

SAR

Tao Nan School  
Primary 5 Science End-of-Year Examinations - 2004

Name: \_\_\_\_\_ ( ) Date: 1 November 2004  
Class: P5 ( ) Duration: 1.30 p.m. - 3.15 p.m.  
Parent's Signature: \_\_\_\_\_ Marks: \_\_\_\_\_ / 100

Section A (30 x 2 marks)

For each question, choose the most suitable answer and shade its correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

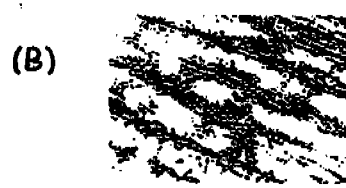
1. Which of the following natural phenomena is an effect caused by the Moon tugging at the Earth?

- (1) The tides
- (2) An avalanche
- (3) An earthquake
- (4) Sunrise and sunset

2. Which of the following cells does not have a nucleus?

- (1) A liver cell
- (2) A cheek cell
- (3) An onion cell
- (4) A red blood cell

3. Below are diagrams of four different types of cells.



Which of the cells are animal cells?

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

4. Vanessa and Valerie are identical twins. Which of the following statements about them is definitely true?

- (1) Their parents are twins.  
(2) Their DNA contains identical instructions.  
(3) Their features are identical to their parents.  
(4) Their DNA contains identical instructions as their parent's.

5. Which of the following plants are dispersed by wind?

- A - African tulip  
B - Lalang  
C - kapur  
D - Love Grass

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

6. Ken Min and Ting Wei planted four identical balsam plants in four pots of the same size under the following conditions:

Pot	Type of soil	Place
A	garden soil	in the sun
B	garden soil	in the shade
C	sandy soil	in the sun
D	sandy soil	in the shade

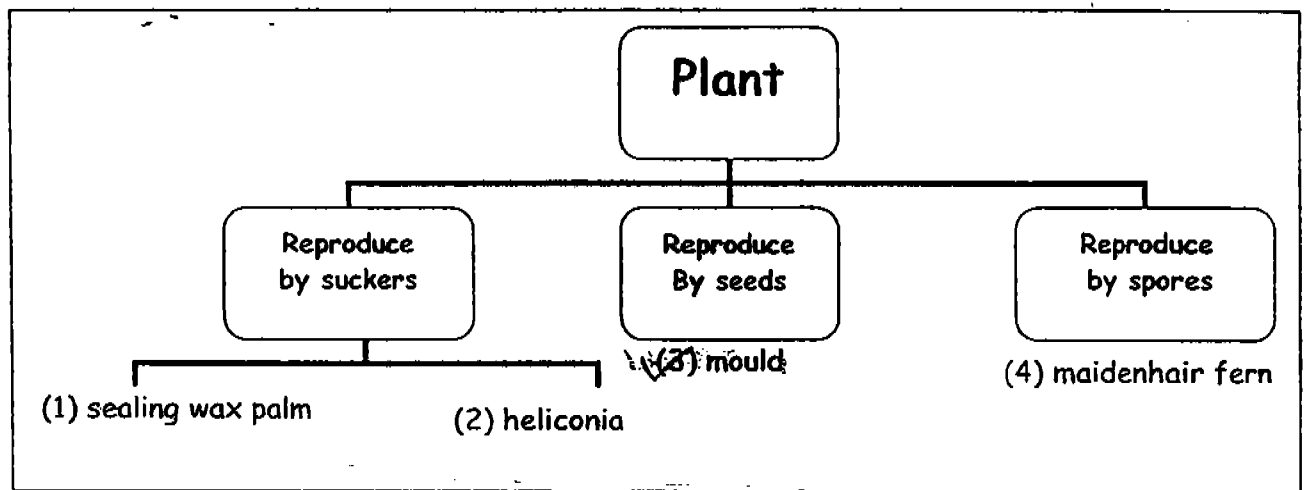
They gave the plants the same amount of water and watched how well each grew. They wanted to find out whether \_\_\_\_\_.

- A water is needed for plants to grow.
- B balsam plants grow better in the sun or in the shade.
- C the type of soil affects the growth of the balsam plants.
- D the size of the pots affects the growth of the balsam plants.

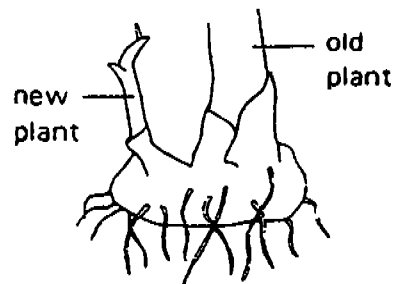
By comparing the plants, which of the following can the boys tell about their plants from their experiment?

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

7. Study the diagram below carefully. Which of the following is ~~not~~ correctly classified?



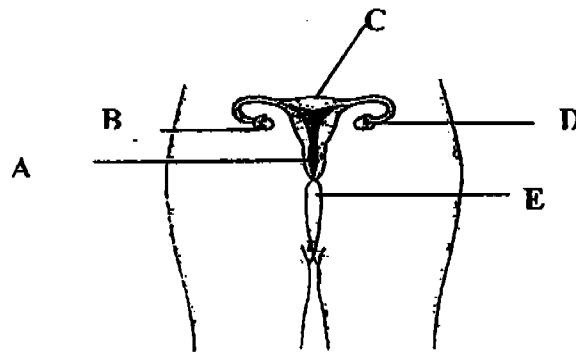
8. The diagram below shows a new plant growing from the bud of an old plant.



