



BeatBoots

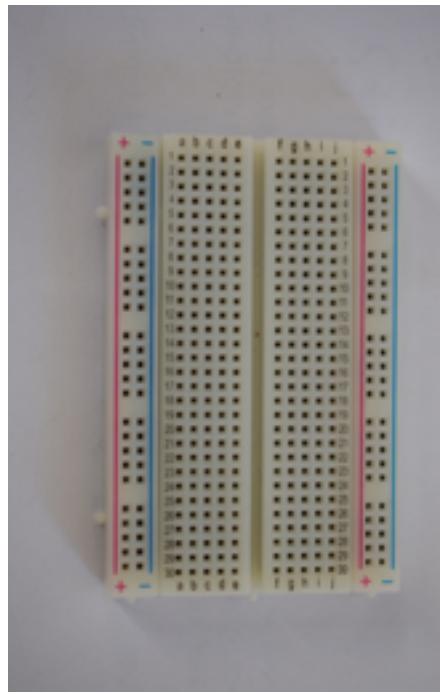
your moves, your music.

Building & Use Guide

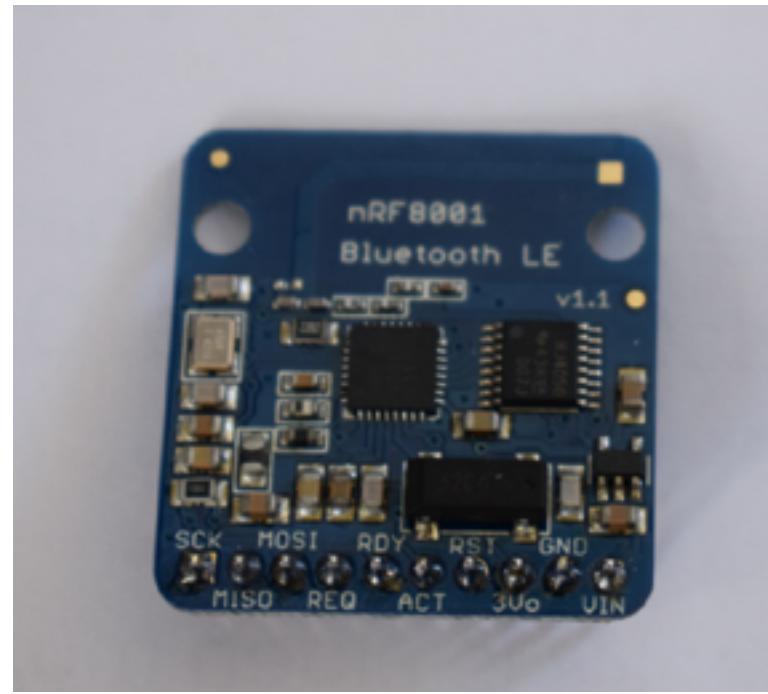
Parts list



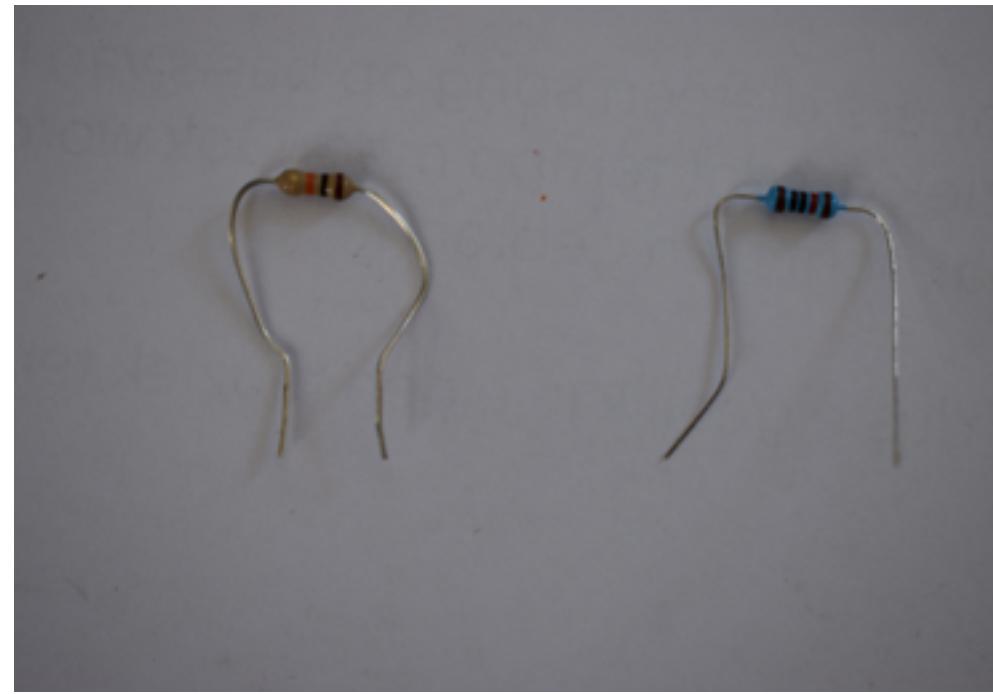
Arduino Uno



Small Bread-board



Bluefruit nRF8001
Bluetooth LE Breakout



Two 10 K Ω resistors



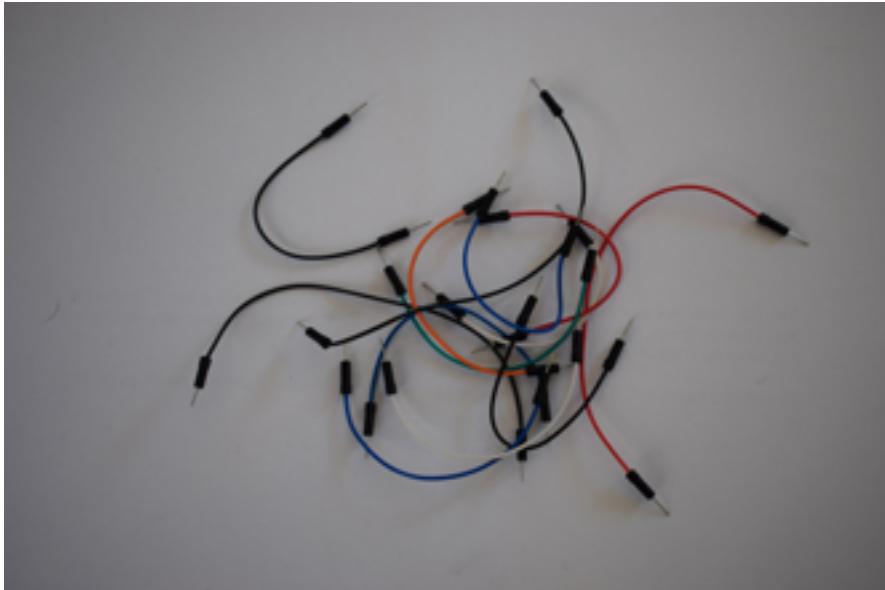
9V battery with
powercord



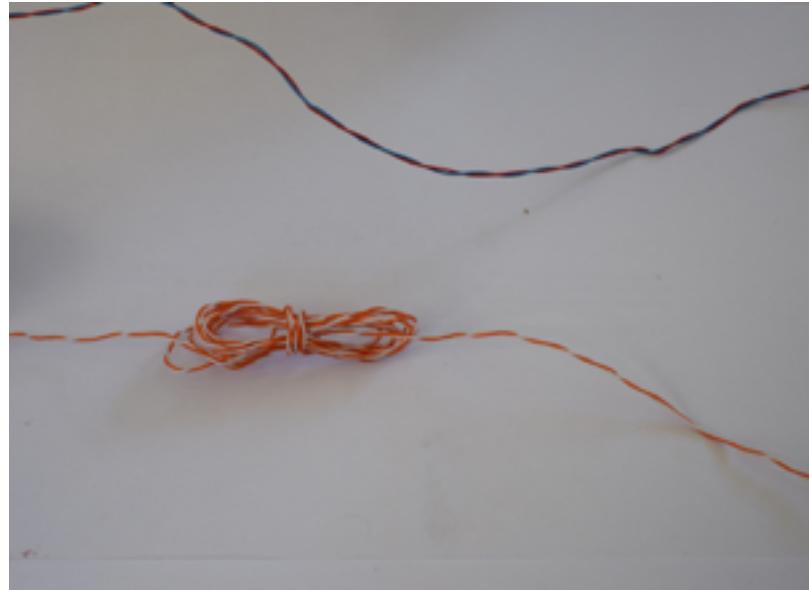
2 pressure sensors



2 elastic bands and
2 velcro strips



14 wires of various
lengths

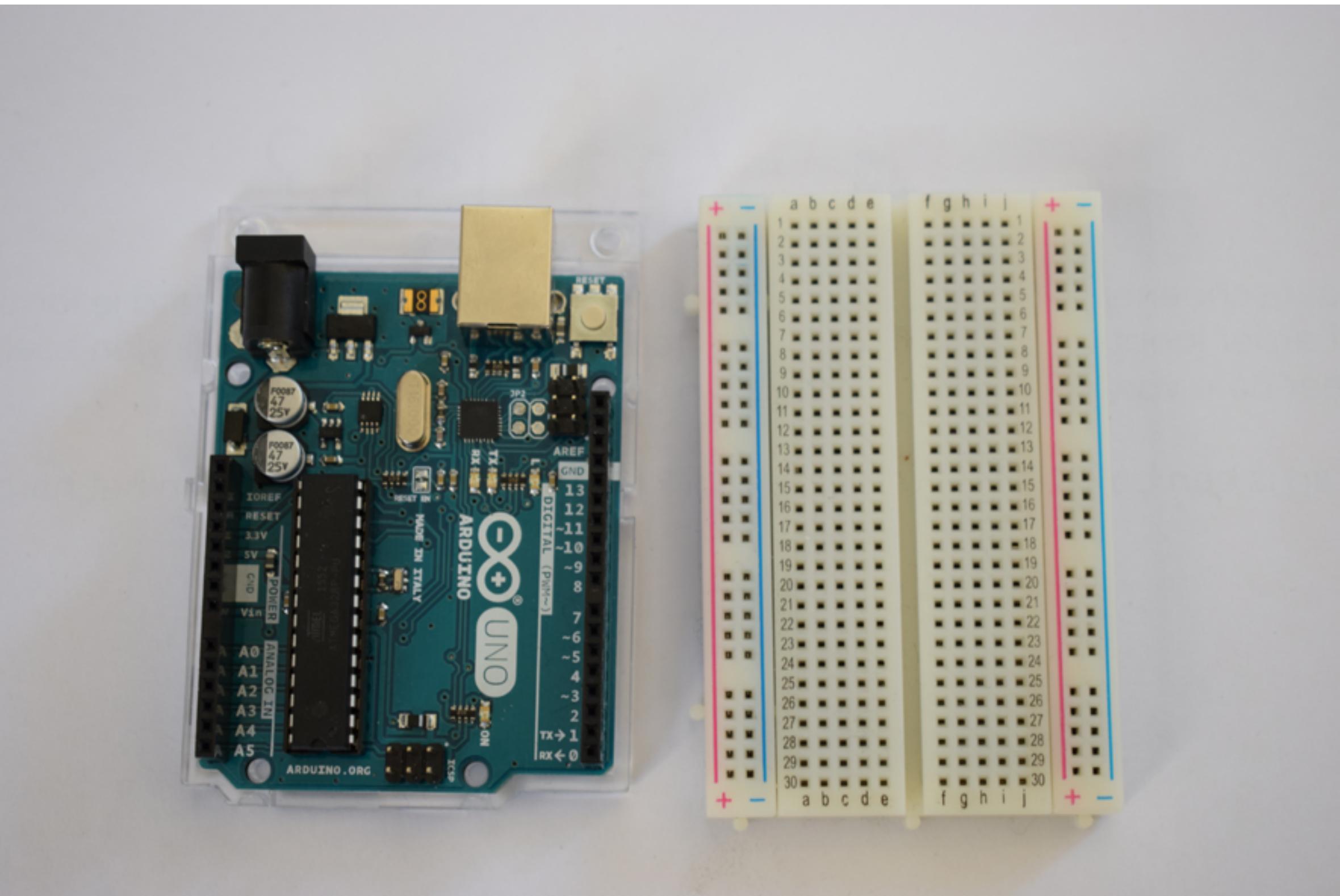


