

Using a Voltmeter

To use a voltmeter to measure voltage difference, set the meter to voltage or V. The setting can be made by switching to the voltage setting, or by connecting the wires that come with the meter (probes) to particular holes in the meter.

In most high school science classes, the voltage difference of systems using direct current (DC) is measured. If this is the case, use the DC setting. Check your setup by measuring the voltage difference on a new household battery. To do this, place a probe on each end of the battery (AA, C, or D cells will work equally well). If you have set the meter correctly, it will display 1.5 V, or within about 0.2 of that reading. If you get a "0" reading and are reasonably confident that you have the meter set properly, check the range setting. It may need to be adjusted.

In general, use the lowest range setting you can. If the setting is too small for the incoming voltage, either the needle will swing to the high end of the scale and remain pinned there, or the digital display will flash some kind of message that the incoming voltage is too large for the setting. Move the range setting up or down as needed and be prepared to change it again as you change the setup of your experiment.

In measuring voltage differences, place the probes at the two locations between which you wish to know the voltage difference. Make certain that the metal parts of the probes make firm contact with the metal parts of the locations you have chosen.