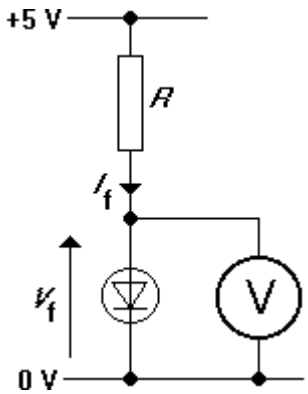
Investigating the *I-V* characteristic of a diode

In the real world of electronics, the current in a component is often calculated from the voltage drop across a resistor in series with it. This is because it is usually not possible to break open a circuit to insert the ammeter!

1. Set up the circuit as shown, with 4700 Ω for *R*. Use a 1N4148 signal diode.

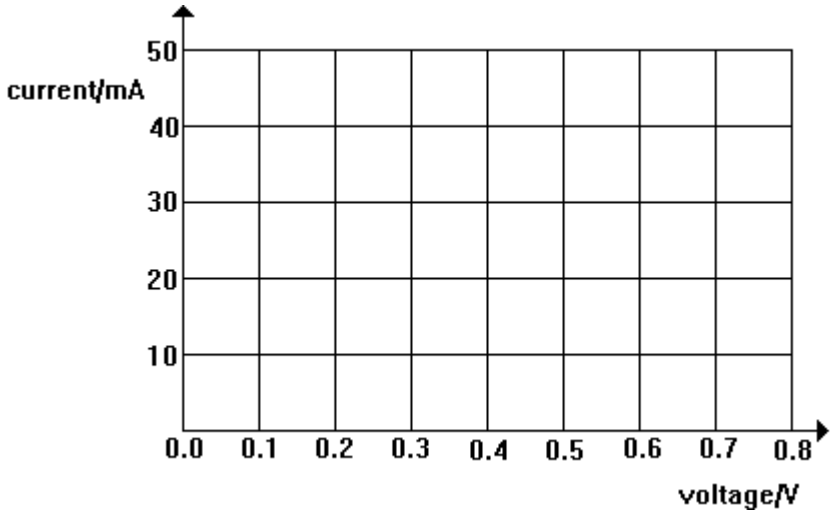


2. Measure the forward voltage V_f of the diode. Calculate the forward current I_f using Ohm's Law applied to the resistor. (You should get about 0.7 V and just under 1 mA.)

3. Repeat steps 1 and 2 with the following values of *R*.

2200 Ω 1000 Ω 470 Ω 220 Ω 100 Ω

4. Use your results to plot a current–voltage graph for the diode. Use axes similar to the ones shown below.



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