

## PROCEDURE

We connect a diode to a simple circuit. Assuming the diode follows the ideal diode equation, we measure the voltage across the p-n junction and the current which is generated. By changing the voltage in the circuit, we can obtain a range of data which can be plotted to find Boltzmann's constant. The current (Amps) and voltage (Volts) were measured with an ammeter and a multi-meter. The current was measured with both a forward and reverse bias. A decade resistor box was used to vary the resistance of the setup instead of directly changing the voltage, since it would be very difficult to obtain precise voltage readings off the power supply. The uncertainties in this procedure stem from the instruments used to measure both the current and the voltage.