This is an example of \_\_\_\_\_.

- (1) fertilisation
- (2) dispersal
- (3) reproduction
- (4) adaptation

9.



Which part or parts of the female reproductive system above, when absent, will not allow the female to produce eggs?

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

10. Julie wants to find out the effect of overcrowding on the growth of the balsam plant. Study the table below.

Pot	Number of balsam seeds	Type of soil	Size of pot
A	10	garden soil	big
B	5	garden soil	small
C	5	loamy soil	medium
D	5	garden soil	medium
E	5	garden soil	big
F	3	loamy soil	small

Which three pots given below should she set up to carry out a fair test?

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

11. Below are statements explaining how food is converted to energy in our body. Arrange them in the correct order.

- A The digested food enters our body cells.
- B Food is broken down by respiration in the cells.
- C Food is eaten and digested in the digestive system.
- D The blood carries the digested food to all the cells in our body.

Which of the following is in the correct order?

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

12. Which of the following are not needed by plants to make food?

- |           |                    |                 |
|-----------|--------------------|-----------------|
| A - light | B - water          | C - chlorophyll |
| D - soil  | E - carbon dioxide | F - oxygen      |

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

13. The flow diagram below shows the five steps needed to do a starch test.

- A : Pluck a leaf from the plant
- B : Leave the plant out in the Sun for an hour
- C : Boil the leaf with alcohol
- D : Boil the leaf with water
- E : Wash the leaf and then add a few drops of iodine solution over it.

Which of the following arrangements is in the correct order?

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

14. Study the table below. The process of photosynthesis and respiration can be considered as part of ~~cycle~~ because \_\_\_\_\_.

Comparison of Photosynthesis and Respiration

	Photosynthesis	Respiration
Purpose	Store energy	Release energy
Products	Glucose and oxygen	Water and carbon dioxide
Raw Materials	Water and carbon dioxide	Glucose and oxygen

- (1) they are the reverse of one another
- (2) both give off oxygen to be used by living things
- ~~(3) one is used by animals and the other is used by plants~~
- (4) the products of one are used as the raw materials of the other

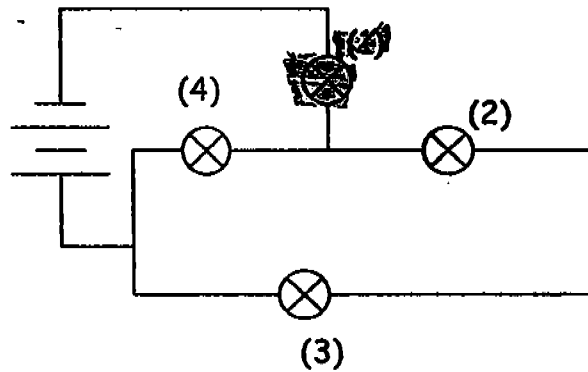
15. Which of the following statements are correct?

- A) A switch is used to open and close a circuit.
- B A light bulb is a source of electrical energy.
- C Electric current can flow through a wire.
- D Electric current can flow through a closed circuit.

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

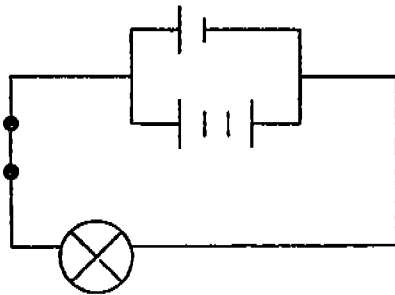


16. The circuit diagram shows four bulbs connected to two batteries. ~~When one particular bulb blows, the other three will still light up.~~  
Which bulb is this?

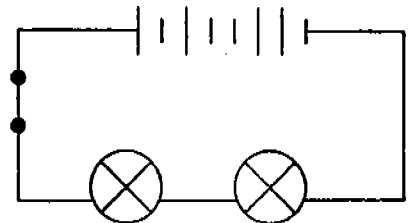


17. Which circuit will have the ~~brightest~~ bulb/bulbs? (The batteries, wires and bulbs used for all the circuits are the same.)

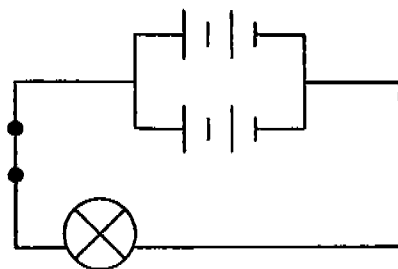
(1)



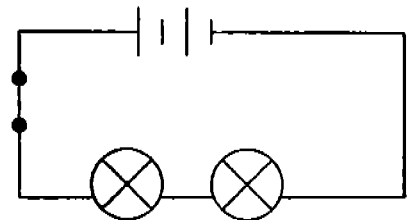
(2)



