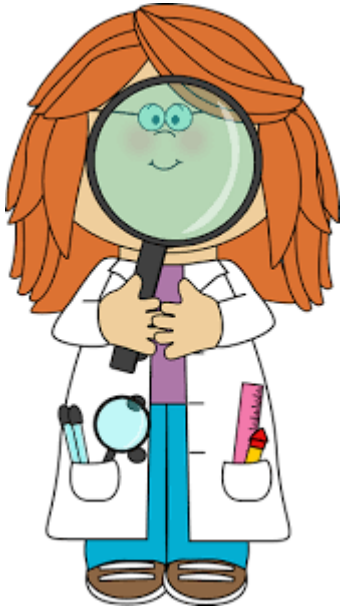
Science
P5 Parents' Workshop
12th March 2018



Outline of Workshop

1. Objectives of workshop
2. Primary Science syllabus
3. Strategies in answering questions
4. Strategies in helping your child to revise Science
5. Q & A session

Objectives of the workshop

- Understand the requirements of PSLE Science

- Knowing how to support your child

Theme	Lower Block (P3 & P4)	Upper Block (P5 & P6)
Diversity	• Diversity of living and non-living things (General characteristics and classification) • Diversity of materials	
Cycles	• Cycles in plants and animals (Life cycle) • Cycles in matter and water (Matter)	• Cycles in plants and animals (Reproduction) • Cycles in matter and water (Water)
Systems	• Plant System (Plant parts and functions) • Human System (Digestive system)	• Plant System • Human System (Respiratory and circulatory system) • Cell System • Electrical System
Interaction	• Interaction of forces (Magnets)	• Interactions of forces (Frictional force, gravitational force, force in springs) • Interactions within the environment
Energy	• Energy Forms and Uses (Light and Heat)	• Energy Forms and Uses (Photosynthesis) • Energy Conversion

Examination Format

	SA1	SA2
Primary 5	**Booklet A – 28 Multiple choice (56 marks) Booklet B – (12-13) Open-ended questions (44 marks)**	**Booklet A – 23 Multiple choice (46 marks) Booklet B – (12-13) Open-ended questions (44 marks) Practical Test (10 marks)**
Primary 6	**Booklet A – 28 Multiple choice (56 marks) Booklet B – (12-13) Open-ended questions (44 marks)**	**Booklet A – 28 Multiple choice (56 marks) Booklet B – (12-13) Open-ended questions (44 marks)**

PSLE Requirements

3 Types of Questioning
Focus on a single topic
Focus on more than 1 topic, under the same theme
Focus on more than 1 theme

Approximately equal weightage on Life Science and Physical Science

40% - Knowledge with Understanding *(K/U)*
60% - Application of Knowledge and Process Skills (*A*)

Strategies in answering questions

- Students generally have difficulty answering Science questions.
- They have difficulties in questions that test their analytical and thinking skills.
- Knowing the concepts alone is not enough.
- They need to apply concepts and skills learnt to real world situations.

Strategies in answering questions

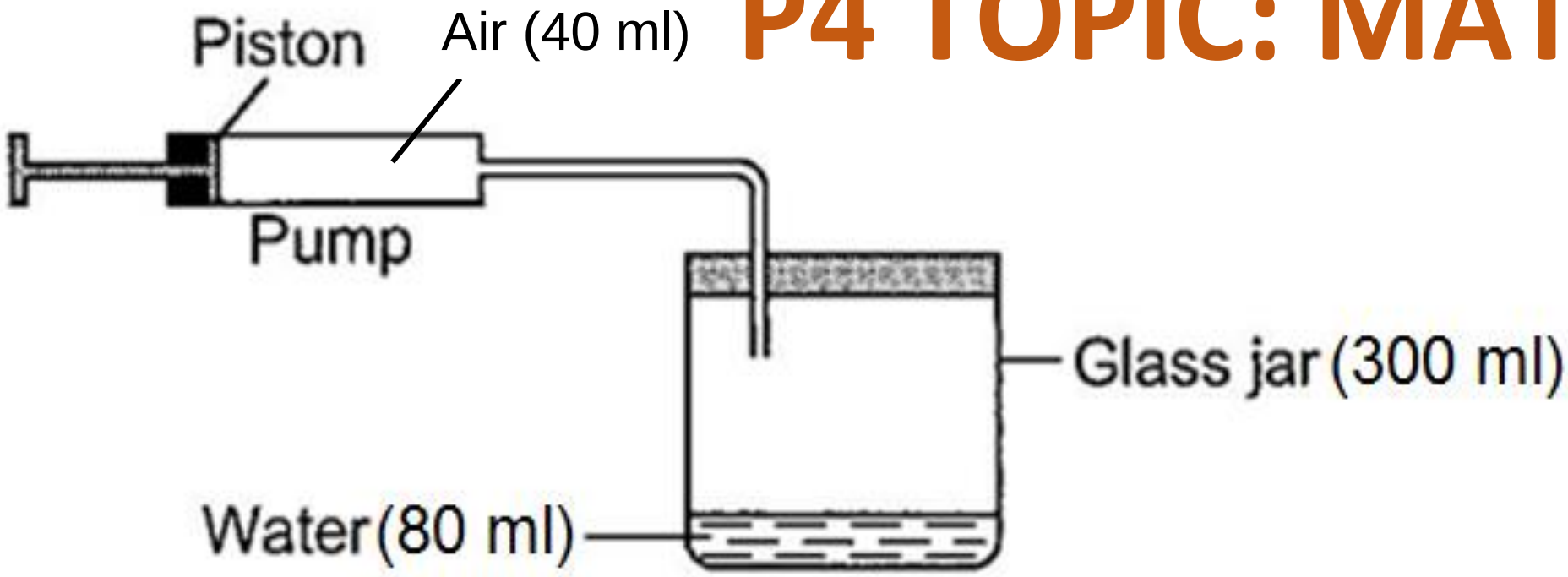
1. Read and understand the question.
2. Highlight the keywords.
3. Study the diagram/graph/table/picture.
4. Identify the concepts/topics the question is asking.
5. Look at the mark allocation (open ended questions)

Lower Block Questions

(P3 & P4)

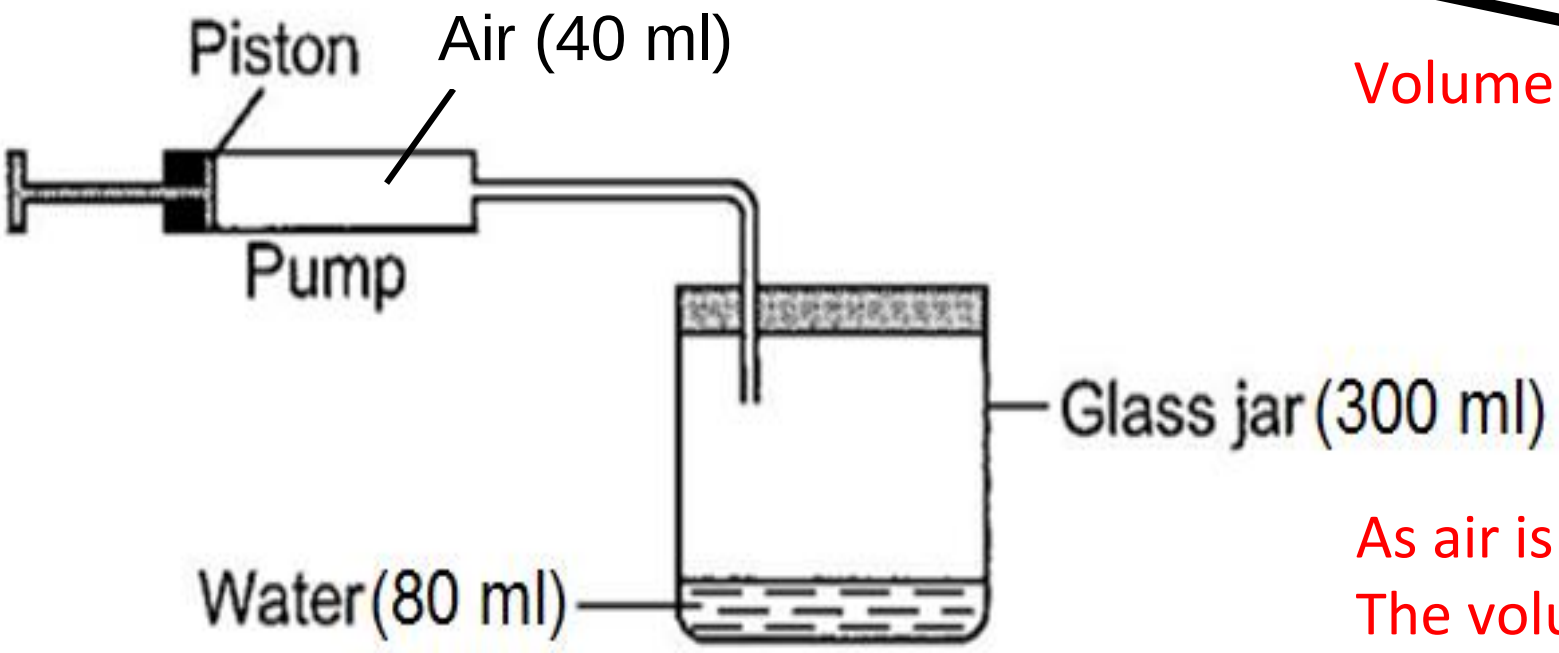
Martin sets up the following experiment as shown below. The pump is connected to a glass jar that has a capacity of 300 ml. The glass jar contains 80 ml of water.

