

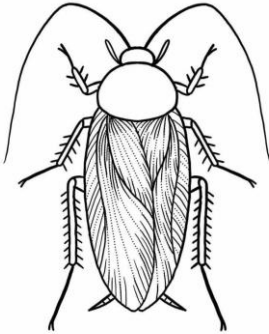
2021 PSLE FOUNDATION SCIENCE – PAPER 1

**SECTION A: (18 × 2 MARKS)**

For questions 1 to 18, three options are given. Write 1, 2 or 3 in the brackets provided.

1. Which of the following organisms has young that does not resemble the adult?

(1)



(2)



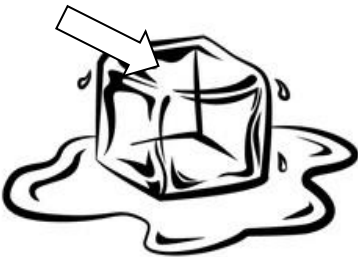
(3)



( )

2. Which of the following is not a matter?

(1)



(2)

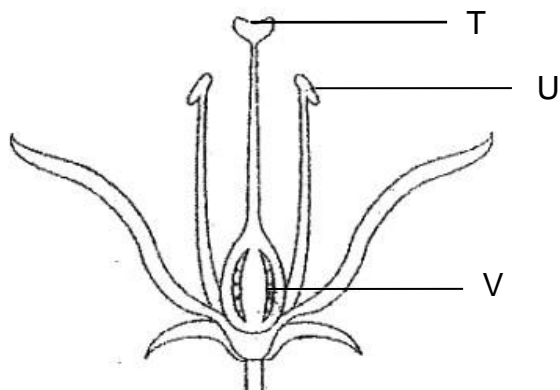


(3)



( )

3. The diagram below shows a cross-section of a flower.



At which part of the flower does fertilisation take place?

- (1) T
- (2) U
- (3) V

( )

4. The table shows Arif's answers to some questions about non-flowering plants.

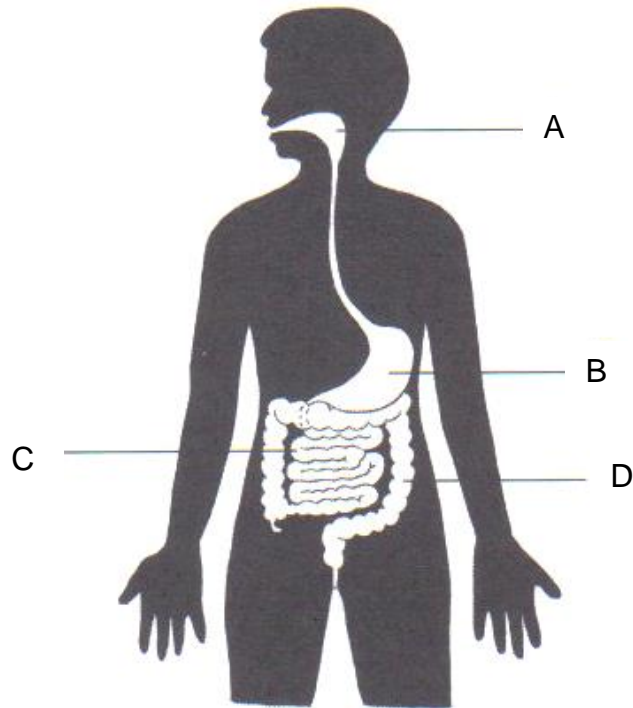
Question	Answer
X : Can it reproduce by spores?	Yes
Y : Can it make its own food?	No
Z : Is it a decomposer?	Yes

Which question was answered correctly?

- (1) X
- (2) Y
- (3) Z

( )

5. The diagram below shows the human digestive system.

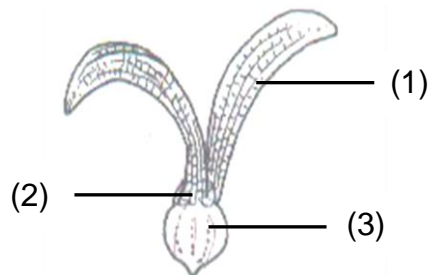


Digestive juices are produced at \_\_\_\_\_.