4 wires which are at
least 1 meter

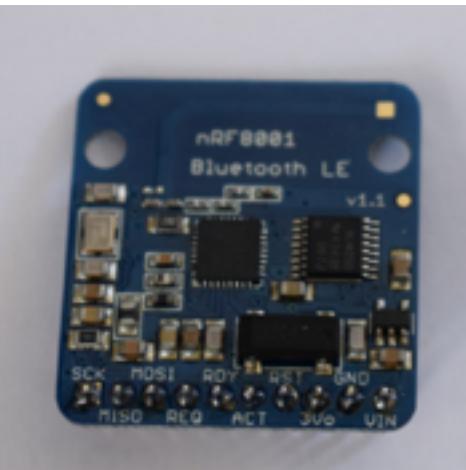


These Lego Parts, if you want to build
the same case as I have made

Step 1



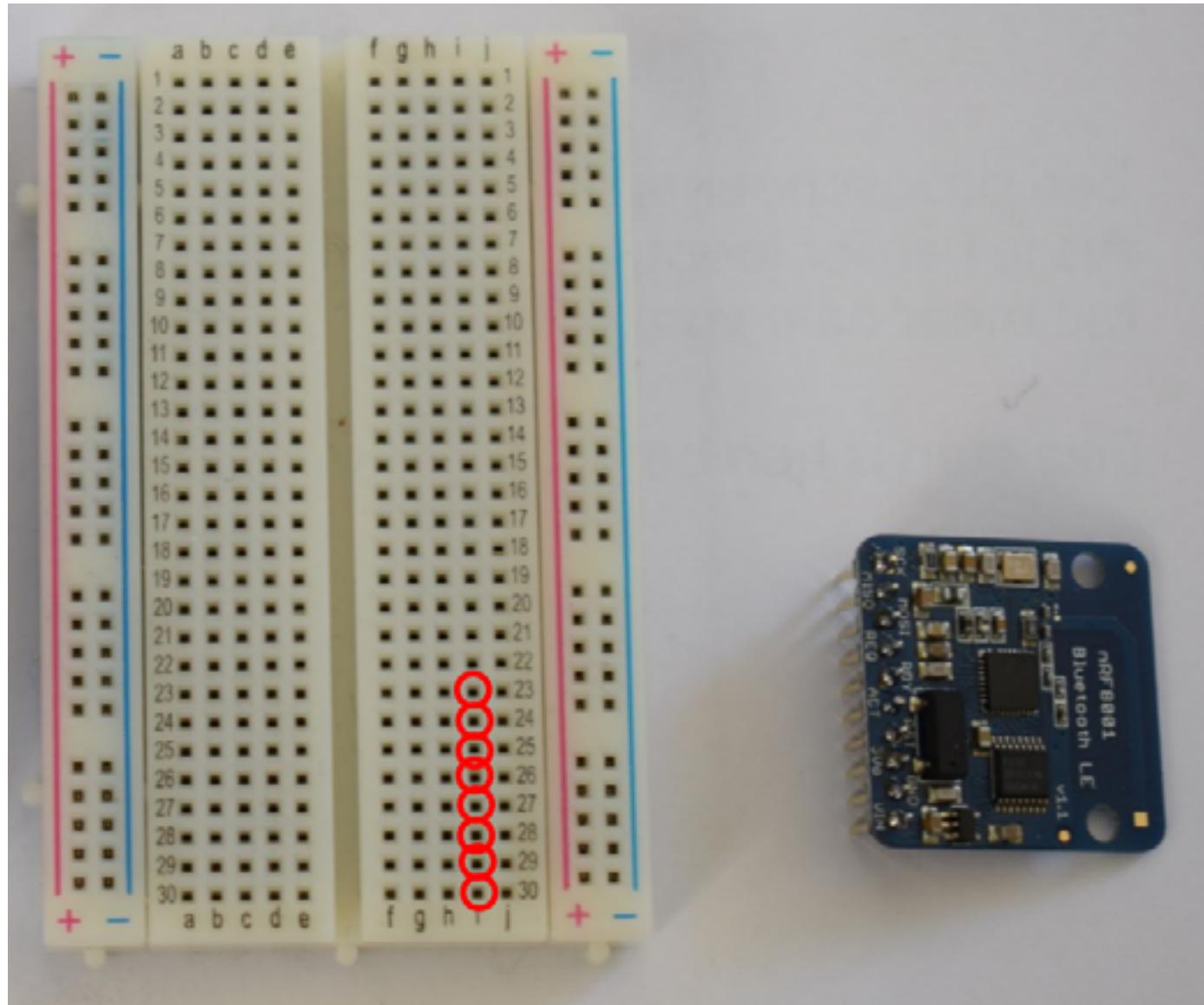
Step 2



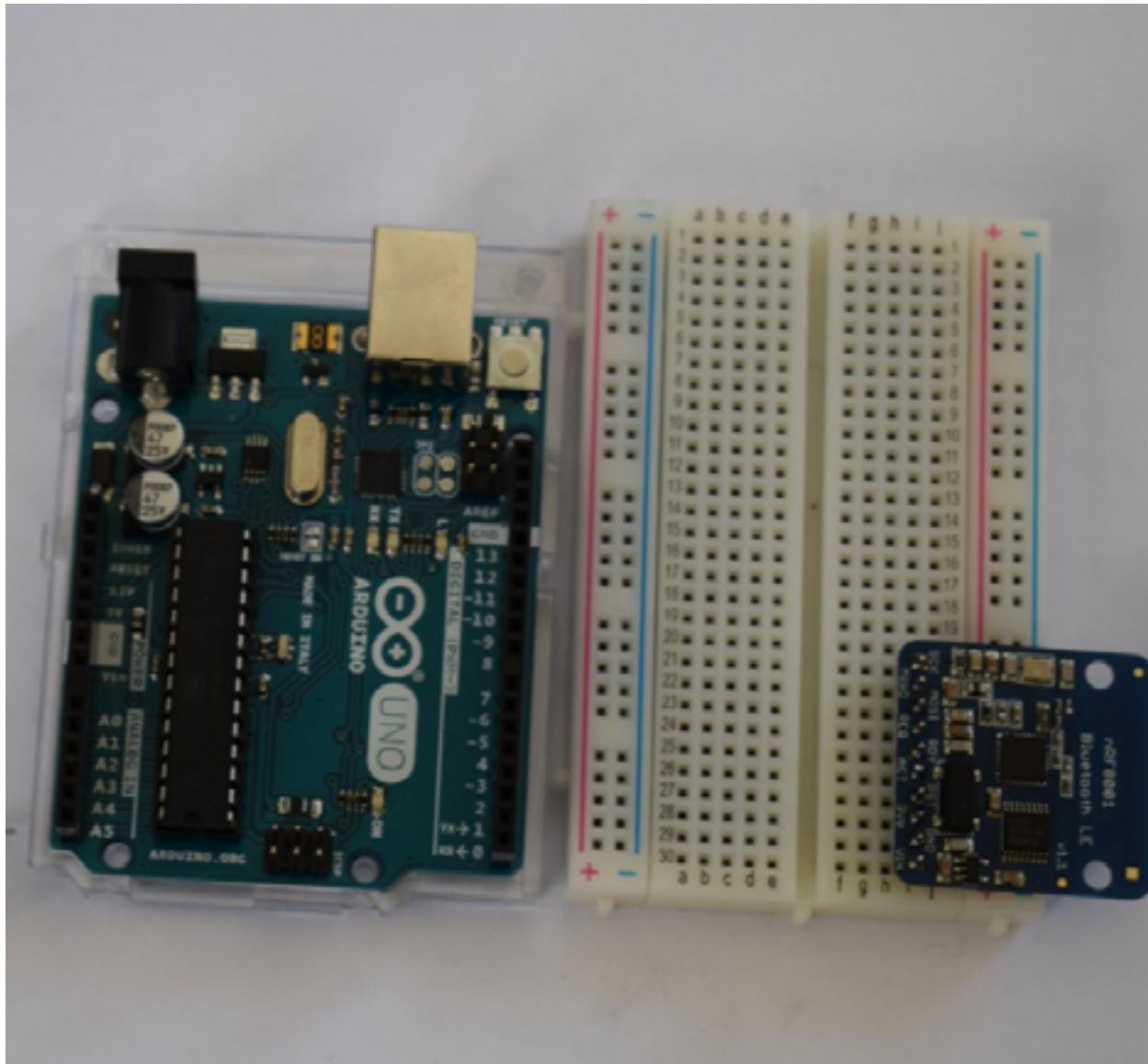
Solder the breakout board to the header strip as described here:

<https://learn.adafruit.com/getting-started-with-the-nrf8001-bluefruit-le-breakout/hooking-everything-up>

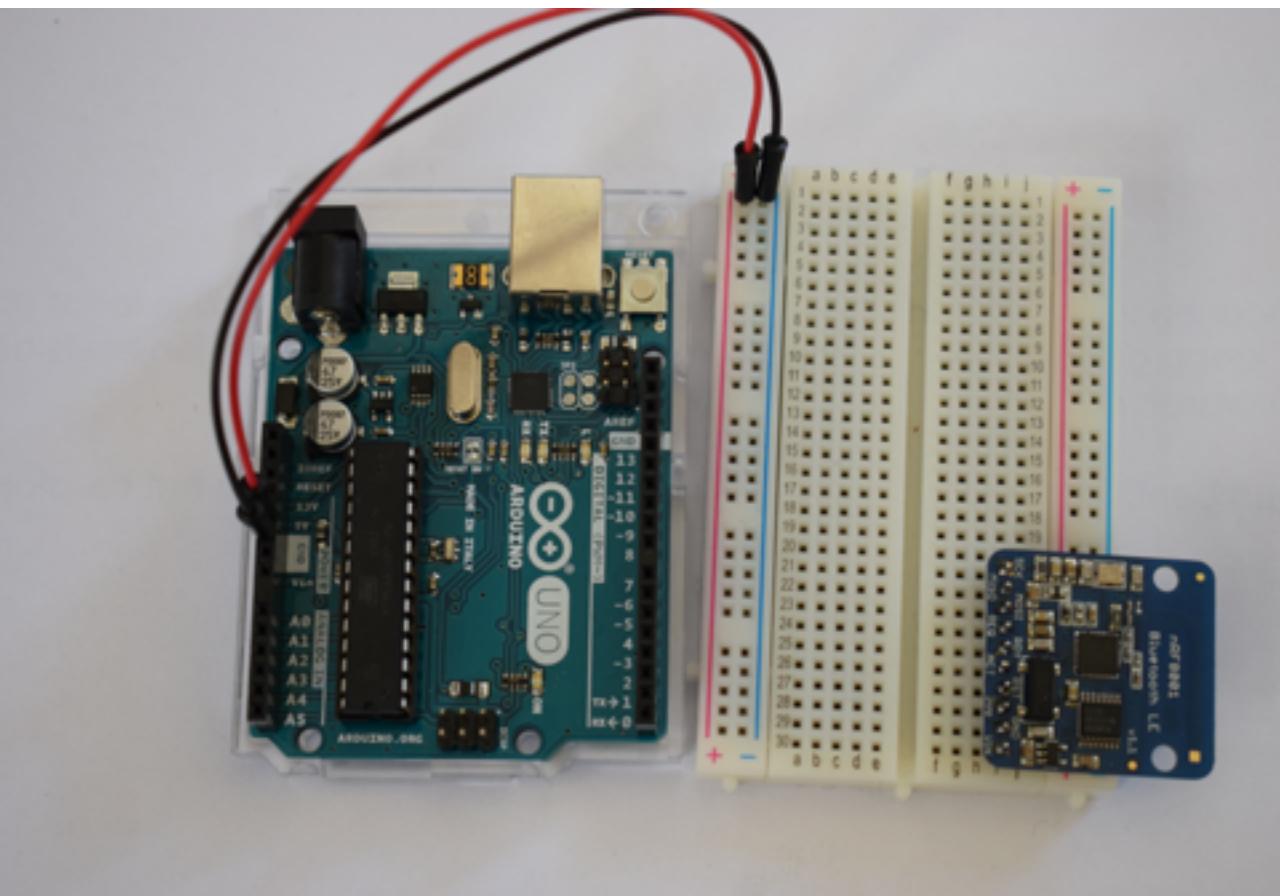
Step 3



Place the breakout in the highlighted holes.

