

Name: _____

Class Period: _____

Physics: Circuits

Electric Current - Class Practice

1. What *is* electrical current? What are the SI units for it?
2. Why does there need to be an electric potential **difference** in a circuit?
3. Consider the analogy that can be made between a basic circuit and blood circulation in the body. What role would the heart, blood, blood vessels, and organs play when compared to a circuit?
4. An emf pushes 4.00 C of charge through a circuit in 10.0 seconds. What is the current of this circuit?
5. The current in a light bulb is 0.835 A. How long does it take for a total charge of 1.67 C to pass through the filament of the bulb?
6. A steady electrical current of 2.50 A flows through a wire in a time of 4.00 minutes.
 - A. How much charge (Δq) has flowed through the wire in this time?
 - B. How many individual protons/electrons have flowed through the circuit?
(We know it is electrons that can move, but remember conventional current follows the 'movement' of protons)