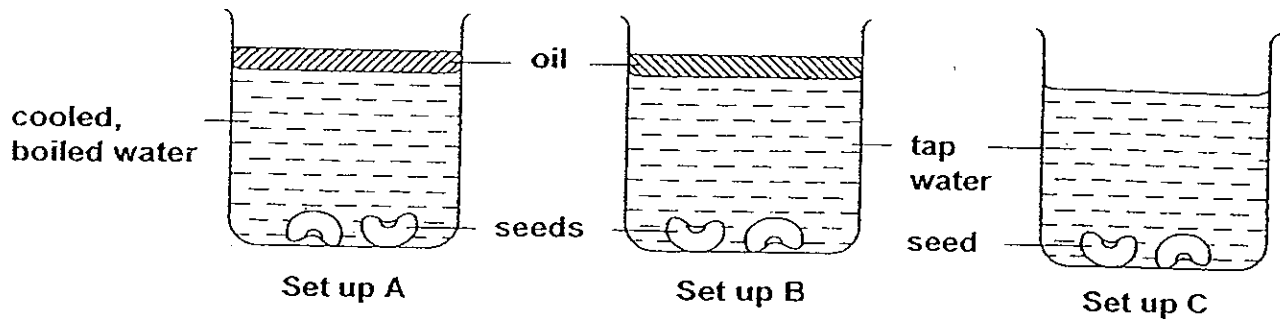
[1]

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38. Jennifer conducted an experiment as shown below to investigate the conditions necessary for seeds to germinate.



- (a) After two days, she noticed that the seeds in one of the set-ups did not germinate. In which of the set-ups were the seeds not able to germinate?

[1]

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- (b) Explain your answer in (a).

[1]

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- (c) What can Jennifer do to make the seeds in the set-up you identified in (a) to germinate; without adding anything to it?

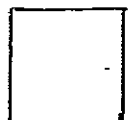
[1]

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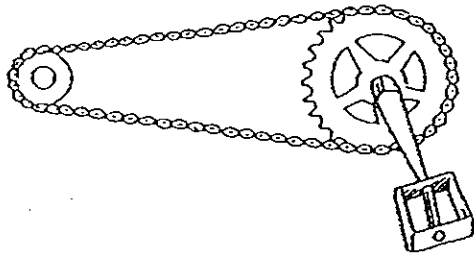
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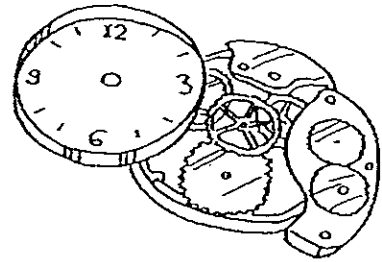
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39. The diagram below shows two different gear systems.



Gear system A



Gear system B

- (a) From the diagram above, state one difference between the ways the gears in the two systems above work. [1]

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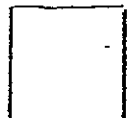
- (b) Suggest one change that you can make to gear system A to increase the speed of rotation of the smaller gear. [1]

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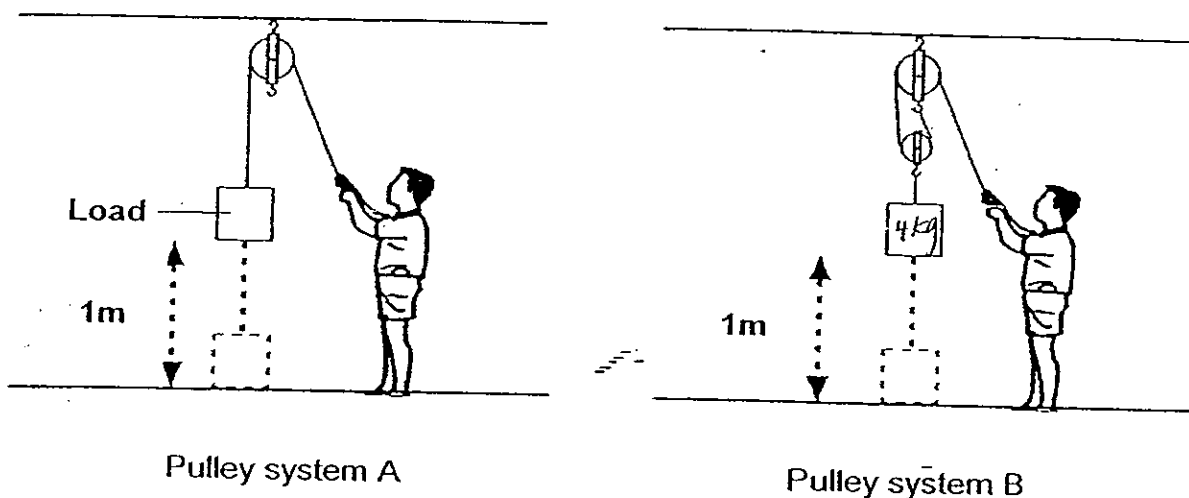
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40. Shawn tries to lift some loads of the same mass up to a metre above the ground. He uses two different types of pulley system to help him.



