

Review: Electricity

Static

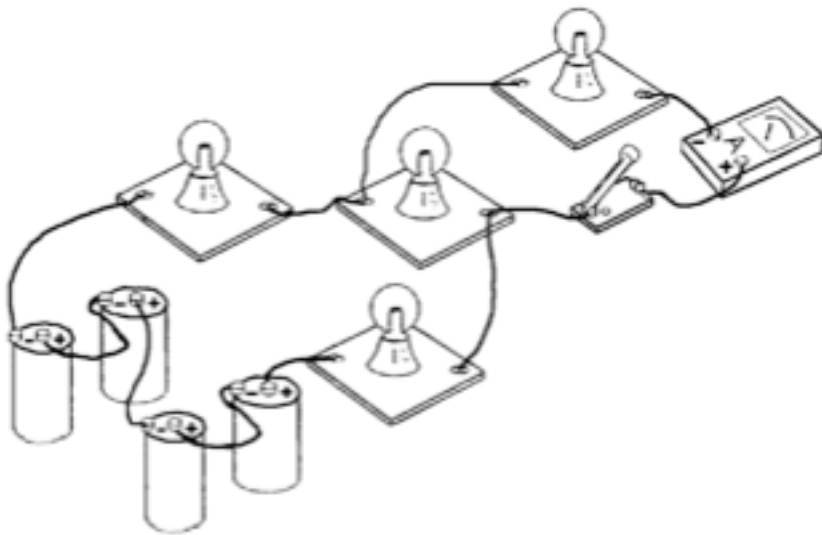
- 1) State the 3 laws of electrostatics
- 2) Explain how to charge objects by a) friction, b) conduction, c) induction
- 3) Explain discharge: a) grounding, b) environmental, c) at a point
- 4) Insulators vs Conductors
- 5) Know how to prove the charge on a pith ball

Current

- 1) Know the 4 parts of a circuit
- 2) Be able to draw schematic diagrams
- 3) Difference between primary and secondary cells
- 4) Pros and Cons of alternative energy
- 5) Relationship between current, resistance, and voltage (Ohm's Law)
- 6) Graphing Ohm's Law
- 7) Difference in voltage, current, resistance in series vs parallel circuits
- 8) Energy Efficiency calculations
- 9) Energy Cost Calculations

Practice:

- 1) A 375 Watt motor runs for 575 hours in a year, during peak time. The cost of electricity is 16 cents per kWh. What is the cost per month?
- 2) How much energy does your 60W lightbulb use if you leave it on for 4 hours every day. At the end of the month (assume 31 days), what is the total cost of leaving the bulb on if you are being charge 11 cents/kWh?
- 3) Compare contrast: a) open vs closed circuit, b) motor vs bulb, c) ammeter vs voltmeter
- 4) Page 594: Q's 1-7, 11, 16-19



7) Draw the schematic diagram for the above circuit.

8) Draw a schematic diagram with 5 cells connected in series, a closed switch, to control 2 lamps and a motor. In parallel to this circuit, draw two more motors, each having a switch to control them independently.

9) Add an ammeter and voltmeter to your circuit. What is the ammeter measuring? What is the voltmeter measuring?