

Tools and Instruments in Science

Chapter 1: Exploring the Investigative World of Science · Topic 2

Key Concept

Each instrument is designed for a specific type of measurement — a beam balance measures mass accurately, a stopwatch measures short time intervals, and a pH meter measures acidity or basicity precisely, more accurately than litmus paper alone. Proper use and calibration of instruments is essential, since an uncalibrated or misused instrument can give inaccurate readings, leading to incorrect conclusions in an investigation.

Quick Revision Notes

- A microscope magnifies objects too small to see with the naked eye.
- Thermometers measure temperature; measuring cylinders measure liquid volume.
- Beam balances measure mass; stopwatches measure short time intervals.
- Proper calibration of instruments is essential for accurate results.

Practice Questions

- 1 Name two instruments commonly used in a science laboratory.
- 2 Explain why calibration of instruments is important for accurate measurement.
- 3 Which instrument would you use to measure the volume of a liquid, and why?