

Part A

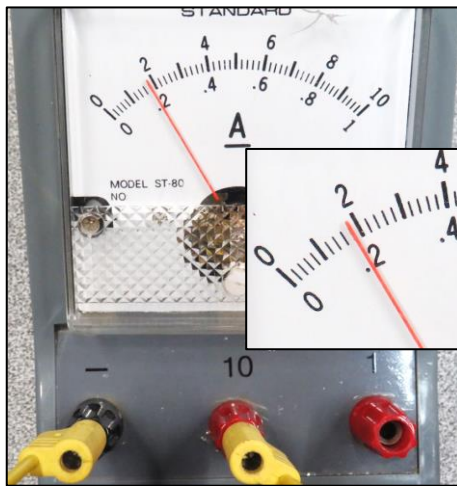
- At the simplest level, what is electric current? _____
- Things that electric current can flow through are called _____, while things that electric current can't flow through are called _____.
- Electric current is measured using a device called an _____. Electric current is (officially) measured in _____ (but this unit is often simplified to _____). The symbol for the unit is _____.

Part B

- Draw a circuit diagram showing how to place an ammeter in a circuit so that it can measure the current flowing in a single light globe.
- If you measure that the current in a certain part of an electrical circuit is 1 amp, it means that _____ electrons are flowing past that point per second.
- A school ammeter is connected to various circuits. Noting that the 10 A scale is being used, what current is passing through the circuits?



Current = _____



Current = _____



Current = _____

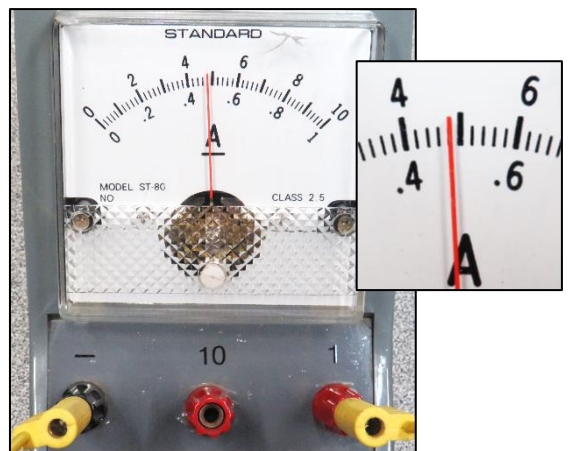
- For this ammeter, currents of less than 1 Amp are best measured using the 1 Amp terminal. What current is being displayed in each circuit?



Current = _____



Current = _____



Current = _____

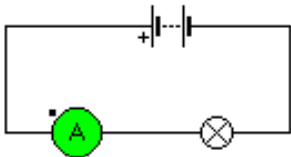
- A car headlight running off a car battery draws about _____ A.
- List two household appliances that draw large currents. _____
- List two household appliances that draw small currents. _____

11. 1 Amp = _____ milliamps; 1 mA = _____ A
 2 A = _____ mA; 0.2 A = _____ mA
 300 mA = _____ A; 450 mA = _____ A; 20 mA = _____ A

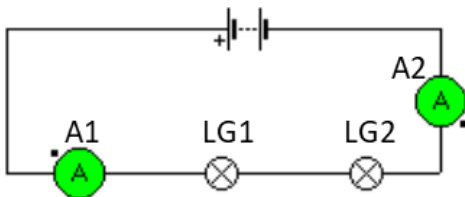
12. In the USA and Canada, mains electricity is supplied at a voltage of _____, while in Australia, Europe, and most of the rest of the world, mains voltage is _____.

13. The higher the power of an electrical device, the _____ the current that it draws (for an equal voltage).

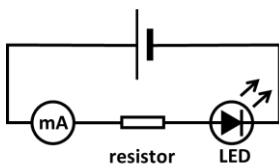
Part C



14. A student sets up the circuit on the left. If the ammeter reads 0.5 Amps, what is the current
 (a) in the light globe? _____
 (b) coming out of the battery? _____

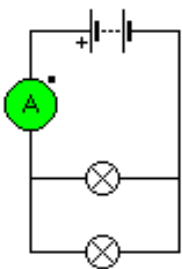


15. The student wires up another circuit shown on the left. The current in Ammeter 1 is 0.3 Amps. What is the current
 (a) in Light Globe 1? _____
 (b) in Light Globe 2? _____
 (c) in Ammeter 2? _____
 (d) coming out of the battery? _____
 (e) going back into the battery? _____



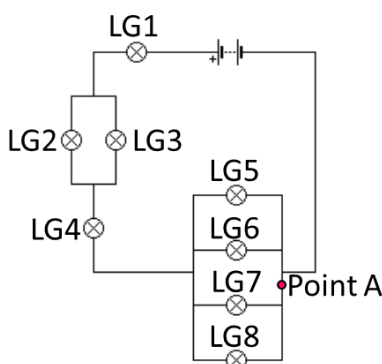
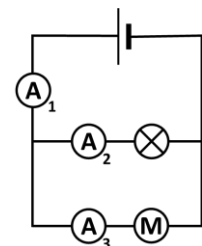
16. A milliammeter, an LED, and a resistor are connected to a 9 Volt battery. The current in the milliammeter is 12 mA. What is the current in
 (a) the resistor? _____
 (b) the LED? _____

17. What general rule applies to electric current when components are connected in series?



18. Two identical headlights are connected to a car battery in parallel. The ammeter reads 7 Amps. What is the current in each light globe? _____

19. An electric motor and a light globe are connected in parallel and ammeters are placed in the circuit to measure the current. If Ammeter 1 reads 2.8 amps and Ammeter 2 reads 1.5 Amps, what will Ammeter 3 read? _____. What therefore is the current in the motor? _____



20. If $I_{LG1} = 60 \text{ mA}$ and all the light globes are identical, $I_{LG3} =$ _____, $I_{LG4} =$ _____, and $I_{LG6} =$ _____.
 21. $I_{\text{Point A}} =$ _____.