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

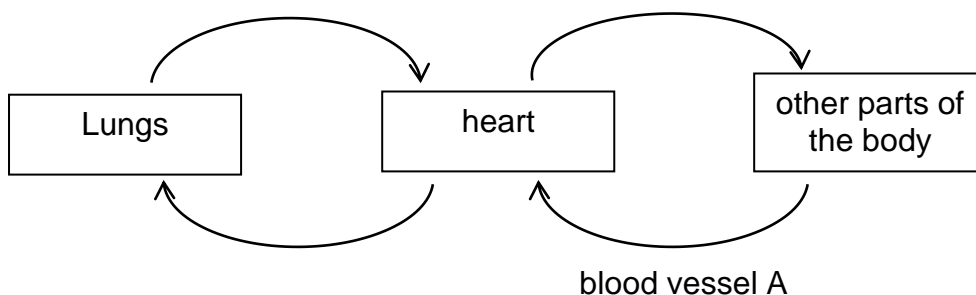
( )

6. Which of the following correctly shows the part which helps the fruit in wind dispersal?



( )

7. The diagram below shows the human circulatory system.

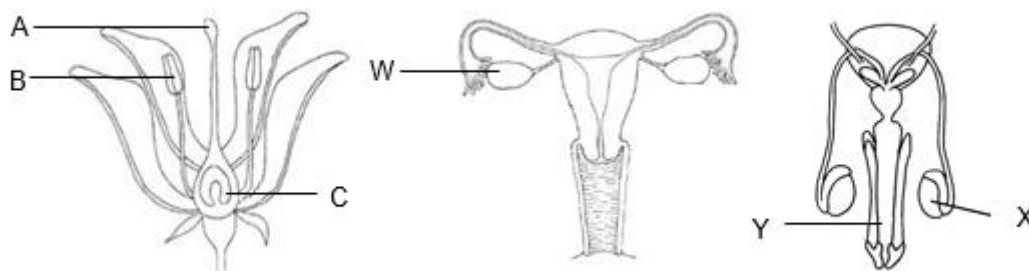


Which of the following statements is true about blood vessel A?

- (1) Blood vessel A brings waste matter away from other parts of the body.
- (2) Blood vessel A brings oxygen-rich blood to the heart.
- (3) No oxygen can be found in blood vessel A.

( )

8. The diagram below shows the human and plant reproductive systems.

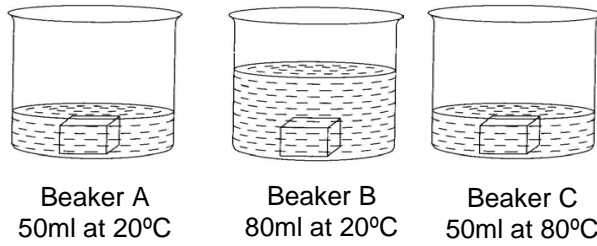


Which one of the following is correct?

	<b>Where are male reproductive cells produced?</b>	<b>Where are female reproductive cells produced?</b>
(1)	A, X	C, W
(2)	B, X	C, W
(3)	A, Y	B

( )

9. Three blocks of hot iron were heated to a temperature of 80°C. Each block was dropped into different beakers of water as shown in the diagram below.

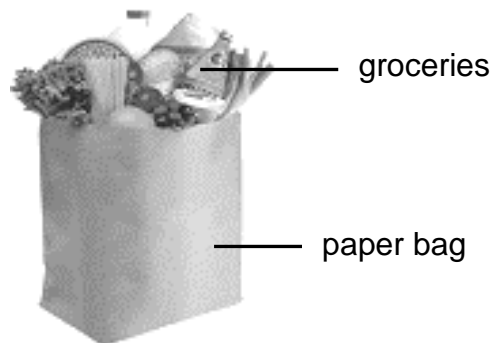


In which beaker would the water show the greatest rise in temperature?

