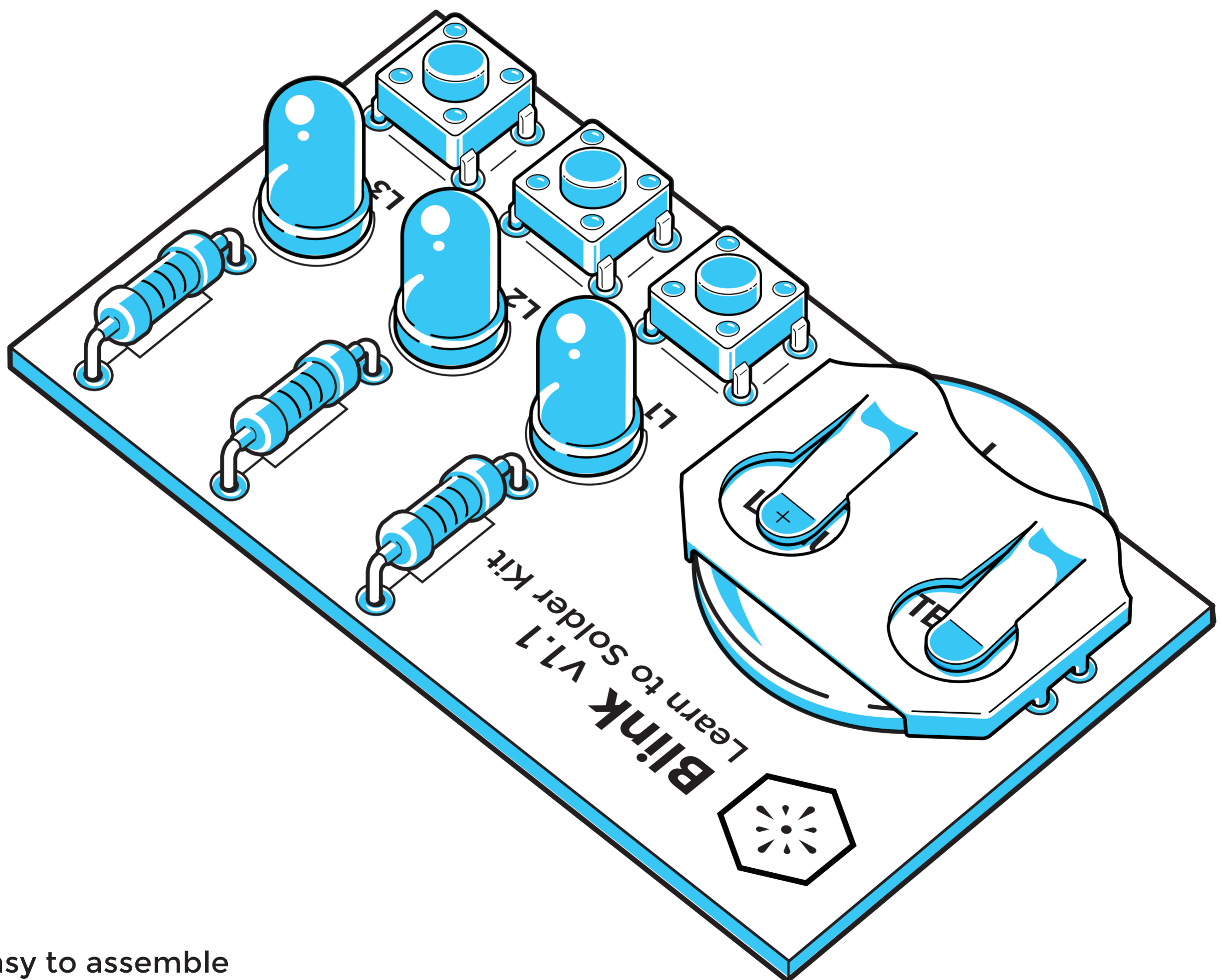




# Blink

## Learn to Solder Kit



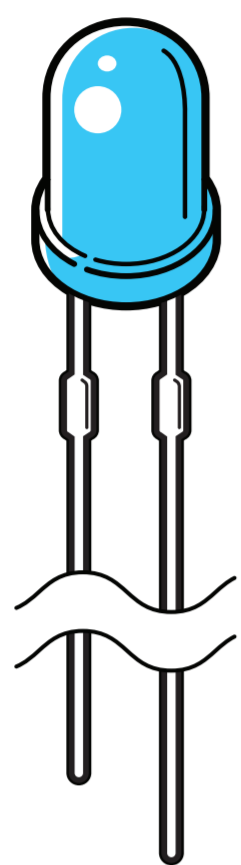
Easy to assemble

30-minutes or less

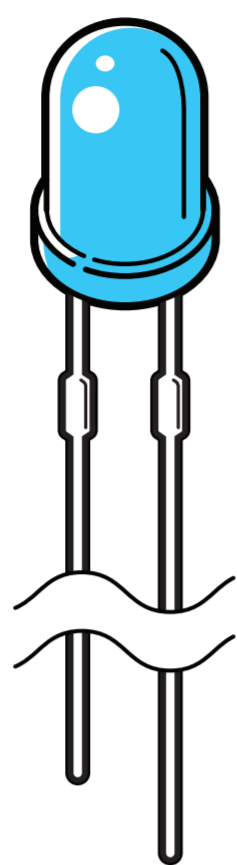
Made in California, USA

[learntosolderkit.com](http://learntosolderkit.com)

