

# ***Preface***

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LOWER SECONDARY SCIENCE TOPIC BY TOPIC ASSESSMENTS is a series that is written to help enhance students' understanding of scientific concepts and is closely based on the latest Lower Secondary Science Syllabus implemented by the Ministry of Education, Singapore.

Each topical assessment offers a wealth of examination-type questions of varying difficulty levels, and is made up of the following three sections:

- Section A Multiple-Choice Questions
- Section B Short-Answer Questions
- Section C Free Response Questions

Comprehensive explanations of answers are provided at the end of this book to greatly enhance the understanding of key concepts tested by the questions.

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# THE SCIENTIFIC ENDEAVOUR

# UNIT

# 1

## Section A Multiple-Choice Questions

Each question is followed by four options (A, B, C or D). Choose the best option for each question.

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1. Which of the following is NOT a benefit of Science and Technology?
- (A) Developing drugs and medicines to cure diseases
  - (B) Increasing efficiency through the invention of computers
  - (C) Defending our country by creating deadly weapons
  - (D) Developing fertilisers to increase food production and reduce food shortage [    ]
2. Science is divided into many branches. Some examples are \_\_\_\_\_.
- |                            |                           |
|----------------------------|---------------------------|
| I Biology and Geology      | II Botany and Meteorology |
| III Theology and Chemistry | IV Physics and Philosophy |
- (A) I only
  - (B) I and II only
  - (C) I, II and III only
  - (D) III and IV only [    ]
3. When transferring a chemical from a bottle to a test tube, you must \_\_\_\_\_.
- (A) hold the test tube close to you to prevent the chemical from spilling
  - (B) ask a friend to hold the test tube so that you can transfer the chemical steadily
  - (C) fill the test tube to the brim with the chemical
  - (D) use a test tube holder to hold the test tube [    ]

36. Which of the following statements is INCORRECT?

- (A) Science is the study of things in this world.
- (B) Science is only carried out in laboratories.
- (C) Technology is the application of scientific knowledge.
- (D) Technology can be abused.

[     ]

37. The statement below was written by a student who was performing an experiment.

**Statement:** A plant kept in an environment with high carbon dioxide concentration would be able to produce more food than a plant kept in an environment with low carbon dioxide concentration.

Which of the following parts of the scientific method was carried out by this student?

- (A) Making an inference
- (B) Drawing a conclusion
- (C) Constructing a hypothesis
- (D) Performing an experiment

[     ]

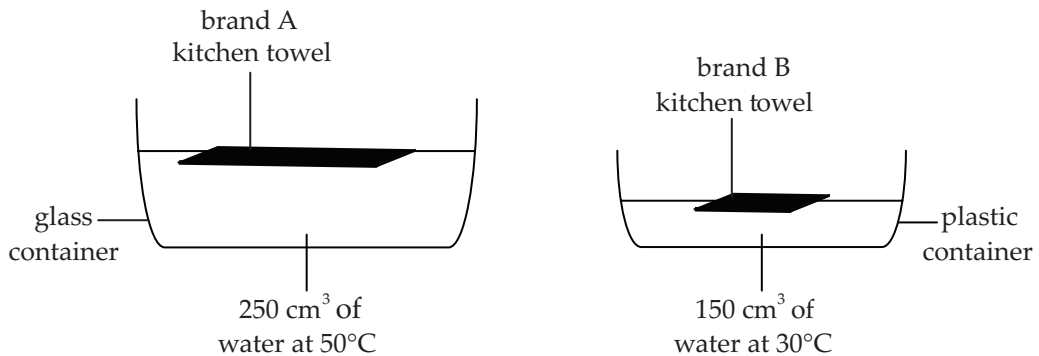
38. Four pupils measured the boiling point of acetone a total of six times each, using a temperature probe. The results obtained by them are shown in the table below. The actual boiling point of acetone is 56.08°C. Which of the following pupils had the most accurate and reliable measurements?

Pupil	Boiling point measurements (°C)						
	1st	2nd	3rd	4th	5th	6th	Average
Bree	56.02	57.01	56.24	58.10	56.07	60.51	57.325
Alex	56.03	57.21	56.03	57.45	56.08	59.22	57.003
Rocky	56.04	57.33	58.24	59.33	56.17	58.43	57.590
Lola	57.02	56.05	59.13	56.10	57.37	61.28	57.825

- (A) Bree
- (B) Alex
- (C) Rocky
- (D) Lola

[     ]

7. Doreen noticed that her mother had switched to a cheaper brand of kitchen towels. When asked, her mother said that the cheaper brand allowed them to save money without any compromise in quality. Doreen felt that the previous brand used was better, as it was more absorbent. She devised an experiment to prove to her mother that the previous brand was better. The diagrams of her experiment are given below.



(a) What is a fair test?

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(b) Give FOUR reasons why the above experiment is NOT a fair test.

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_
- (iii) \_\_\_\_\_
- (iv) \_\_\_\_\_