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

( )

10. Mohammed was able to pack his groceries in the paper bag below.

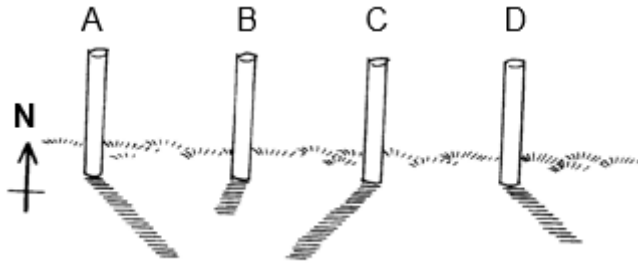


Which property of material allows Mohammed to carry all his groceries without the paper bag breaking?

- (1) Strength
- (2) Flexibility
- (3) Waterproof

( )

11. Look at the diagram below.

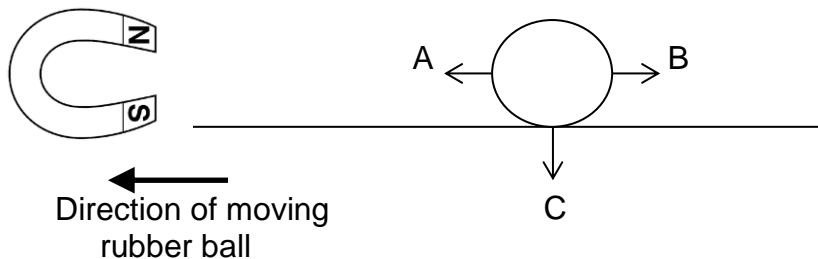


Which of the following shows the correct time when the shadows were most probably formed?

	7 am	10 am	1 pm	5 pm
(1)	A	D	B	C
(2)	A	B	D	C
(3)	C	B	D	A

( )

12. The diagram below shows a rubber ball rolling on the ground in the direction indicated.

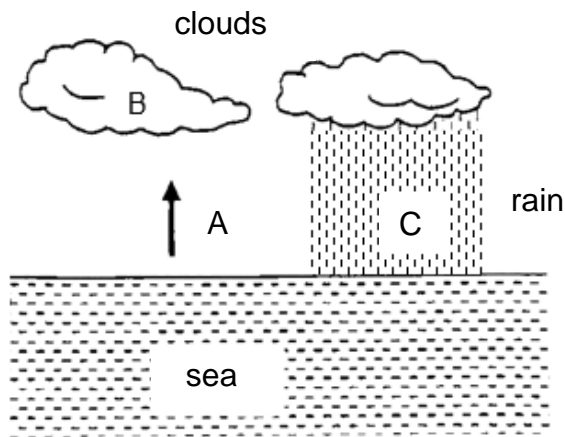


Which of these statements is correct?

- (1) A shows the direction of the frictional force acting on the ball.
- (2) B shows the direction of the magnetic force acting on the ball.
- (3) C shows the direction of the gravitational force acting on the ball.

( )

13. The diagram below represents the water cycle.

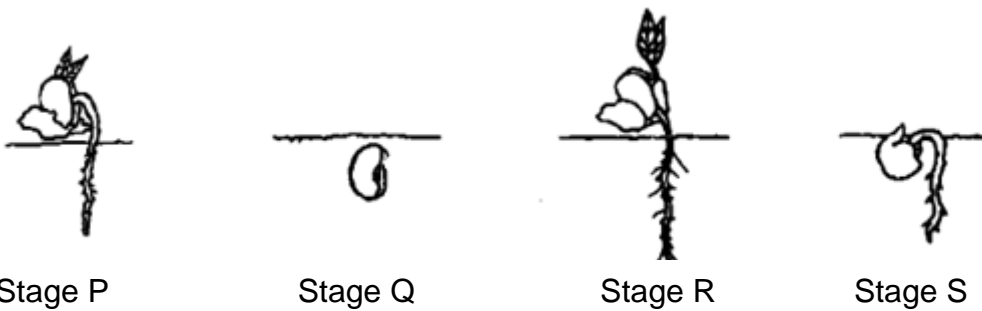


At which stages are water present in the liquid state?