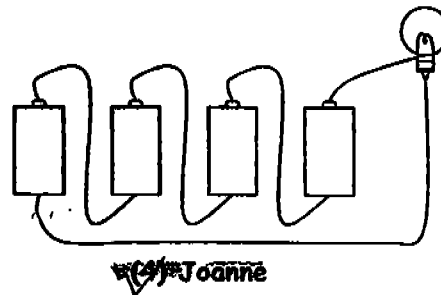
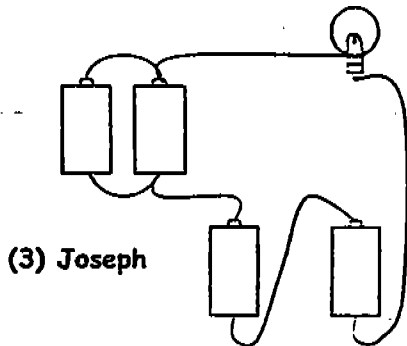
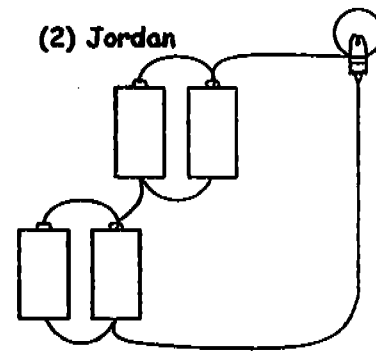
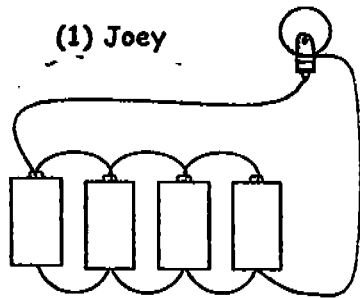
(3)



(4)



18. Joey, Jordan, Joseph and Joanne were each given four batteries, a bulb and some wires to make a closed circuit. Below shows how each of them had arranged his/her batteries and bulbs.

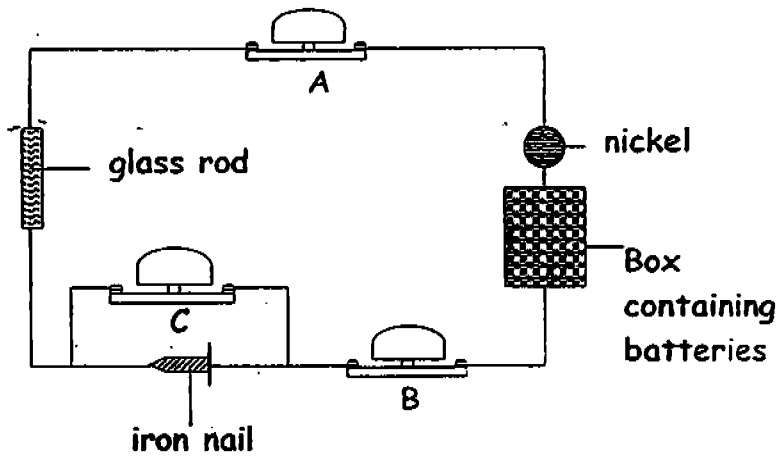


Whose arrangement would ensure that he/she gets a supply of light for the longest possible time?

19. Which of the following matters are conductors of electricity?

- (1) lead, water, gold and rubber
- (2) carbon, water, zinc and steel
- (3) nickel, porcelain, cobalt and copper
- (4) silver, nichrome, plastic and aluminium

20. The diagram below shows three buzzers A, B and C in a circuit that is connected correctly. Which of these buzzers ~~will sound?~~



- ~~(1) none of the buzzers~~  
 x(2) C only  
 x(3) A and B only  
 x(4) All of the buzzers

21. Which of the following ~~does not~~ help to ~~conserve electricity?~~

- (1) Using energy-saving bulbs for lamps  
 (2) Drying clothes in the sun instead of using a dryer  
 (3) Using an electric fan instead of an air-conditioner  
~~(4) Heating up food using a microwave oven instead of using a gas burner~~

22. Oil, coal and natural gas should be used carefully because they

- A. are non-renewable resources  
 B. cannot be replaced easily  
 C. help in producing electricity  
 D. take a long time to be formed

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

23. Which of the following action requires pulling?

- (1) clipping our finger nails
- (2) clicking a computer mouse
- ~~(3) opening a packet of potato chips~~
- (4) knocking the door with the knuckles to make a sound

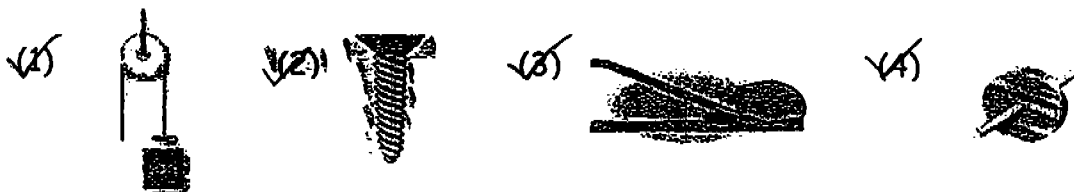
24. The table below shows how some simple machines are grouped.

A	B	C
ramp	tap head	ice tongs
stairs	cross-spanner	<del>fishing rod</del>
crowbar	car steering wheel	nut cracker

Which machine is grouped ~~wrongly~~?

- ~~(1) crowbar~~
- (2) fishing rod
- ~~(3) cross spanner~~
- ~~(4) car steering wheel~~

25. Which of the following machines is an inclined plane?

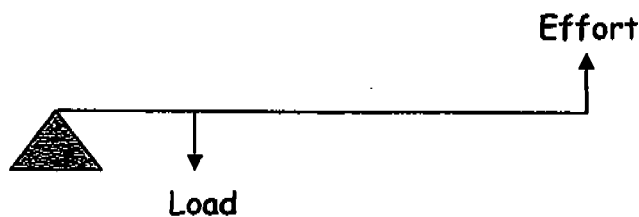


26. Which of the following is/are true of a rolling ball that has come to a stop?

- A A force has acted on it.
- B No effort was needed to stop it.
- C It used up the force that let it roll.
- D Its weight could not allow it to roll anymore.

