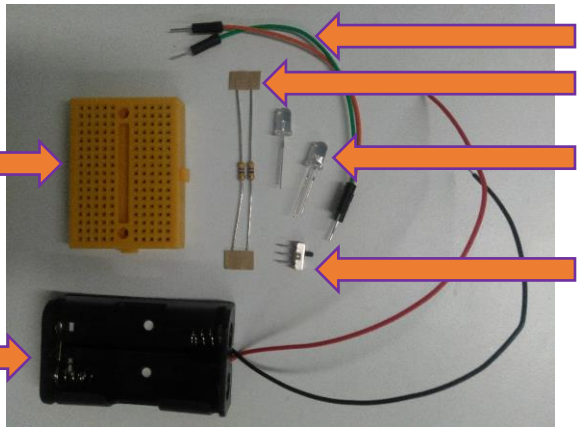
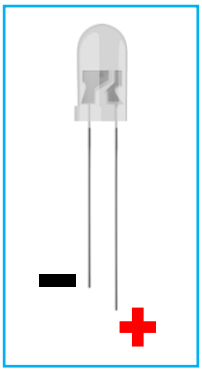
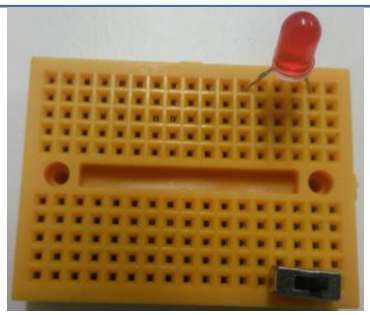
Future Engineers: Robot Camp
Soldering Workshop

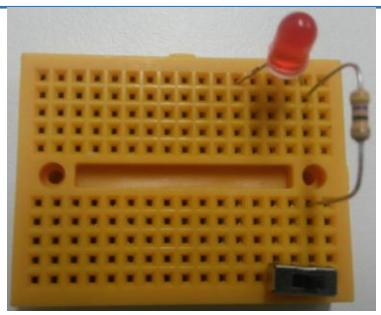




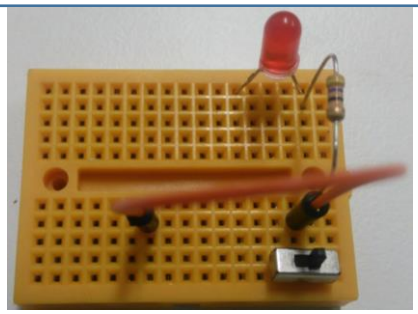
Put one of your LEDs into your breadboard, making a note of which lead is positive.



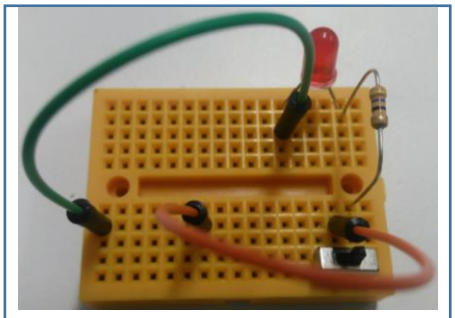
Put your switch into your breadboard, on the opposite side of the gap to your LED.



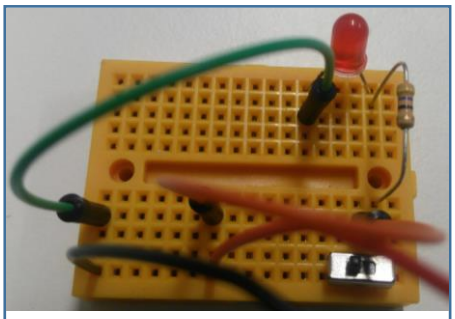
Use a resistor to connect the positive lead of your LED, to one side of your switch.



Use one of your jump leads to connect the middle of the switch to a new row (for your battery).

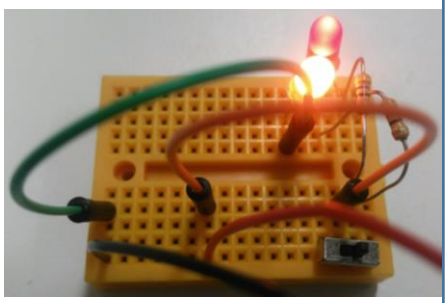


Use your other jump lead to connect the negative side of your LED to a new row.