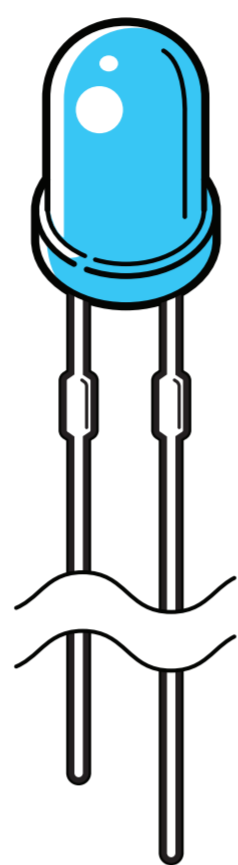
# 01. Parts



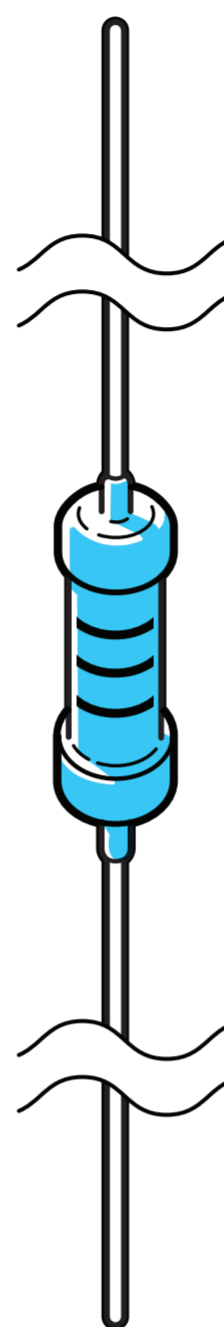
Red LED **x1**



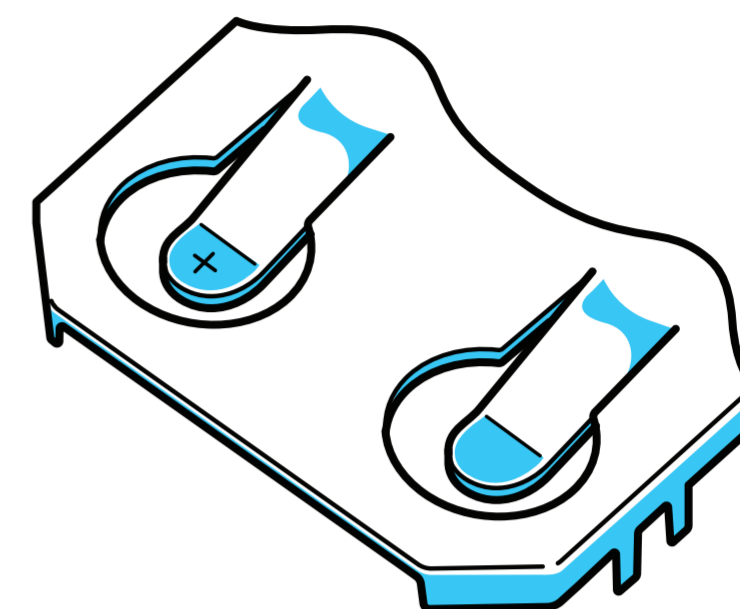
Green LED **x1**



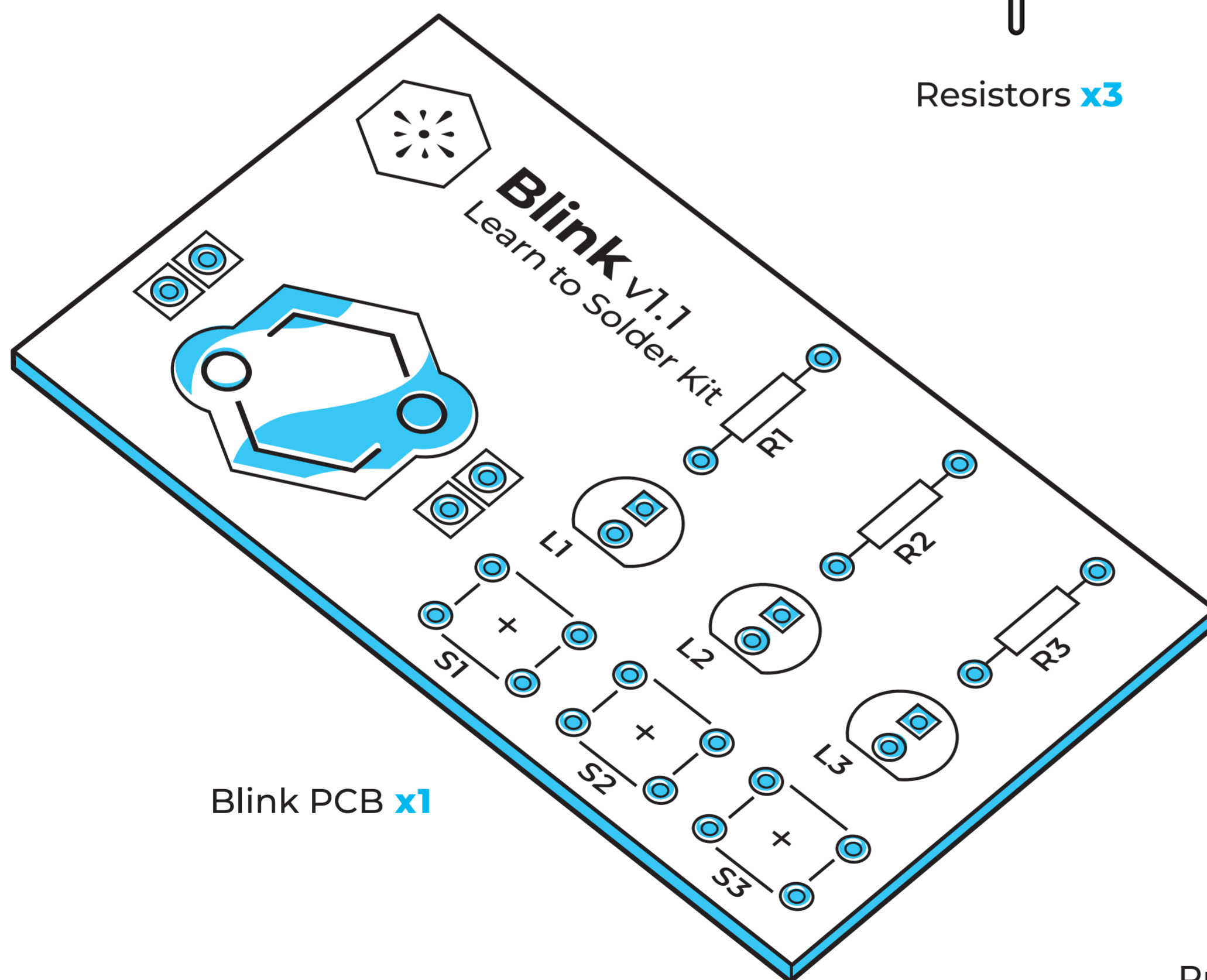
Blue LED **x1**



Resistors **x3**



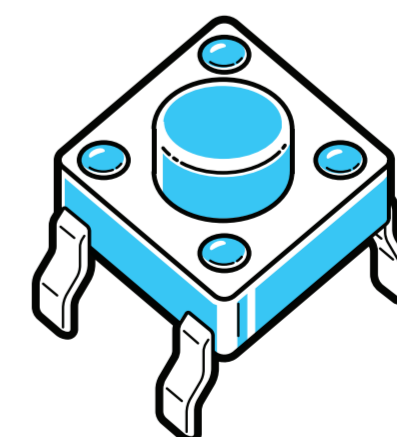
Battery Holder **x1**



Blink PCB **x1**



Battery **x1**

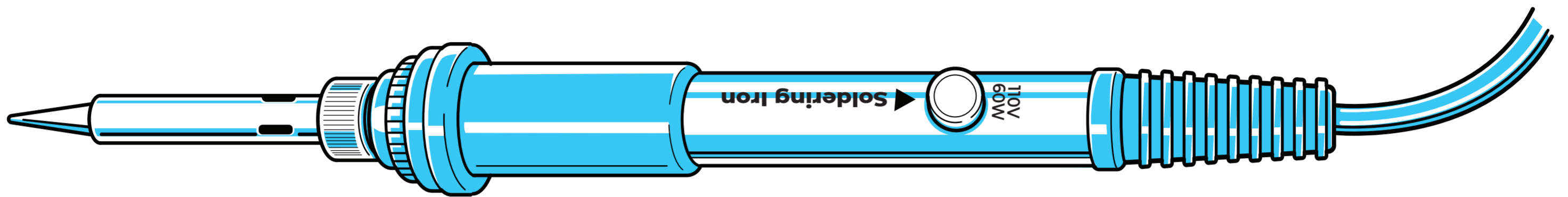


Push Button Switchers **x3**

