



Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 33

1 Key words**[4]**

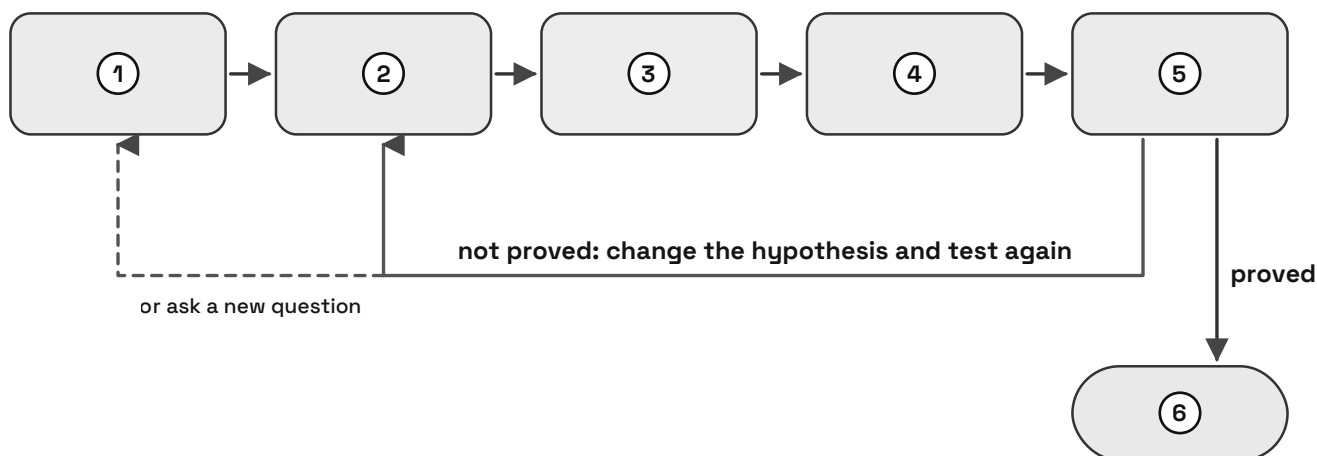
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

10 data hypothesis interdisciplinary least count mantissa metric prefix precise
process skills scientific notation

A sensible guess that can be tested by an experiment is called a _____. The measurements and readings collected in an experiment are its _____. Observing, predicting, measuring and concluding are called scientific _____. Fields such as geology and astronomy, which use ideas from more than one main field, are _____ fields. Writing a very big or very small number as a number from 1 to less than 10 multiplied by a power of ten is called _____; in it, the base is always _____. A short word put in front of a unit to make it bigger or smaller, such as kilo or milli, is a _____. The smallest amount an instrument can measure is its _____.

2 Label the diagram**[3]**

The diagram shows the steps of scientific learning. Write the step that belongs in each of the boxes numbered 1 to 6. Each carries 0.5 mark.



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____



[5]

Choose the correct option for each of the following questions.

- What is the least count of an ordinary scale (ruler)? [1]
 - a centimeter
 - a millimeter
 - a decimeter
 - a meter
- What is the value of the prefix giga? [1]
 - 10^9
 - 10^{10}
 - 10^{11}
 - 10^{12}
- Before folding her plane, Asha says, "I think the dart will fly farthest because it is narrow." Which process skill is she using? [1]
 - observing
 - predicting
 - measuring
 - communicating
- How is 0.000024 written in scientific notation? [1]
 - 2×10^{-5}
 - 24×10^{-5}
 - 0.24×10^{-6}
 - 2.4×10^{-5}
- A thermometer has marks at 30 °C and 40 °C, with 5 divisions between them. What is its least count? [1]
 - 1 °C
 - 2 °C
 - 5 °C
 - 10 °C

[3]

Write very short answers to the following questions.

- a. What is the least count of a digital stopwatch? [1]
-
-
- b. Write 3.2×10^5 as an ordinary number. [1]
-
-
- c. Why is alcohol heated in a water bath and not over a flame? [1]

[6]

Write short answers to the following questions.

- a. Define scientific notation, with an example. [2]



- b. Give a reason: a concentrated acid is diluted by pouring the acid into water, never water into the acid. [2]

- c. Explain least count in brief, with one example. [2]

6 Long answer [4]

Write a long answer to the following question.

How is a scientific study done? Explain the steps with an example.

[illegible]

7 Numerical problems [6]

Solve the following problems. Show your working.

- a. Write these numbers in scientific notation: [2]
- i. 1230000
 - ii. 0.00042
 - iii. 0.00000001
 - iv. 300000000

[illegible]

Answer:



- b. Sita timed a stone falling from 2 m three times: 0.58 s, 0.66 s and 0.62 s. Find the average time. [2]

Answer:

- c. A measuring cylinder has numbered marks at 10 mL and 20 mL, with 5 small divisions between them. Find its least count. What volume does it show when the liquid stands 3 divisions above the 10 mL mark? [2]

[illegible]

Answer:

8 Think [2]

Think, then answer.

Hari's stopwatch is broken: it always adds 0.5 s. He times the stone five times and gets 1.14 s, 1.15 s, 1.14 s, 1.13 s and 1.14 s. Is his measurement precise? Is it accurate?

9 Activity: How long does a stone take to fall? (Activity 1.6) (not marked)

Hold a stone 2 m above a tin sheet. Start a stopwatch as you let go and stop it when you hear the stone hit the tin. Do it three times.

Drop	Time to hit the tin sheet (s)
first	
second	
third	
average = (1st + 2nd + 3rd) ÷ 3	

Why are the three times not the same? Why is the average better than one reading?

