



**Further
education,
employment...**

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$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$


A diagram showing a solenoid (a coil of wire) with a bar magnet placed inside it. The bar magnet is oriented horizontally, with its north pole on the left and its south pole on the right. The solenoid is connected to a circuit that includes a galvanometer, represented by a circle with a needle.



A diagram showing a triangle with three nodes. The top node is a small white circle with a black outline. The bottom-left and bottom-right nodes are solid black circles. Two thick black lines connect the top node to the bottom nodes, and a third thick black line connects the two bottom nodes. A curved arrow is positioned below the bottom edge, pointing from the left node to the right node, indicating a clockwise cycle.



Y13



A circuit diagram showing a battery with EMF E and internal resistance r connected to an external resistor R . The battery is represented by two parallel vertical lines of unequal length, with the longer line on the right. The EMF E is labeled above the battery symbol. The internal resistance r is labeled above a rectangular box in series with the battery. The external resistor R is labeled above another rectangular box in series with the battery and internal resistance.



**A LEVEL
PHYSICS**



Y12