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

27. Study the lever shown below carefully.

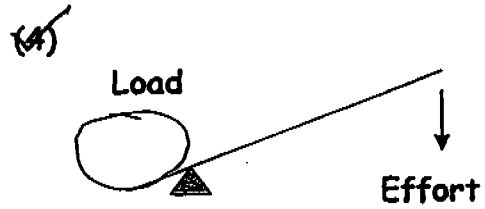
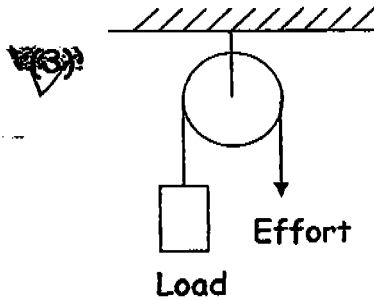
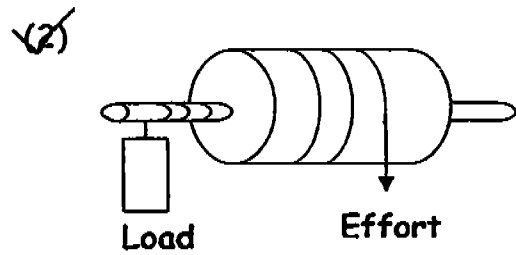
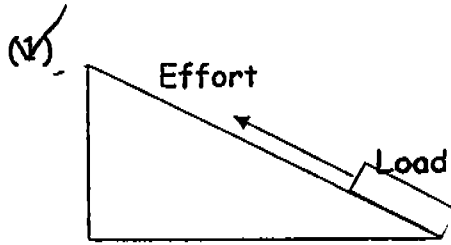


Which of the following are true of the lever shown above?

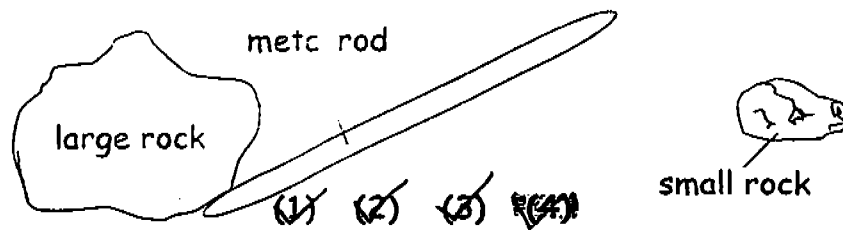
	Load	Effort
A	greater	smaller
B	smaller	greater
C	moves a shorter distance	moves a longer distance
D	moves a longer distance	moves a shorter distance

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

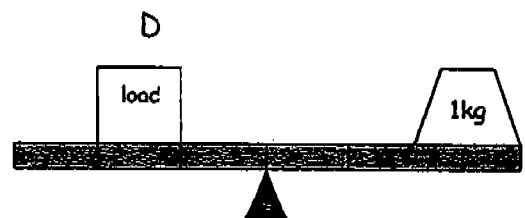
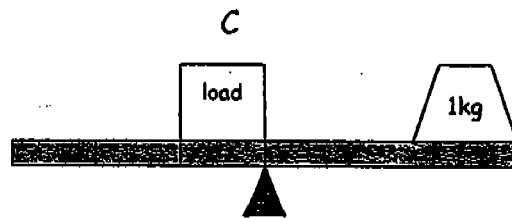
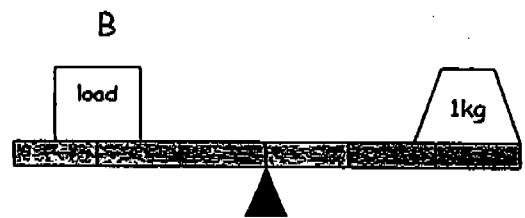
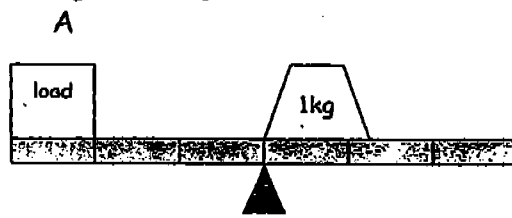
28. In which of the following machines are the ~~effort~~ and the ~~load equal~~?



29. At which position should the small rock be placed such that the ~~effort required~~ is the ~~least~~?



30. Study the diagrams below carefully. Arrange the masses of the loads from the heaviest to the lightest.



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

Tao Nan School

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

Class: P5-( - )

Section B (40 marks)

Answer the following questions in the spaces provided.

