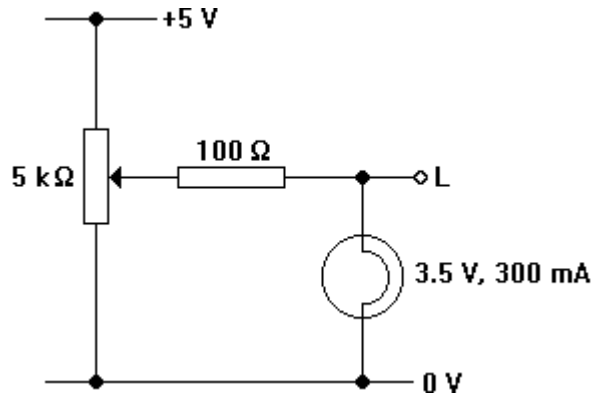
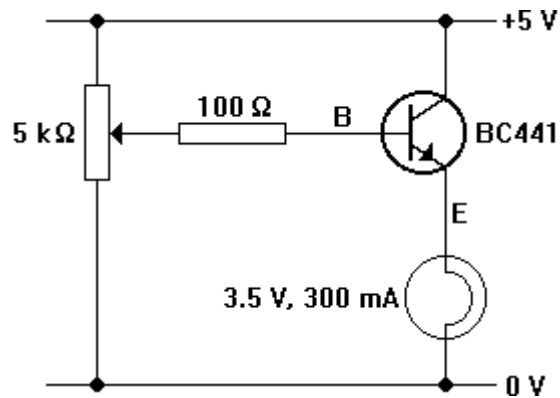


The emitter follower

1. Set up the circuit as shown. Make sure that you identify the wiper of the 5 k Ω potentiometer correctly. The lamp will need to be external to your breadboard.



2. Remove the lamp. Connect a voltmeter between L and 0 V. If all is well, you should be able to alter the voltage at L smoothly between 0 V and +5 V by adjusting the knob on the potentiometer.
3. Replace the lamp. Verify that whatever the setting of the potentiometer, the lamp doesn't get enough voltage to glow.
4. Add a power transistor as shown below. Be careful to identify the base, emitter and collector terminals correctly.



5. Verify that the brightness of the lamp can be varied smoothly from full on to full off by adjusting the potentiometer.
6. Connect a voltmeter between B and 0 V. Set B to 0.0 V. Use the same voltmeter to measure the voltage at E (also 0.0 V).
7. Connect the voltmeter to B and increase it by 0.5 V.
8. Repeat steps 6 and 7 until you reach the maximum voltage at B.
9. Use your results to plot a graph which shows how the voltage at the emitter depends on the voltage at the base of the transistor.