

PREP 1 • LESSONS 1–2

Can this data be trusted?

Mean and uncertainty • random and systematic errors • variables and choosing a graph

 SCORE
/10

Name _____ Class _____ Due _____

Do Now REMEMBER

From earlier lessons • 1 mark each

- 1 Define the resolution of a measuring instrument. [1]

- 2 Describe the effect of a random error on a set of readings. [1]

- 3 State how the effect of random error can be reduced. [1]

Key ideas LESSONS 1–2

Show your working

- 4 A student times a toy car rolling down a ramp three times: 2.31 s, 2.45 s and 2.38 s. [2]
 - a Calculate the mean time. [2]

 - b Calculate the uncertainty in the mean. Use uncertainty = (largest – smallest) ÷ 2 [1]

- 5 A balance reads 0.2 g when nothing is on it. The student uses it to measure the mass of a ball five times.
 - a This causes a random systematic error. [1]
 - b Explain why taking more repeats will not fix this error. [1]

- 6 A student investigates how the **type of surface** affects the **distance** a toy car travels.
 - a The dependent variable is _____ (the type of surface / the distance travelled / the mass of the car) [1]
 - b Draw a ring around the correct graph: bar chart line graph Give the reason. [1]
