

Lab Equipment for 12B Labs (May 2016)

Lab 1: Electrostatics:: Fur, plastic, glass, wool, puffs, tape, electrometers, Faraday pails, three metal spheres, field mapping board, 12v DC power, China markers, multimeter

Lab 2: Circuits:: Three bulbs, switch 6 volt battery, chargers, three way switches, 1F capacitors

Lab 3: Brownian Motion:: Microscope set-up, 2 um spheres

Lab 4: IV curves:: Breadboard, little lightbulb, 100 ohm resistor, LED, thermistor, Black Box, 2 Transistors, 5v dc supply

Lab 5: LED's and Solar Cells: LED (green and yellow), 100 ohm resistor, .33 uF capacitor, Solar panel, variable resistor, 1F capacitor,

Lab 6: Magnetic Fields:: Fillings, magnet, paper plate, paper clips, fur, PVC rod, overhead projector electric field demonstration, 30V power supplies, neodymium magnet, electron beam in Helmholtz coils demonstration, wooden base solenoids, yellow wire coil, galvanometers, build a speaker materials (magnet wire, plates, tape, amplifier, Computer audio out.

Lab 7: Motors and Generators:: NNNSSS magnet array on pivot, wire loop, 30 v power supply, 1 ohm power resistor, DPDT switch, motor demonstration, build a simple motor (magnet wire, black ceramic magnets, 30 V DC power supply, little motors to dissect, oscilloscope, magnet pendulum, magnet down a copper pipe, Efficiency of Generator (Demo)

Lab 8: RC Filters:: 0.01 uF capacitor, 10kohm resistor, oscilloscope, function generator,

Lab 9: Optics:: pinhole camera, LED lightbulb, variac, tin foil, jello, lens in wooden frame, candle or LED, 2 meter stick, lab jacks, wooden blocks