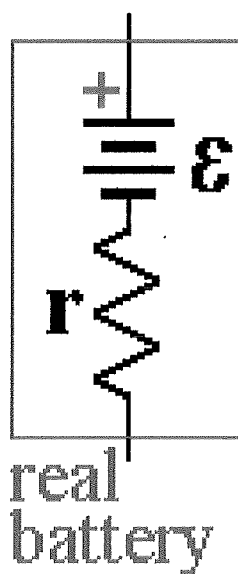


Physics 12
Section 19-2
EMF and Terminal Voltage

1. A device like a battery or generator is called a source of emf (electromotive force). This is just a name not a real force. The emf a device can produce can be measured by using a voltmeter on the device between the two terminals. The resulting potential difference is the emf as long as there is no current flowing through the device. In reality when a device is on there is a slight amount of resistance which drops the terminal voltage of the device to something less (Ir) than emf



$$V_{ab} = E - Ir$$

Example 19-7 page 563: A 9.0V battery whose internal resistance r is 0.50Ω is connected in the circuit shown in Fig 19-10a. How much current is drawn from the battery? What is the terminal voltage of the battery? What is the current in the 6.0Ω resistor?