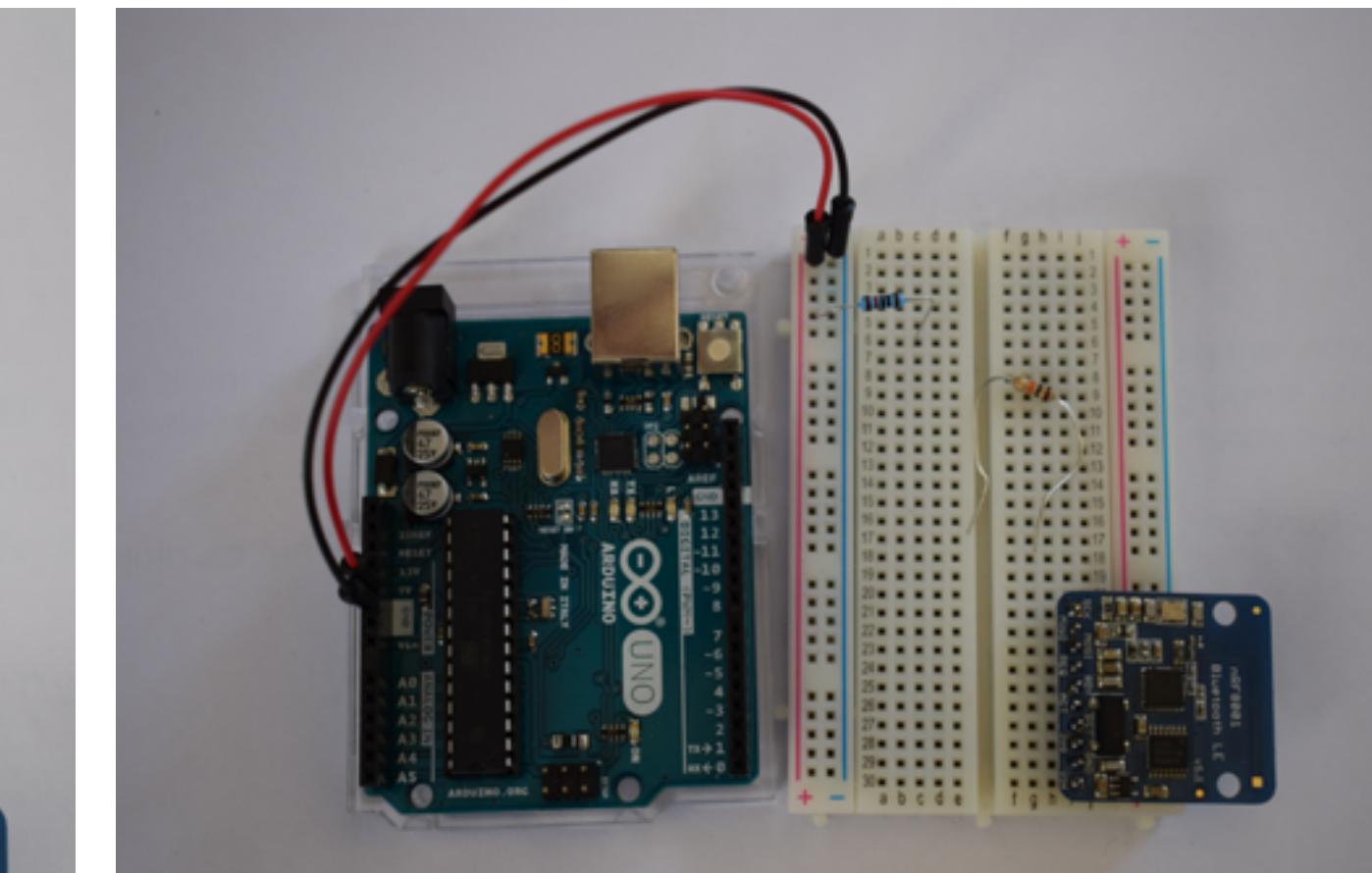
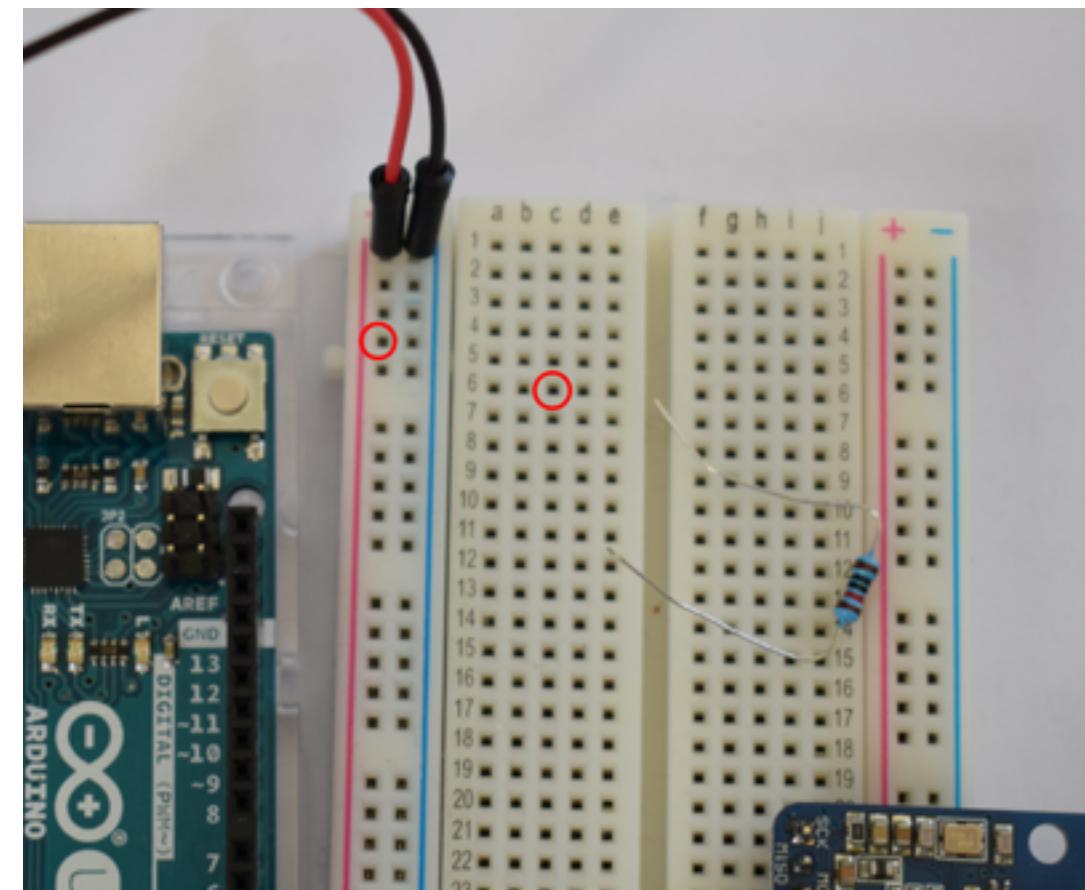
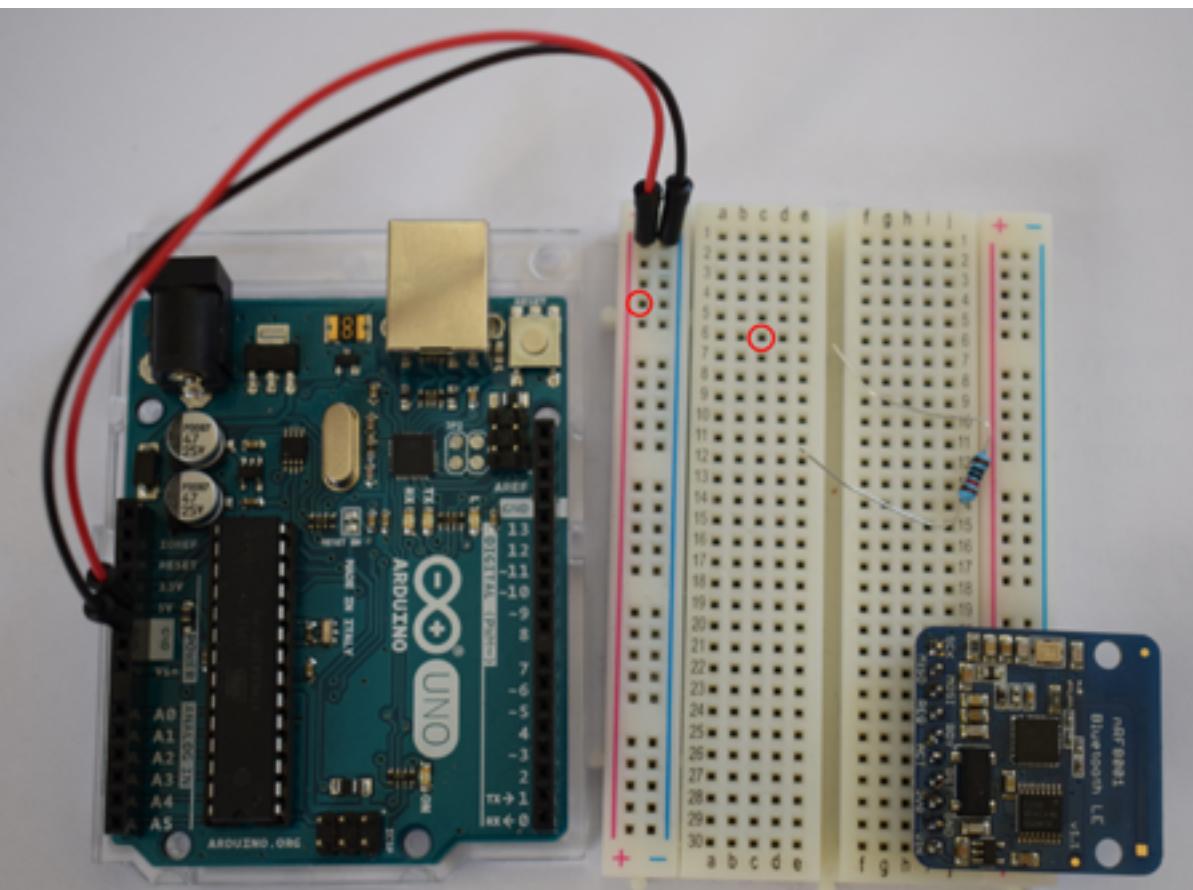


Step 4



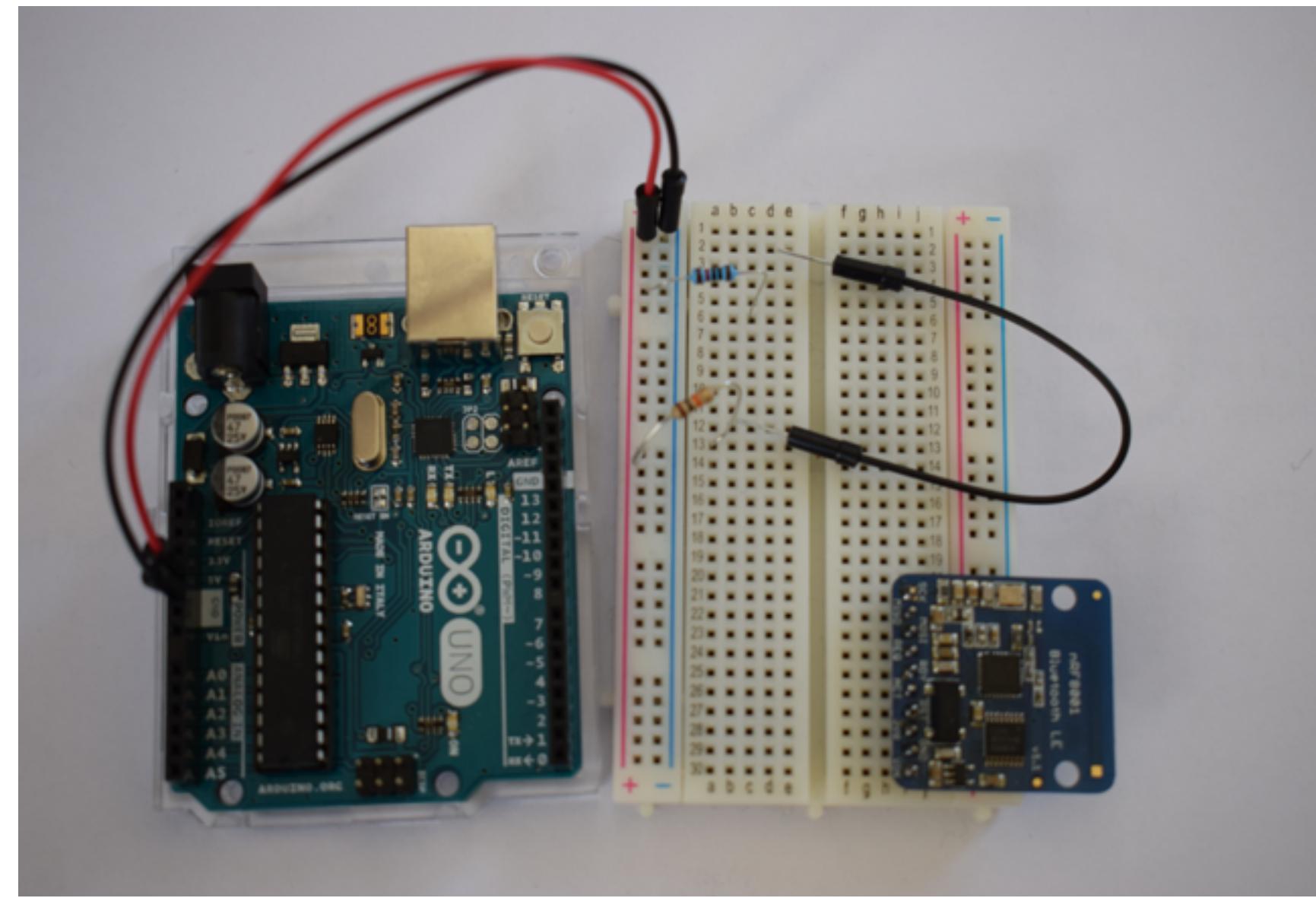
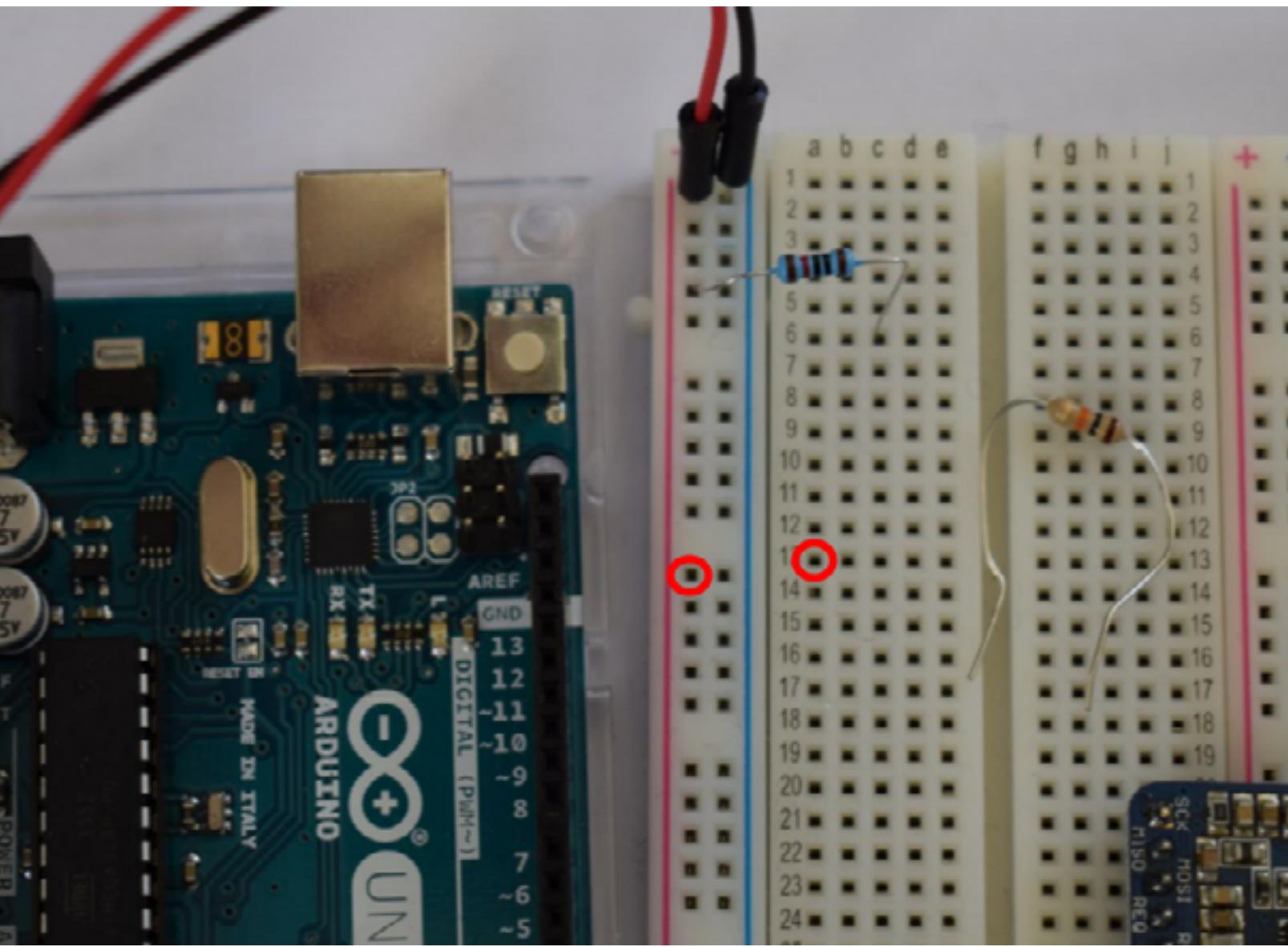
Hook up the red wire from 5V to the top left + of the breadboard. Hook up the black wire from GND to the top left minus of the breadboard.