P4 TOPIC: MATTER



(a) When Martin pushes the piston completely in, 40 ml of air is forced into the jar. Why is he able to pump in more air into the glass jar? [1]

Martin sets up the following experiment as shown below. The pump is connected to a glass jar that has a capacity of 300 ml. The glass jar contains 80 ml of water.



Volume of air in the jar = 220 ml

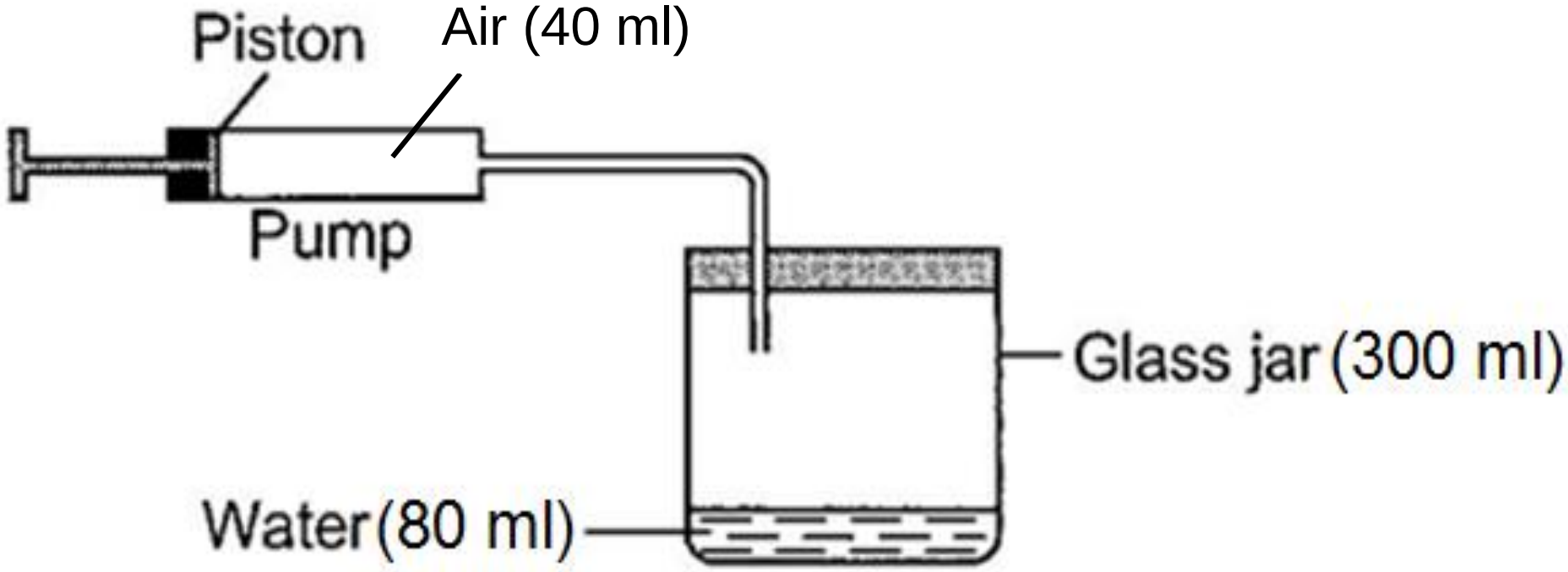
300 ml – 80 ml = 220 ml

As air is a gas, it can be compressed.
The volume (space occupied) of air in the glass jar remains the same.

(a) When Martin pushes the piston completely in, 40 ml of air is forced into the jar. Why is he able to pump in more air into the glass jar? [1]

Air can be compressed.

Martin sets up the following experiment as shown below. The pump is connected to a glass jar that has a capacity of 300 ml. The glass jar contains 80 ml of water.



(b) After pumping in more air, will the mass of the glass jar and its contents decrease, increase or remain the same? Explain your answer. [1]