- (a) Which pulley system will he apply the least effort to lift the load? Explain your answer. [2] [1]

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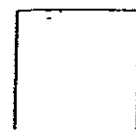
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- (b) If the mass of the load is 4kg, how much effort does Shawn need to apply to lift it up using pulley system B? [1]

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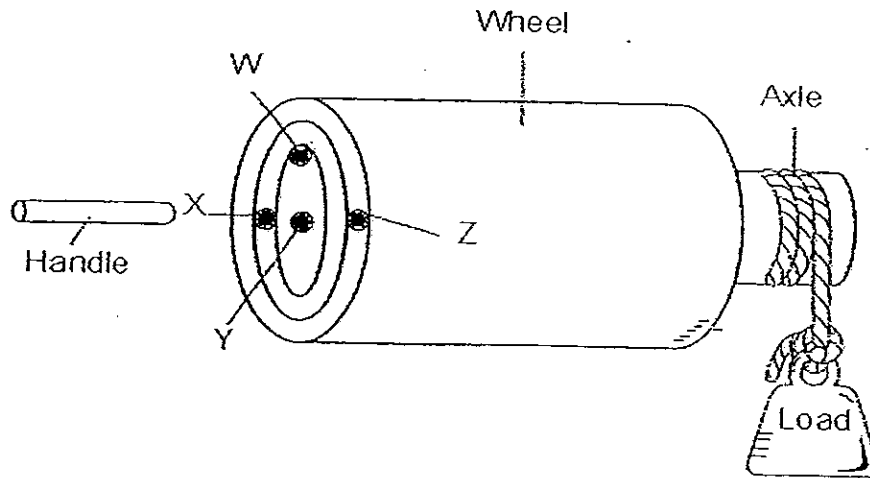


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41. A set of wheel and axle is shown in the diagram below. Siva will have to slot the handle into one of the positions, W, X, Y or Z and turn the wheel to lift the load.



- (a) At which position of the wheel, W, X, Y or Z, should the handle be fixed so that the load can be lifted with the least effort? Give a reason for your answer. [2]

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- (b) Siva made one change to the wheel and axle above. He now uses only half the amount of effort as compared to the effort needed in part (a).

What was the change that he had made?

[1]