Step 5



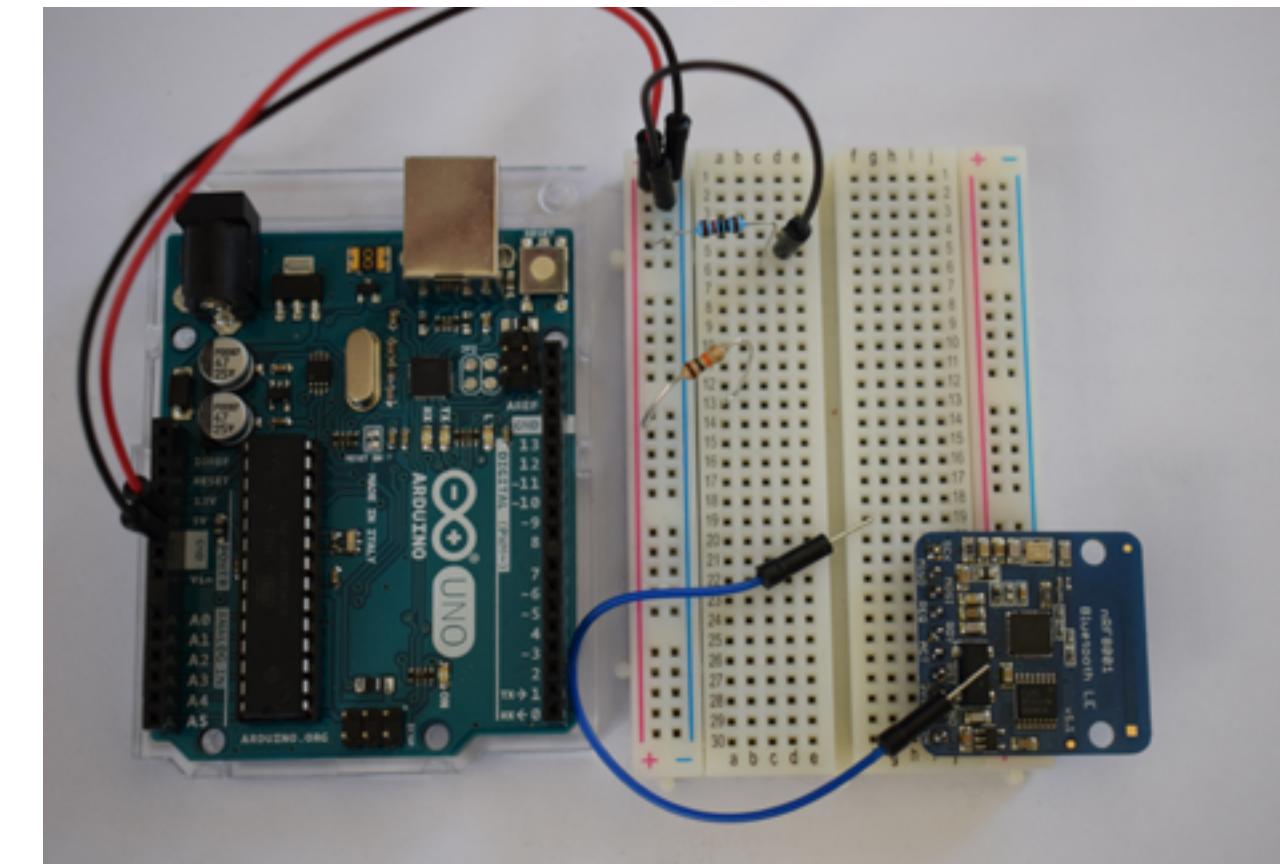
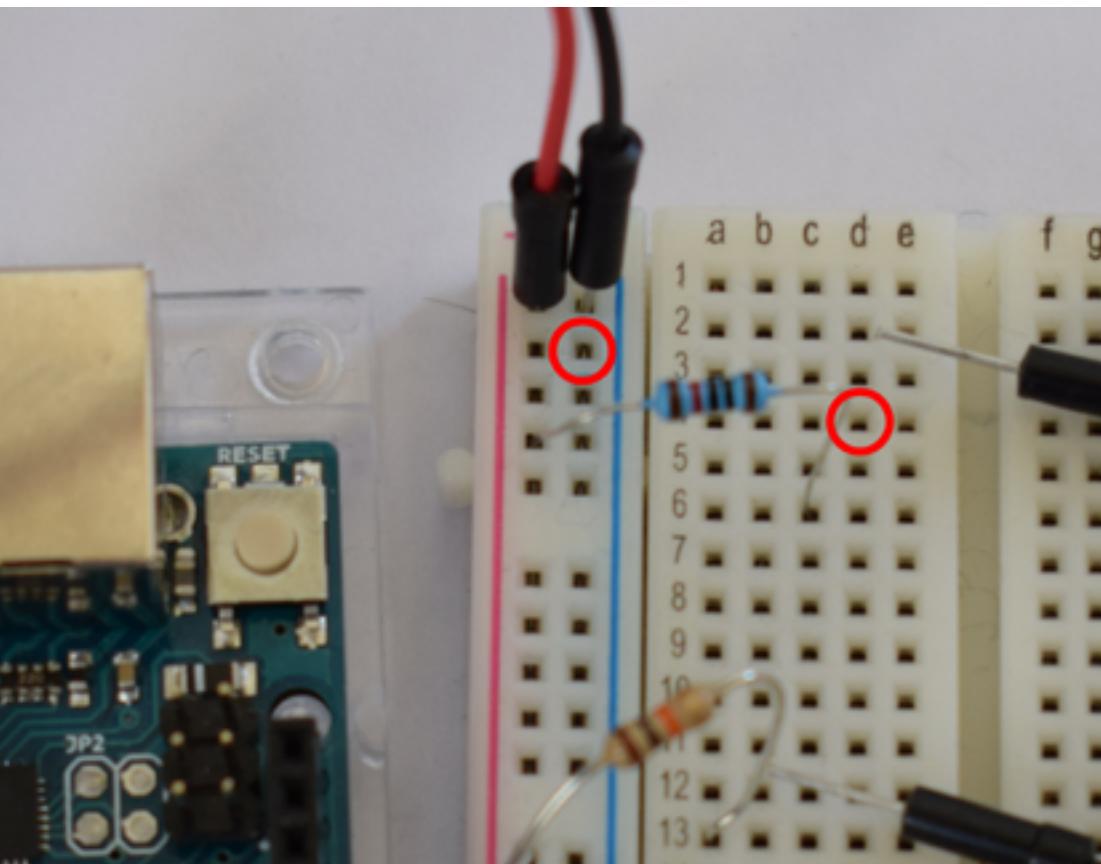
Place a resistor in the highlighted holes.

Step 6



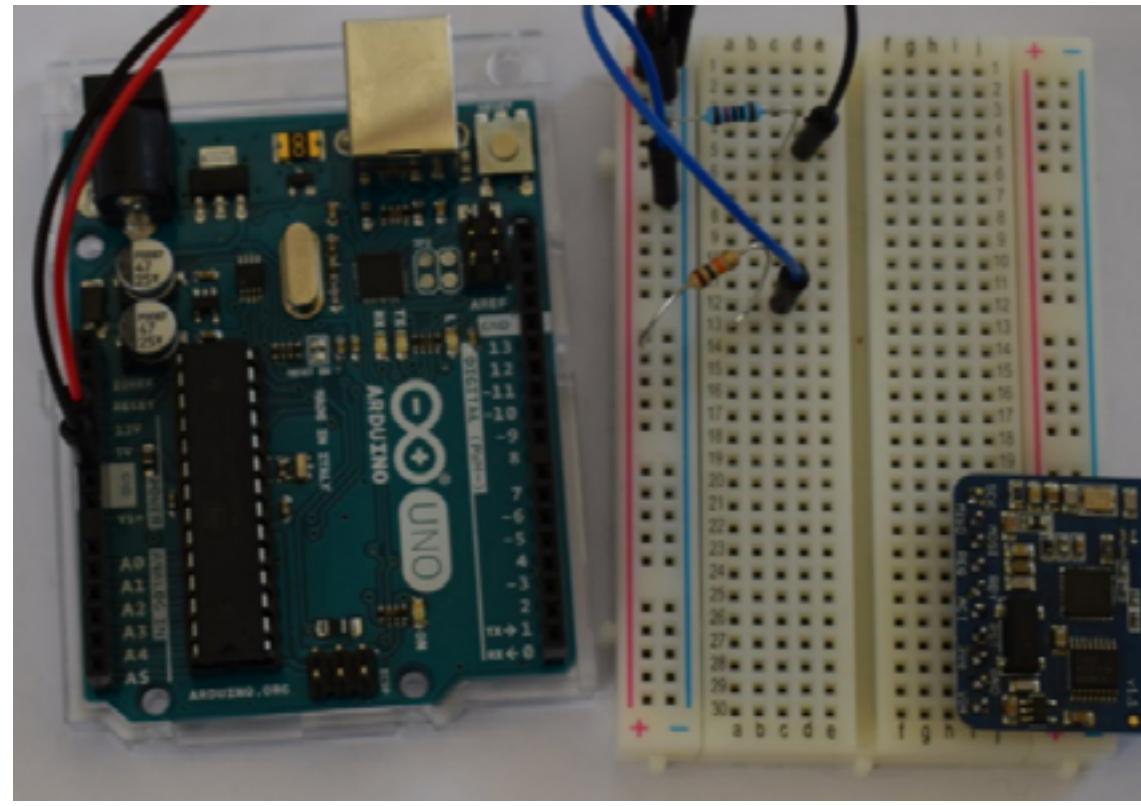
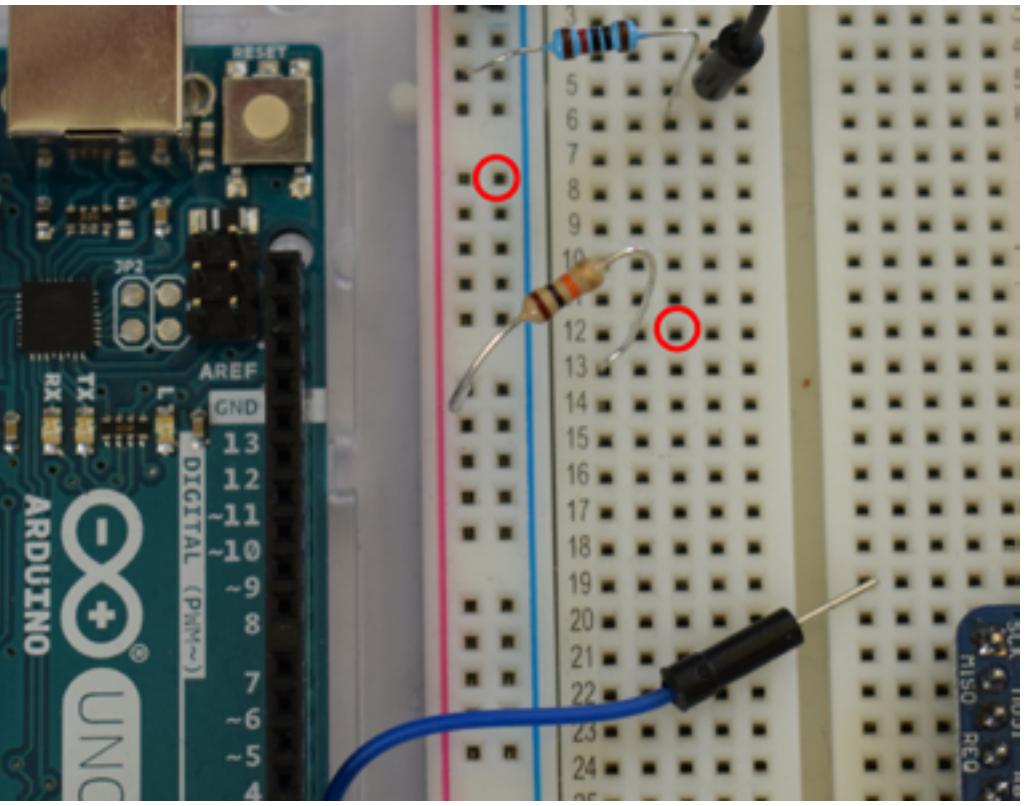
Place a resistor in the highlighted holes.