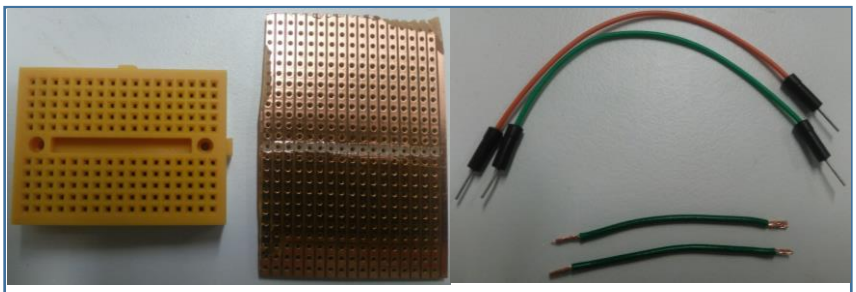


Use your other jump lead to connect the negative side of your LED to a new row.

Add batteries & test your circuit!



Add your second LED and resistor. Test your circuit.



You are now ready to solder your circuit together! You will replace the breadboard with a piece of stripboad, and the jump leads with green wire. Move the components one at a time over to the stripboard, and solder. Turn over for some soldering help!

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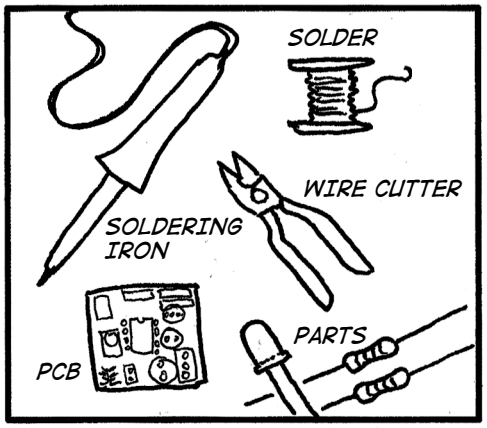
SOLDERING IS EASY

HERE'S HOW TO DO IT

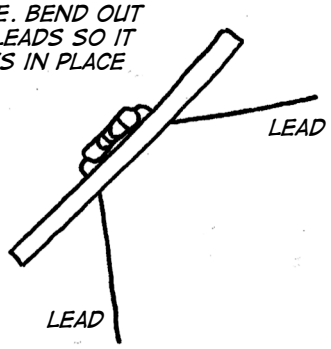


THE IRON IS HOT!! BE CAREFUL! ☆!#

YOUR KIT SHOULD COME WITH INSTRUCTIONS FOR WHAT PARTS GO WHERE AND WHAT WAY!

CLEAN THE TIP OF YOUR IRON BEFORE EACH SOLDER CONNECTION!

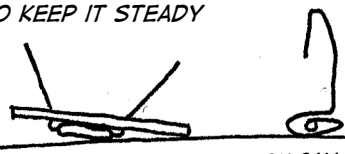
PUT YOUR PART IN PLACE. BEND OUT THE LEADS SO IT STAYS IN PLACE



PUT THE PCB DOWN SO YOU CAN SOLDER.

CAREFUL WITH THE SURFACE UNDERNEATH!

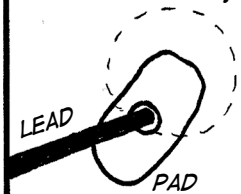
FIND SOME GOOD WAY TO KEEP IT STEADY



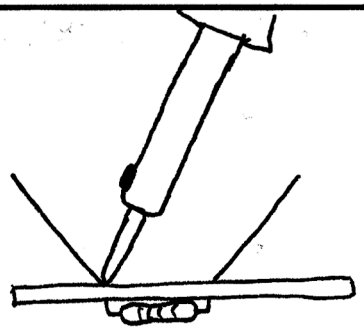
IF YOU NEED A THIRD HAND, YOU CAN MAKE A STANDING COIL OF THE SOLDER INSTEAD OF HOLDING IT IN YOUR HAND

OK, LETS SOLDER!