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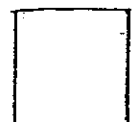
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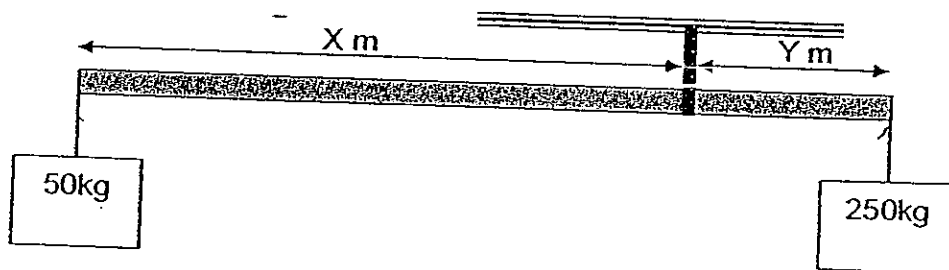
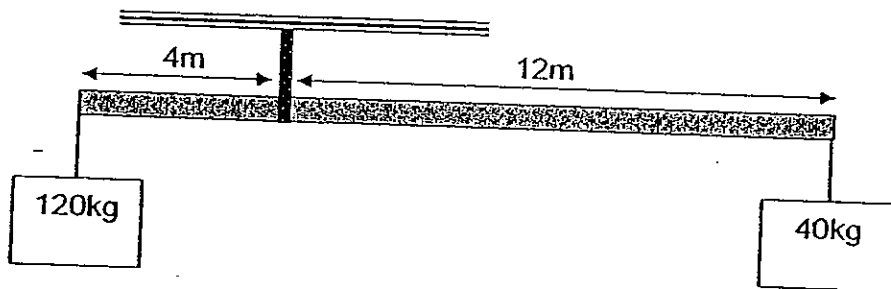
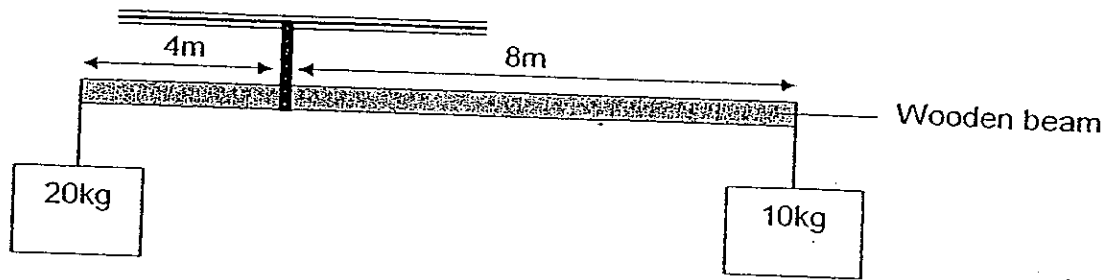
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42. The diagram below shows 3 wooden beams balanced with different loads.



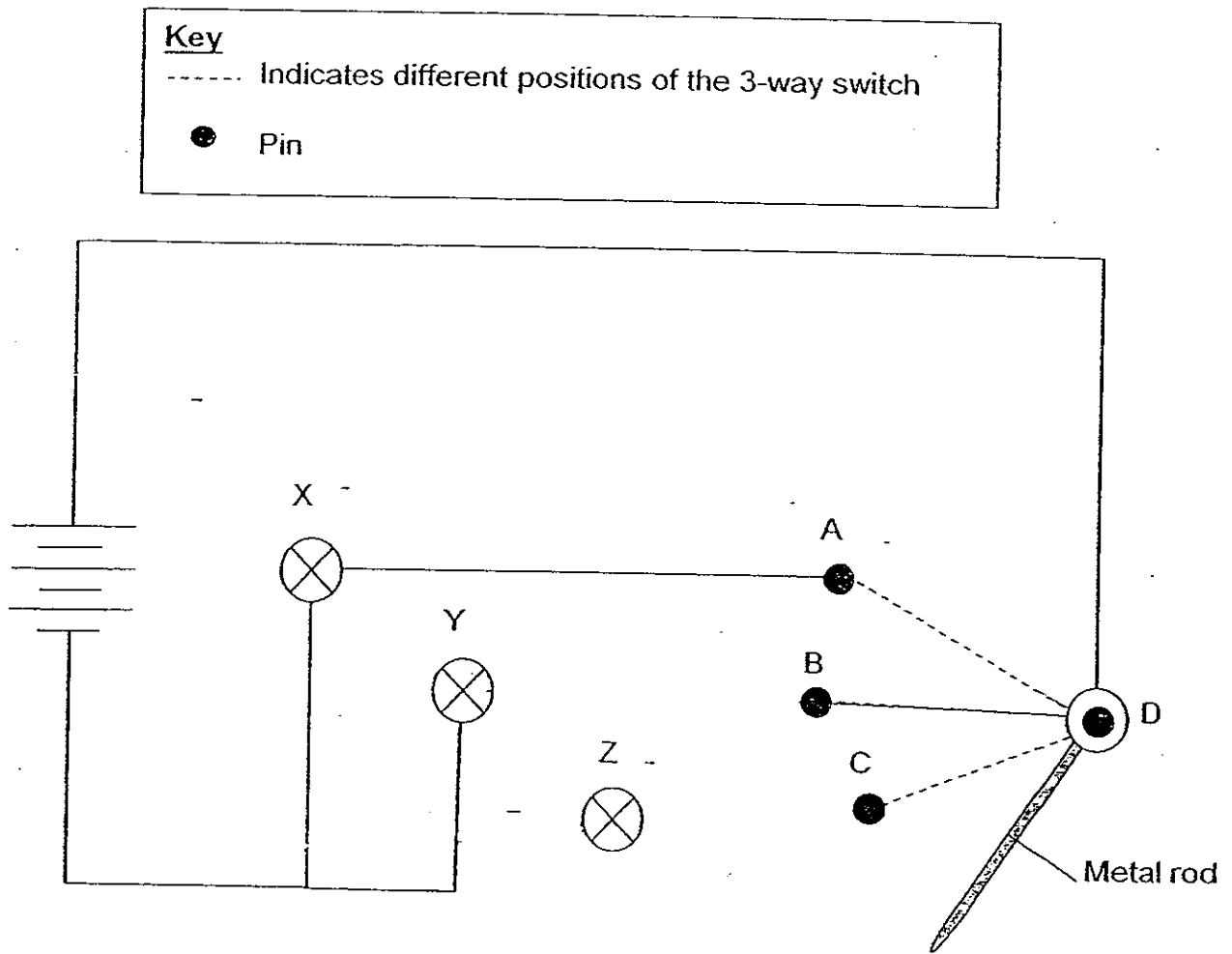
What are the values of  $X$  and  $Y$  respectively, if the beam is 24m long? [2]