Step 7



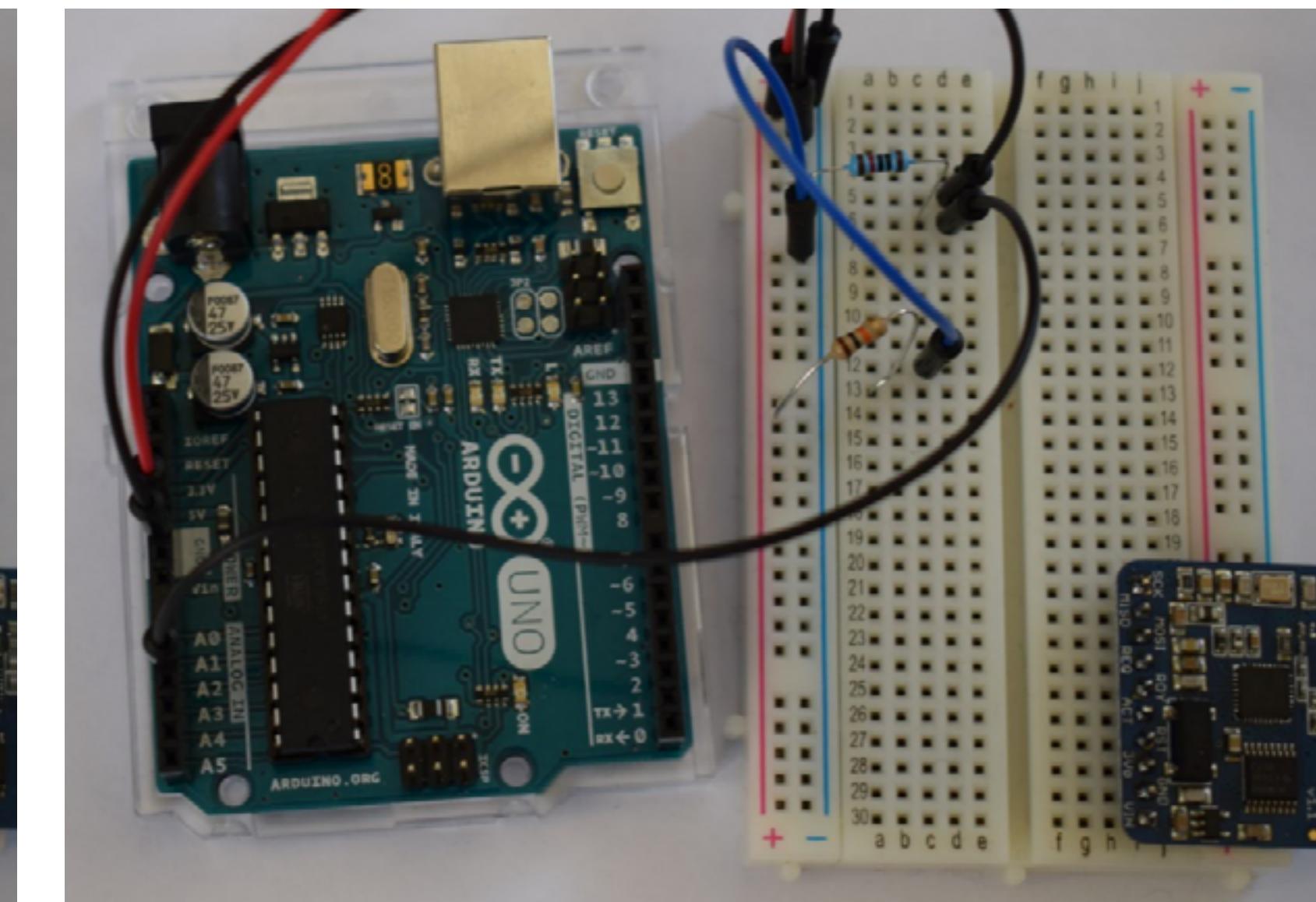
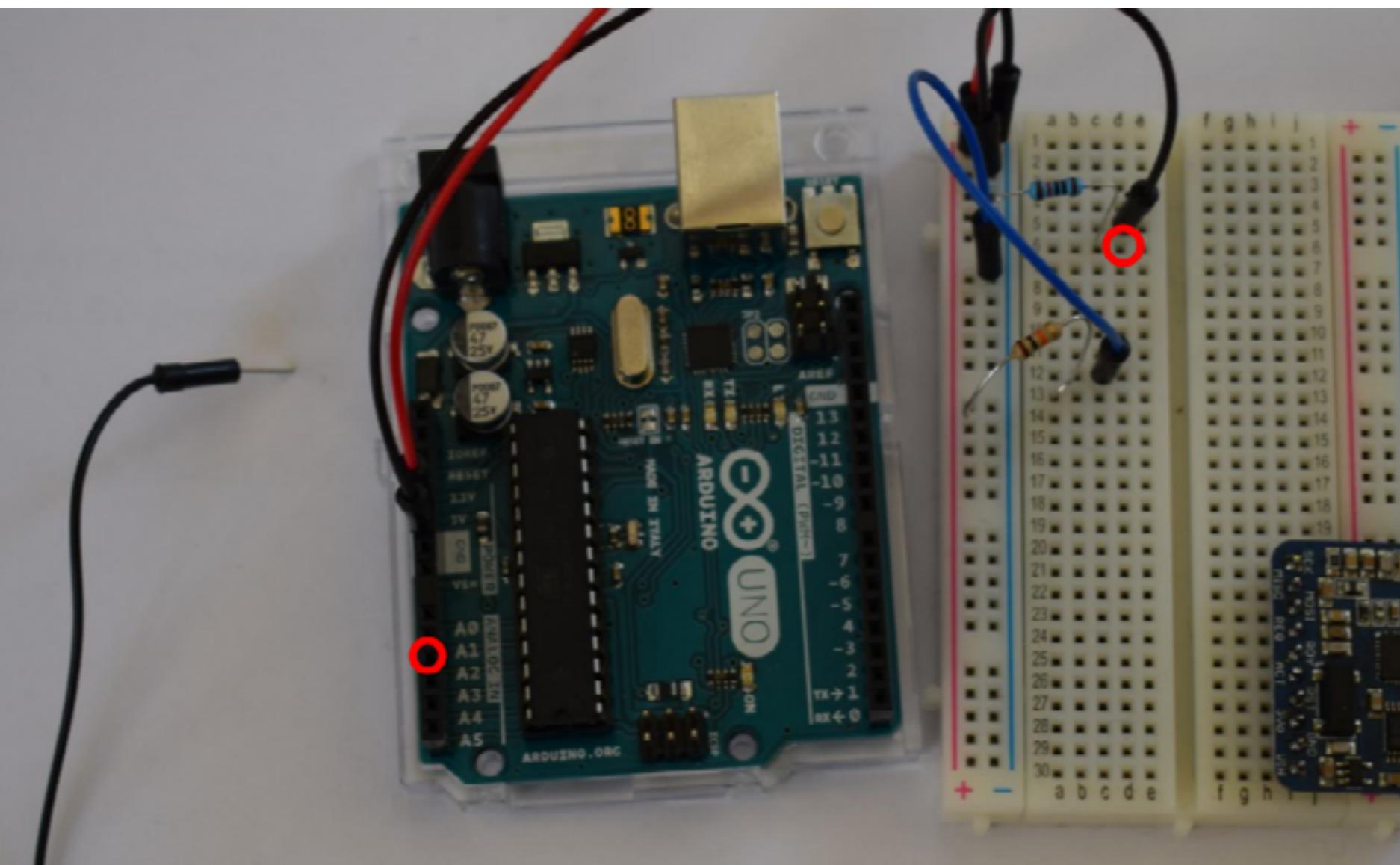
Hook up the wire to the highlighted holes.

Step 8



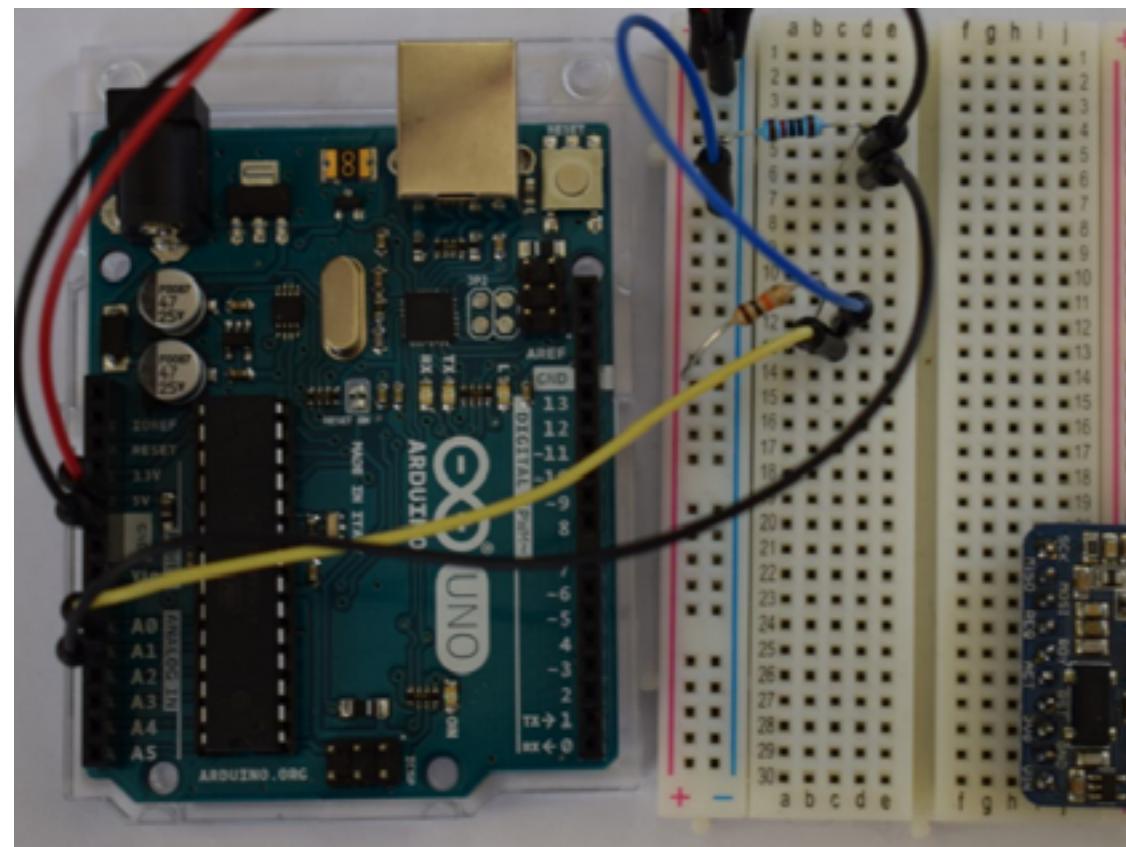
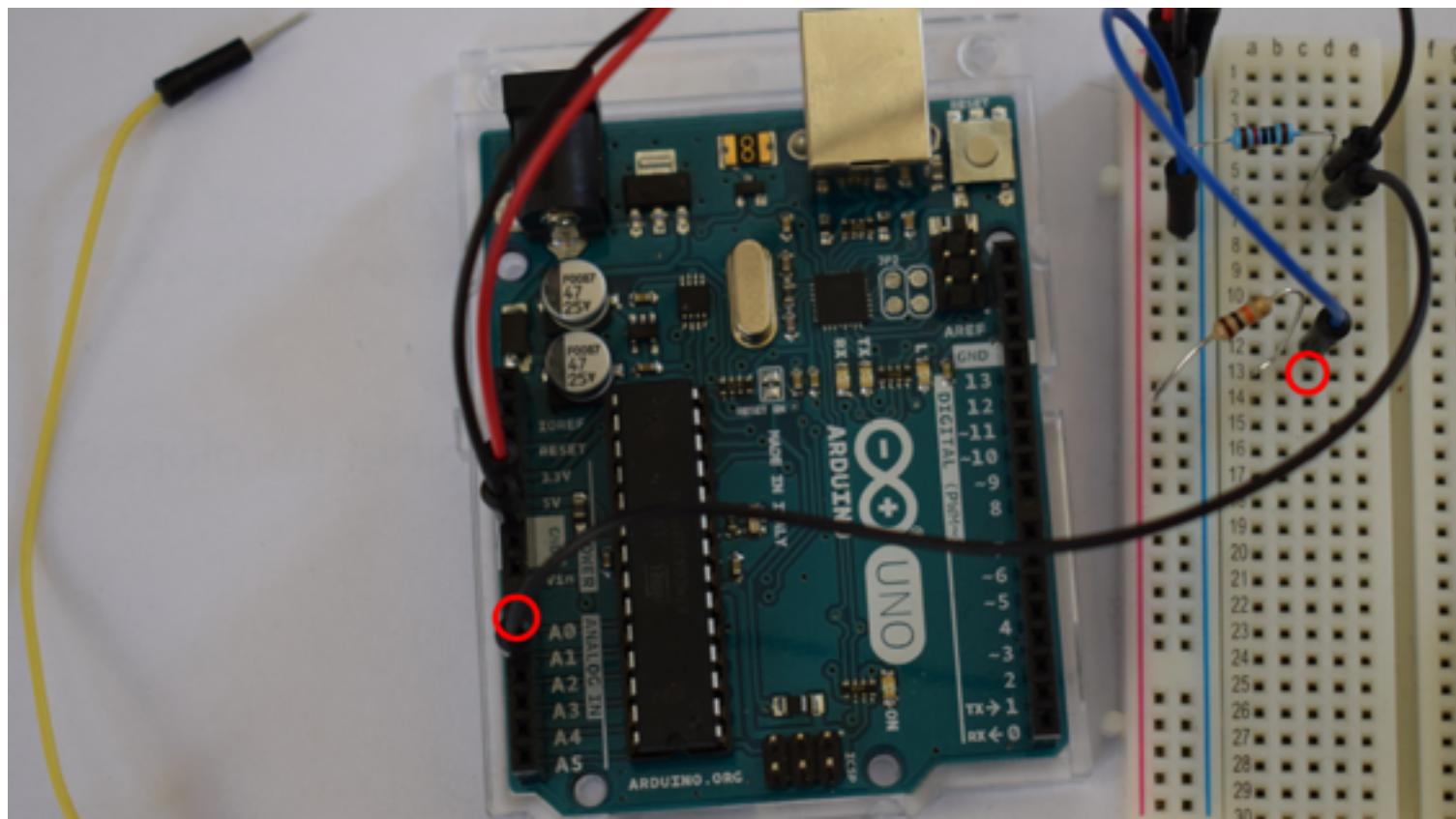
Hook up the wire to the highlighted holes.

