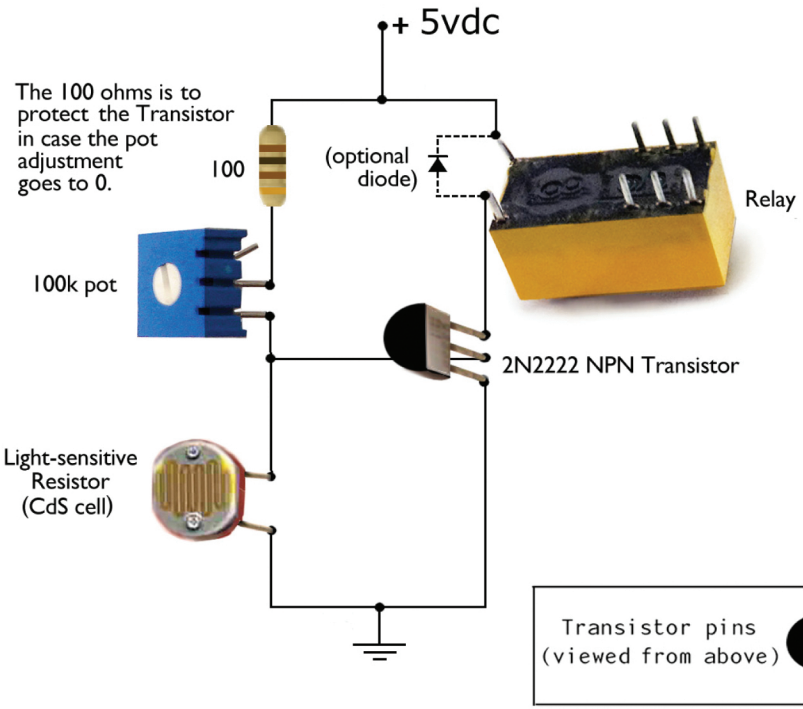
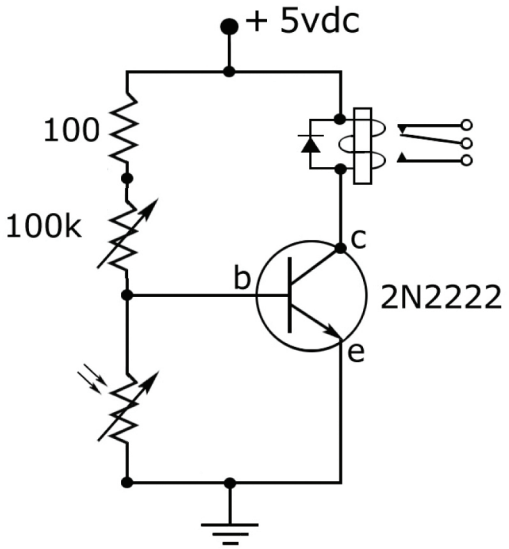
Light-sensitive (dark-activated) Relay circuit





How does this work?

The left side of the circuit forms a voltage divider (*see handout on the voltag divider*) with the variable resistor and the CdS cell (cadmium sulfide photo-resistor). Changing amounts of light on the photo-resistor causes a proportionately changing amount of electromotive pressure (in volts) at the base of the transistor. When there is sufficient pressure at the base of the transistor to pass it's switching threshold, the path to ground from the transistor's collector to its emitter switches to a very low impedence, looking virtually like a conductor. When that happens, the path of least resistance from power to ground is through the coil of the relay. Current through the coil energizes it, pulling the relay switch closed.

Note:

The circuit described here shows a light sensitive (dark-activated) projects for switching a relay -but it doesn't show a load attached to the relay. So it's essentially switching off and on ...nothing. To be useful, attach the normally-open and/or normally-closed poles of the relay to something (like an LED.)