PH112X Electricity and Magnetism Laboratory Experiments

Lab Experiment	Brief Description
1. Electric Charge	The goal of this experiment is to evaluate the number of electrons on a balloon charged by friction
2. Equipotential Surfaces	In this lab experiment we will determine the surfaces of equal potential for two configurations: 1. Two oppositely charged point charges 2. Two oppositely charged parallel plates
3. DC Circuits	The goals of this lab experiment are: 1. Learn how to build electric circuits 2. Learn how to measure current and voltage using Vernier Probes 3. Study the relationship between current and voltage in a DC circuit, that is Ohm's law 4. Understand how to calculate equivalent resistance and current and voltage in different branches of a circuit with resistors in series and parallel combination
4. RC Circuits	The goals of this lab experiment are: 1. Study how voltage changes with time in a series circuit consisting of capacitor C and resistor R as the capacitor charges and discharges 2. Determine experimentally the time constant τ for the RC circuit
5. Magnetic Field in a slinky	The goals of this lab experiment are as follows: 1. Determine the relationship between magnetic field and the current in a solenoid. 2. Determine the relationship between magnetic field and the number of turns per meter in a solenoid. 3. Determine the value of magnetic constant μ_0. 4. Probe the field in different locations inside and outside the solenoid.