Step 9



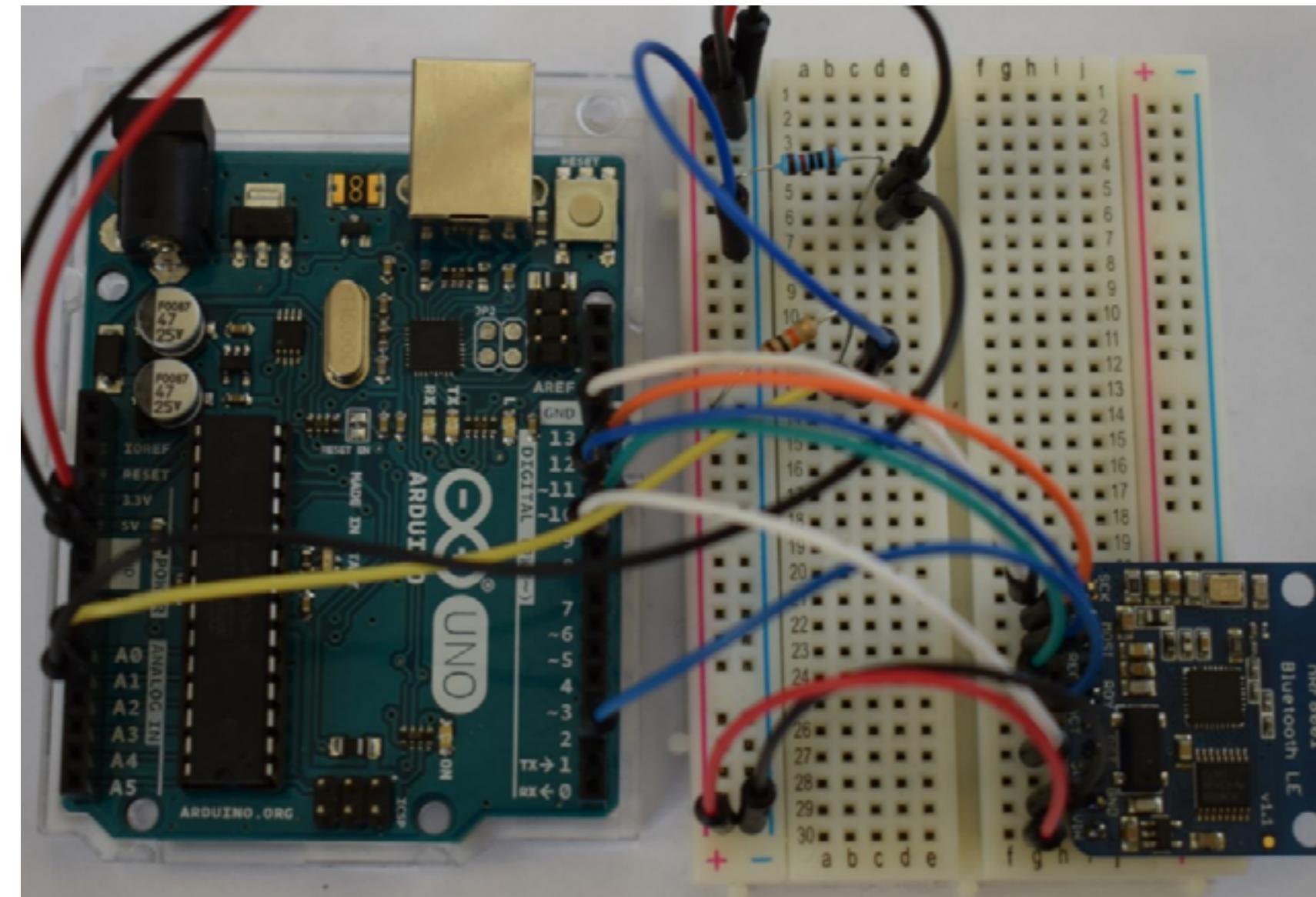
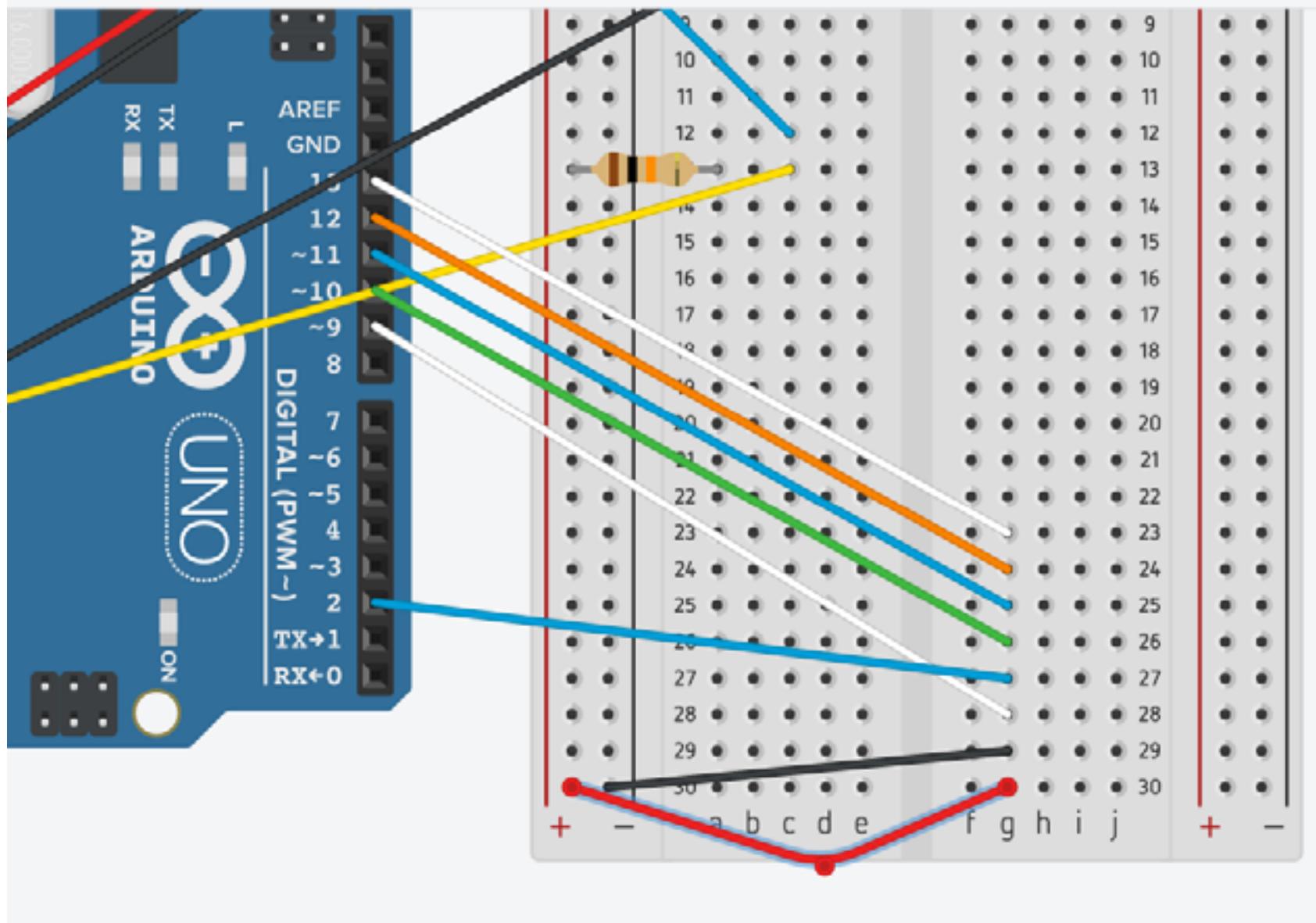
Hook up the wire from A1 to the highlighted hole.

Step 10



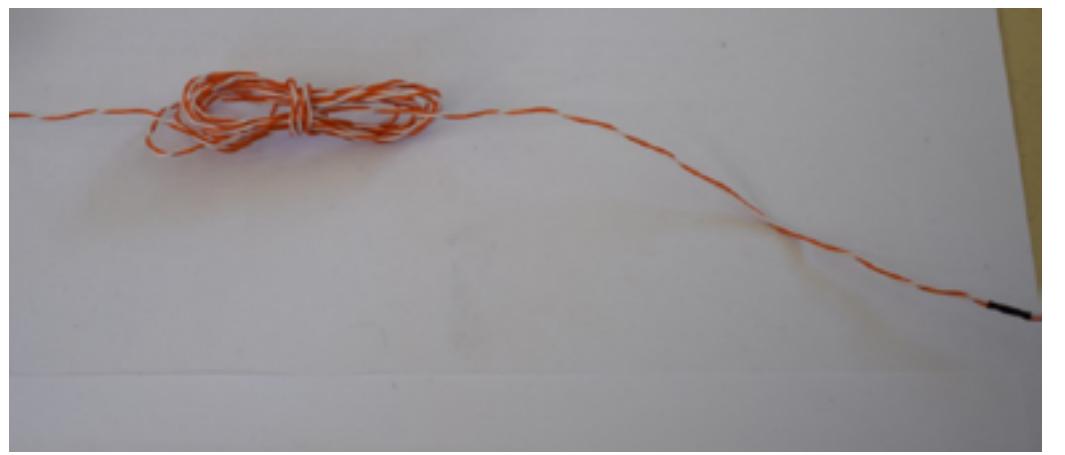
Hook up the wire from A0 to the highlighted hole.

Step 11



Hook up the remaining wires as shown in the drawing.

Step 12



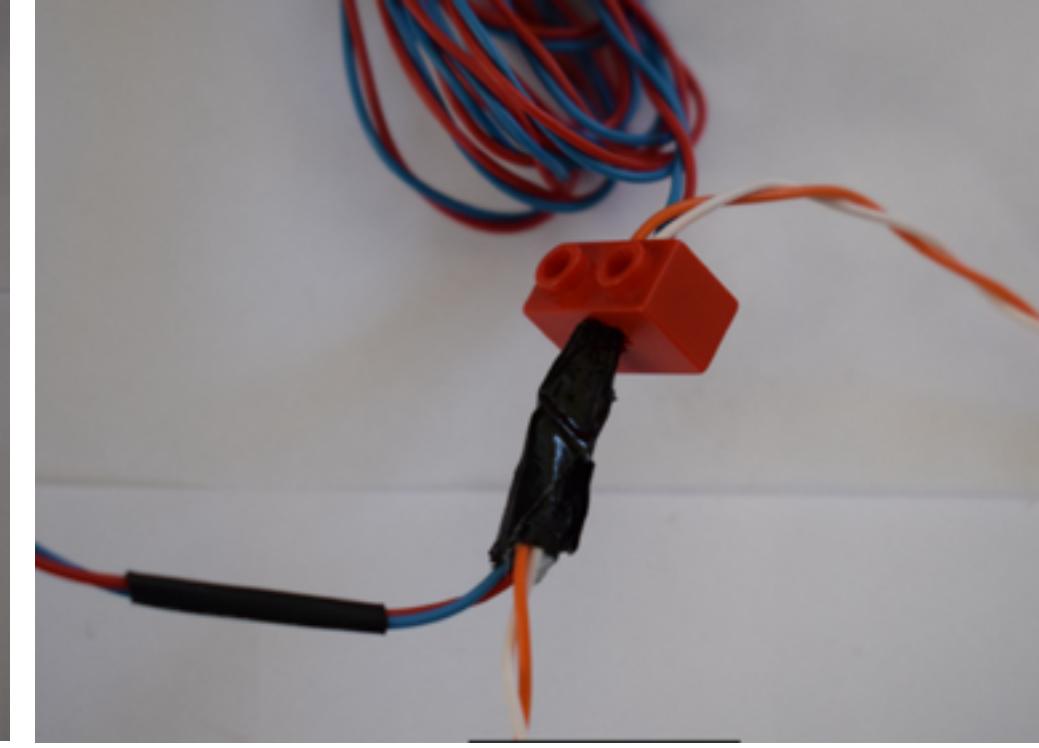
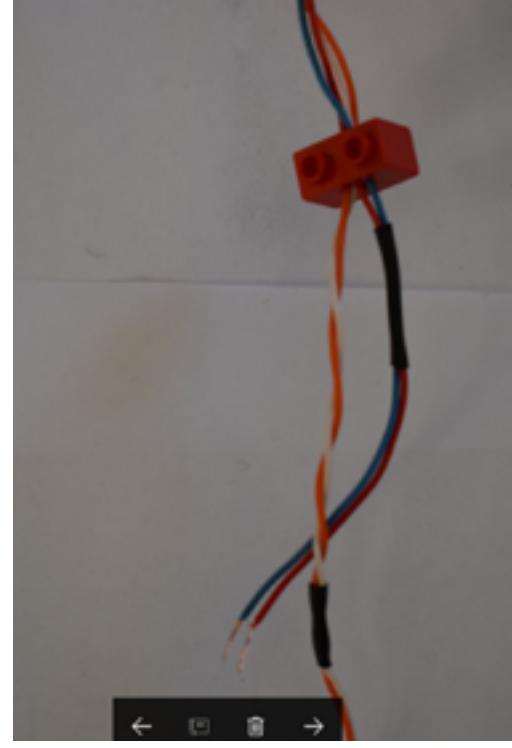
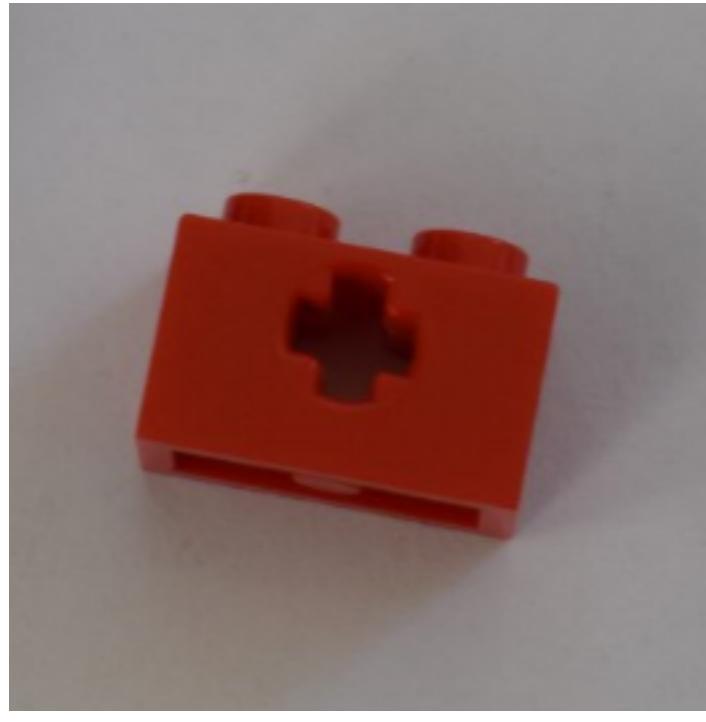
Combine 2 long wires. I recommend using a drill to wire them together. After this is done, repeat the process for a second set.