31. Match the cell parts to their correct functions on the right by drawing lines to join their dots. (2m)

- |               |   |   |   |
|---------------|---|---|---|
| Nucleus       | • | • | A stiff material that gives a plant cell its shape.   |
| Cytoplasm     | • | • | A jelly-like substance that contains many cell parts and where new organelles are formed.   |
| Cell wall     | • | • | A cell part that has a thin layer that controls the movement of materials in and out of the cell.   |
| Cell membrane | • | • | An organelle that controls all the activities of the cell and contains instructions that are passed down from one generation to the next. |

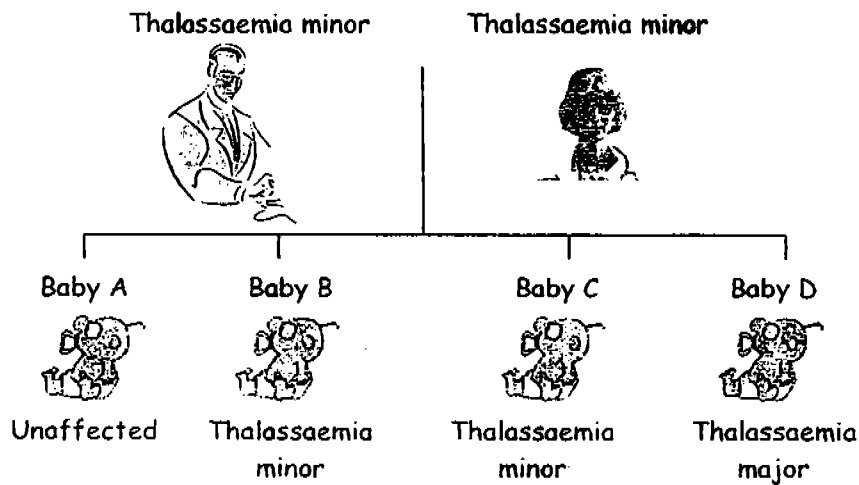


32. The family tree below shows how children of the Tan family inherited a disease called Thalassaemia from their parents.

**Thalassaemia major** is a disease whereby a person turns pale and gets tired easily and may need regular blood transfusion.

**Thalassaemia minor** is a condition whereby a person only carries the defective gene but is not affected by the disease.

### Family Tree of the Tan Family



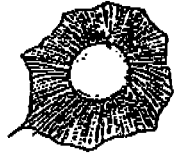
(a) How many of their children are **not** affected by the disease? (2m)

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(b) Which baby from the above diagram **does not** carry the defective gene? (1m)

---

33.



(a) How is this fruit dispersed? (1m)

\_\_\_\_\_

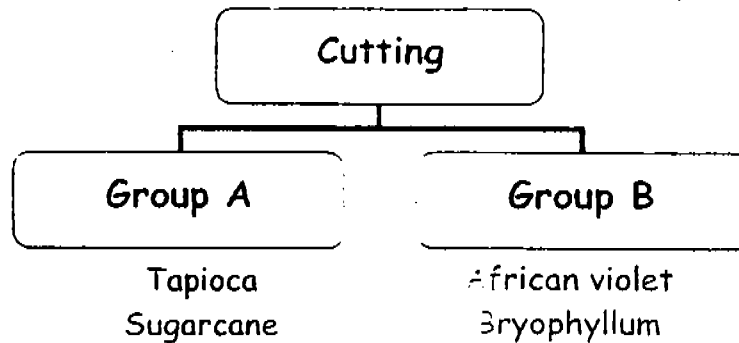
(b) Identify one characteristic of this fruit that helps it to be dispersed. (1m)

\_\_\_\_\_

(c) Why does the fruit need to be dispersed? (1m)

\_\_\_\_\_

34.



(a) Give a name for Group A and B. (1m)

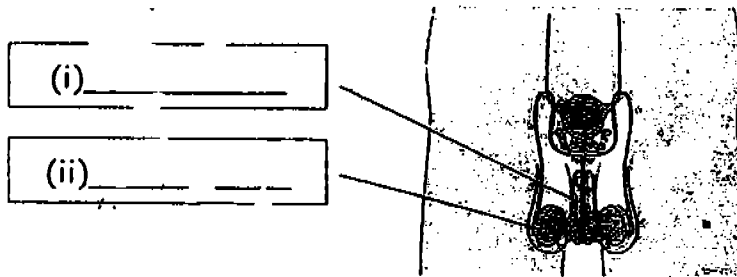
Group A \_\_\_\_\_

Group B \_\_\_\_\_

(b) Give another example for Group A. (1m)

\_\_\_\_\_

35. (a) Name the parts (i) and (ii). (1m)



(b) What is the reproductive function of (i)? (1m)

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36. (a) Name the process whereby energy is released from glucose. (1m)