$X$ : \_\_\_\_\_ m

$Y$ : \_\_\_\_\_ m



43. The diagram below shows an open circuit. The 3-way switch is made up of 4 pins, A, B, C and D. A metal rod is connected to Pin D and can be moved to touch pins A, B and C.



- (a) Draw in 4 wires in the diagram to show how the 3-way switch can be connected to the bulbs, X, Y and Z, so that we can move the metal rod to light up any one of the 3 bulbs. [2]

- (b) What is the advantage of using a 3-way switch system in a home? [1]

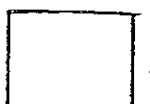
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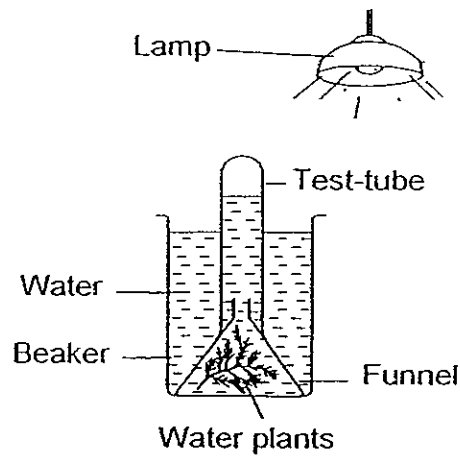
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44. Raja used the following set-ups to show his brother that a gas is produced when water plants carry out photosynthesis. He placed the set-up under the lamp for one day.



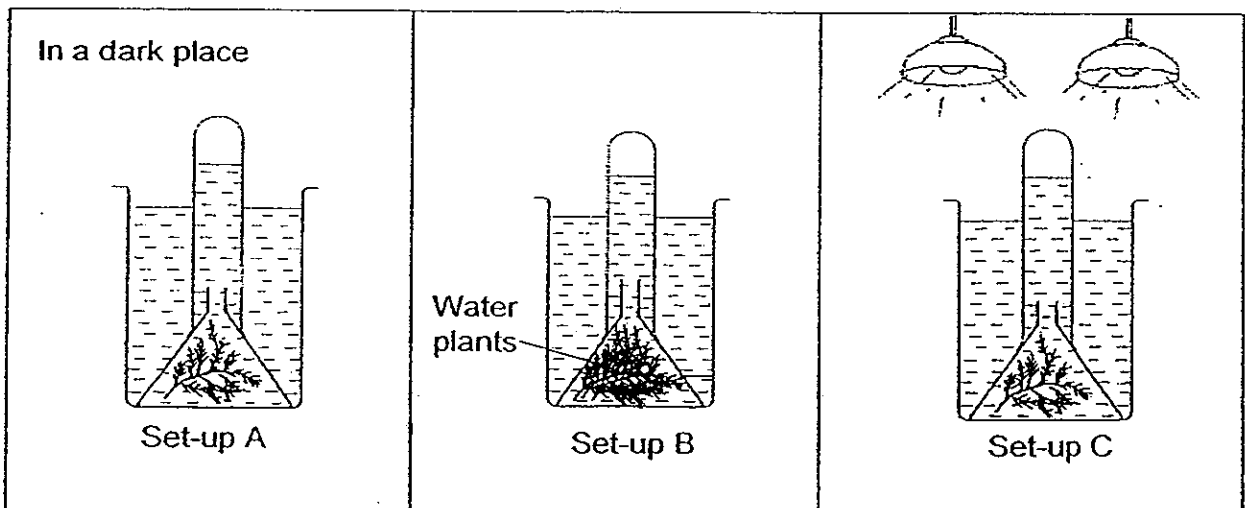
- a) Why did he put the set-up under a lamp? [1]