Step 13



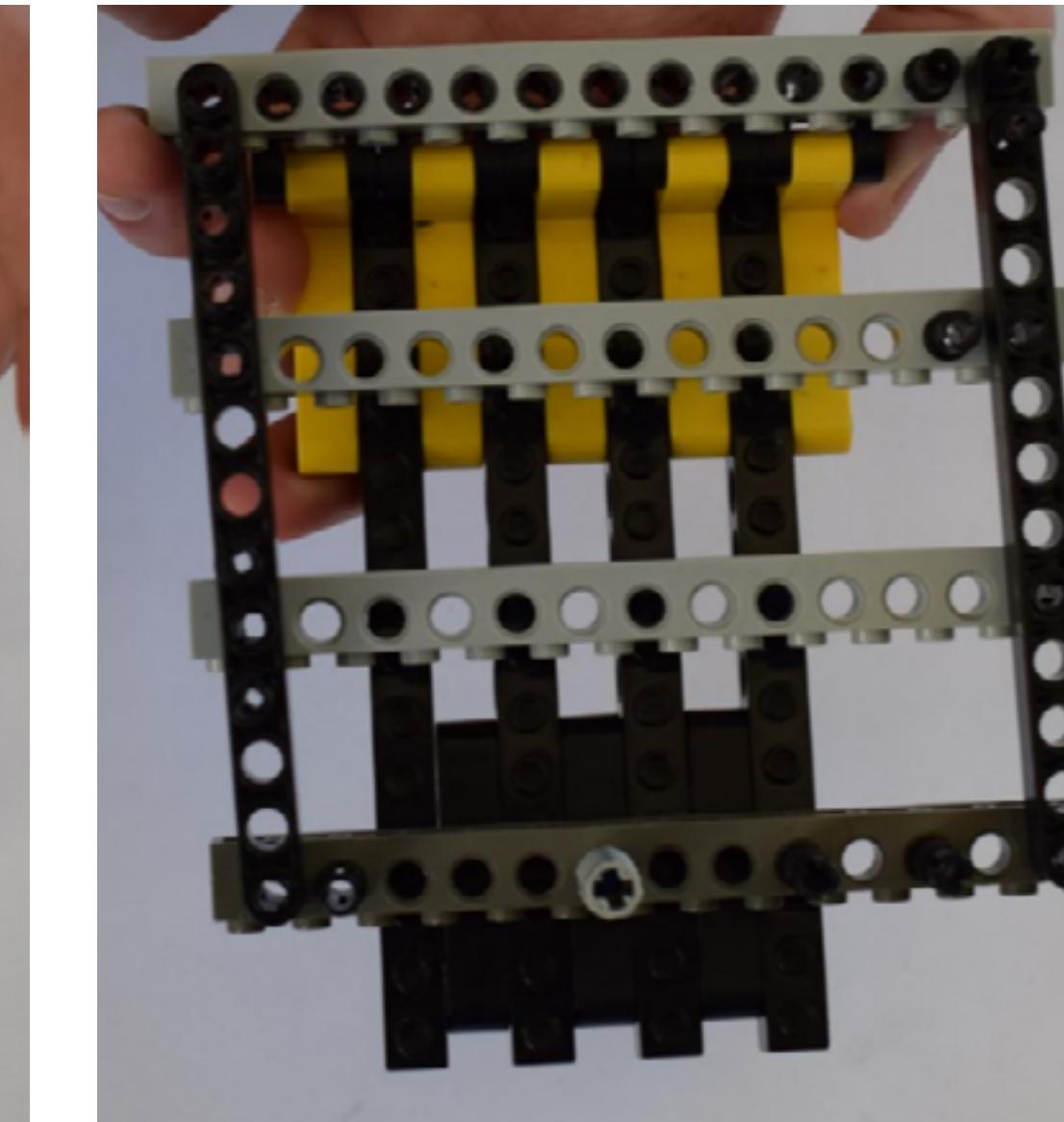
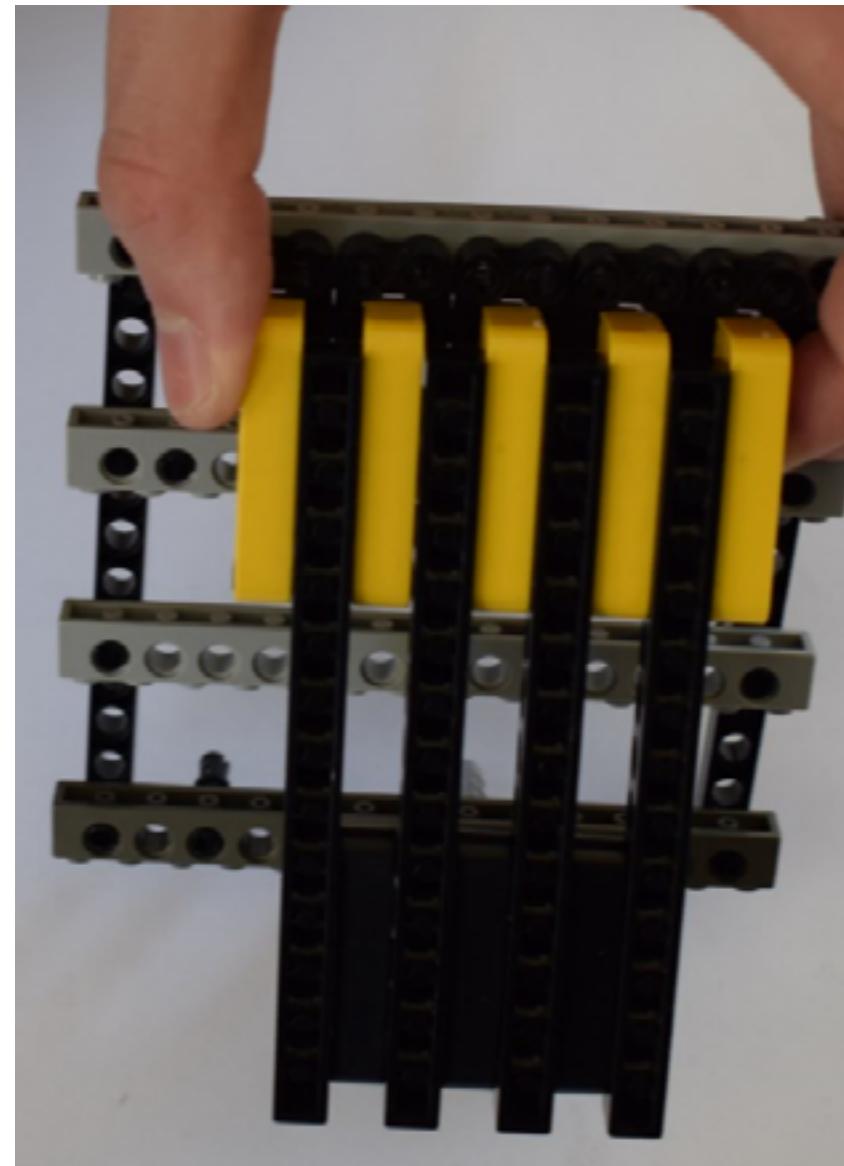
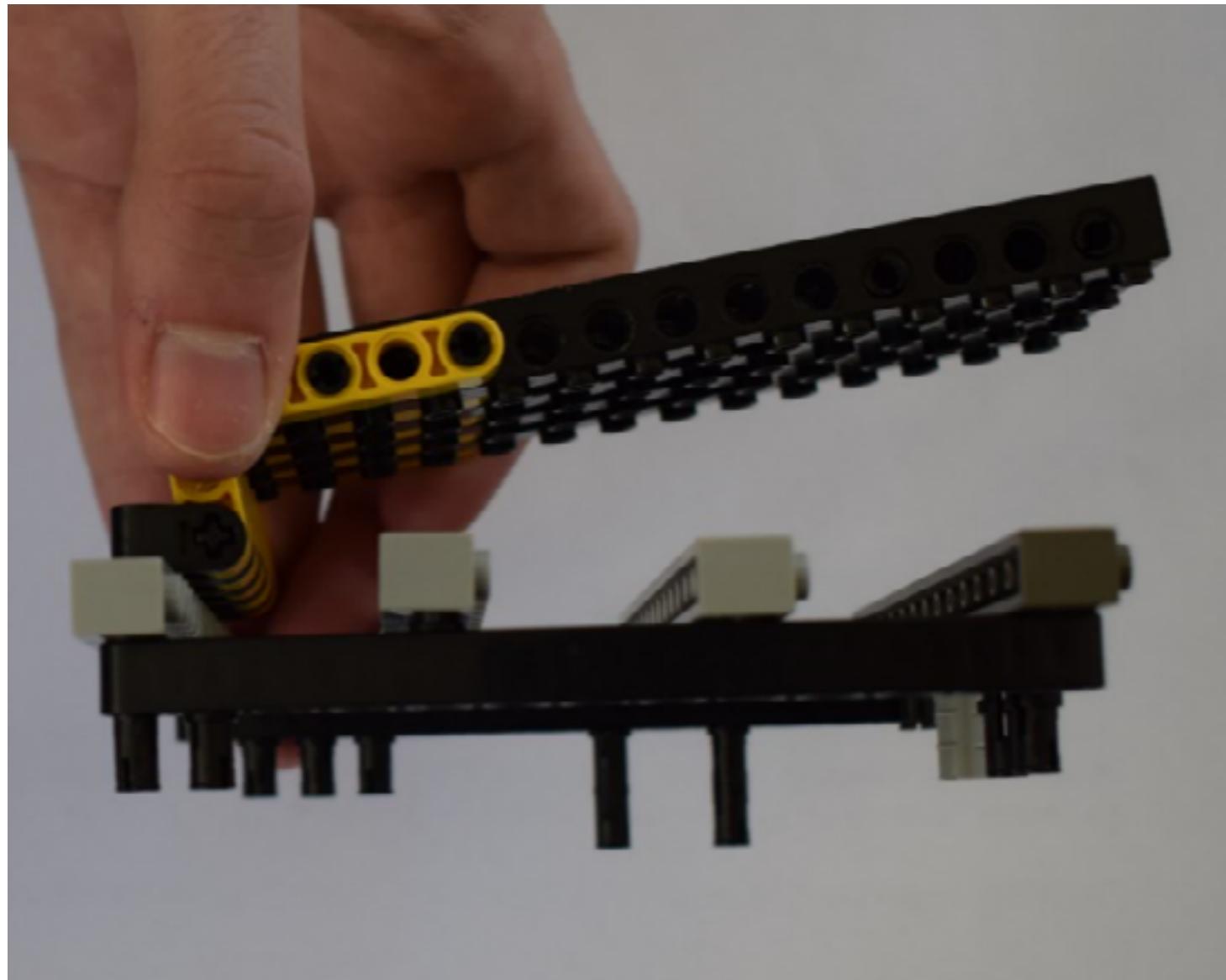
Solder the pressure plate to the combined wires, then tape it to the elastic band. Do this second time for the other set.

Step 14



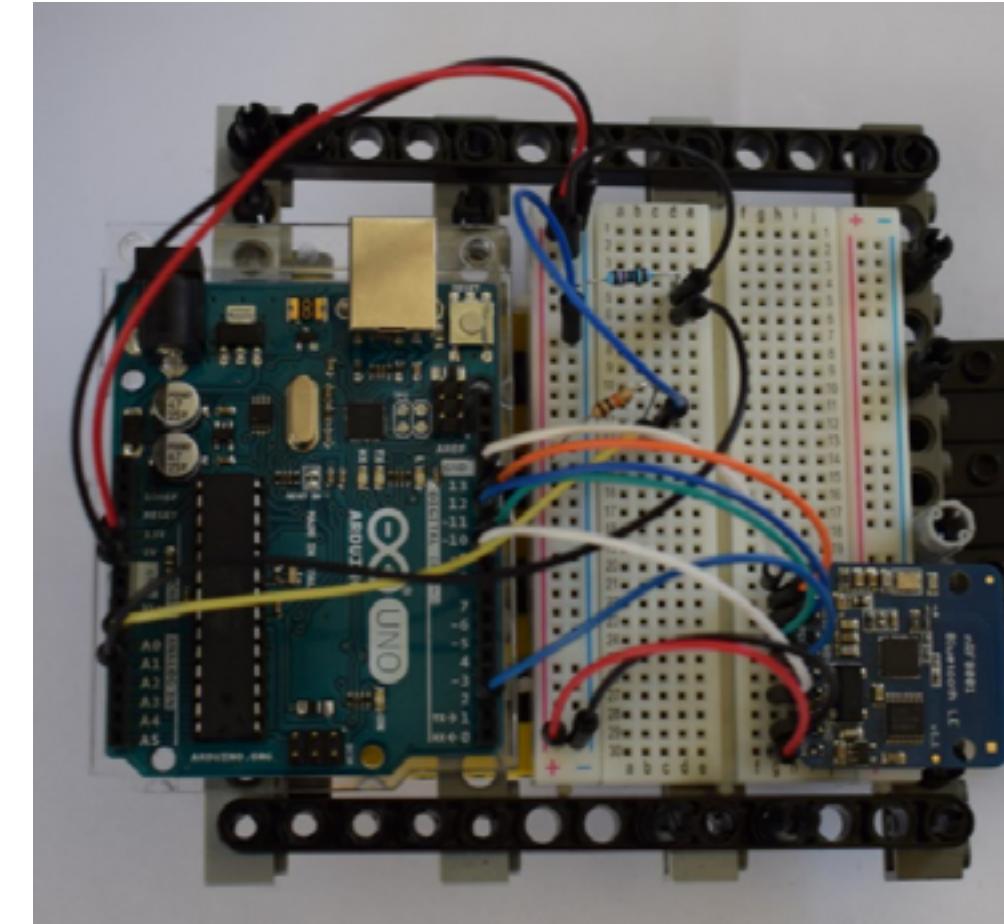
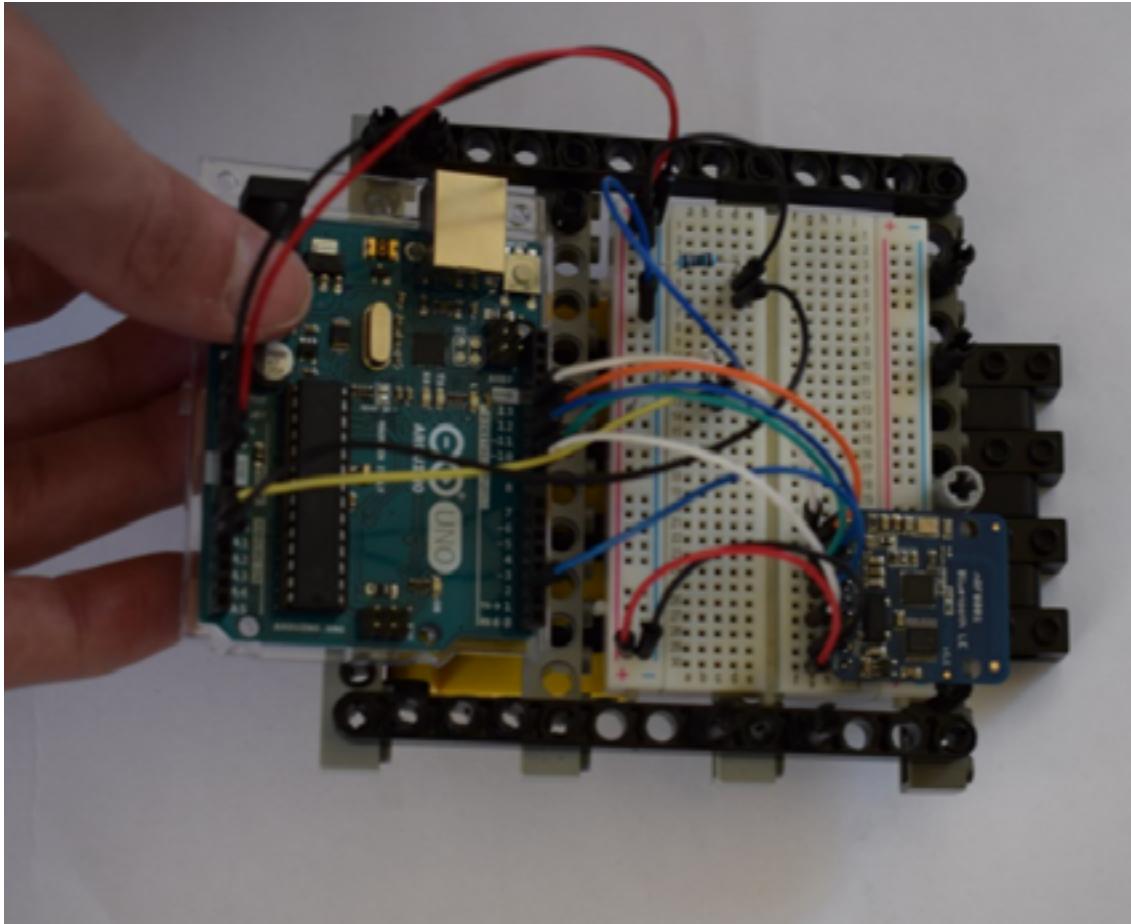
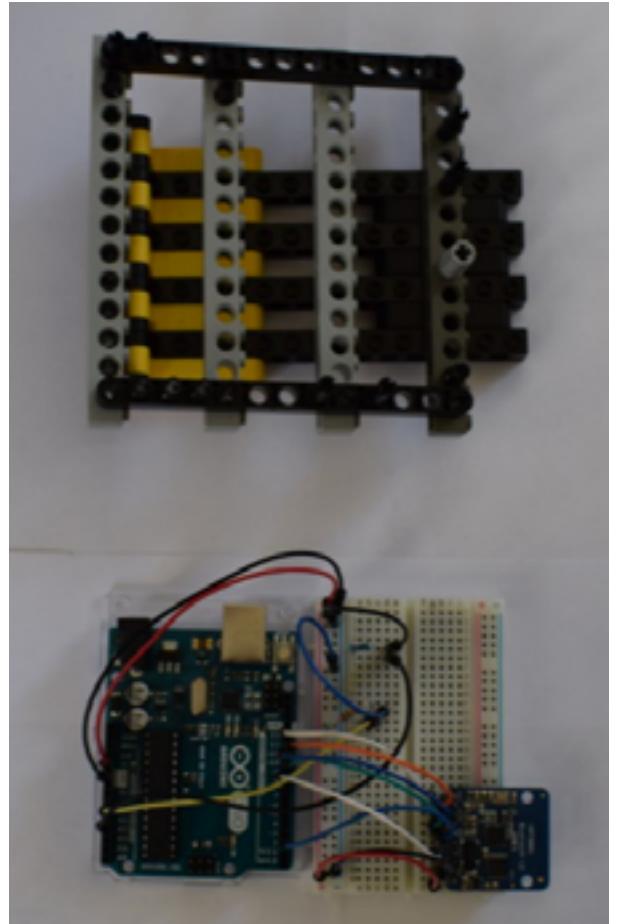
Push both wire sets through the small hole in the Lego brick, then put some tape on the end.

