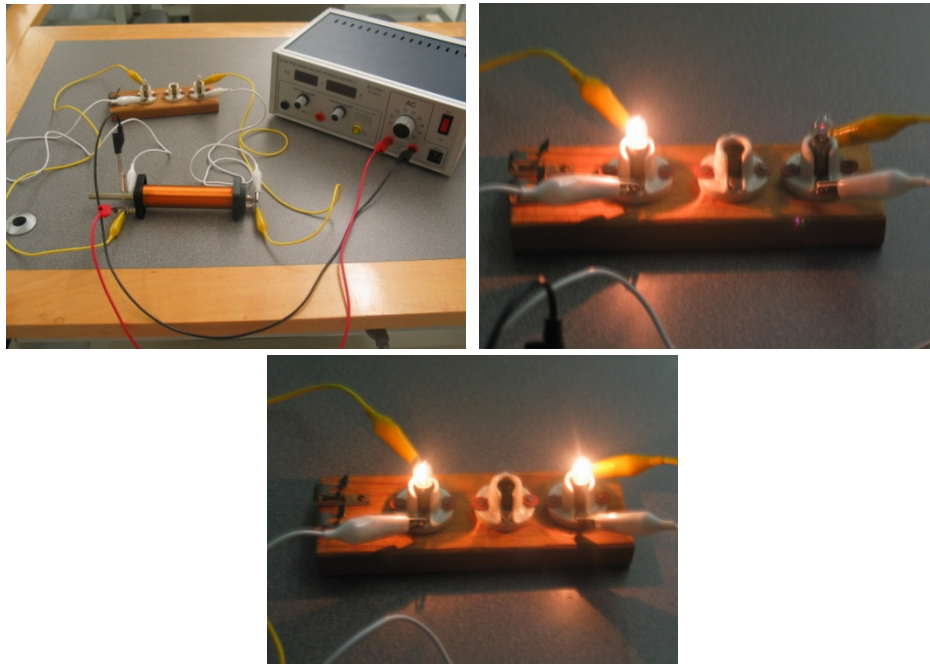


Step-Up/Step-Down Transformer



Purpose: To show how a transformer works.

Location: Room 146; shelf N3, alligator clips on B2, Low voltage power supply on E5

The outer coil has more turns than the inner coil, so to step up the voltage we will want to apply power to the inner coil. To step down the voltage we will want to apply power to the outer coil. Begin by connecting the inner coil to one light bulb and the outer coil to the other light bulb. Apply about 4 amps of AC current to the outer coil and watch as the outer coil's light bulb is bright, while the inner coil's light bulb is dim. Now apply the power to the inner coil and observe that the inner coil's light bulb is bright, but the outer coil's light bulb is a little brighter. You can move the inner coil in and out and observe as the outer coil's light bulb varies in brightness.