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

( )

14. The pictures below show the different stages of growth of the bean plant not in the correct order.

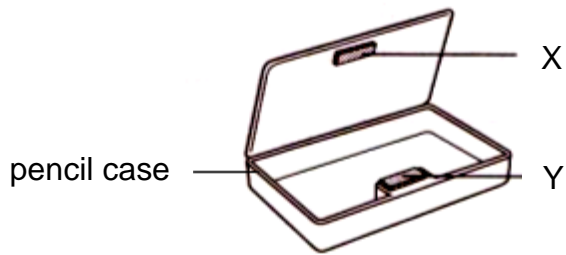


Arrange the above stages of growth in the correct order.

- (1) P → Q → R → S
- (2) Q → S → P → R
- (3) Q → S → R → P

( )

15. Ali bought a pencil case that has a magnet to close its cover.



Which arrangement of the magnets is possible?

(1) 

<b>N</b>	<b>S</b>
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 magnet X

<b>N</b>	<b>S</b>
----------	----------

 magnet Y

(2) 

<b>S</b>	<b>N</b>
----------	----------

 magnet X

<b>S</b>	<b>N</b>
----------	----------

 magnet Y

(3) 

<b>N</b>	<b>S</b>
----------	----------

 magnet X

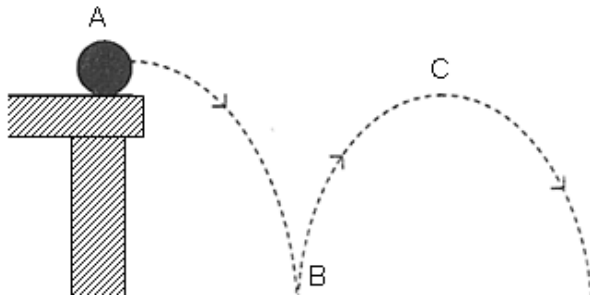
<b>S</b>	<b>N</b>
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 magnet Y

( )



16. The diagram below shows a ball bouncing off a table from point A.

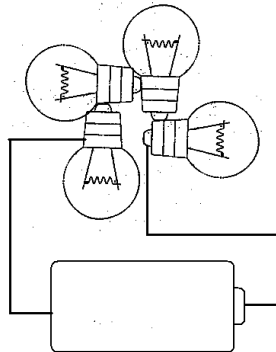


Which of the following statement is true?

- (1) At B, there is zero gravitational force.
- (2) At C, the gravitational force is the greatest
- (3) Gravitational force is constant at A, B and C.

( )

17. Look at the given circuit below. All the bulbs are in good working condition.

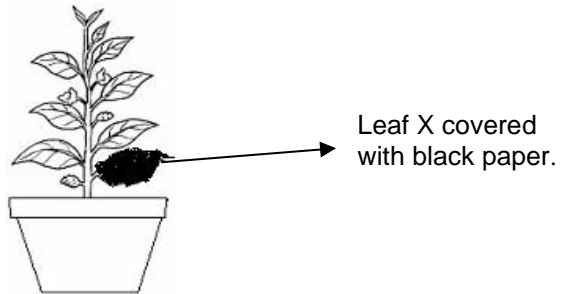


Which of the following statements is true?

- (1) None of the bulbs will light up.
- (2) Only two of the bulbs will light up.
- (3) All four light bulbs in the circuit will light up.

( )

18. Ahmad wanted to find out if light is necessary for plants to make food. The diagram below shows his setup. After a few days, iodine solution was added to the leaves to check if there was any starch in the leaf. If there is any starch, brown iodine solution will turn dark blue.



