

Physical Quantities and Measurement

Chapter 2: Physical Quantities and Measurement · Topic 1

Key Concept

The SI system includes base units like metre (length), kilogram (mass), and second (time), forming a consistent global measurement standard.

Precision instruments, like Vernier callipers and screw gauges, allow measurements more accurate than standard rulers, useful in scientific experiments.

Significant figures indicate the precision of a measurement, showing how many digits are reliably known.

Accurate measurement is fundamental to scientific investigation, ensuring experiments can be replicated and results trusted.

Quick Revision Notes

- SI units: metre, kilogram, second.
- These form a global measurement standard.
- Vernier callipers and screw gauges give precise measurements.
- They're more accurate than standard rulers.
- Significant figures show measurement precision.
- They indicate reliably known digits.
- Accurate measurement is fundamental to science.
- It ensures replicable, trustworthy experiments.

Practice Questions

- 1 Measure an object using a ruler and note significant figures.
- 2 Research how Vernier callipers work.
- 3 Discuss why precision matters in experiments.
- 4 Compare measurements from a ruler and a more precise tool.
- 5 Explain the SI system's importance.
- 6 Discuss a scientific field that needs precise measurement.