TRANSISTOR RADIO

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Are you ready to crank up the tunes? You're going to build a radio that uses a transistor to amplify the signal, thus-giving it the name "Transistor Radio". You'll be able to hear sound from the piezo transducer and you can even hook up your earphone if you want to. Ready?

Start by connecting #13   to   #22

Connect #22   to #33

Connect #33   to #35

Connect #35   to #38

Connect #11   to #4

Connect #42   to #48

Connect #44   to #49

Connect the long orange wire to spring #49 and let it hang loose

Connect #2   to #12

Connect #12   to #14

Connect #14   to #20

Connect #20   to #25

Connect #25   to #43

Connect #43   to #50

Put a long, yellow wire in spring #50 and just let it hang there for the time being.

Connect #1   to #3

Connect #3   to #19

Connect #19   to #45

Connect #4   to #21

Connect #21   to #23

Connect #24   to #37

And the last connection is #37   to   #39

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Ready to tune in? OK. Now, this radio needs to be "grounded" in order to work, so you're going to need to take your workbench into the bathroom or kitchen and tape the loose, yellow wire to a sink faucet. Make sure the end of the wire is touching the faucet. Then you'll need to stretch out the long, orange wire as far as it will go - and try to keep it level! Hook up the battery. Turn the variable capacitor to see if you pick up any signals. If nothing happens, check your connections. If it works, hey, let the good times roll!

Here's how the circuit works:

The first part of this circuit is like the Crystal Radio. Radio waves from a radio station transmitter pass by the antenna on your radio, which converts the radio waves into tiny electrical impulses.
The diode and the variable capacitor tune in one frequency and throw the rest away.
An amplifier, which uses the transistor and transformer, turns the weak electrical impulses into a strong electrical current, which then goes to the piezo. The strong current in the piezo creates a loud sound that you can hear. This radio uses a transistor to amplify the sound- that's why it's called a transistor radio.