Electrical Conductivity of Materials Worksheet

Scoring guide · one credit per question · review written work against each rubric

Electrical Conductivity of Materials

Question 1

Choice (1)

Electrons can move through copper and transport charge.

Question 2

The dissolved ions can move and carry charge. In the dry lattice the ions are held in place.

Question 3

Choice (1)

Dimensions can change resistance. Matching them helps compare the materials.

Question 4

The conducting core carries current along the wire. A poorly conducting outer coating reduces unintended current through contacts with the outside.

Comparing Model Test Pieces

Question 5

Choice (2)

Q provides 55 mA, at least 50 mA, and R provides 0.2 mA, at most 1 mA.

Question 6

P and Q are eligible. Their currents are 90 mA and 55 mA, both at least 50 mA.

Question 7

3.0 mA − 1.0 mA = 2.0 mA.

Question 8

Choice (1)

Only P is at or above 80 mA. Q is 55 mA and the other readings are lower.