

### 10.3 Electric Potential Difference. A.K.A Voltage

A volt is a way to measure the \_\_\_\_\_ of an electric cell.

Strictly speaking, what we measure is the change in the \_\_\_\_\_ of the electrons coming out of the cell.

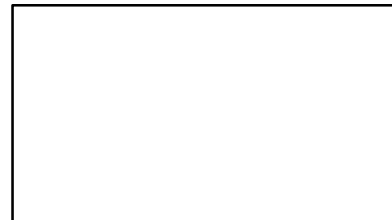
Hence, electric \_\_\_\_\_.

We measure electric potential difference with units named after Alessandro Volta. The \_\_\_\_\_.

Because of this, most people tend to just call it \_\_\_\_\_ and not \_\_\_\_\_.

Our equation for voltage is:

V = volts,  
 $\Delta E$  = changed in energy,  
Q = coulombs)



$$1 \text{ volt} = 1 \text{ joule of energy} / 1 \text{ coulomb}$$

A \_\_\_\_\_ is used to measure voltage. It is similar to an \_\_\_\_\_ (at least, when reading the numbers) but is hooked up differently. To determine the voltage of something that's not a battery (like a lightbulb), you need to make the voltmeter in a \_\_\_\_\_ circuit.

Remember, more than one electric cell connected is called a \_\_\_\_\_.

You may have noticed there are several different types of voltage for commercial batteries. By

combining more than one \_\_\_\_\_, you can get different amounts of voltage.

When electric cells are connected in series, you \_\_\_\_\_ the voltage of each cell together. So 5 1.5 v electric cells in series would create a battery with a voltage of \_\_\_\_\_ v.

When electric cells are connected in \_\_\_\_\_, their voltage remains the same. However, the newly made battery would \_\_\_\_\_.

Some batteries have the electric cells in a combination of series and parallel. Just apply the above rules to determine the voltage.