Which of the following would Ahmad observe when he dropped some iodine on Leaf X after a few days?

- (1) Iodine will turn dark blue.
- (2) Iodine will turn blue then brown again.
- (3) Iodine will not change colour and remain brown.

( )

## 2021 PSLE FOUNDATION SCIENCE – PAPER 2

### SECTION B: (34 MARKS)

Write your answers in the blank spaces provided.

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

19. Look at the organisms below and fill in the blanks. [2]



Organism A

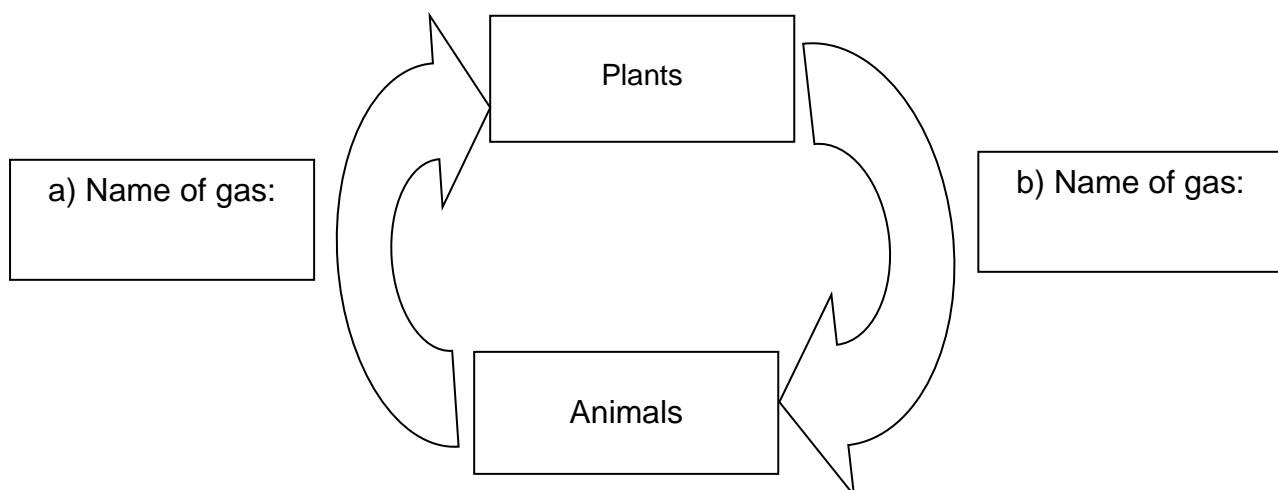


Organism B

Organism A reproduces by a) \_\_\_\_\_ but organism B reproduces by

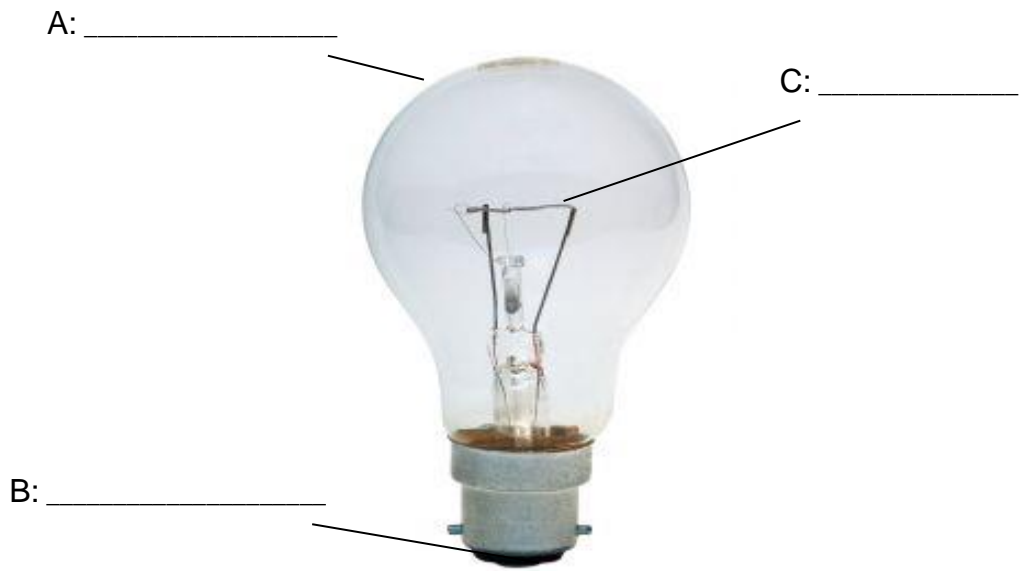
b) \_\_\_\_\_.

