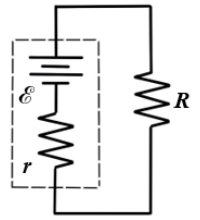


(15 min) From AP classroom: You want to determine the internal resistance r of a battery using a graphical approach. Given that you had access to a number of different sized resistors, multimeters and other equipment commonly found in physics labs, what experiment might you devise to do this?



- a.) Clearly identify the quantities to be determined, their symbols and the equipment needed to measure them.

- b.) Describe the experiment you would run to execute this inquiry. Include enough information so a student could replicate the procedure, including steps necessary to reduce experimental uncertainty.

- c.) What information might be graphed on an X/Y axis that could be used to determine the internal resistance r .

- d.) Describe how the graph would be used to make that determination.

- e.) After completing the calculation, students realize they have ignored the resistance of the wires in the system. How might that have affected your determination of the battery's internal resistance. Explain your reasoning.