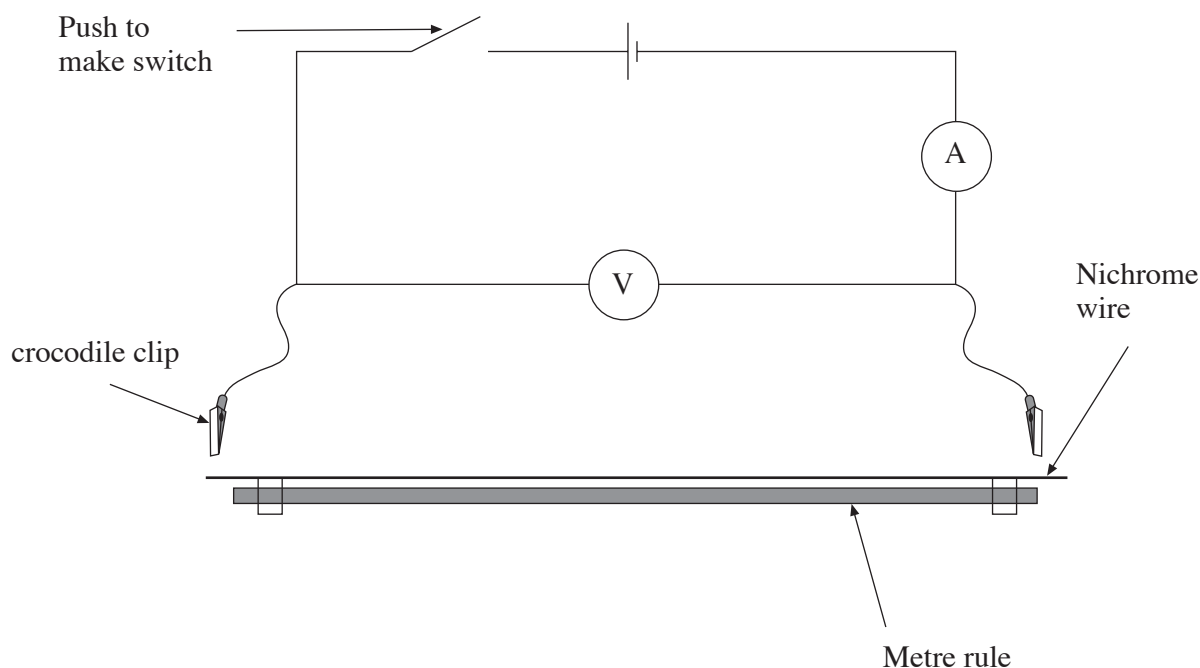


TASK A3

The candidates will be expected to determine the resistivity of a length of wire.

Test 1

The following circuit should be set up for the candidates with a 1 metre length of nichrome wire swg 30 diameter 0.32mm attached to the metre rule using sticky tape. A short length of the wire (approx 2-3cm) should overhang each end so that the crocodile clips can easily be attached.

**Equipment needed**

- 1 × 30 swg nichrome wire of length ~ 1.05 m
- 1 × metre rule
- 1 × micrometer / vernier callipers with a resolution of 0.01 mm
- 1 × 1.5V 'D' type battery with holder and a means of attaching it to two 4 mm leads
- 6 × leads with 4 mm plugs / stacking plugs as appropriate
- 2 × crocodile clips [could be soldered / screwed to ends of 2 of the leads]
- 1 × push-to-make switch
- 1 × ammeter $\pm 0.01\text{A}$
- 1 × voltmeter $\pm 0.01\text{V}$

Test 2:

The apparatus is as for **Test 1** except that 34 or 36 swg constantan wire should be used.