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Raja wanted to find out whether the amount of light would affect the rate of photosynthesis. He set up 3 additional set-ups as shown in the diagram below.

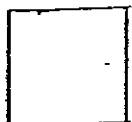


- b) Which set-up should he choose to compare with his original set-up? Explain your answer. [2]

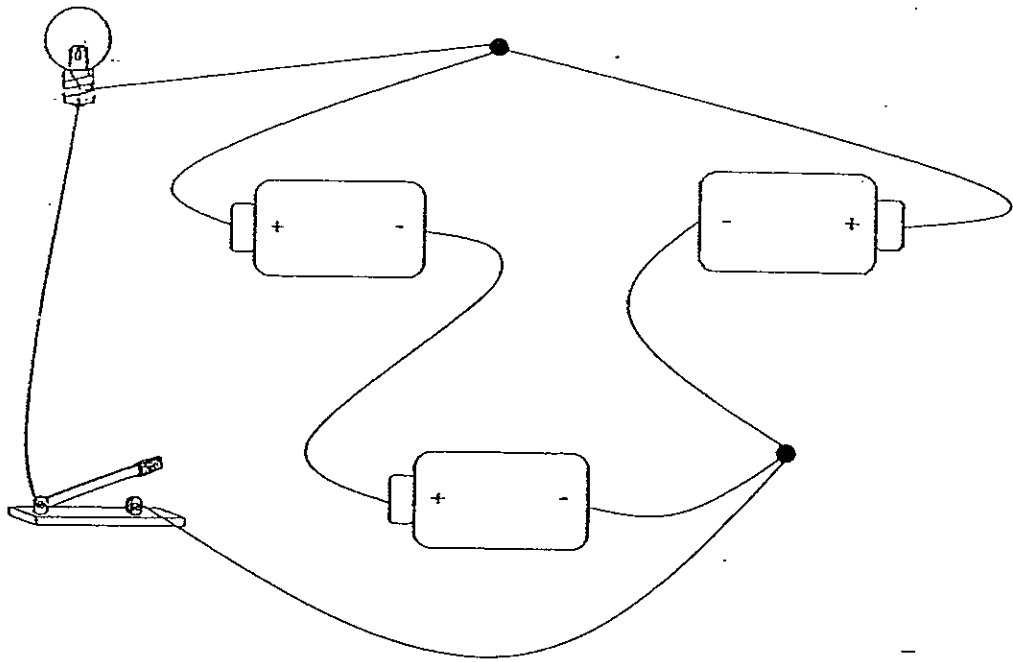
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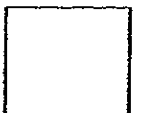
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45. Study the circuit below.



