

How to measure Current and Voltage?

Measuring Current

To measure current the circuit must be broken and the meter inserted in the break. In this circuit the current will be the same no matter where the circuit is broken. If 1 amp is flowing then all meters will indicate 1 amp. Observe the polarity of the leads when measuring DC. This is not necessary when measuring AC. Select a high current range on the meter before switching the circuit on. Switch down to a lower range if necessary to measure the current. This protects the meter from damage due to excessive current, especially a moving coil one.

Measuring Voltage

To measure voltages, the meter must be connected across things; across resistors, across the battery etc. When measuring DC, connect the red meter lead to the most positive point, and the black one to the most negative. When measuring AC voltages it doesn't matter which way the leads are connected. It's best to select a high voltage range on the meter before connecting it and then switching to a lower range if necessary. This protects the meter, especially moving coil ones, from being damaged by having too high a voltage applied to them.