CiE iGCSE Physics Checklist

Section 28: Electrical quantities 2

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| **CORE** |  |  |  |
| State that the e.m.f. of an electrical source of energy is measured in volts |  |  |  |
| State that the potential difference (p.d.) across a circuit component is measured in volts |  |  |  |
| Use and describe the use of a voltmeter, both analogue and digital |  |  |  |
| State that resistance = p.d. / current and understand qualitatively how changes in p.d. or resistance affect current |  |  |  |
| Recall and use the equation R = V / I |  |  |  |
| Describe an experiment to determine resistance using a voltmeter and an ammeter |  |  |  |
| Relate (without calculation) the resistance of a wire to its length and to its diameter |  |  |  |
| Understand that electric circuits transfer energy from the battery or power source to the circuit components then into the surroundings |  |  |  |
| **SUPPLEMENT** |  |  |  |
| Show understanding that e.m.f. is defined in terms of energy supplied by a source in driving charge round a complete circuit |  |  |  |
| Recall that 1 V is equivalent to 1 J / C |  |  |  |
| Sketch and explain the current-voltage characteristic of an ohmic resistor and a filament lamp |  |  |  |
| Recall and use quantitatively the proportionality between resistance and length, and the inverse proportionality between resistance and cross-sectional area of a wire |  |  |  |
| Recall and use the equations P = IV and E = IVt |  |  |  |
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