

PREP 3 • LESSONS 5–6

Wires, series and parallel

Resistance of a wire (required practical) • rules for series and parallel circuits

SCORE
/10

Name _____ Class _____ Due _____

Do Now REMEMBER

From earlier lessons • 1 mark each

- 1 State the standard units of potential difference and resistance. [1]

- 2 Describe how current depends on potential difference for an ohmic conductor. [1]

- 3 Describe the current at different points in a single closed loop. [1]

Key ideas LESSONS 5–6

Show your working

- 4 A student measures the resistance of a wire at different lengths.

Length / cm	20	40	60	80
Resistance / Ω	0.8	1.6	2.4	3.2

- a Describe the relationship between resistance and length. [1]

- b Name one control variable. [1]

- c Explain why the potential difference is kept small. [1]

- 5 Two lamps are connected in series to a 12 V battery.

- a Calculate the reading on V_2 . [1]

- b Two resistors, $4\ \Omega$ and $8\ \Omega$, are in series. Total resistance: _____ [1]
- c Describe the potential difference across components in parallel. [1]

- d In a parallel circuit, the total current is 0.90 A. One branch has 0.40 A. The other branch has _____ [1]