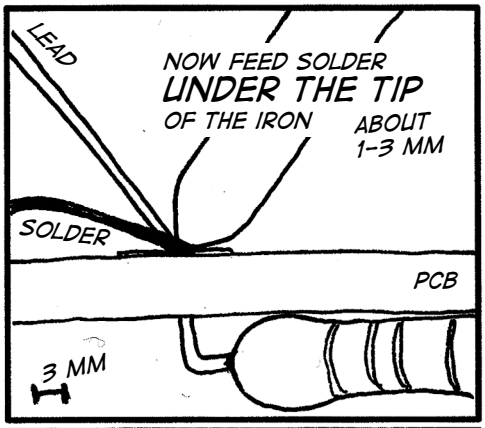
FIRST, YOU WANT TO **HEAT** BOTH THE PAD AND THE LEAD FOR ABOUT **1 SECOND**

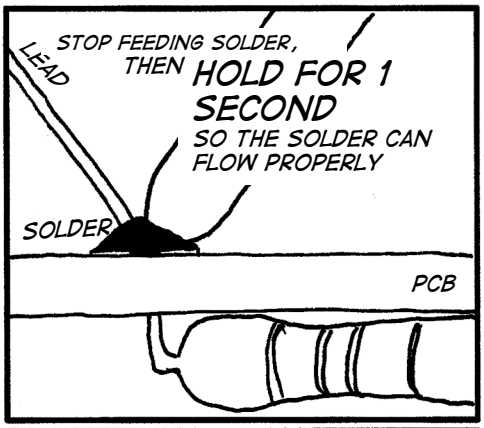


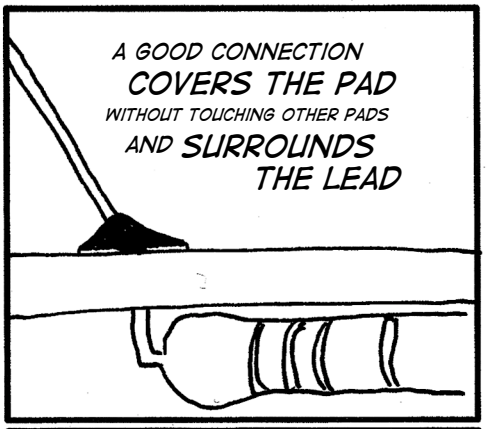
PSST! CLEAN THE TIP FIRST!

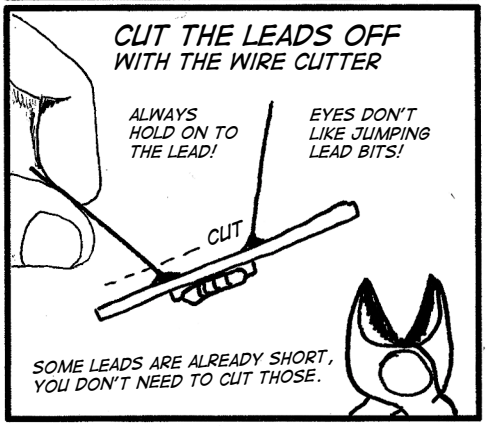


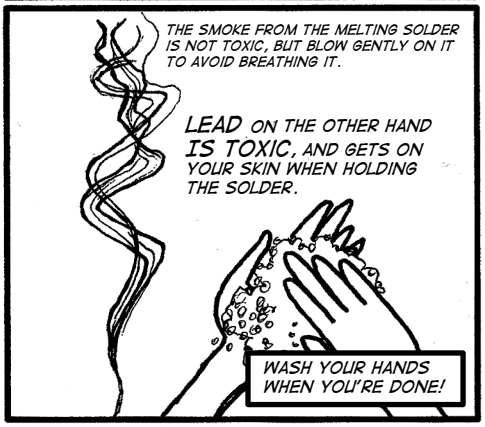
TOUCH THE SOLDERING IRON TO BOTH THE PAD AND THE LEAD!











KEEP SOLDERING EACH PART IN ITS CORRECT PLACE. REMEMBER SOME PARTS NEED TO GO IN A CERTAIN WAY!

IF ALL YOUR CONNECTIONS ARE GOOD, YOUR CIRCUIT WILL JUST WORK!

THERE ARE MORE TRICKS YOU WILL LEARN AS YOU KEEP SOLDERING, BUT NOW YOU KNOW ENOUGH TO MAKE MANY COOL THINGS.

SOLDERING COURSE BY MITCH ALTMAN
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