

Measuring Motion - Speed

Chapter 8: Measurement of Time and Motion · Topic 2

Key Concept

Average speed considers the total distance divided by total time for an entire journey, even if the actual speed varied along the way — for example, a car may speed up and slow down in traffic, but its average speed for a 100 km trip taking 2 hours is 50 km/h. Speedometers in vehicles show instantaneous speed at any given moment, which can differ from the average speed of the whole trip. Speed and distance calculations are used daily in transportation, sports, and even weather forecasting (wind speed).

Quick Revision Notes

- Speed is calculated as: $\text{Speed} = \text{Distance} \div \text{Time}$.
- Common speed units: km/h and m/s.
- Average speed = total distance $\div$ total time for the whole journey.
- A speedometer shows instantaneous speed, which can differ from average speed.

Practice Questions

- 1 Calculate the speed of a cyclist covering 30 km in 2 hours.
- 2 Explain the difference between average speed and instantaneous speed.
- 3 Why might a car's speedometer reading differ from its average speed for an entire trip?