20. The following diagram shows the exchange of gases between animals and plants in the presence of sunlight. Fill in the boxes with the correct name of the gases. [2]



21. a) Name the different parts of the bulb. Use the helping words from the box. [3]

metal filament metal tip glass bulb metal casing



Circle the correct answer.

b) Parts B and C are \_\_\_\_\_ ( good / poor ) conductors of electricity. [1]

22. Match the plant parts to the correct functions by connecting the dots. [3]

**Plant part**

stem •

root •

leaf •

**Function**

• To make food

• To absorb water

• To transport food and water

23. Fill in the blanks with a suitable word to describe the effects of forces as shown in the pictures. Use the helping words in the box below. [3]

direction	shape	stationary
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a) A force helps to make a \_\_\_\_\_ object move.



b) A force changes the \_\_\_\_\_ of a moving object.

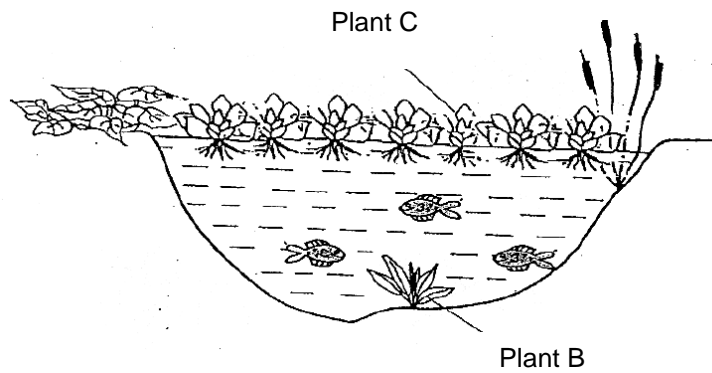


c) A force can change the \_\_\_\_\_ or size of an object.

Write your answer in the blank spaces provided.

[20]

24. The diagram below shows the conditions found in a pond.



a) If more Plant C were added, what will most likely happen to Plant B in the pond?

[ 1m ]

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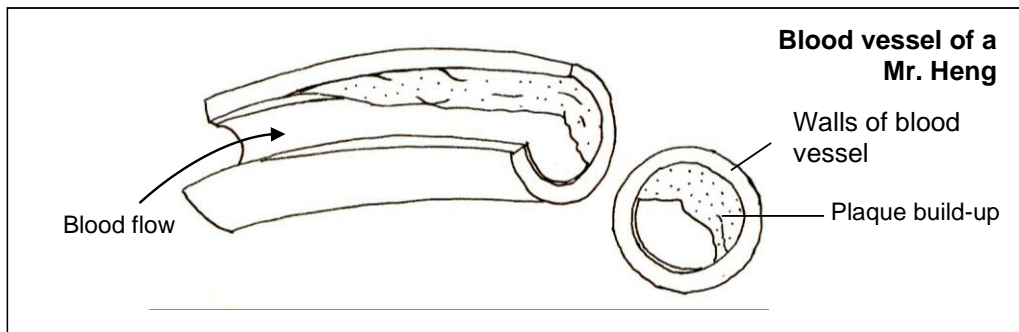
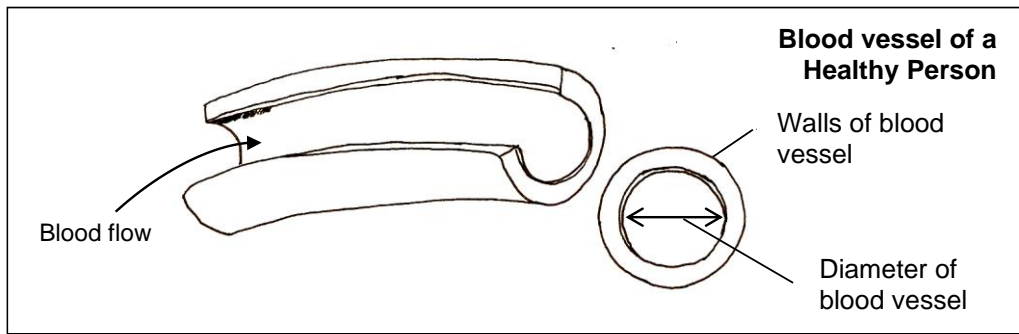
b) Explain your answer in (a).