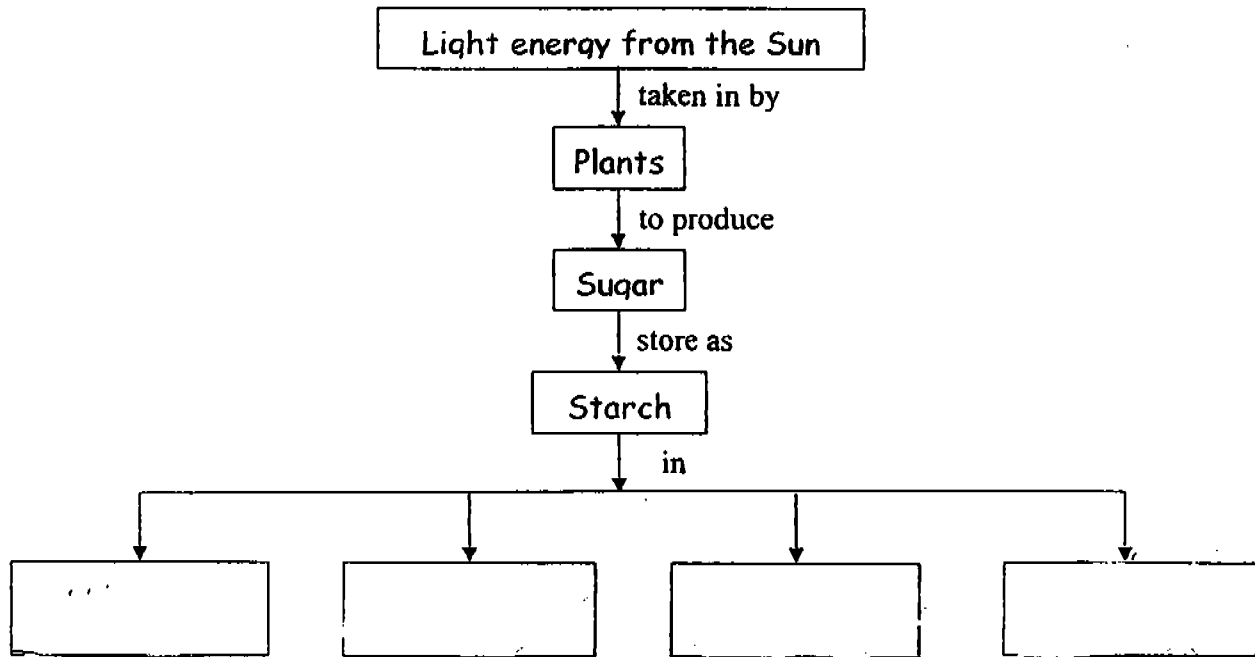
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(b) How do plants obtain carbon dioxide and water necessary for photosynthesis? (2m)

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37. Fill in the boxes below to show where food made by plants is stored.  
(2m)

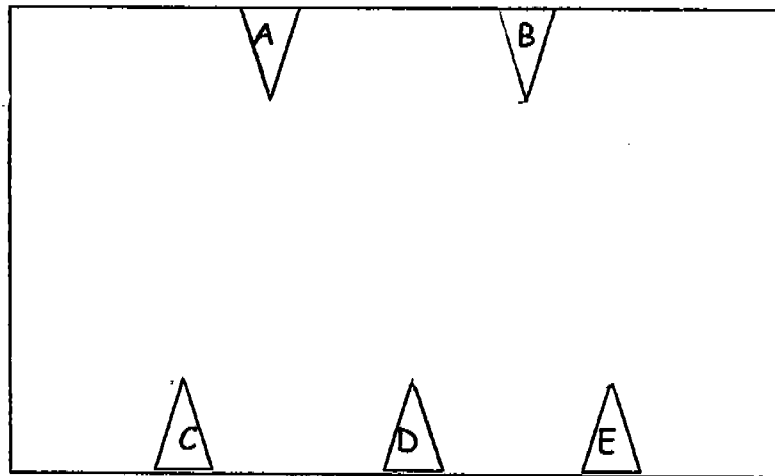


38. (a) Draw some wires in the diagram below to connect the batteries and the bulb so that the bulb will produce the brightest light.  
(1m)



(b) Explain how the batteries are connected to produce this effect.  
(1m)

39. The diagram below shows a circuit card that Cherie made. (2m)



Si Qi helped to test it with a circuit tester. This was what Si Qi found:

Clips connected to circuit tester	Light bulb on circuit tester
A and B	Lights up
A and C	Does not light up
A and D	Does not light up
A and E	Does not light up
B and C	Does not light up
B and D	Does not light up
B and E	Does not light up
C and D	Lights up
C and E	Lights up
D and E	Lights up

Draw in the above diagram to show how Cherie connected the clips of the circuit card.

40. Mark all the statements which are true with "T" and false with "F".  
(2m)

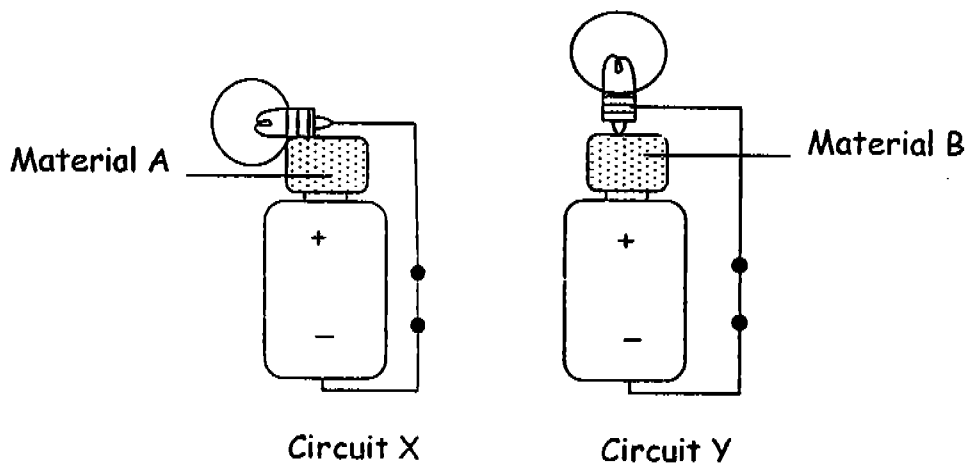
(a) Fossil fuels are inexhaustible. ( )

(b) Charcoal and wood are examples of fossil fuels. ( )

(c) Conductors of electricity are also conductors of heat. ( )

(d) Porcelain and clay are examples of non-conductors of electricity. ( )

41. Jade found some batteries, bulbs and 2 other materials in a drawer. She formed two electrical circuits as shown below. She found that only the light bulb in Circuit Y lighted up. (2m)

