

SIREN & LIGHTS

Screaming sirens and flashing lights can sure get your attention. That's why ambulances, police cars and fire trucks all use them in emergencies - to make sure other drivers see them coming and get out of the way! Let's make some flashy, loud fun!

Connect #5 to #35
Connect #6 to #15
Connect #15 to #20
Connect #20 to #23
Connect #24 to #37
Connect #37 to #39
Connect #11 to #19
Connect #19 to #33
Connect #33 to #36

Stick a long yellow wire in spring #33 and let it just hang there

Connect #36 to #38
Stick a long yellow wire into spring 38, and let it just hang there.
Connect #25 to #28
Connect #28 to #34
Connect #16 to #17
Connect #18 to #21
Connect #22 to #26
Connect #12 to #30
And the last connection is #27 to #29

Great job. Now for the big hook up. When you hook up the battery, you'll hear a tone. Touch the loose end of the yellow wire to spring #18, the tone will change, and the red LED lights up. If it's not working, check your connections. If it is working, try touching and removing the wire from the spring several times in a row to make a siren sound...but don't wake up the whole neighborhood!

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Here's how the circuit works:

Your circuit board can do two things at once. It can make a siren sound AND light up the LED. Let's follow these two paths in terms of thinking of an Electronic Pinball Game. Without the hanging wire connected, the electrons get a push from the battery, oscillate from the transformer to the capacitor, and go through the piezo transducer, making a sound just like the "Engine Sound" project.

When you touch the loose wire to spring #18, some electrons stick with the first route and some split off going through the LED. The LED turns on and the sound from the piezo changes. That's the siren and lights!