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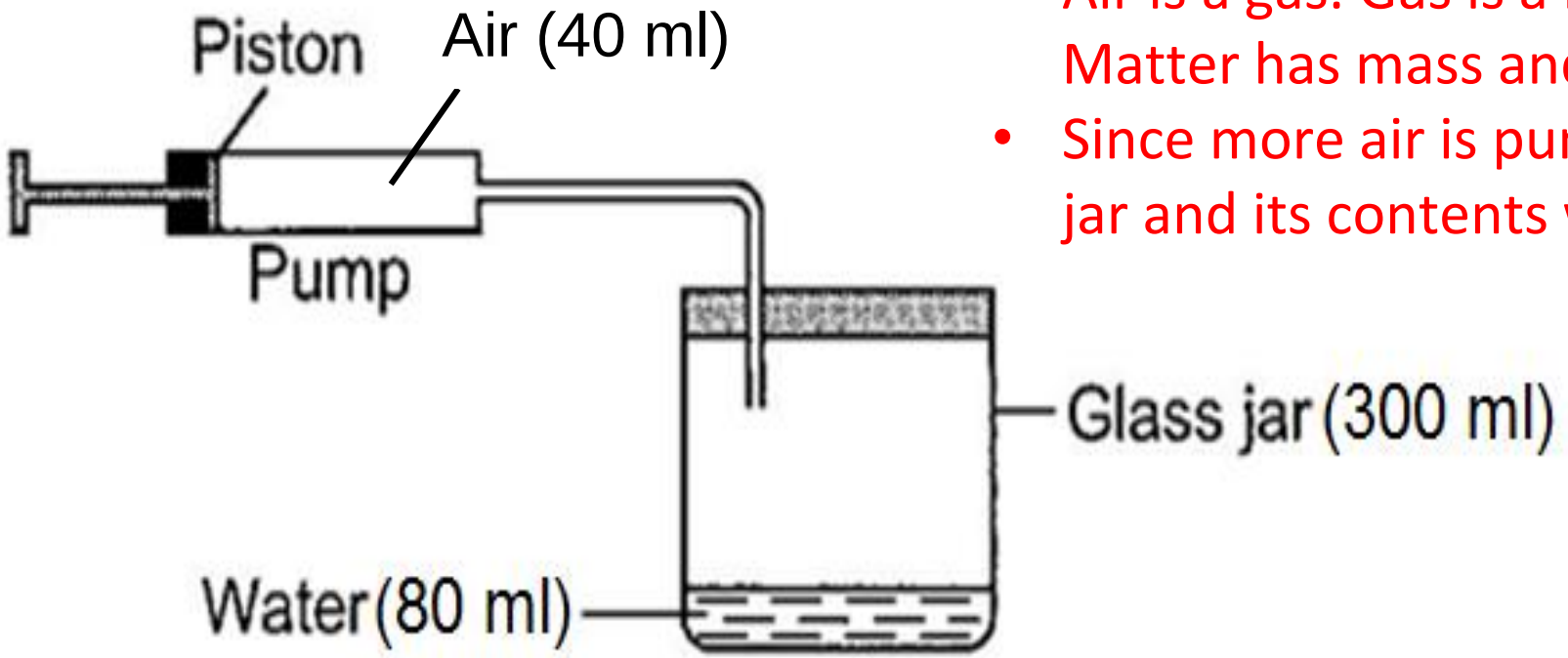
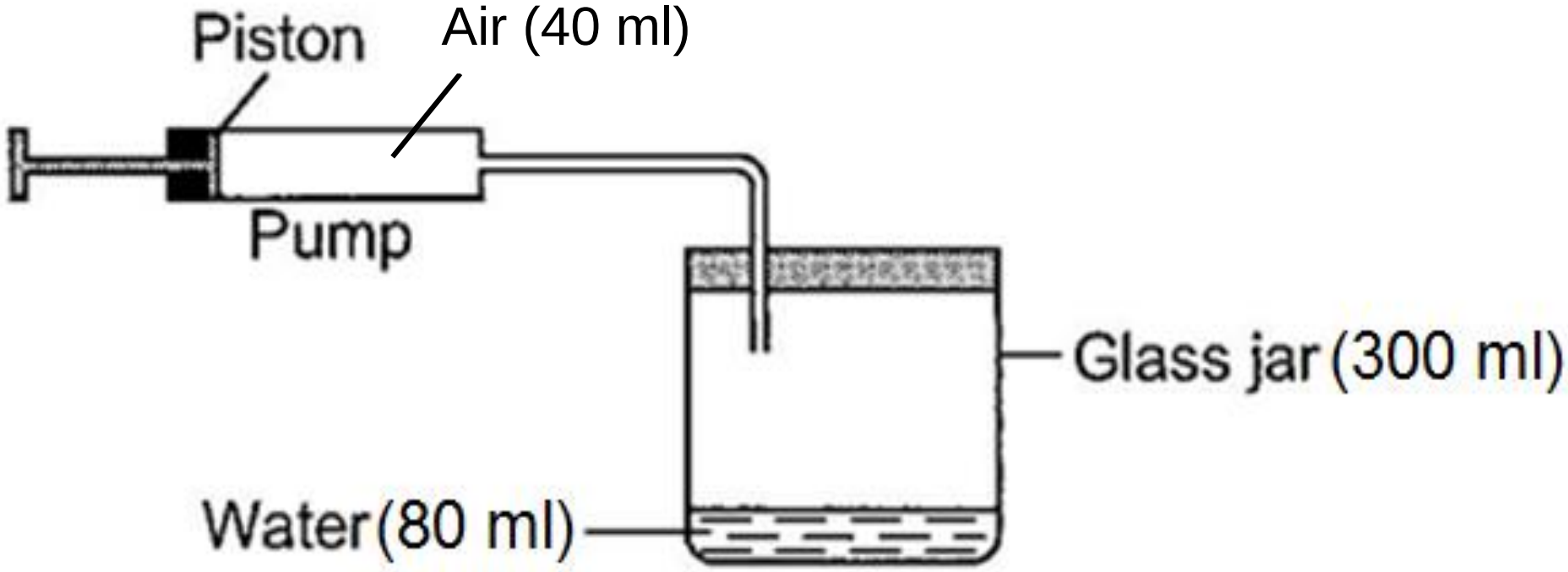


- Air is a gas. Gas is a matter.
  Matter has mass and occupies space.
- Since more air is pumped in, the mass of the glass jar and its contents will increase.

(b) After pumping in more air, will the mass of the glass jar and its contents decrease, increase or remain the same? Explain your answer. [1]

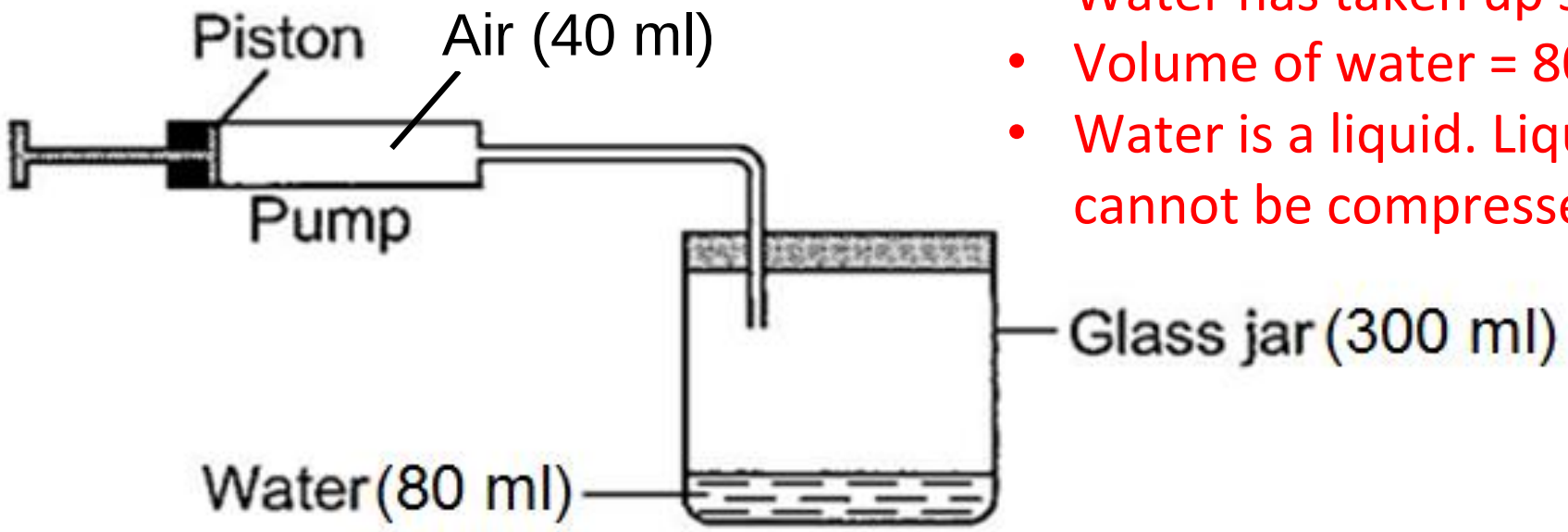
Increase. Air has mass.

Martin sets up the following experiment as shown below. The pump is connected to a glass jar that has a capacity of 300 ml. The glass jar contains 80 ml of water.



(c) There is no change to the volume of water after more air was pumped into the glass jar. Explain this observation. [1]

Martin sets up the following experiment as shown below. The pump is connected to a glass jar that has a capacity of 300 ml. The glass jar contains 80 ml of water.



- Water has taken up space in the glass jar.
- Volume of water = 80 ml
- Water is a liquid. Liquid has a definite volume and cannot be compressed.