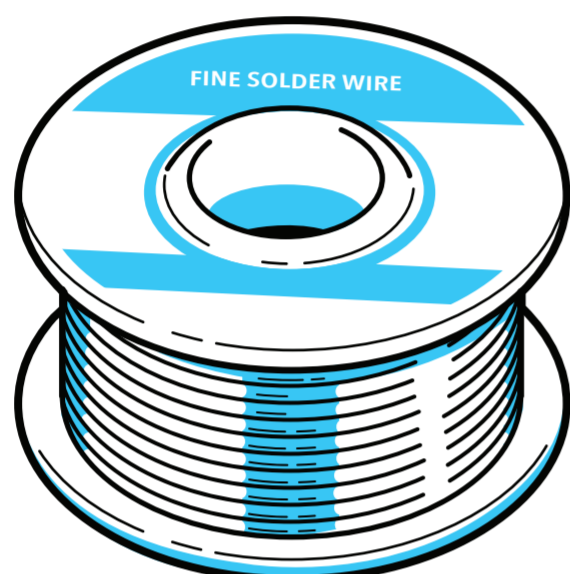
# 02. Tools

## RECOMENDED

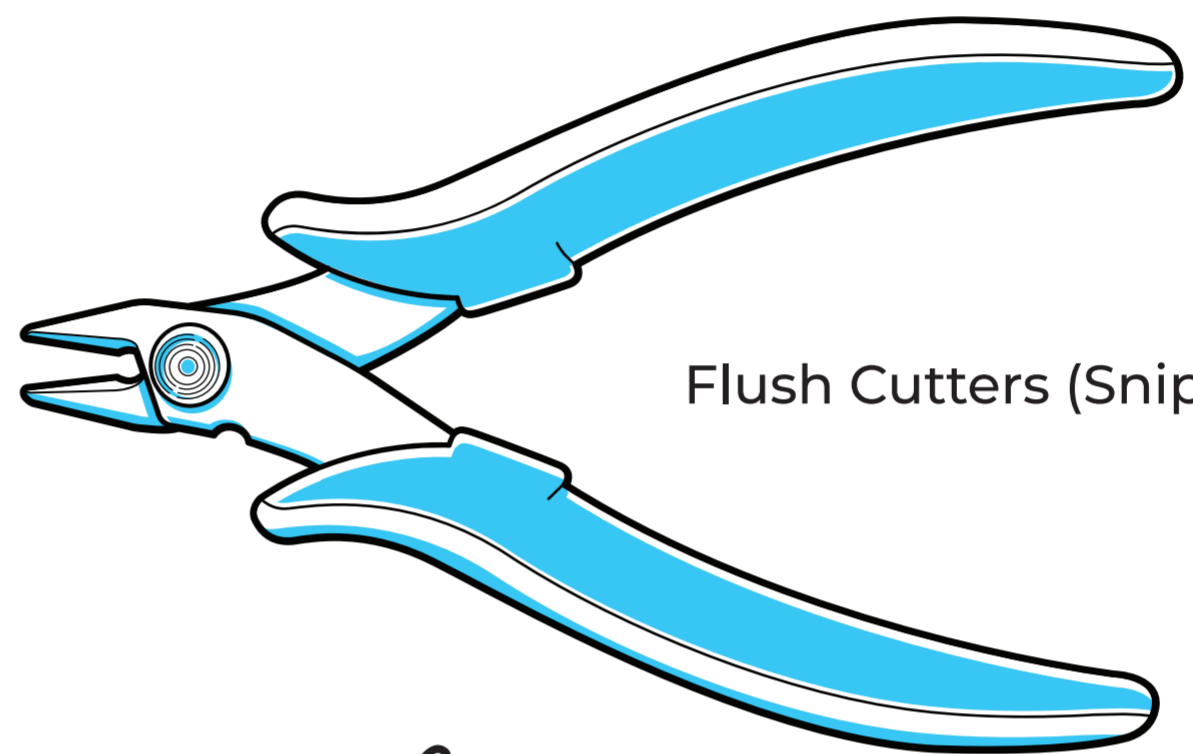
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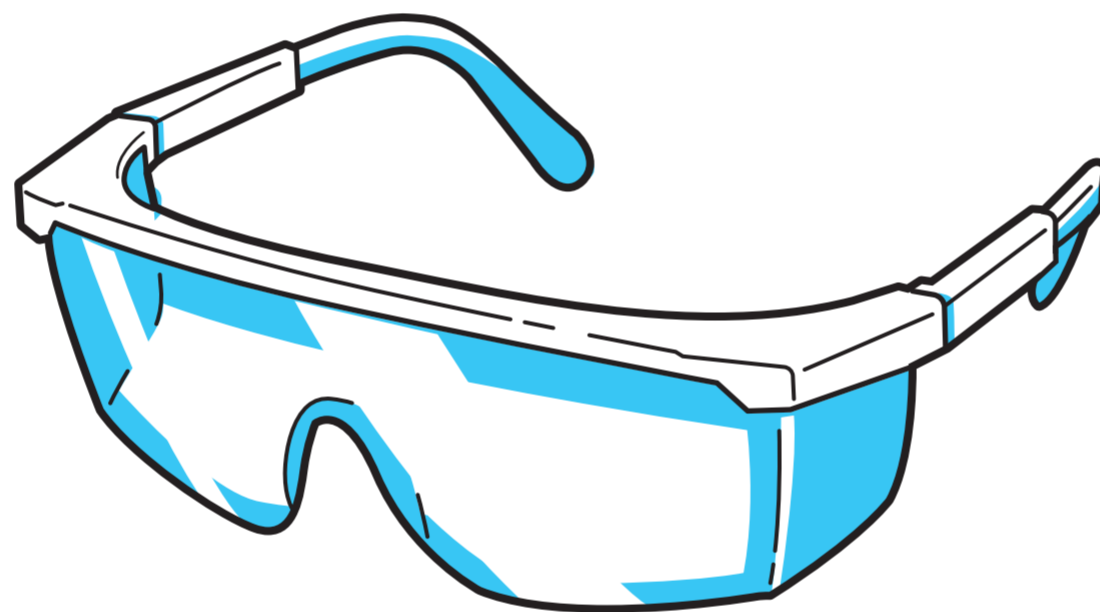
Soldering Iron



Solder



Flush Cutters (Snips)



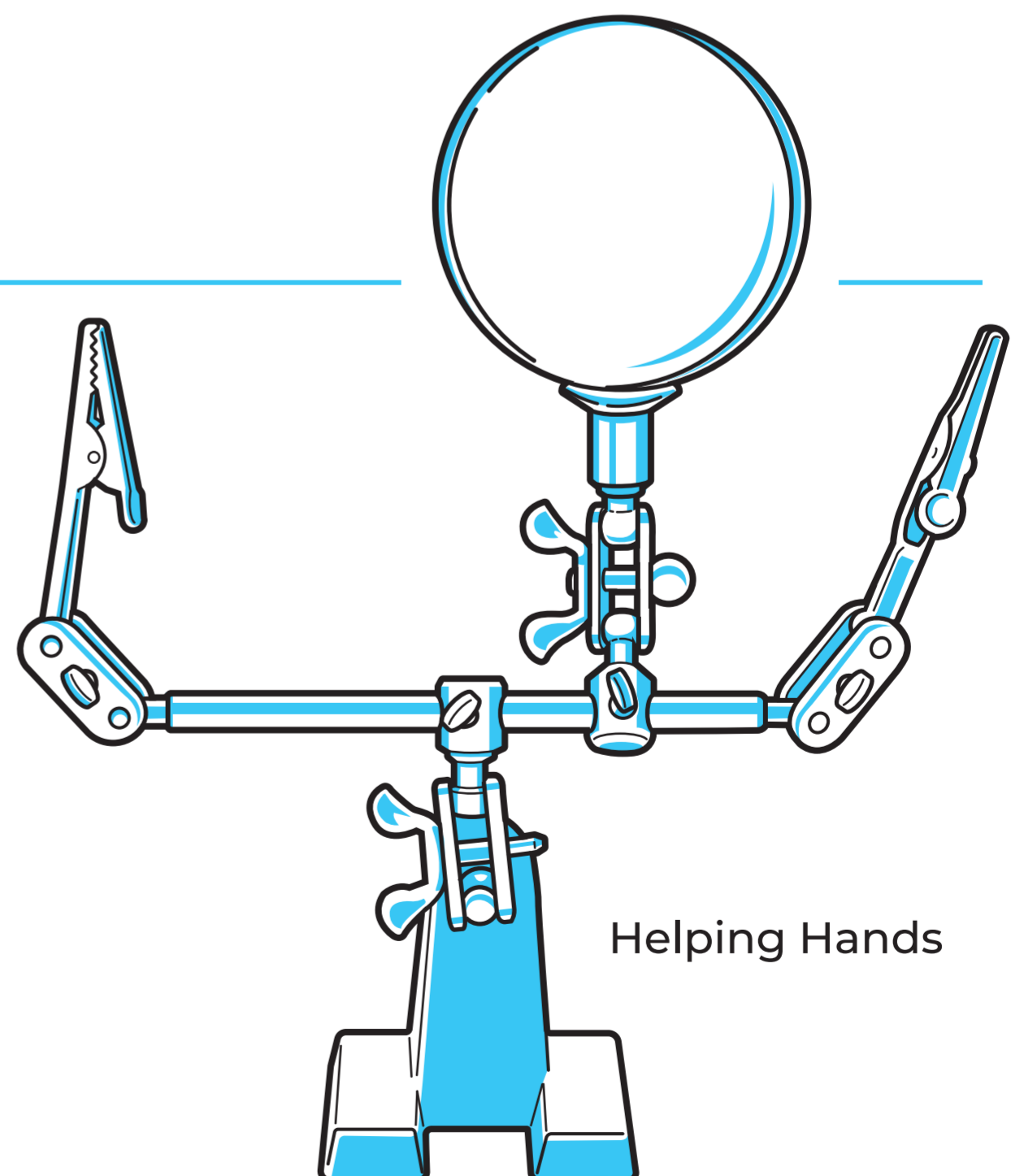
Safety Glasses

## OPTIONAL

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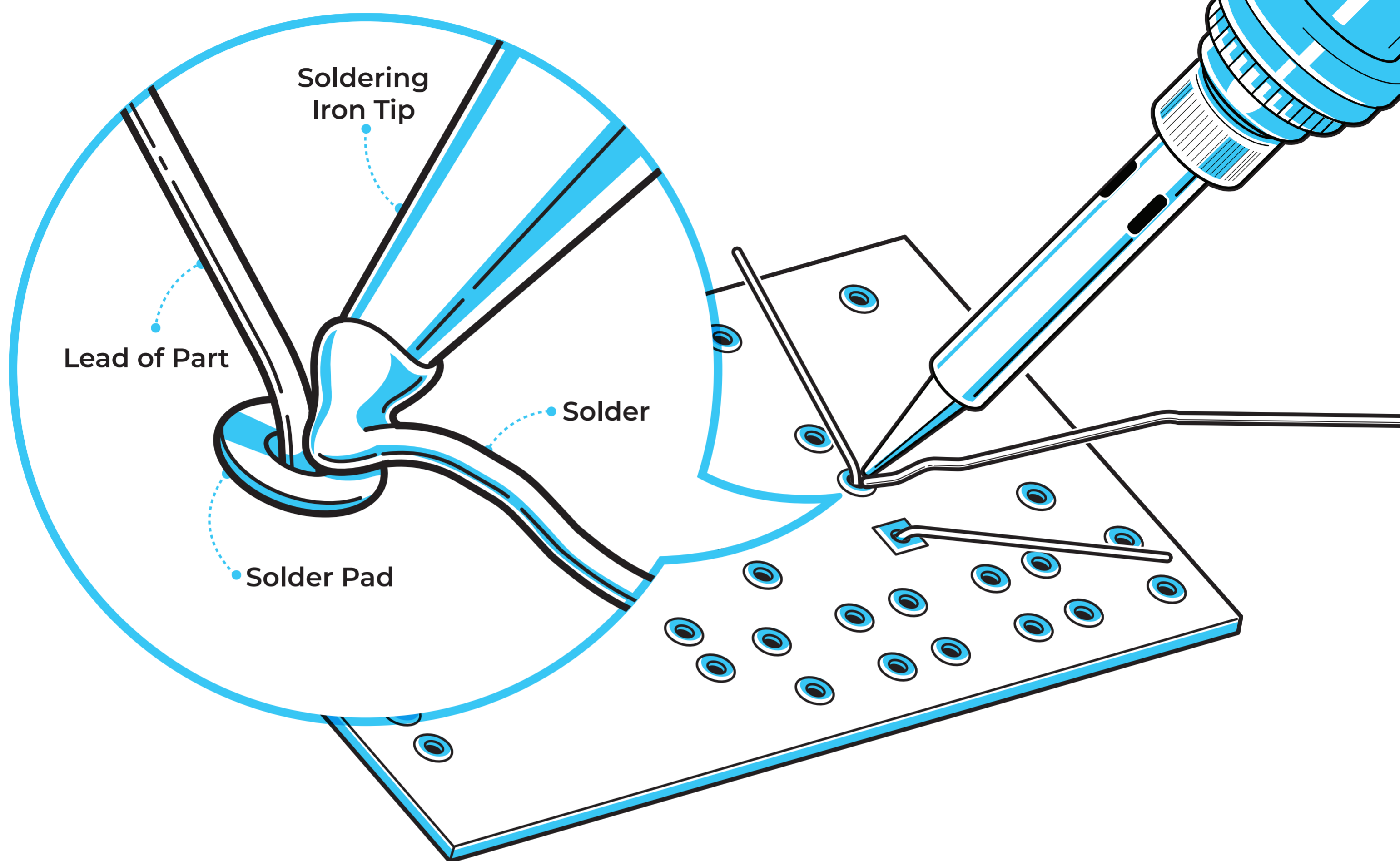


