

Form 1 Chapter 1 Introduction to Science

Paper 1

Answer **all** questions. Each question is followed by four options, **A, B, C** and **D**. For each question, choose **one** answer only.

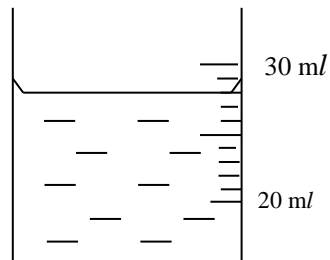
1. Among the following occurrences, which is **not** a natural phenomenon?

- A Drought
- B Storm
- C Oil spill
- D Formation of cloud

2. Which of the following represents the prefix of value of micro?

- A 0.000001
- B 0.001
- C 100
- D 1000

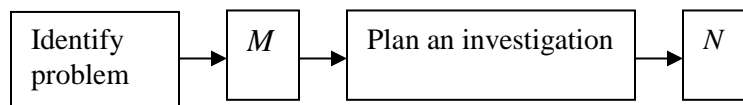
3.



The figure above shows a measuring cylinder containing salt solution. What is the volume of the salt solution?

- A 27.5 ml
- B 28 ml
- C 29 ml
- D 32 ml

4.



The figure above shows a part of the investigation steps. What are the steps of *M* and *N*?

	M	N
A	Make hypothesis	Control variables
B	Control changes	Make hypothesis
C	Test hypothesis	Analyse data
D	Analyse data	Test hypothesis

5. Which of the following is a physical quantity?

- A Volume
- B Weight
- C Temperature
- D Area

6. Choose the correct pair of prefix and value.

	Prefix	Value
I	deci	0.1
II	milli	0.001
III	kilo	1000

- A I and II only
- B I and III only
- C II and III only
- D I, II and III

7. The following pairs of basic quantity and SI unit are correct **except**

	Basic quantity	SI unit
A	length	meter
B	mass	newton
C	temperature	kelvin
D	electric current	ampere

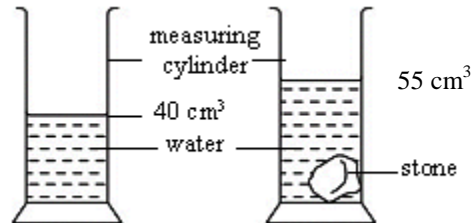
8. 66 553 000 m when changed to standard form is

- A 6.6553×10^4 m
- B 6.6553×10^5 m
- C 6.6553×10^6 m
- D 6.6553×10^7 m

9. Which apparatus is most suitable to be used to measure 5.055 g of solid?

- A Lever balance
- B Spring balance
- C Electronic balance
- D Triple beam balance

10.



What is the volume of the stone in the diagram above?

- A 15 cm³
- B 40 cm³
- C 55 cm³
- D 95 cm³

11.



The instrument as shown in diagram above is used to measure the

- A internal diameter of a test tube
- B internal diameter of a glass rod
- C external diameter of a beaker
- D external diameter of a measuring cylinder

12. An experiment to measure the thickness of a piece of wood. What should be the **correct** average reading for the thickness of the wood?

Reading	1	2	3
Thickness of the wood / cm	5.23	5.22	5.21

- A 5.21 cm
- B 5.22 cm
- C 5.23 cm
- D 5.24 cm

13. The standard unit and symbol for time is

	Standard unit	Symbol
A	second	s
B	second	m
C	minute	s
D	minute	m

14. Applications of science and technology include the fields of

- I biology
- II geology
- III medical

- A I only
- B I and II only
- C II and III only
- D I, II, and III

15. In a scientific investigation, the following steps must be taken before carrying out an investigation **except**

- I to record data in the table
- II to ensure proper steps are taken to carry out the investigation
- III to ensure the correct methods of collecting data

- A I only
- B I and II only
- C II and III only
- D I, II, and III

- 16.

<p><i>P</i> – Making hypothesis <i>Q</i> – Making conclusion <i>R</i> – Identifying problem <i>S</i> – Carrying out investigation</p>

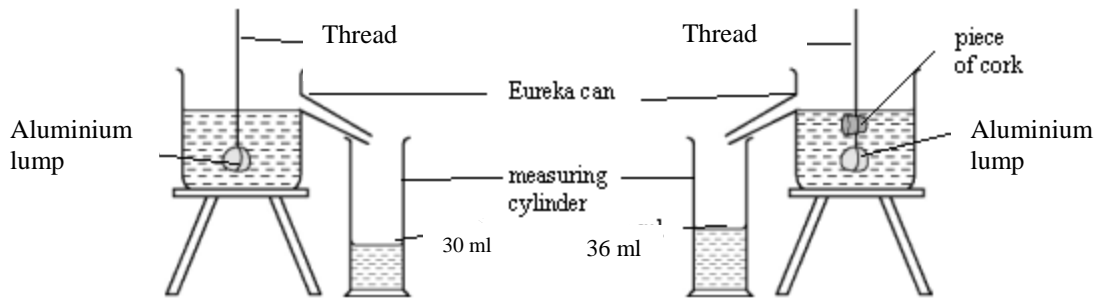
P, *Q*, *R* and *S* above are steps in a scientific investigation. Which of the following is the **correct** sequence of the steps?

- A *P*, *Q*, *R*, *S*
- B *Q*, *R*, *S*, *P*
- C *R*, *P*, *S*, *Q*
- D *R*, *S*, *Q*, *P*

17. Choose the physical quantities written in standard form that are **correct**.
- I** 5684 kg = 5.684 x 10³ g
II 0.00795 A = 7.95 x 10⁻³ A
III 7 500 000 m = 7.5 x 10⁵ m
- A** I and II only
B I and III only
C II and III only
D I, II, and III
18. Choose the **correct** pairs of physical quantities and SI units.
- I** Mass - kilogram
II Ampere - kelvin
III Weight - newton
- A** I and II only
B I and III only
C II and III only
D I, II, and III
19. The level of water in a burette changes from 30.0 cm³ to 36.0 cm³ when 40 drops of water is dropped out from the burette. What is the volume of a drop of water?
- A** 0.15 cm³
B 0.60 cm³
C 0.66 cm³
D 1.50 cm³
20. Graph paper can be used to estimate the
- A** length of a curve line
B volume of a solution
C area of a petal
D mass of an object

Paper 2

Answer the question.



The apparatus in the figure above is used to measure the volume of a aluminium lump and a piece of cork.

- (a) Name the method used in this activity?

- (b) What is the volume of the aluminium lump? _____ cm^3 ?
- (c) What is the volume of the cork? _____ cm^3 ?
- (d) (i) Can the volume of the cork be obtained directly without using the aluminium lump? _____
- (ii) Explain your answer.

- (e) If the aluminium lump has a mass of 81 g, calculate its density using the formula below.

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

- (f) State **two** precautionary steps that must be taken when using a measuring cylinder to measure the volume of water collected in this activity.
- (i) _____
- (ii) _____

Answers:

Paper 1

1	C	11	A
2	A	12	B
3	B	13	A
4	A	14	D
5	C	15	A
6	D	16	C
7	B	17	A
8	D	18	B
9	C	19	A
10	A	20	C

Paper 2

- (a) Water displacement method
- (b) 30 cm^3
- (c) $36 - 30 = 6 \text{ cm}^3$
- (d) (i) No
(ii) The cork is less dense than water
- (e) $81/30 = 2.7 \text{ g / cm}^3$
- (f) (i) Place the measuring cylinder on a uniform surface
(ii) Place your eye at the same level as the meniscus of the liquid