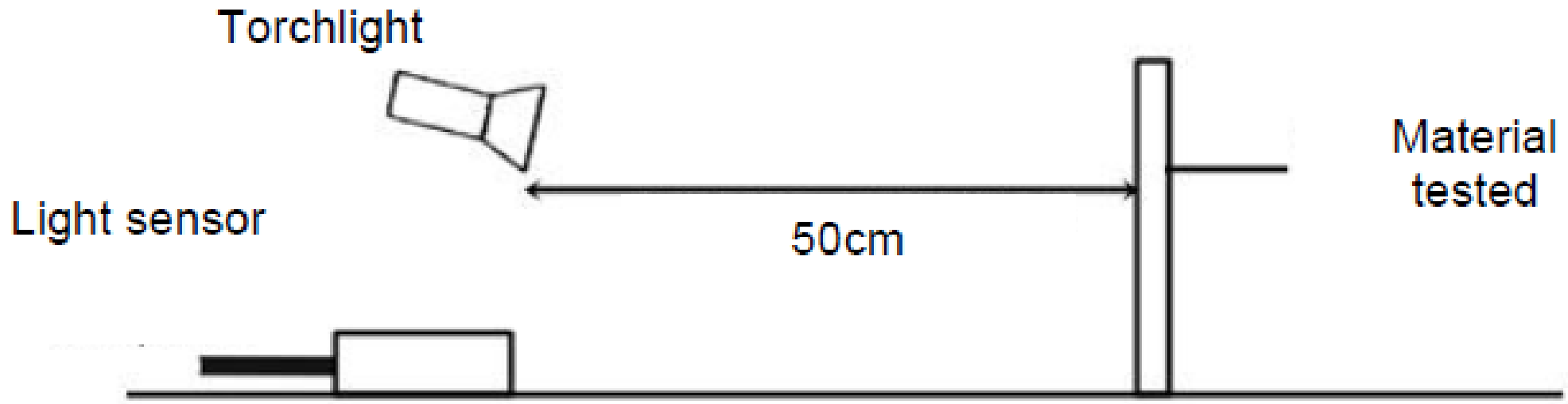
(c) There is no change to the volume of water after more air was pumped into the glass jar. Explain this observation. [1]

Water cannot be compressed.
/ Water has a definite volume.

Winston wants to find out if the thickness of different materials affects the amount of light reflected off their surfaces.

He placed a torchlight 50 cm away from the material. The same material of different thickness is then placed before the torchlight and a light sensor is placed before the material to be tested.

P4 TOPIC: LIGHT

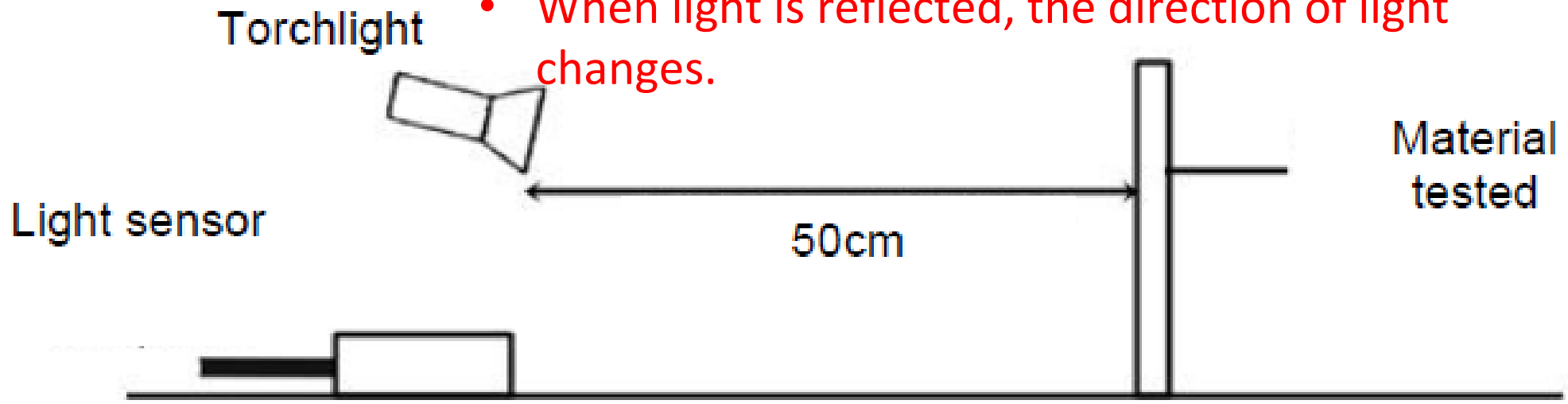


(a) Suggest a suitable location where the experiment should be conducted. Explain your choice. [2]

Winston wants to find out if the thickness of different materials affects the amount of light reflected off their surfaces.

He placed a torchlight 50 cm away from the material. The same material of different thickness is then placed before the torchlight and a light sensor is placed before the material to be tested.

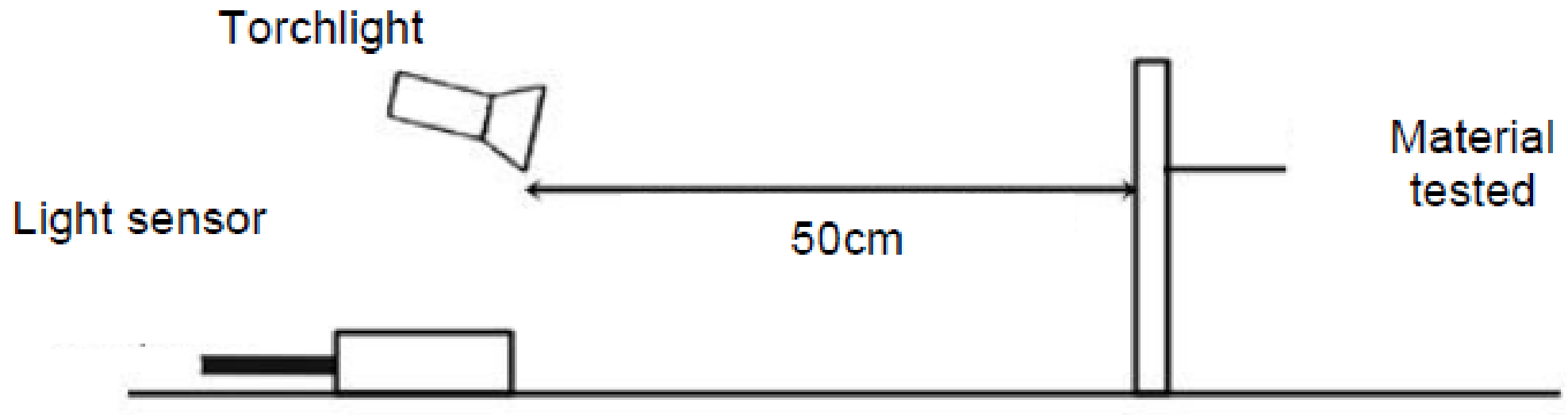
- When light from the source falls on the material tested, the light is reflected into the light sensor.
- When light is reflected, the direction of light changes.



(a) Suggest a suitable location where the experiment should be conducted. Explain your choice. [2]

Winston can conduct his experiment in a dark room.

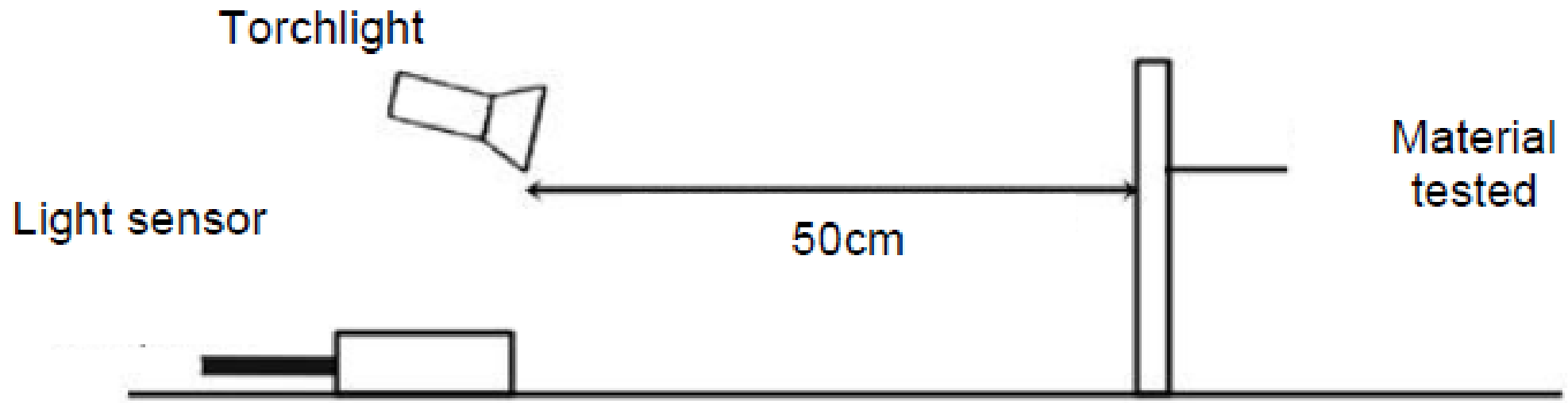
This is to ensure that any light detected by the light sensor is from the torchlight only.