Solder Sucker



Helping Hands

## 03. Technique

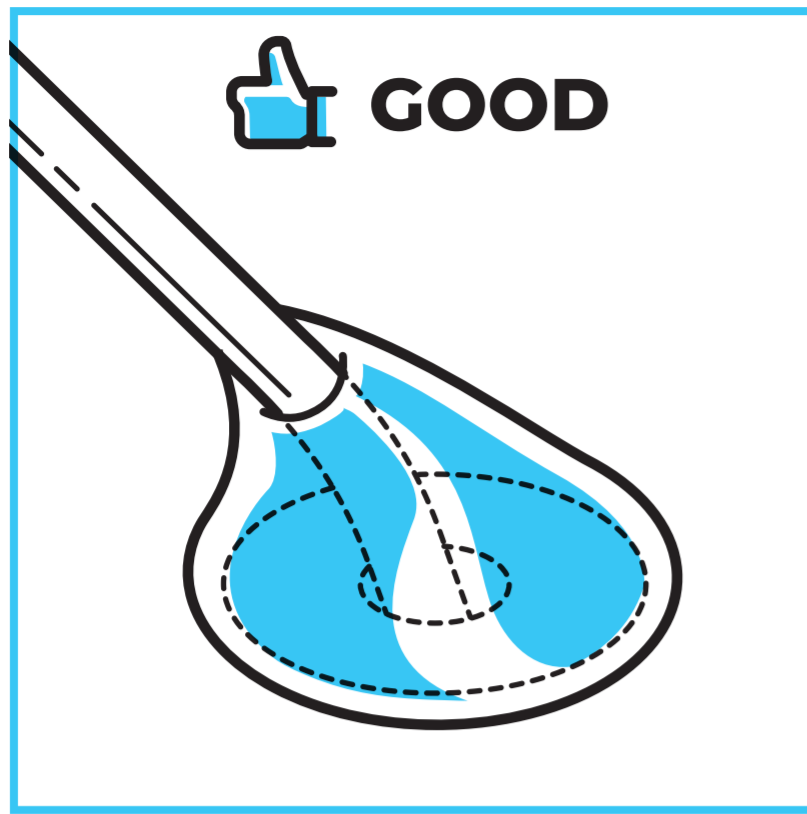


Above is the correct setup for creating a strong solder joint. Your goal is to heat both the lead of the part being solder and the solder pad. Then introduce the solder itself. By heating the lead and pad correctly the solder will flow around them to create a strong joint.

Your soldering iron should be set to at least 450F and less than 700F. If your solder iron does not have a temperature dial no problem! Just plug it in a go. Hold the tip of the iron to the lead and pad for about three seconds before introducing the solder. Don't worry if you heat up the board a bit, it is designed to withstand hot temperatures.

Hold the solder between your forefinger and thumb about four to six inches from the end. The solder is going to melt really quickly so you don't want your finger to be too close to the end. Touch the solder to the solder pad. It should liquify almost instantly and flow into the joint. Move the solder around a bit to cover the entire solder pad. You don't need very much to create a clean solder joint. It should only take a few seconds.

Pull the solder away first and then the soldering iron. Viola! You have just created your first soldering joint! Your solder joint should look something like the image below.



A little metal mountain resembling a hershey kiss. Fully covered solder pad, you should see no more gold.



A blobby solder joint that is more spherical. You can use less solder next time. The electronics should still work!



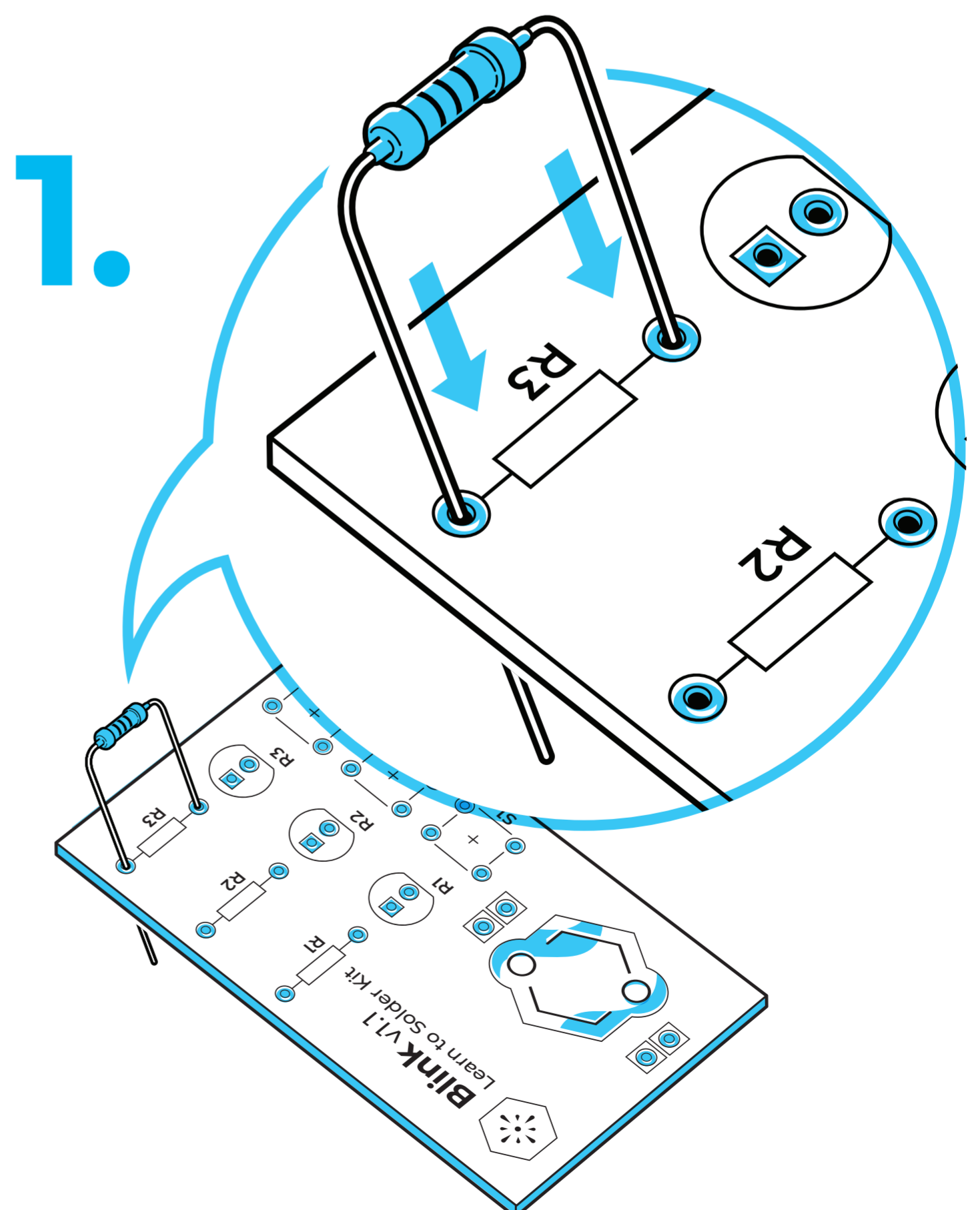
The solder is not fully on the solder pad. You still see some gold visible. Give it a another try. Just reheat the solder joint and add a little more solder.