[ 1m ]

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25. Study the two diagrams below.



a) Predict how Mr. Heng's heart rate would compare to that of a healthy person.

[ 1m ]

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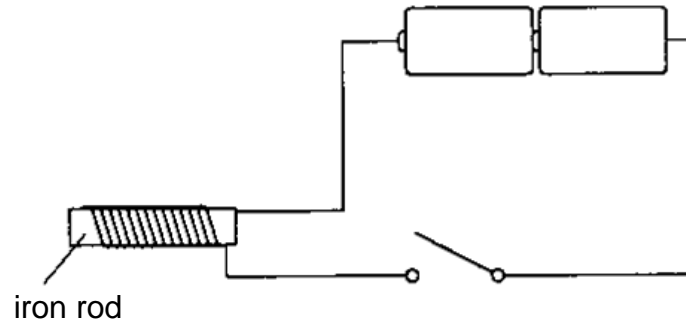
b) Explain your prediction in (a)

[ 1m ]

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26. The diagram below shows a set-up which can be used to magnetise an iron rod so that it becomes a temporary electromagnet. [ 2m ]

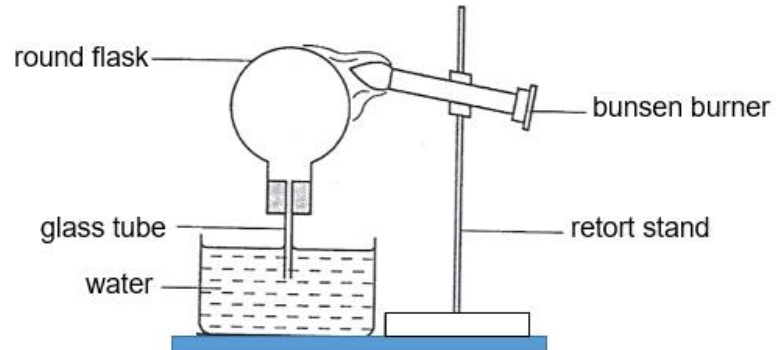


State two methods to increase the strength of the electromagnet.

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

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

27. Siti set up the experiment as shown below.



- a) Circle the correct answer to fill in the blank [1m]

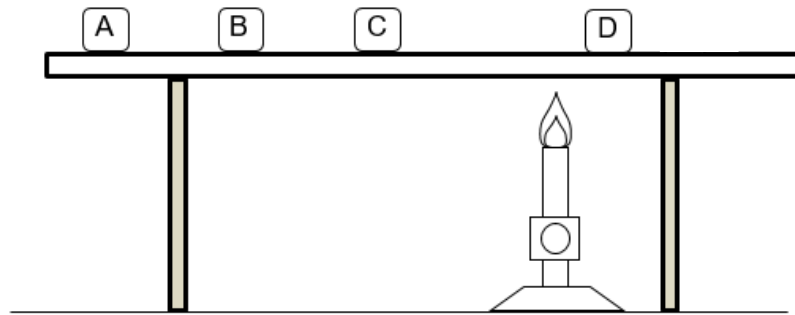
The air in the round flask (gains/loses) heat from the flame.