The results of the experiment are then recorded.

	Light detected by light sensor (Lux)			
	1mm thick	5mm thick	10 mm thick	20 mm thick
Material A	75	82	83	88

(b) What is the relationship between the thickness of material A and the amount of light that is reflected from it? [1]



The results of the experiment are then recorded.

	Light detected by light sensor (Lux)			
	1mm thick	5mm thick	10 mm thick	20 mm thick
Material A	75	82	83	88

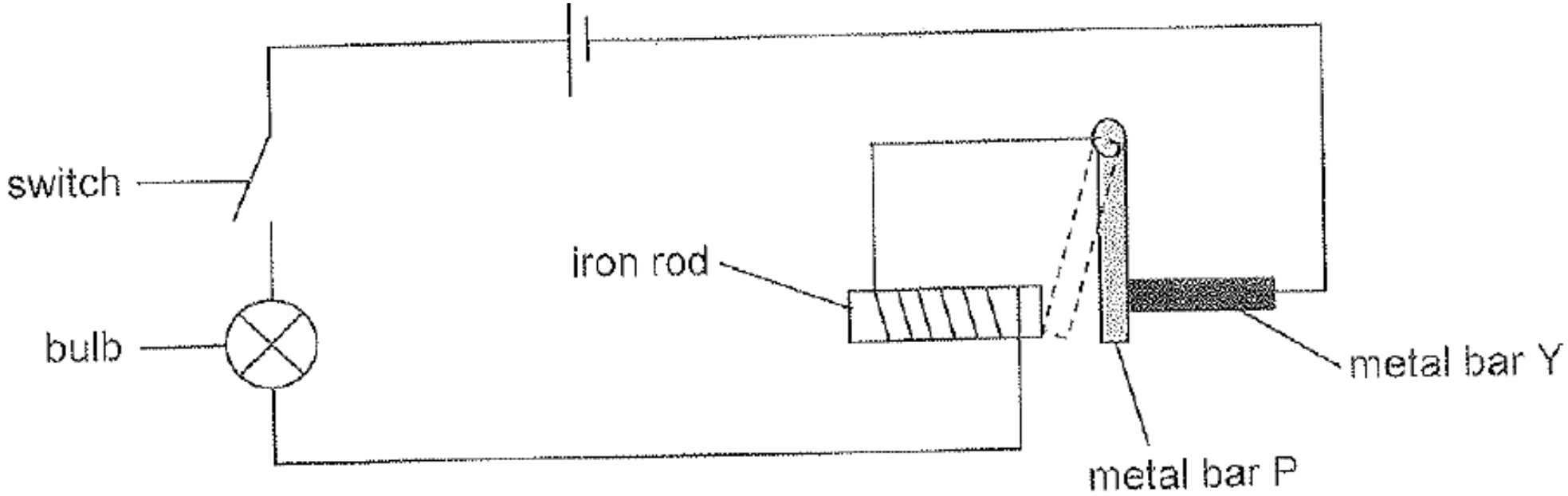
(b) What is the relationship between the thickness of material A and the amount of light that is reflected from it? [1]

The thicker the material A, the more the light is reflected.

Upper Block Questions

(P5 & P6)

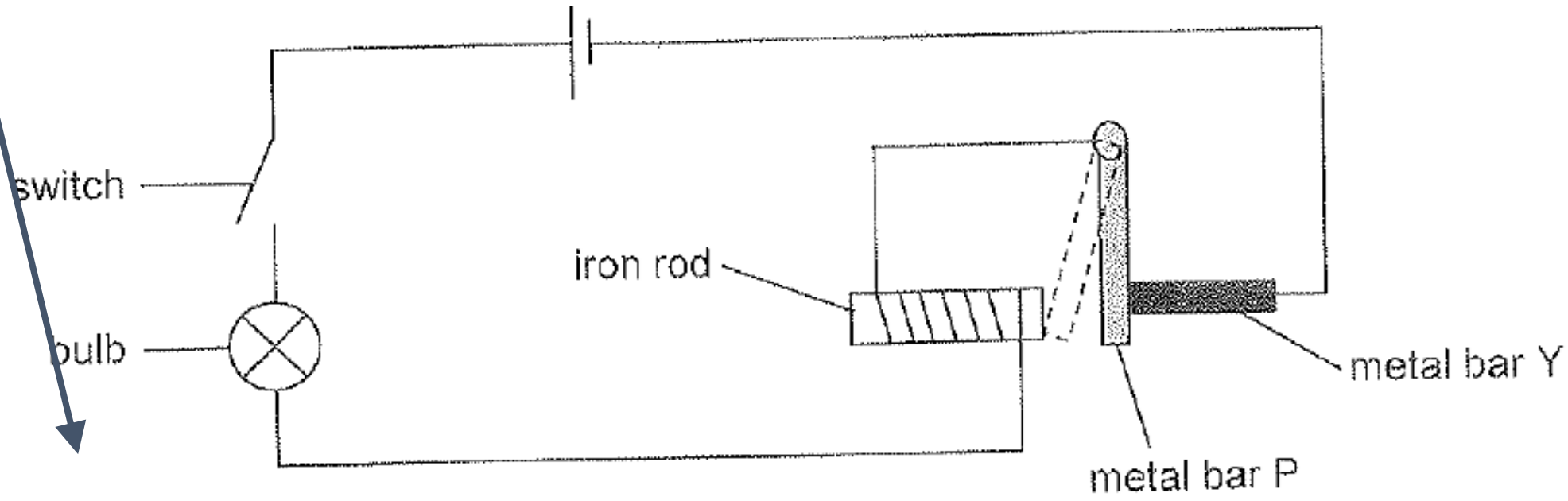
Devi setup a circuit as shown. When she closed the switch, the bulb lit up. After a short while, metal bar P moved away from the metal bar Y and touched the iron rod.



(a)Explain why bar P touched the iron rod after Devi closed the switch. [1]

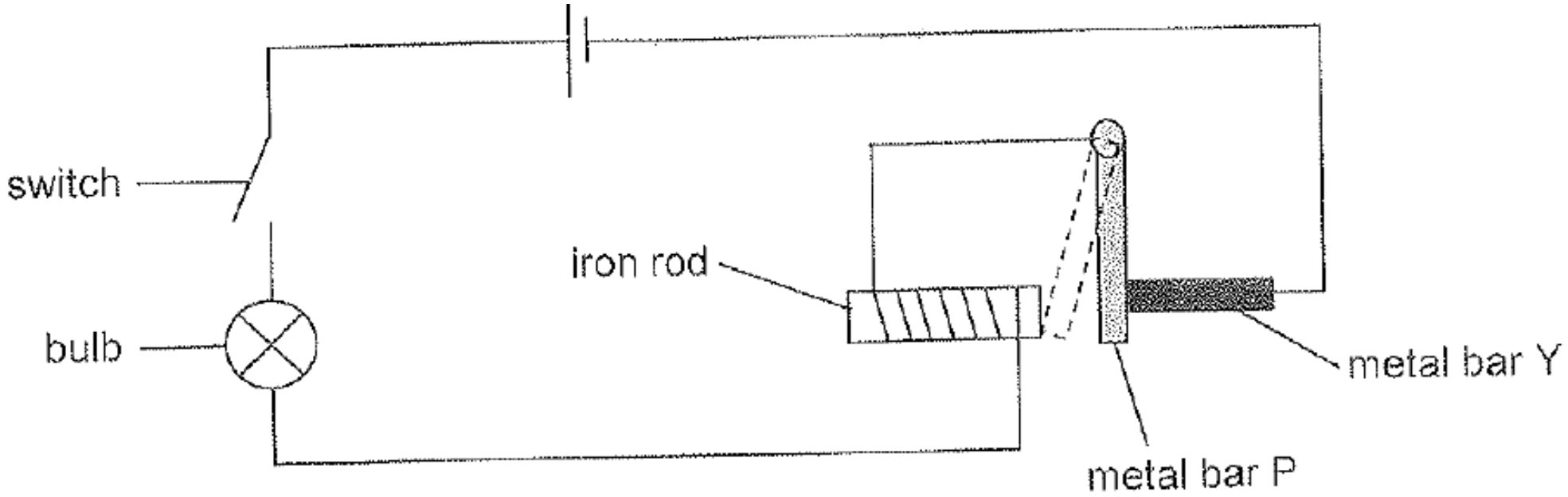
(b)When bar P touched the iron rod, what happened to the bulb? Give a reason. [1]