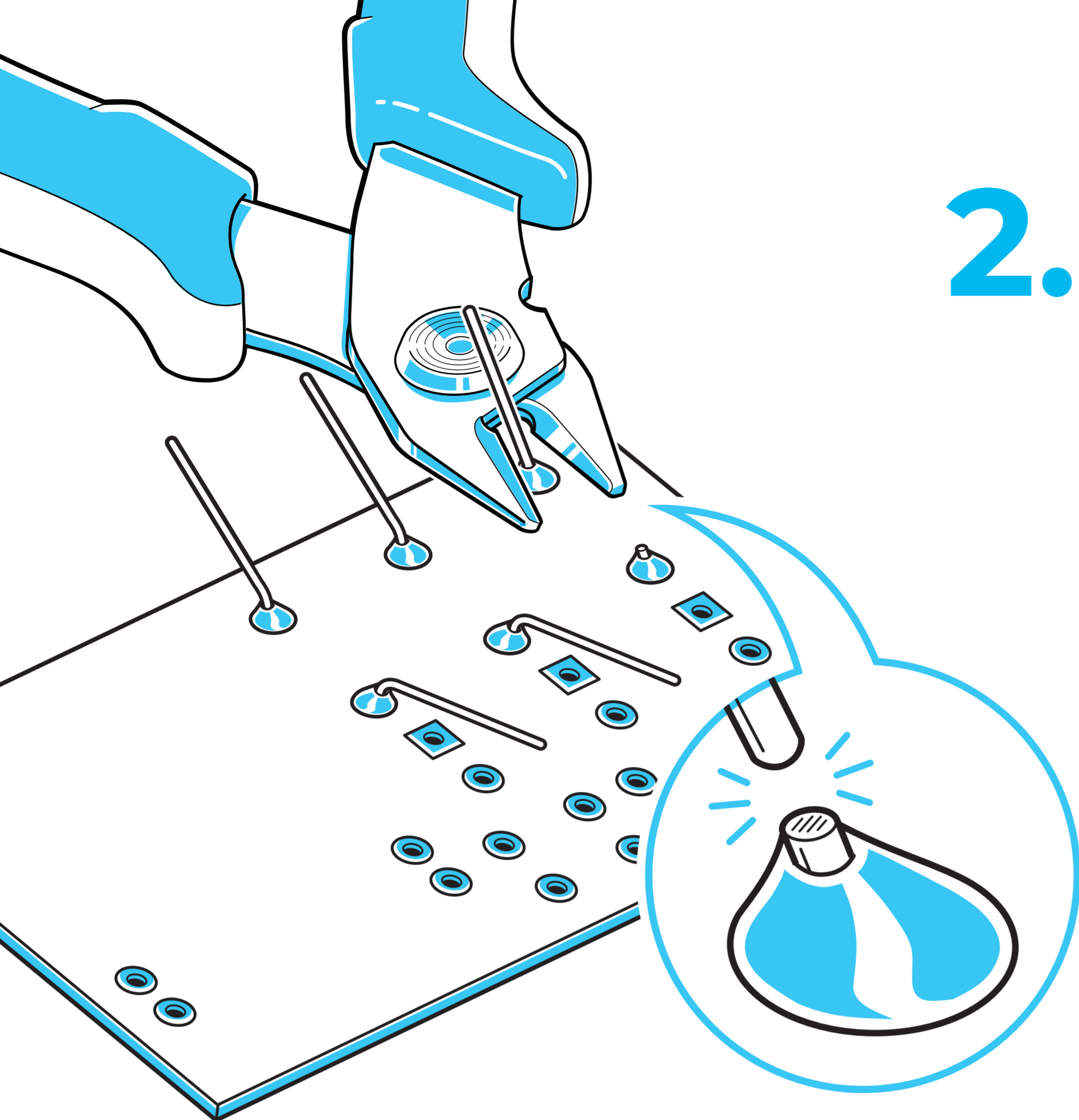
## 04. Step-By-Step Assembly Instructions

### THE RESISTORS. PART A

Start with the first resistor. This resistor is goes into the place on the board labeled R1. First remove the tape on both ends of the resistor leads. Then, bend the legs of the resistor and slide it into its home on the printed circuit board. Once the resistor is in place it helps to bend them slightly outwards so the part doesn't fall out. Now solder the two leads using the steps described in the T echnique section.

**Note:** Resistors are bi-directional. It doesn't matter which way they're rotated when you put them in.





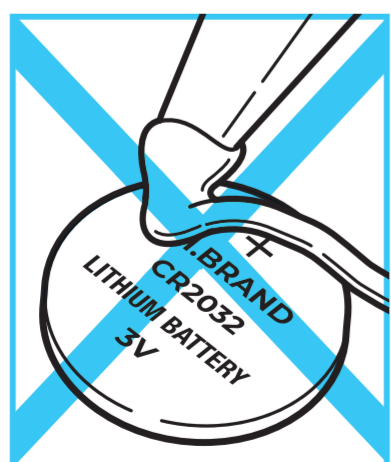
## 2.

### THE RESISTORS. PART B

Next complete R2 and R3. The steps are the same as R1. After all 3 resistors are solder into place it is time to remove the excess lead. Use your snips to cut the wire directly at the top of the solder joint. When snipping be sure to hold the end of the lead in between two finger so it doesn't go flying across the room. Once removed you should still have a nice mountain shape to your solder joint.

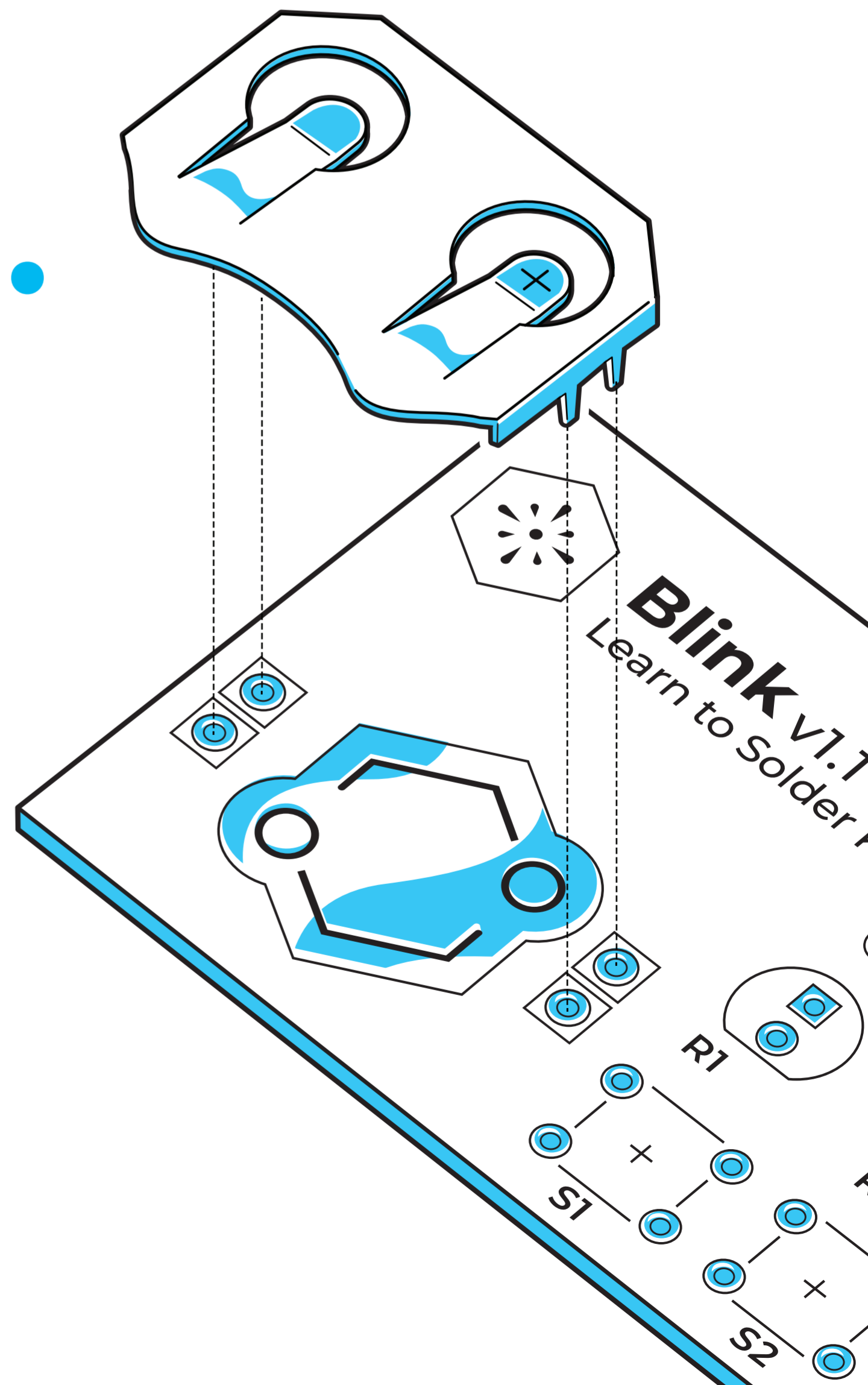
### THE BATTERY HOLDER

Next solder the battery holder. This will allow a battery to slide into the circuit and provide power. The battery holder must be placed on the Top of the board where the hexagon battery contact is located. The circuit will not work if the battery holder is placed on the bottom of the board. Line the holder up with the 4 holes on either side of the battery pad. Flip the board over and solder the connections just like the resistors. Since the leads are short there is no need to cut them.



