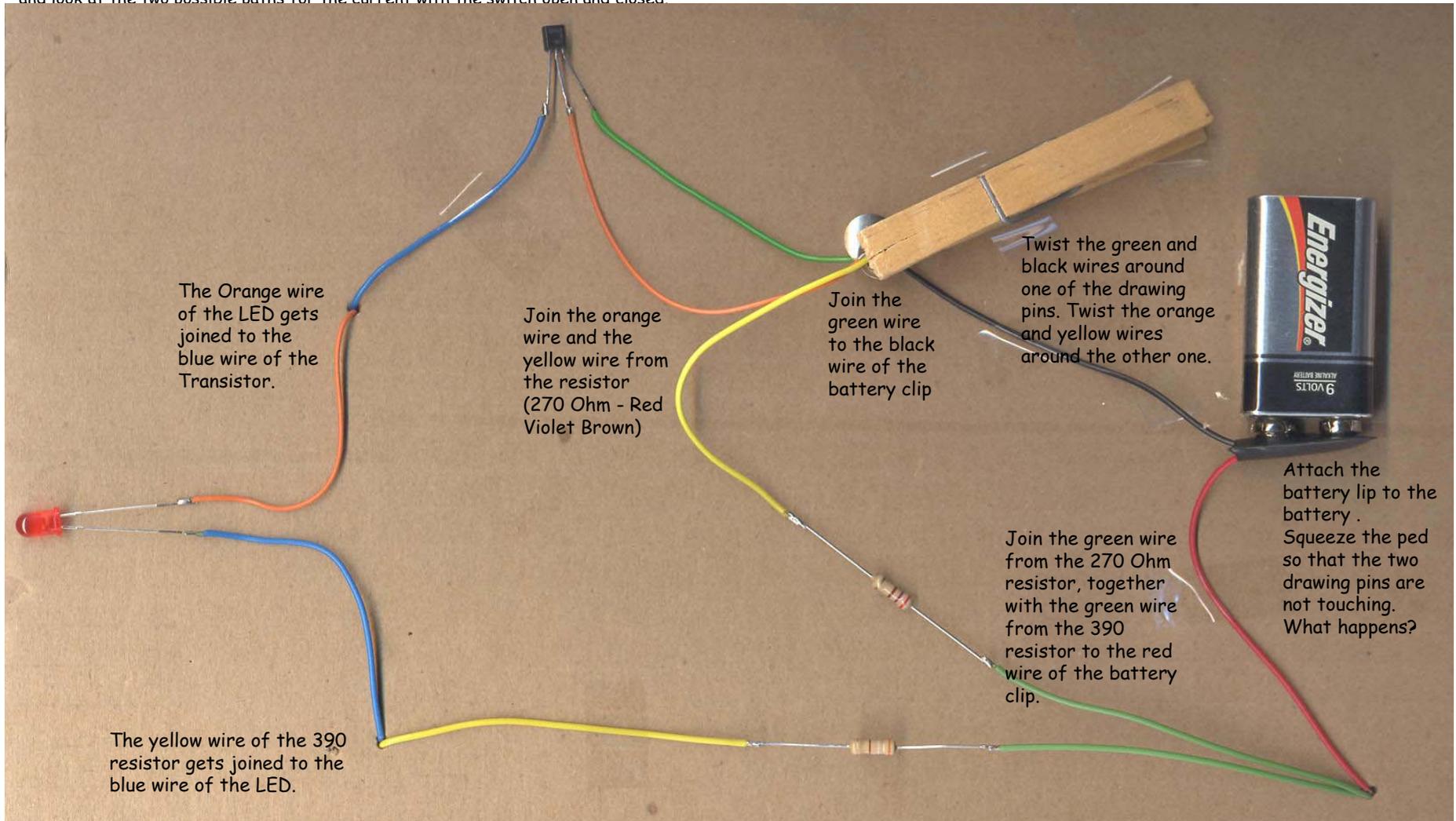


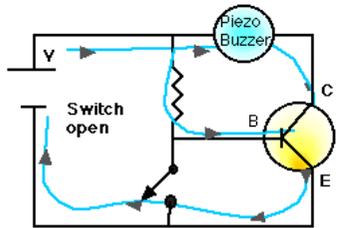
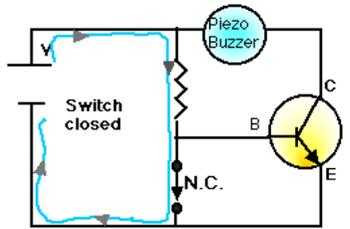
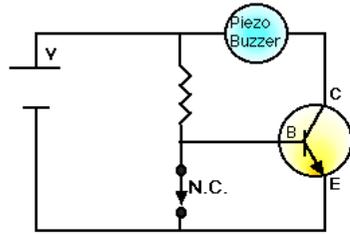
# All in a days work!

Many security systems work by setting off an alarm when a door is opened or a window is broken. In these systems there is a conductor at these points that breaks, just like a N.C. switch. In this activity you will be building a circuit that sets off an alarm when broken. To save our sanity, the buzzer is replaced with a light emitting diode and resistor combination.

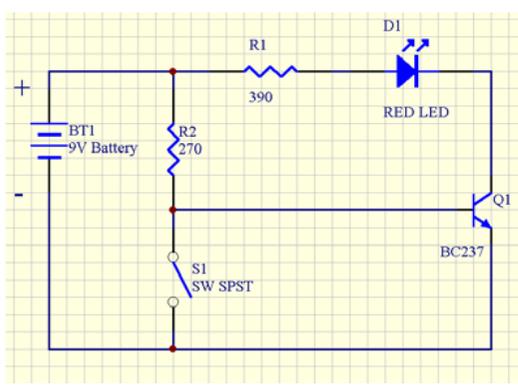
You will be using a transistor to control this circuit. A transistor allows a small current to trigger a larger one. **BANG!** When there is no current through the base (**B**) the buzzer is off, like an open switch. When there is a small current to the base the collector (**C**) / emitter (**E**) part of the circuit turns on, and the buzzer buzzes. Study the diagrams on the left and look at the two possible paths for the current with the switch open and closed.



# All in a days work!



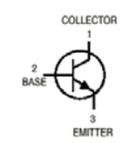
- ✦ Indicate on a circuit diagram the part of your circuit that would be placed around the window you wanted to protect. Explain why you chose this.
- ✦ Indicate on the circuit diagram the spots a thief could cut if she wanted to disable your circuit. What could you do to prevent this?



Component List	
Resistor	
240	R2
390	R1
Batteries	
9V	BT1
Transistor	
BC237	Q1
LED	
Red	D1
Other	
Battery holder	



CASE 29-04, STYLE 17  
TO-92 (TO-226AA)



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The resistor resists the flow of charge. It keeps electrons from running willy-nilly around the circuit. Note that without the resistor there would be a short circuit with the switch closed.