Devi setup a circuit as shown. When she closed the switch, the bulb lit up. After a short while, metal bar P moved away from the metal bar Y and touched the iron rod.

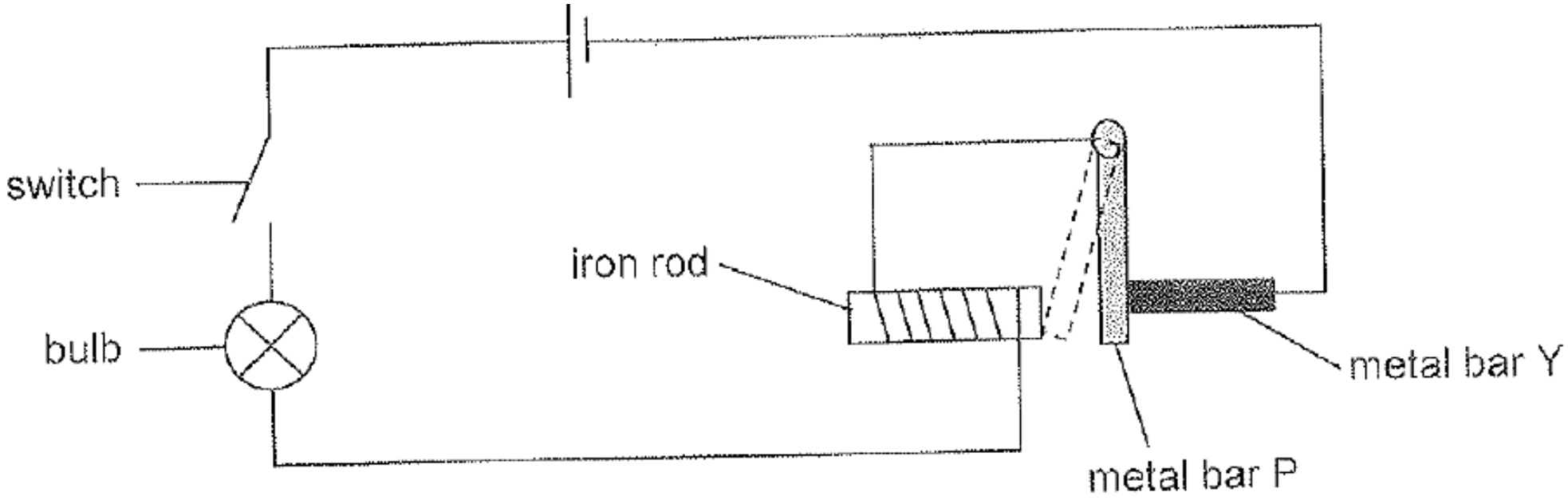


Indication of attraction: magnet vs magnetic material

Devi set up a circuit as shown. When she closed the switch, the bulb lit up. After a short while, metal bar P moved away from the metal bar Y and touched the iron rod.

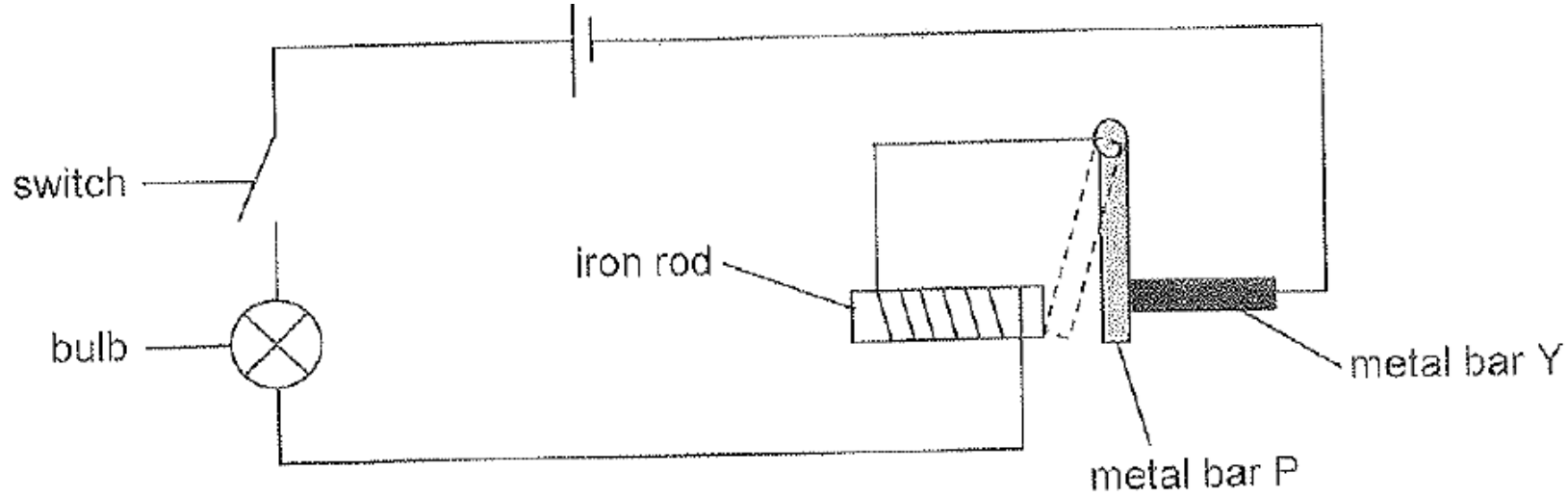


Topic: Magnet (P3) & Electricity (P5)



Concept: When the circuit is switched on, the iron rod becomes an electromagnet, attracting the metal bar P. When metal bar P is attracted to iron rod, there is a break in the circuit. Electricity will not flow through and metal bar P will move back to its original position.