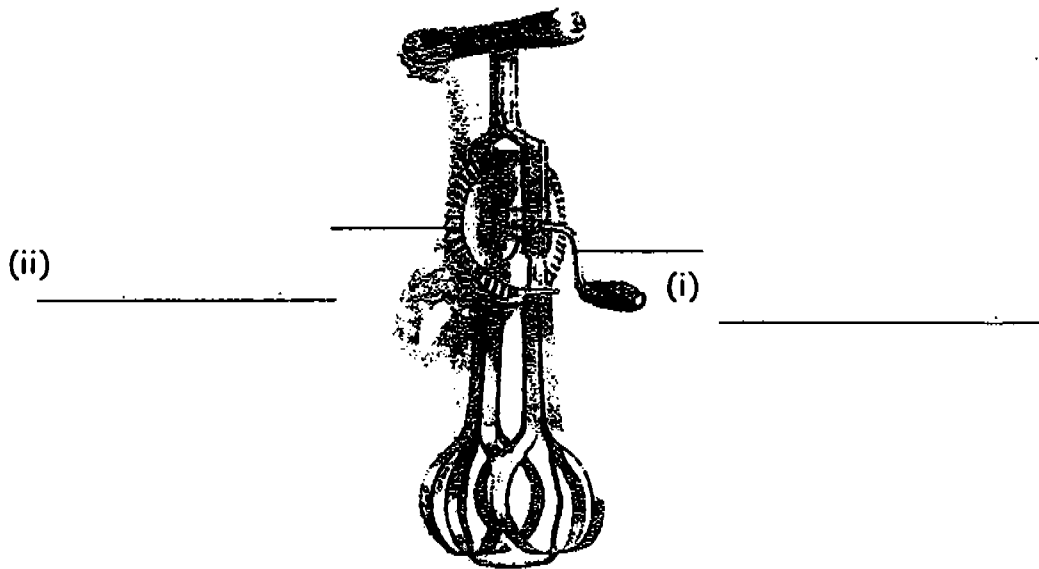


Give two possible reasons why the light bulb in circuit X did not light up.

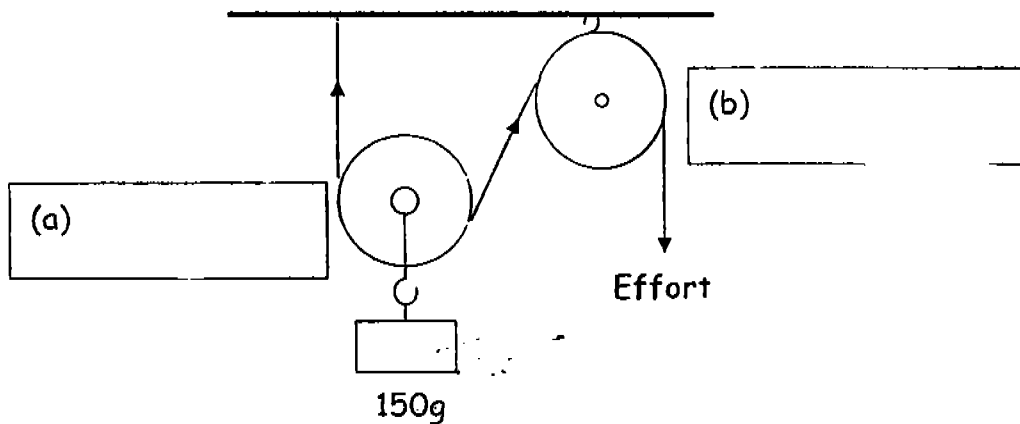
(i) \_\_\_\_\_  
\_\_\_\_\_

(ii) \_\_\_\_\_  
\_\_\_\_\_

42. Name the two machines that work together in the equipment below.  
(2m)



43. Study the diagram below carefully and fill in the boxes with the types of pulley used. (2m)



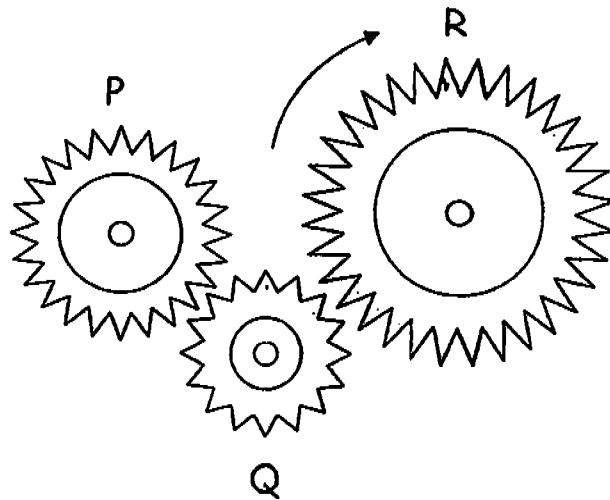
(c) What are the advantages of having (a) and (b) combined? (2m)

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44.