**WARNING!** Do not solder the included battery! Batteries are sensitive to heat. The battery will be put in place at the very end. The battery holder allows it to easily slide into place and be switched out.

## 3.

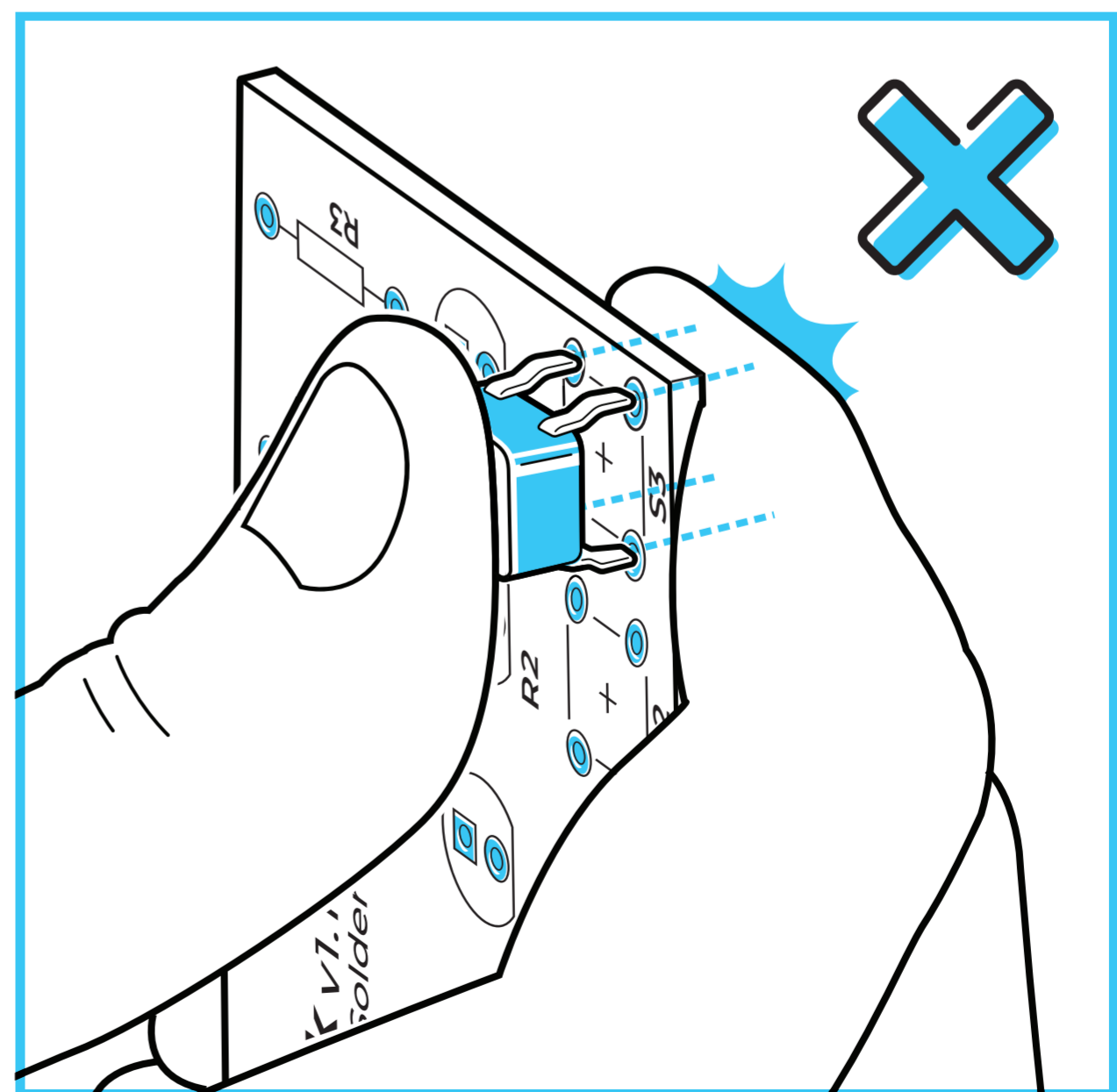
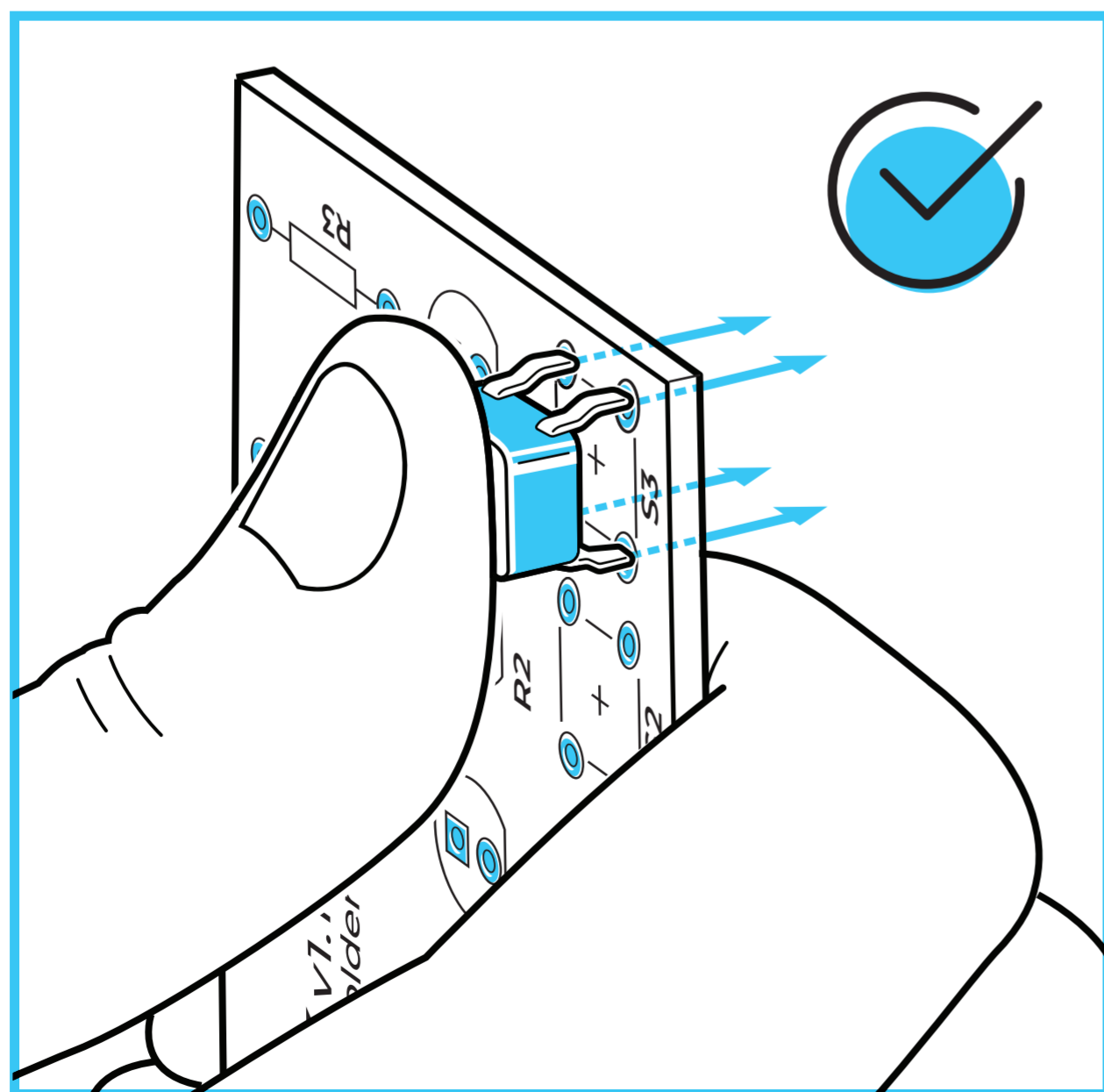
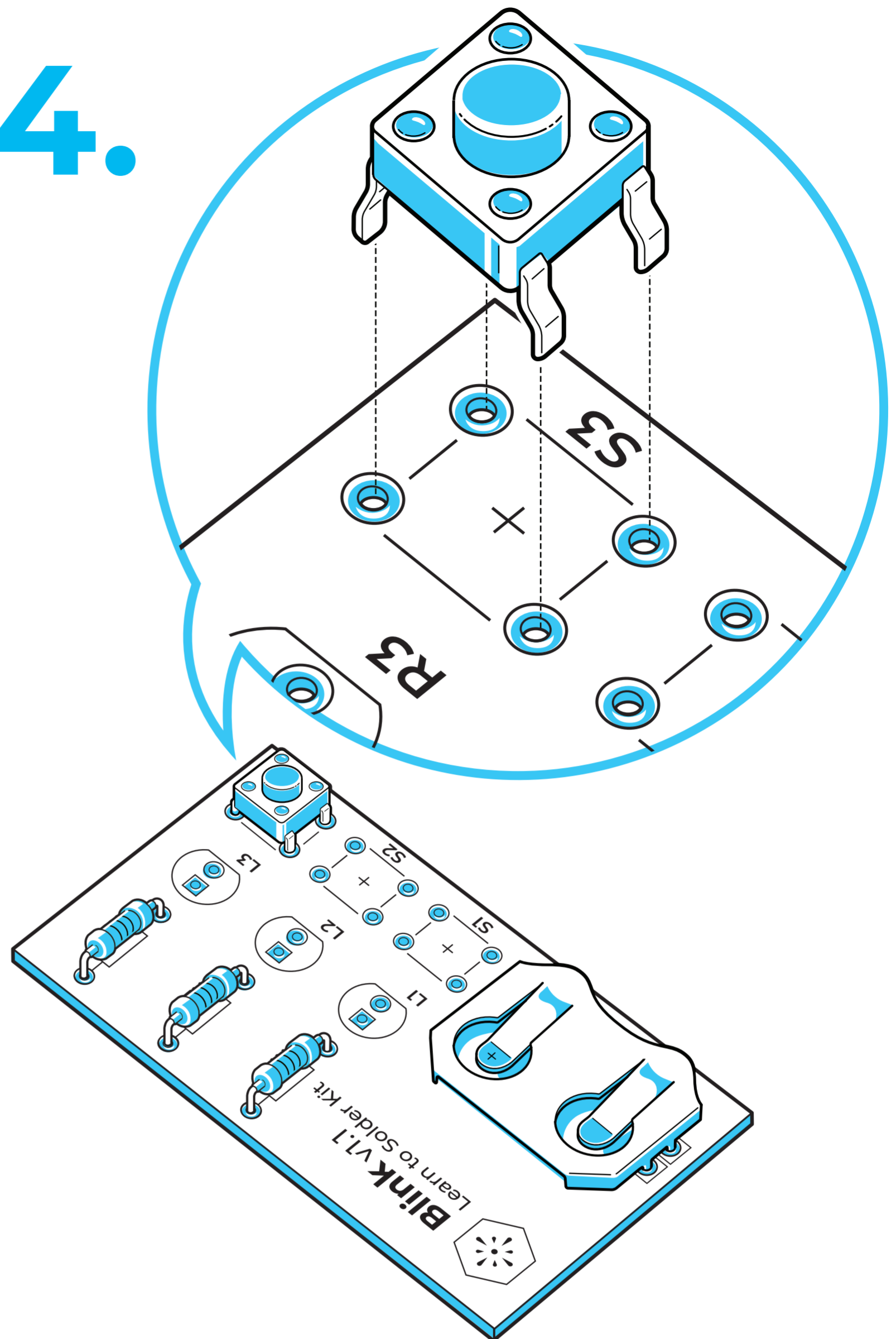