Using symbols to draw a circuit diagram in the box given below. Your diagram must be based on the above circuit. [2]



46. The diagram below shows a banana plant.



a) What is the usual way for the farmers to reproduce the banana plants? [1]

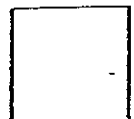
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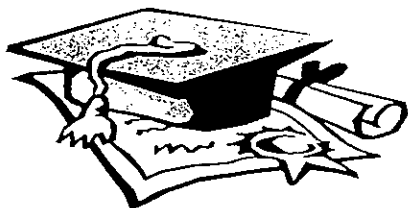
(b) What is the disadvantage of such reproduction method if the plant reproduces itself using the method stated in (a)? [1]

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----- End of Paper -----





# ANSWER SHEET

EXAM PAPER 2008

SCHOOL : CHIJ PRIMARY SCHOOL

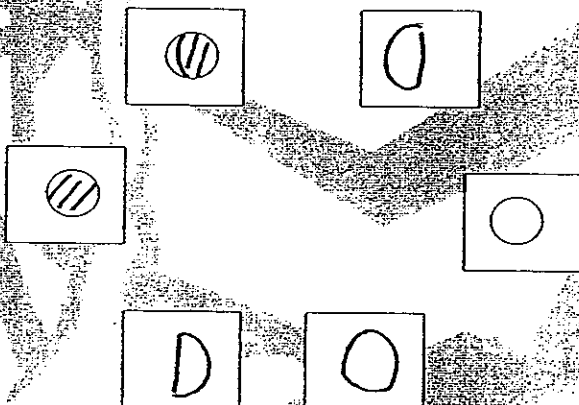
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 2

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

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

31)



32) a) Eye piece    b) Fine focus    c) Objective lens    d) stage

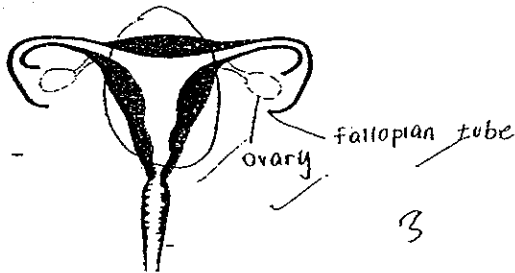
33) a) Cell A can make food but cell B cannot.  
b) Cell A have chloroplast but cell B does not.

34) a) Cell growth.  
b) Cell division continues to replace old and damaged cells instead of growing taller.

35)a) Flower C. Flower C does not have a female part to fertilise the flower.

b) Pollination and fertilization.

36)



37)a) The dropping of the style.

b) By water.

c) The fruit is carried there by animals or humans.

38)a) Set up A.

b) Cooled boiled water do not contain oxygen.

c) Pour most of the water away.

39)a) Gear A uses a chain while Gear B does not.

b) Make the smaller gear even smaller.

40)a) Pulley system B. The pulley system has a movable pulley which reduces the effort.

b) 2kg.

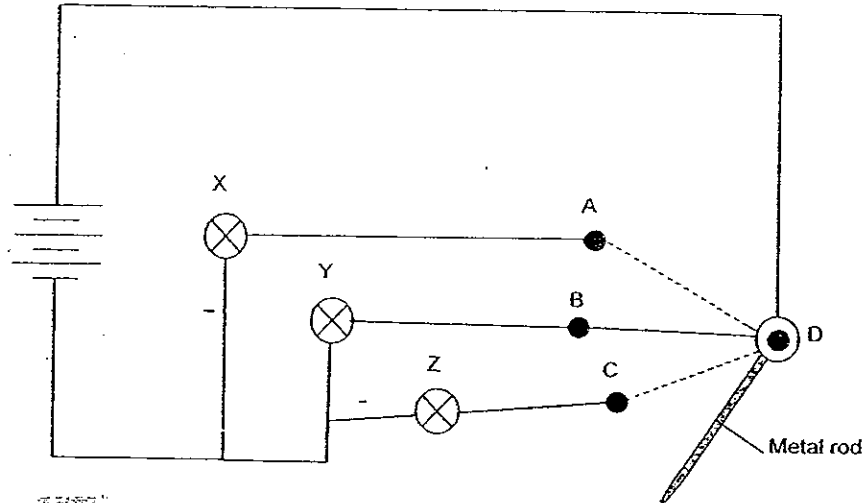
41)a) The effort will move the longest distance to complete one round, hence less effort will be needed.

b) Make the axle smaller.

42) X: 20m    Y: 4m



43)a)



b) It can save electricity by controlling one bulb at a time.

44)a) Light is needed for photosynthesis to be carried out.

b) Set-up C. Set-up C has an additional lamp which is the variable needed to show that the amount of light affect the rate of photosynthesis.

45)



46)a) Plant the plant using suckers.

b) Overcrowding might occur.