- b) State what Siti would see in the water after a minute. [1m]

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



28. Gaya placed 5 equal pieces of butter, A, B, C and D on a metal rod.



a) She placed a bunsen burner as shown above. Arrange the pieces of butter in order of time taken to melt completely. [ 1m ]

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
(fastest) (slowest)

b) Gaya replaced the metal rod with a plastic one. Would she expect the time taken for the pieces of butter to melt completely to be more or less? Explain.

[ 2m ]

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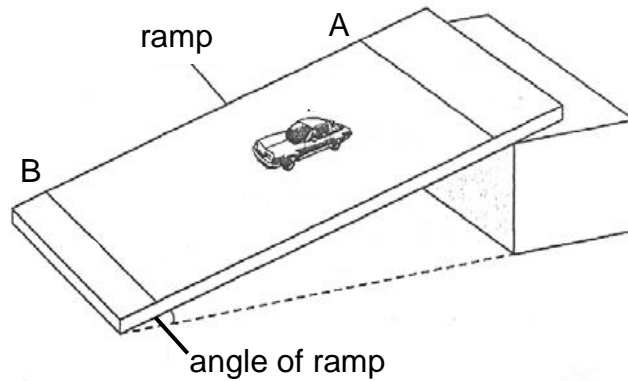
c) Without changing the metal rod in part (a), suggest how Gaya can make the pieces of butter melt more quickly, without changing their positions.

[ 1m ]

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29. Hilmi carried out an experiment using the apparatus as shown below.



He recorded the time taken for the car to travel from line A to line B. The results are shown in the table below.

	First experiment	Second experiment
Mass of car (g)	30	30
Surface of ramp	plastic	sandpaper
Angle of ramp ( $^{\circ}$ )	35	35
Time recorded (s)	5.5	7.5
Distance between A and B (cm)	70	70

a) Identify the different variables by ticking ( $\checkmark$ ) the appropriate boxes.

The first one has been done for you.

[ 3m ]

	Constant variable	Measured variable	Changed variable
e.g. Mass of car (g)	$\checkmark$		
i) Surface of ramp			
ii) Angle of ramp ( $^{\circ}$ )			
iii) Time recorded (s)			

b) Hilmi added some lubricant to the surface of the ramp. Explain how the speed of the car would change.

[ 2m ]

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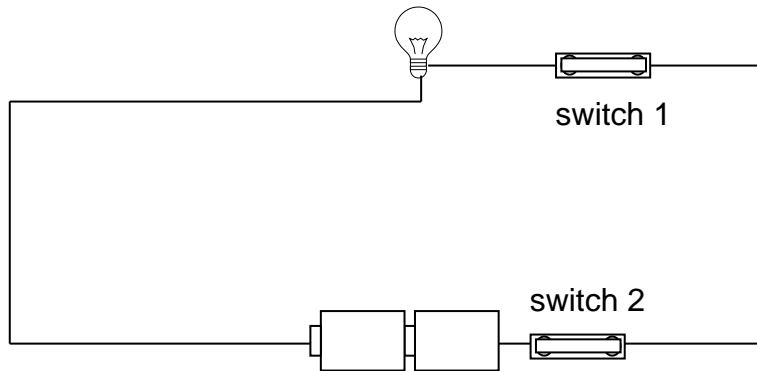
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SCORE	5
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30. Marvela set up the circuit as shown below. When she closed both switches, she observed that the light bulb lit up.



- a) Explain why the bulb lights up when both switches are closed.

[ 1m ]

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- b) Marvela replaced switch 2 with the following items and observed the following. Assuming that all the components are in working condition, circle the correct answers. [ 2m ]

switch 2 was replaced with:	bulb lights up
iron nail	Yes / No
steel coin	Yes / No
wooden fork	Yes / No
aluminum foil	Yes / No