## THE SWITCHES

The switches are slightly rectangular and only fit in the board rotated a specific way. Hold up your switch and note the legs on the left and right should be bending towards each other, this is how you want to place your switch. Either orientation is okay as long as the switch fits. The switch should snap into place. Put pressure evenly on the switch using your thumb. This takes a good amount of force! If you're having trouble use pliers bend the switch legs more straight than angled and try again. Once it snaps it will be in there snugly. Snap all three switches into place and then solder.

**Be Careful!** Do not hold your fingers directly behind the holes because when the switch pokes through it will hurt your fingers.

# 4.



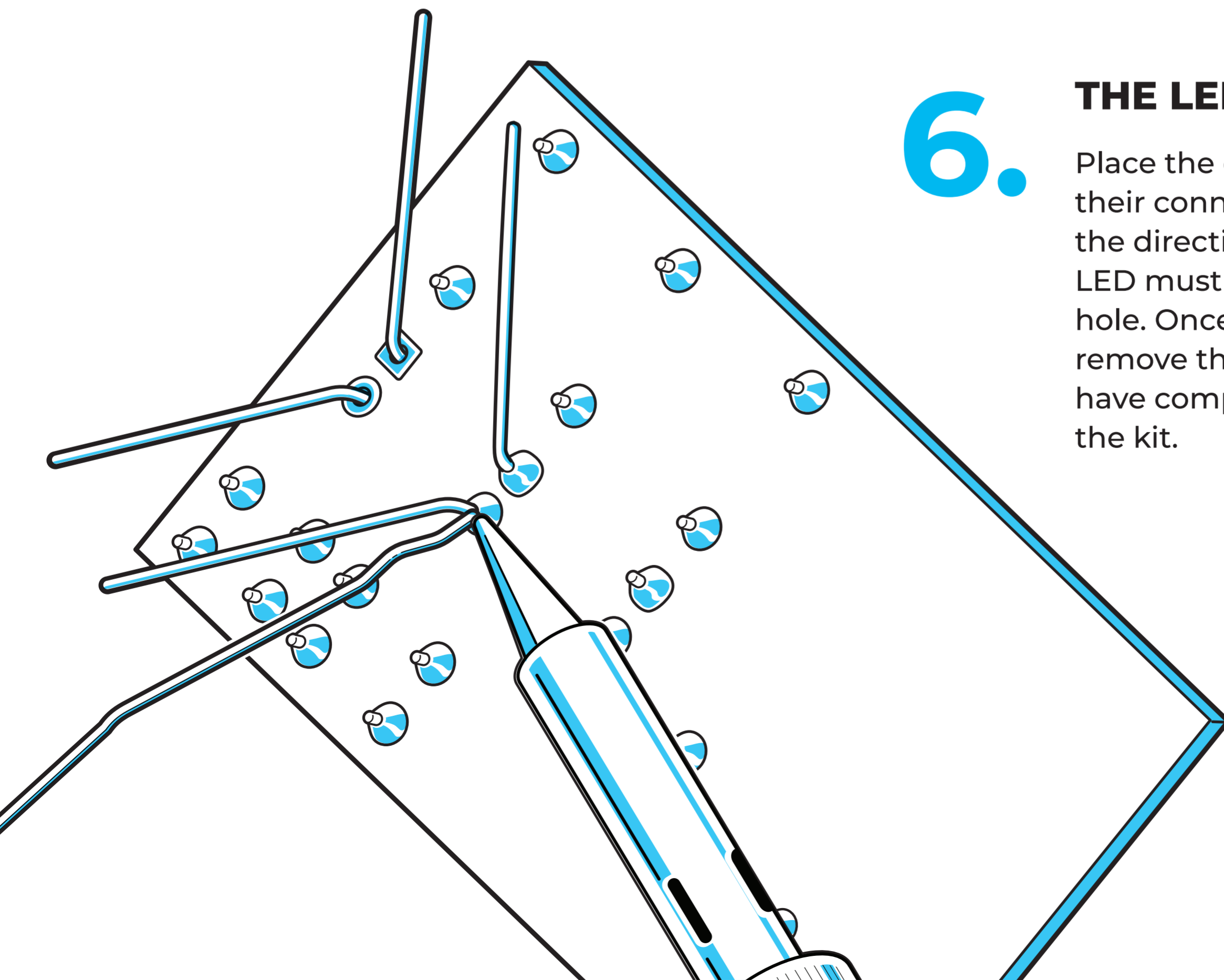
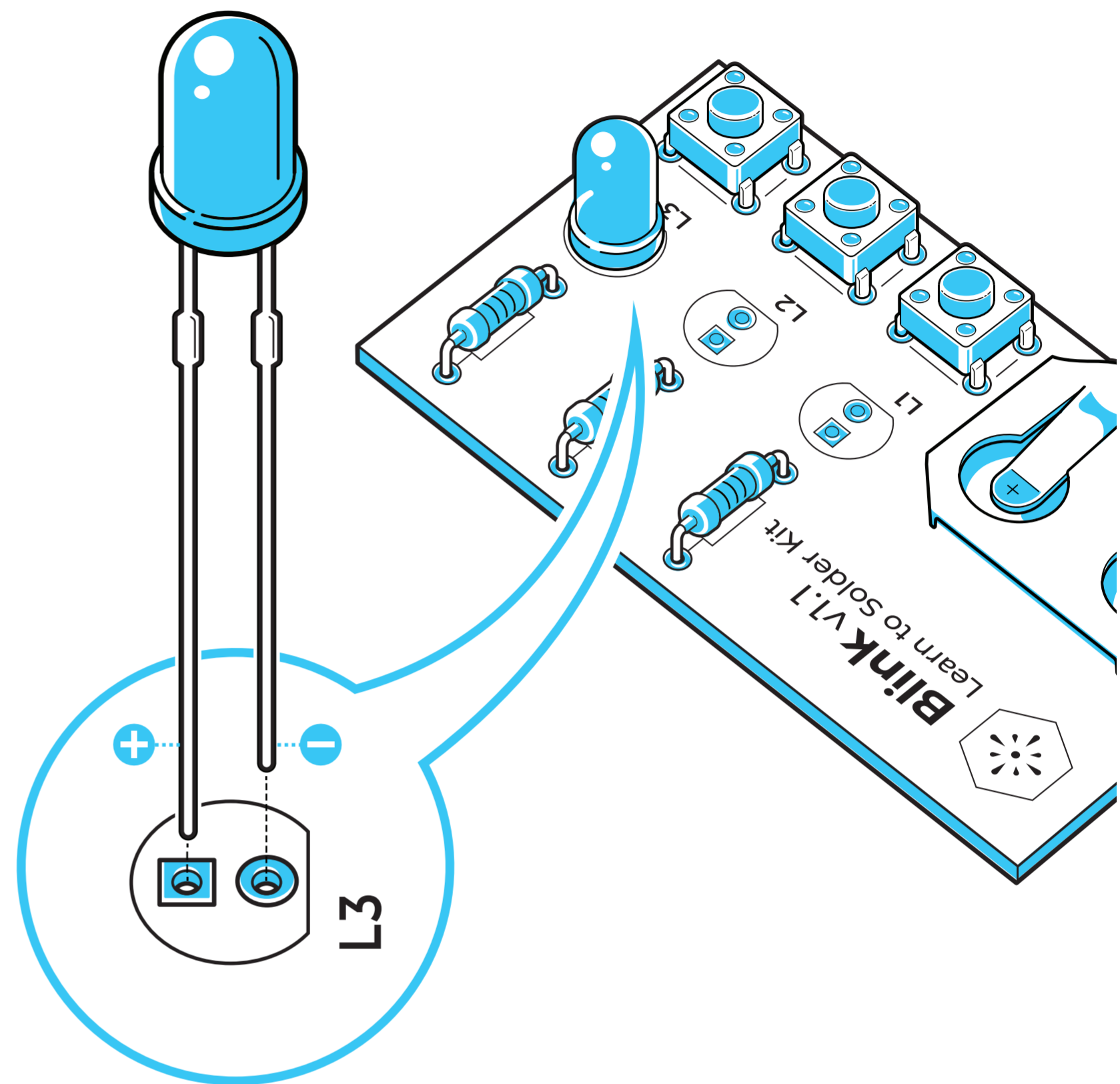
## THE LEADS. PART A