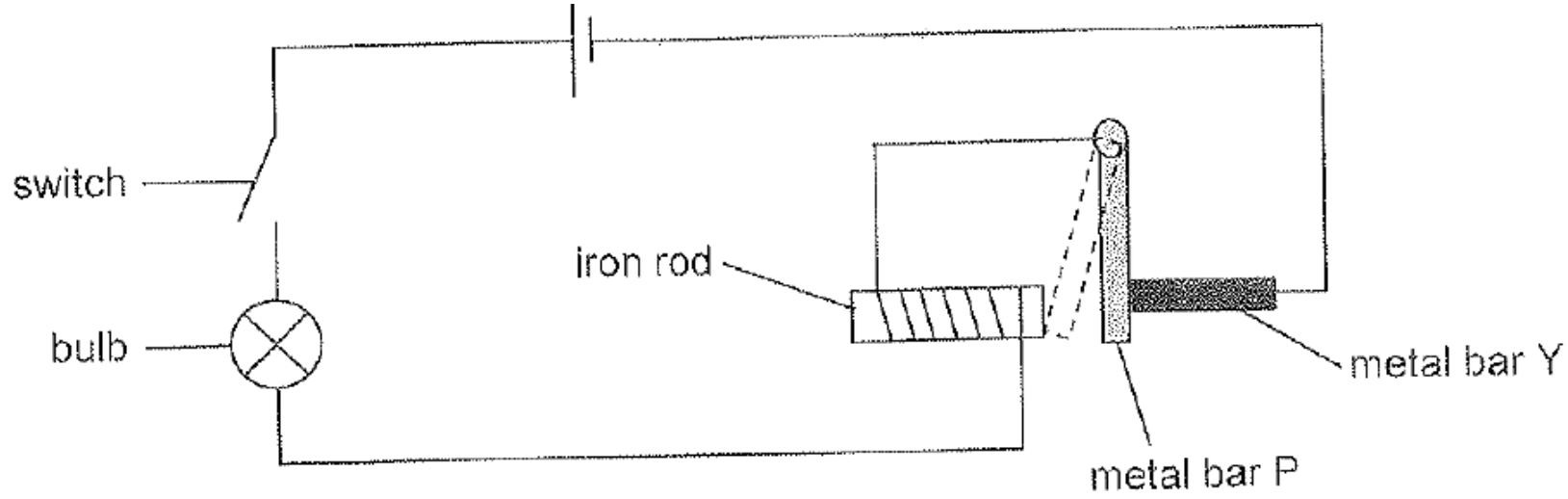
Devi setup a circuit as shown. When she closed the switch, the bulb lit up. After a short while, metal bar P moved away from the metal bar Y and touched the iron rod.



(a)Explain why bar P touched the iron rod after Devi closed the switch. [1]

The iron rod has become a temporary magnet when the switch is closed, thus attracting the metal bar P.

Devi setup a circuit as shown. When she closed the switch, the bulb lit up. After a short while, metal bar P moved away from the metal bar Y and touched the iron rod.



(b) When bar P touched the iron rod, what happened to the bulb? Give a reason. [1]

The bulb did not light up.
The circuit was open and the electricity cannot flow through the circuit.

Nancy helped her mother wash the plates after dinner. She placed the wet plates, one on top of another as shown in Figure 1 and left them to dry.

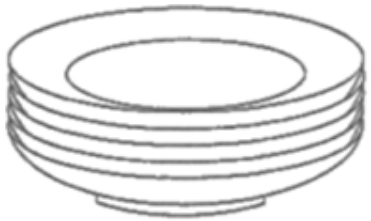


Figure 1

Nancy's mother told her that the plates would dry faster if she placed them on a rack as shown in Figure 2.

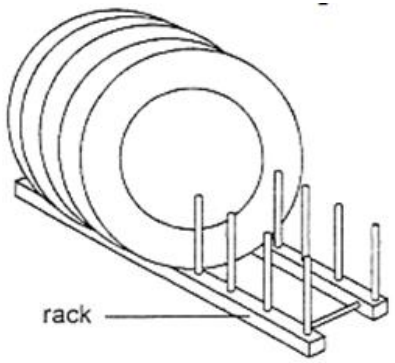


Figure 2

(a) Give a reason why the plates in Fig 2 would dry faster than those in Fig 1.

(b) Other than using a cloth to wipe the plates, suggest one way to make the plates in Figure 2 dry faster.

Nancy helped her mother wash the plates after dinner. She placed the wet plates, one on top of another as shown in Figure 1 and left them to dry.

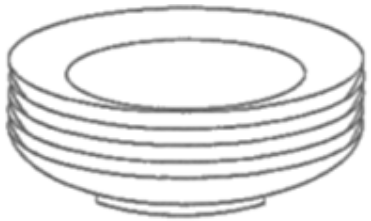


Figure 1

Nancy's mother told her that the plates would dry faster if she placed them on a rack as shown in Figure 2.

Topic: Evaporation (P5) & Forces (P5)
Concept: Water evaporate faster when there is a larger exposed surface area. Gravity pulls the water down and assist in the drying process.

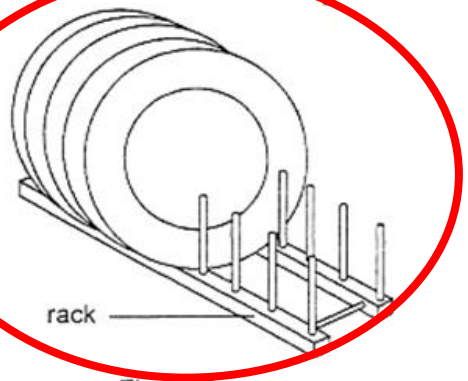


Figure 2

(a) Give a reason why the plates in Fig 2 would dry faster than those in Fig 1.

(b) Other than using a cloth to wipe the plates, suggest one way to make the plates in Figure 2 dry faster.

Nancy helped her mother wash the plates after dinner. She placed the wet places, one on top of another as shown in Figure 1 and left them to dry.

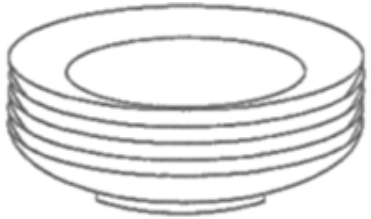


Figure 1

Nancy's mother told her that the plates would dry faster if she placed them on a rack as shown in Figure 2.

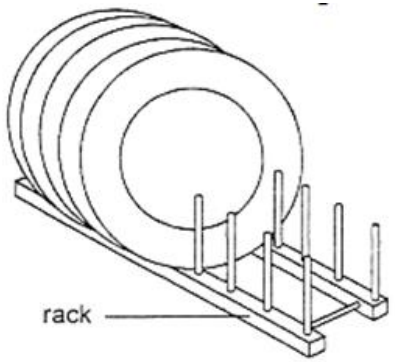


Figure 2

(a) Give a reason why the plates in Fig 2 would dry faster than those in Fig 1.

Placing the plates on the rack allows gravity to pull the water down in the drying process. Water can drip away from the plate faster.

Nancy helped her mother wash the plates after dinner. She placed the wet places, one on top of another as shown in Figure 1 and left them to dry.

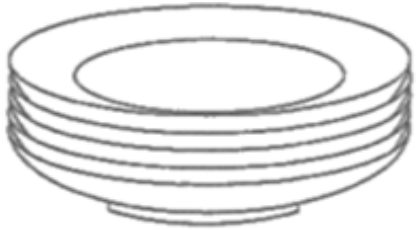


Figure 1

Nancy's mother told her that the plates would dry faster if she placed them on a rack as shown in Figure 2.

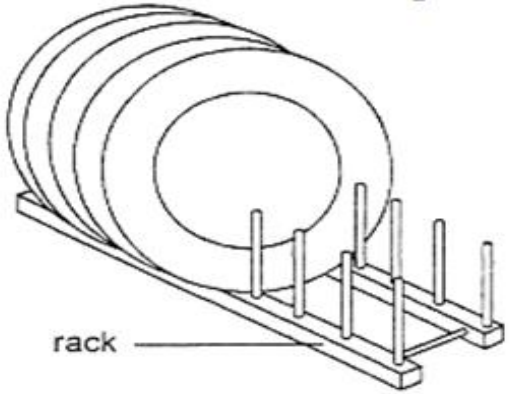


Figure 2

(b) Other than using a cloth to wipe the plates, suggest one way to make the plates in Figure 2 dry faster.

Spread the plates out on the rack by placing them further apart.