(a) Which of the gears rotates the fastest? (1m)

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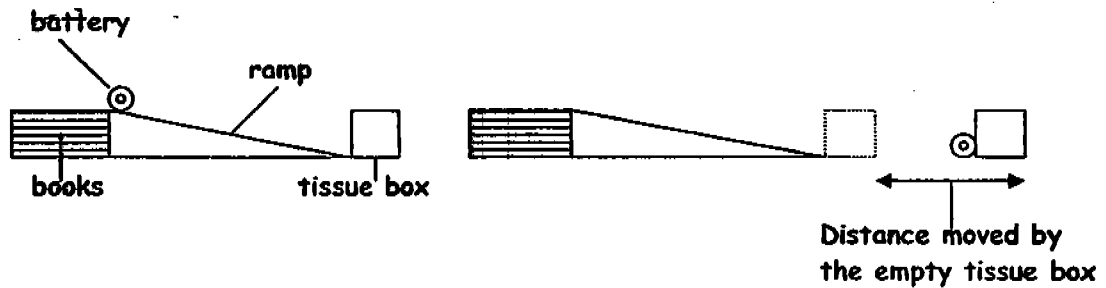
(b) If Gear R turns as shown in the diagram, draw arrows to indicate the direction P and Q will turn. (1m)

(c) How many turns will Q make when R has made two turns? (1m)

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45. Xin Wei rolls a battery down a ramp. She wants to find out if the slope of the ramp affects the distance the empty tissue box moves.



- (a) Which of the variables must she change to determine the results?(1m)

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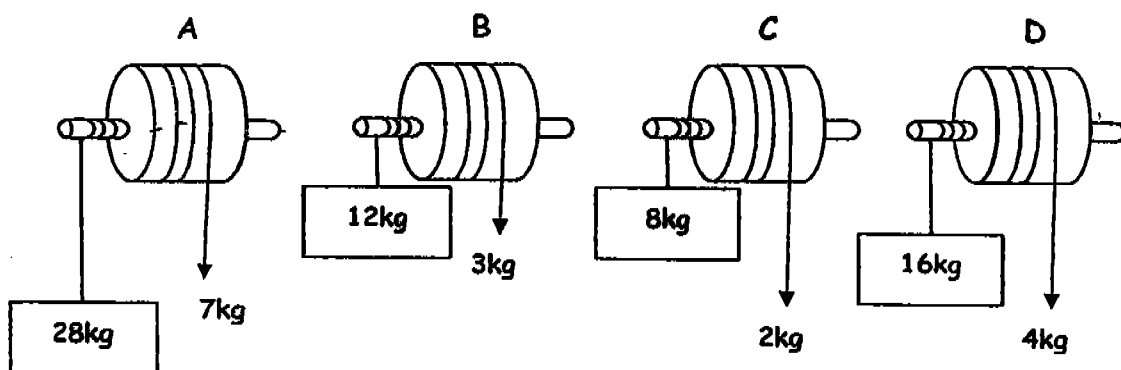
- (b) What type of simple machine is she using to carry out this experiment? (1m)

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- (c) State the conclusion for this experiment. (1m)

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46. Four different loads were lifted by a wheel and axle.



(a) Complete the table below to show the mass of the load and the amount of effort required to lift each load. (2m)

	Mass of the load	Amount of effort
A		
B		
C		
D		

(b) What can be deduced from the data collected in the above table regarding the diameter of the axle compared to the diameter of the wheel? (1m)

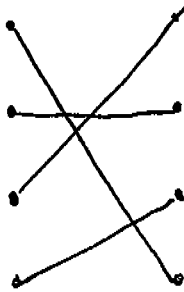
End of Paper

S12

TAO NAN SCHOOL  
PRIMARY 5 SCIENCE  
END OF THE YEAR EXAMINATION - 2004

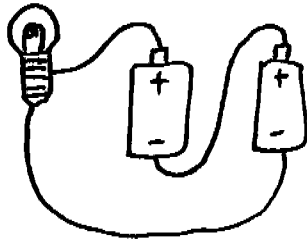
01. 1	11. 2	21. 4
02. 4	12. 2	22. 2
03. (1)	13. (4)	23. 3
04. (2)	14. (4)	24. (1)
05. (3)	15. 3	25. 2
06. 3	16. (4)	26. (2)
07. 3	17. 3	27. 1
08. 3	18. (1)	28. 3
09. 3	19. 2	29. (1)
10. 4	20. 1	30. 4

31)



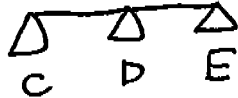
- 32) a) 3 of their children are not affected.  
b) Baby A
- 33) a) It is dispersed by wind.  
b) Its wing-like structure helps it to be dispersed.  
c) It needs to be dispersed to prevent overcrowding.
- 34) a) From stems  
From leaves  
b) Potato
- 35) a) i) penis      b) testes  
b) It transports the sperms to fertilize the egg.
- 36) a) Respiration  
b) They obtain carbon dioxide through the stomata and water from the roots.
- 37) Leaves      Stem      Roots      Fruits

38) a)



b) They are connected in series.

39)



40) a) F    b) F    c) T    d) T

41) i) Material A was not a conductor of electricity.

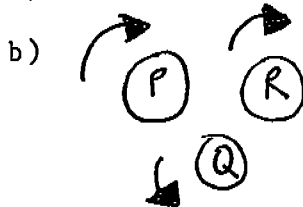
ii) The bulb in Circuit X had blown.

42) ii) Gear            i) Wheel and axle

43) a) Movable pulley            b) Fixed pulley

c) Less effort is needed to lift a greater load.

44) a) Gear Q



c) Q will make four turns.

45) a) She must change the number of books.

b) She is using an inclined plane.

c) When the number of books increases, the distance moved by the tissue box also increases.

46) A      28 kg            7 kg

B      12 kg            3 kg

C      8 kg              2 kg

D      16 kg            4 kg

b) The diameter of the wheel is 4 times that of the axle.