Now for the LEDs. Note the direction of the LED leads does matter. The long lead on the LED must go through the square hole. The long leg is known as the Anode and is the positive (+) lead. The short leg is known as the Cathode and is the negative (-) lead. Put the first LED through the holes marked L1. In this example we use Red as the first LED but you can pick any color. Solder the LED leads just like the other parts. Be careful, these are the trickiest solder joints to do on the kit since they are so close together.

If your two solder joints combine into one, don't worry! That is when you can use the solder sucker or solder wick to remove excess solder. Check out **Collin's Lab: Desoldering** Youtube Video for solder sucker instructions.

[https://youtu.be/N\\_dvf45hN6Y](https://youtu.be/N_dvf45hN6Y)

# 5.

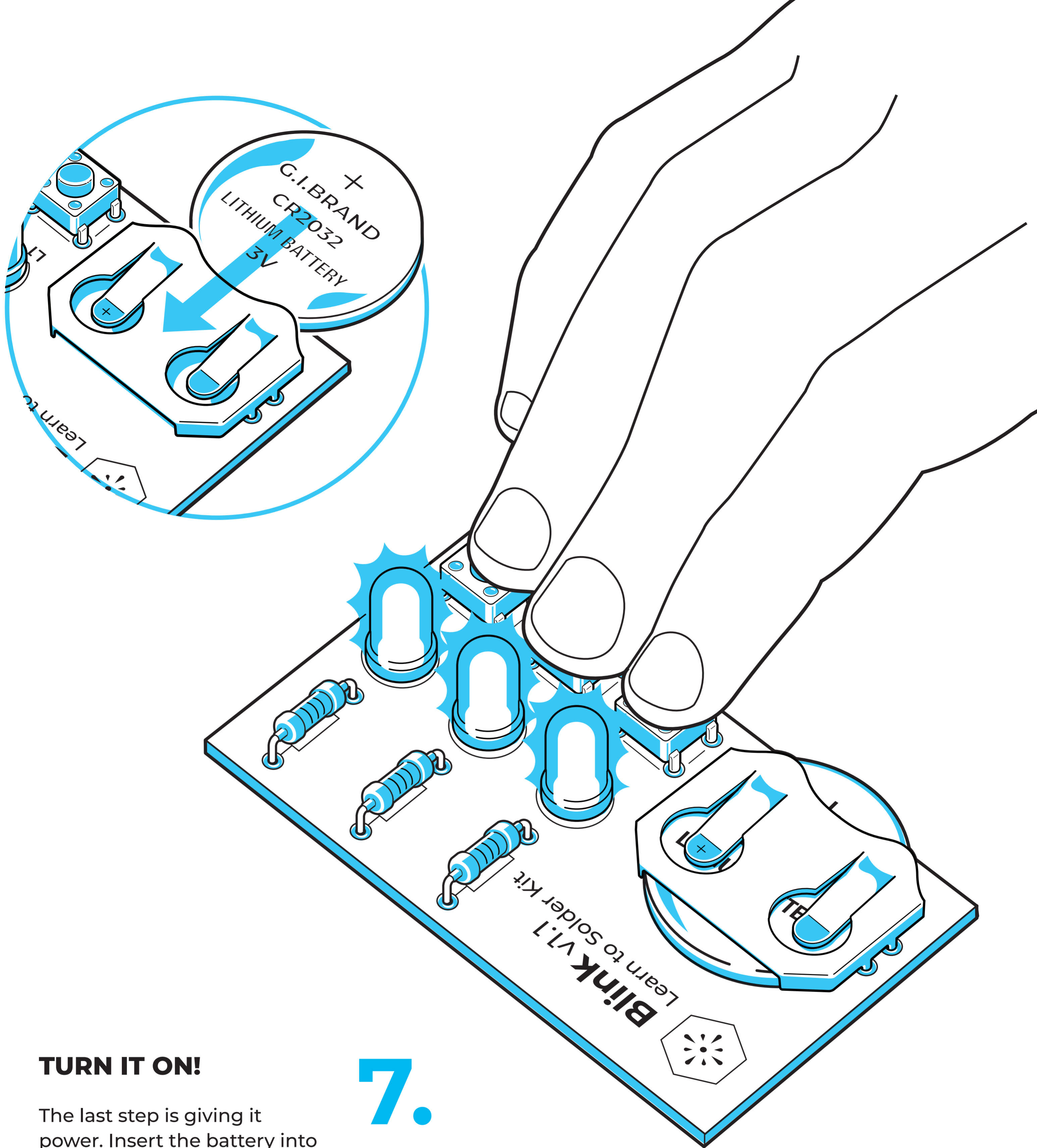


# 6.

## THE LEADS. PART B

Place the other two LEDs and solder their connections. Be sure to check the direction. The long lead of each LED must go through the square hole. Once complete use your snips to remove the excess leads. Tada! You have completed all the solder joints in the kit.



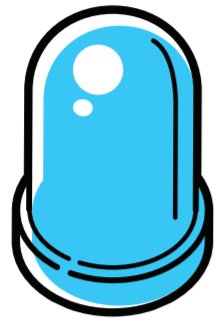


## TURN IT ON!

# 7.

The last step is giving it power. Insert the battery into the battery holder. Make sure the positive (+) side is pointed up. Press the buttons and watch it light up!

# 05. Troubleshooting



## LIGHT NOT LIGHTING UP?

Try some of these troubleshooting tips to find the problem.

- Double check the battery. Is the Positive (+) facing up? Flip the battery over and see if any LEDs light up. If some light up one way and other light up the other way it means you flipped the positive (+) and negative (-) leads of the LED. Review Step 5.
- Double check your solder joints. Are all of them soldered? Any gold showing? Any that look a little flat? Go back and reheat any suspicious looking joints. Add more solder where needed.
- Still not working? Send us an email at [hello@learntosolderkits.com](mailto:hello@learntosolderkits.com) and we'll try to help! Please include detailed images of the front and back of your kit and what you think might be causing the issue.