Strategies in answering questions

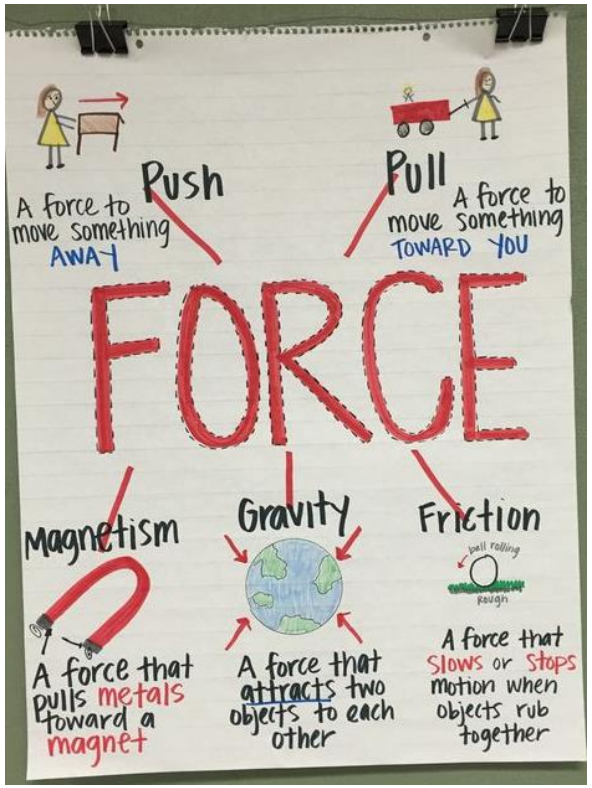
- It is time consuming and tedious to practise and apply the strategies.
- This requires with constant practice.
- Consistent and regular practices has proved to be effective in helping pupils analyse questions and apply the concepts they have learnt.

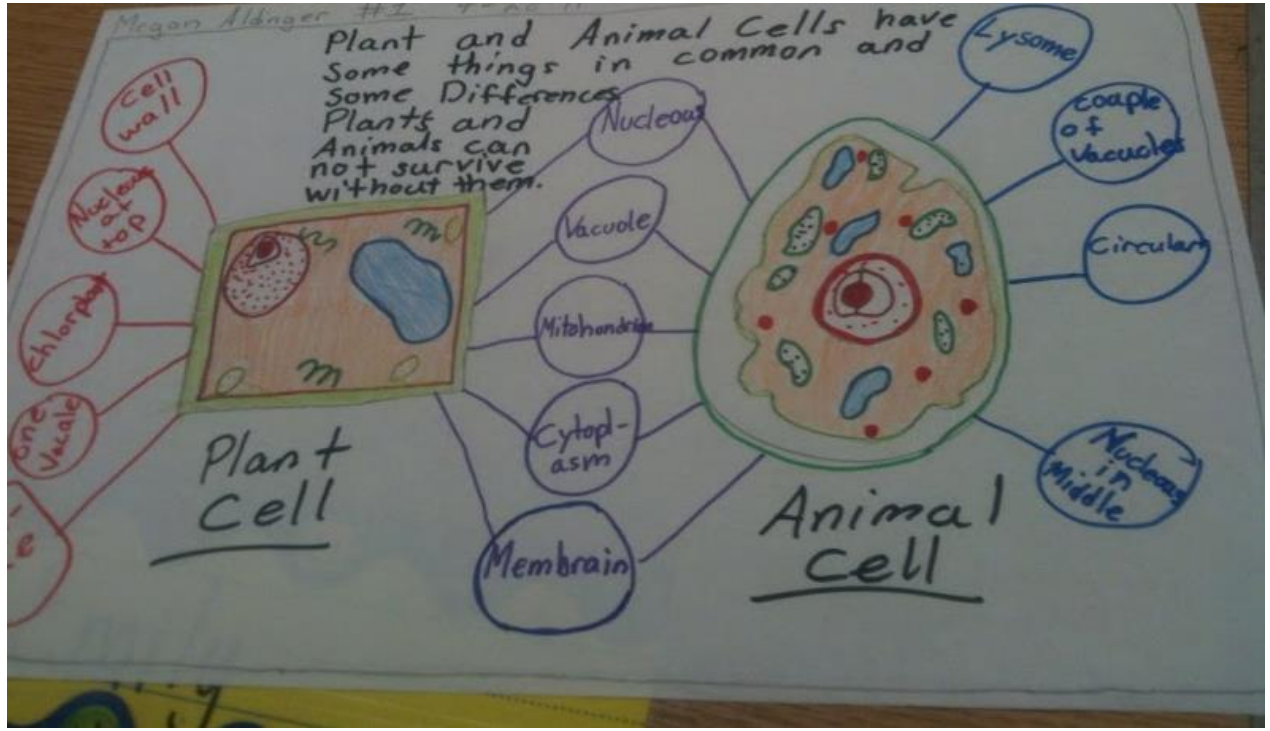
Strategies in answering questions

- Work with your child's science teacher.
- Monitor your child's work.
- Revisit the lower block topics and concepts consistently - Revision is key
- Adopt learning strategies that suits your child.

Concept Maps

Draw out a **concept map** on each Science topic. This would help your child to remember the key words to the particular concepts.





- Immediately after the concept map is done, practise with MCQ questions first.

- This would allow the concept to sink in without the stress of writing out sentences.

- Review the concepts again and then practice with the open-ended questions.

Memory Devices

Help learners recall larger pieces of information, especially in the form of lists like characteristics, steps, stages, parts, phases.

Factors required for germination

- **W**ater
- **O**xygen
- **W**armth

Students use mnemonic devices to remember content which are difficult to memorise.

- Expression or word mnemonics: The first letter of each word is combined to form a phrase or sentence.

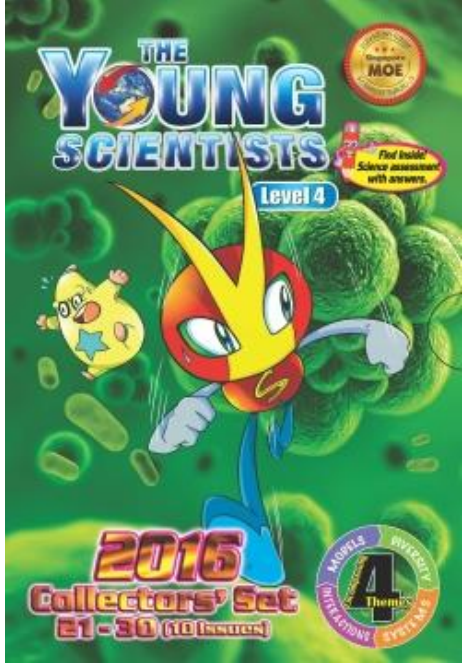
Write Notes

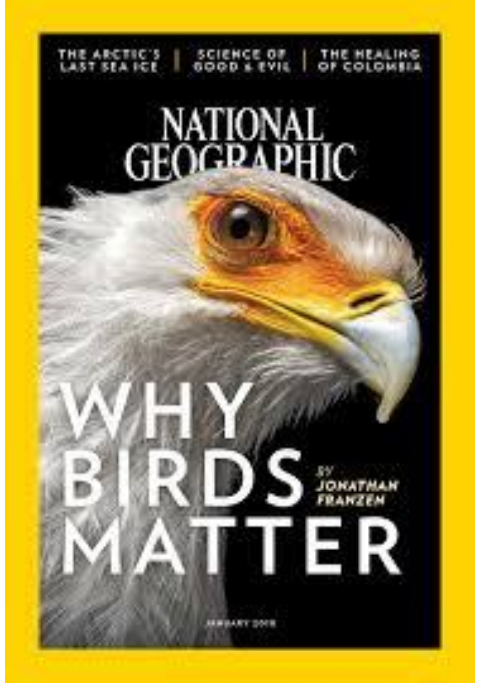
Write your notes neatly in an organised manner.

Always paraphrase and write the notes in your own words. By doing so, it is a great way of ensuring that you have fully understood the core concepts.

It is important that you develop a note-taking method that suits your learning style and works best for you.

Read Widely





Read beyond the textbook, read Science-related articles from newspapers, magazines, books

Helps to understand how concepts can be applied in various contexts

WISDOM AND GRACE

Watch Science Programmes

Some of the most interesting and challenging PSLE questions are on topics of animal and plant adaptations. E.g. Animal Planet and Discovery Channel.

WISDOM AND GRACE


thank
you