Step 15



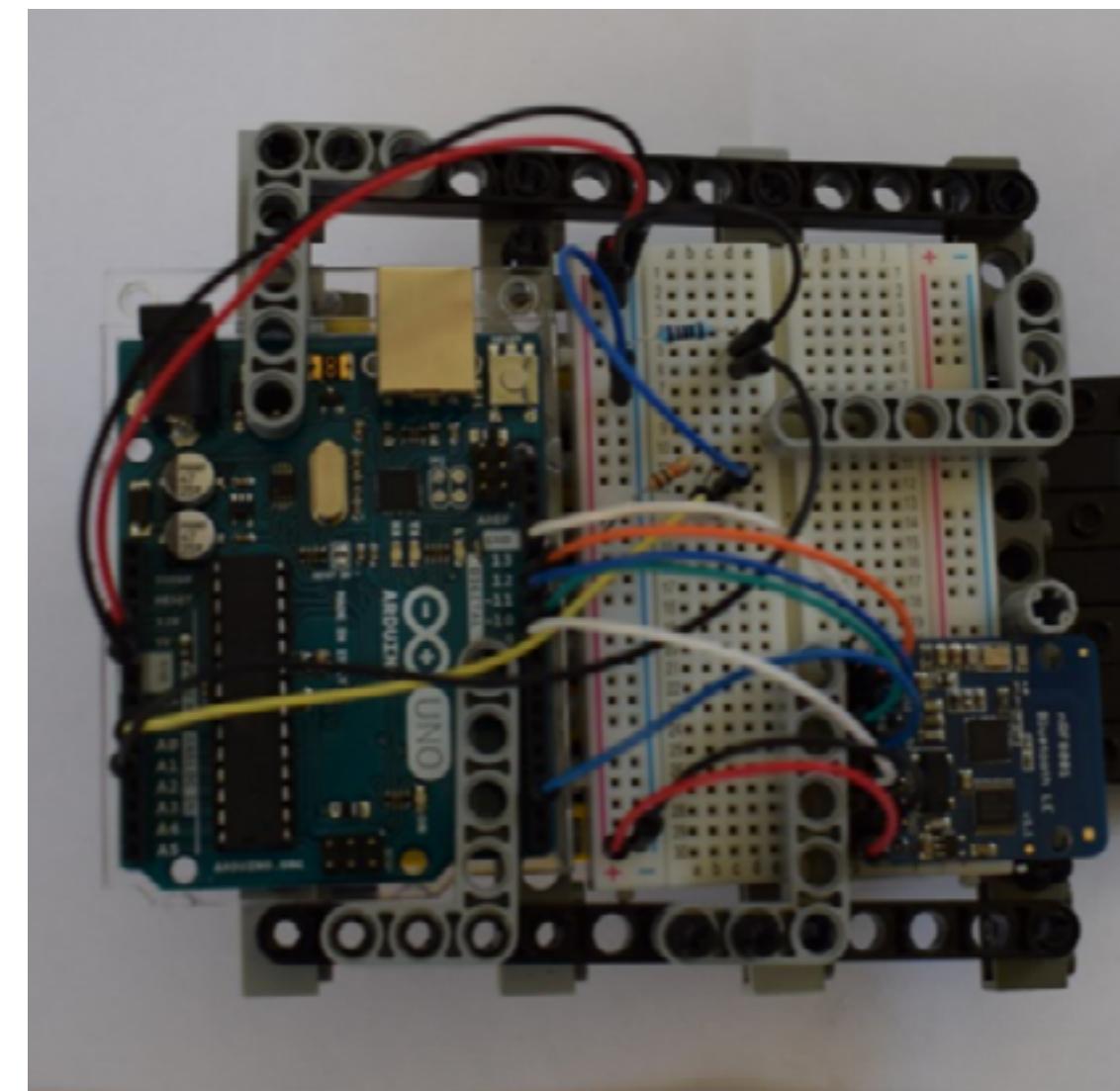
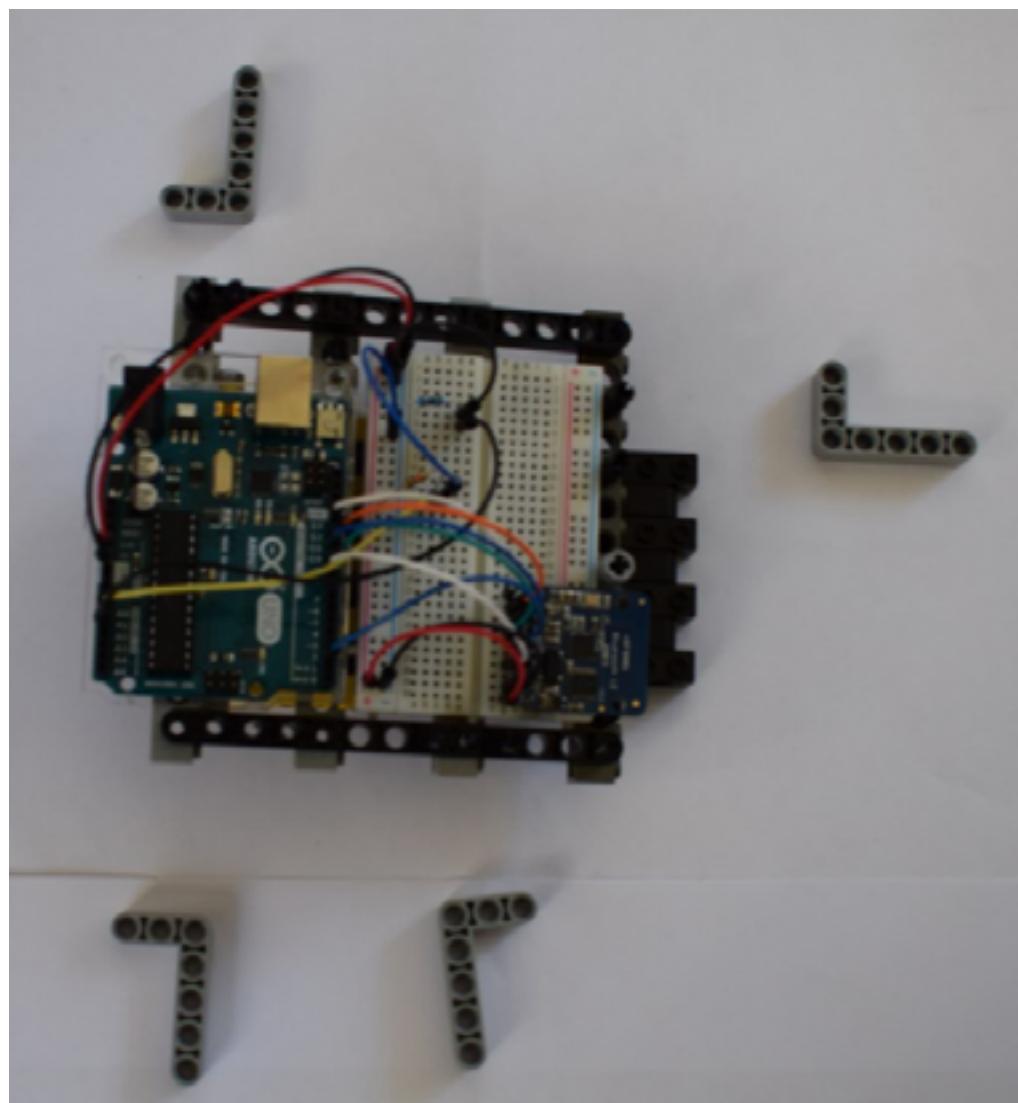
Built the case shown in the pictures with the LEGO parts. You can of course build your own case.

Step 16



Put the Arduino and the breadboard into the case. Make sure it sits flat in it's case.

Step 17



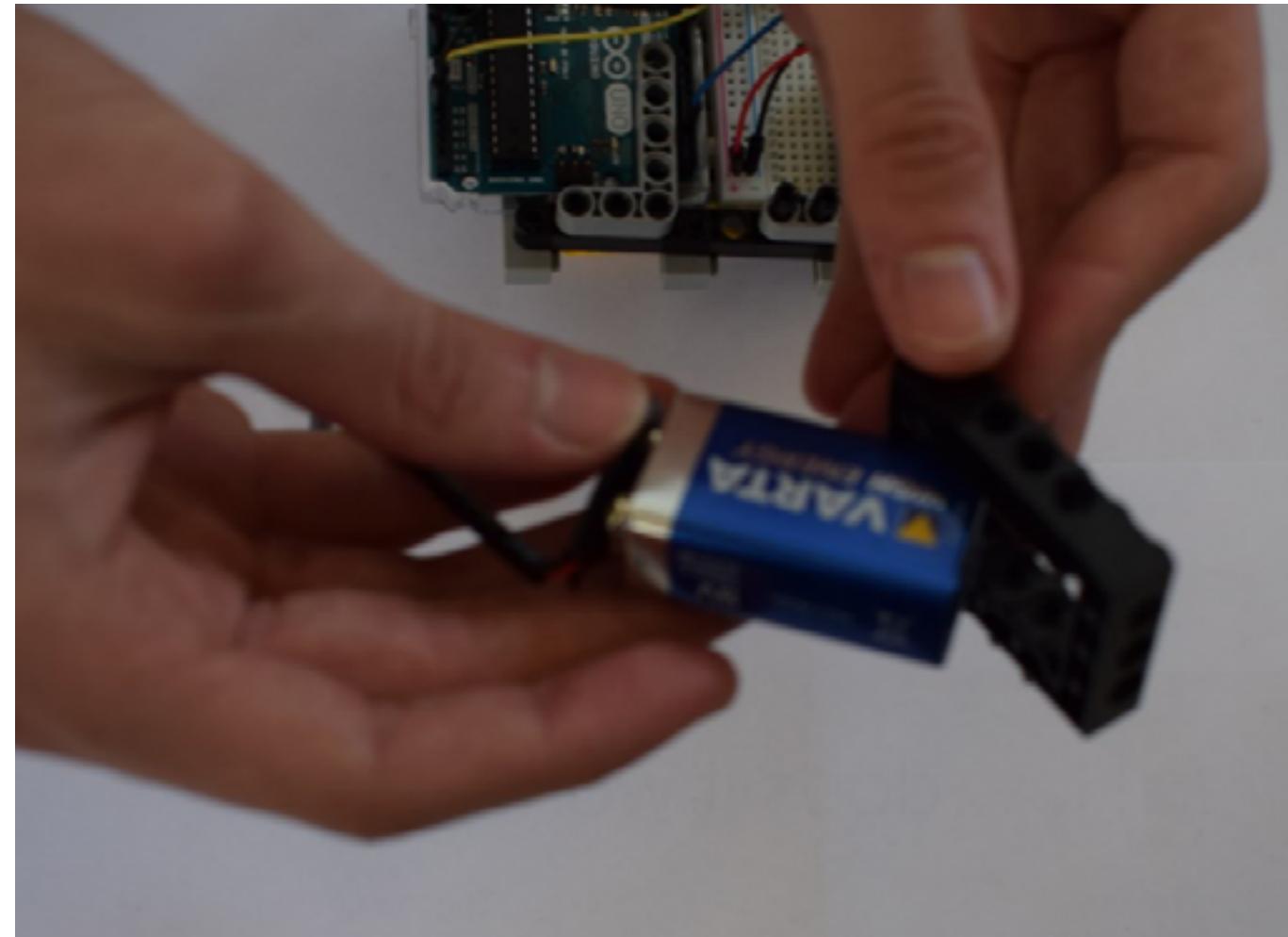
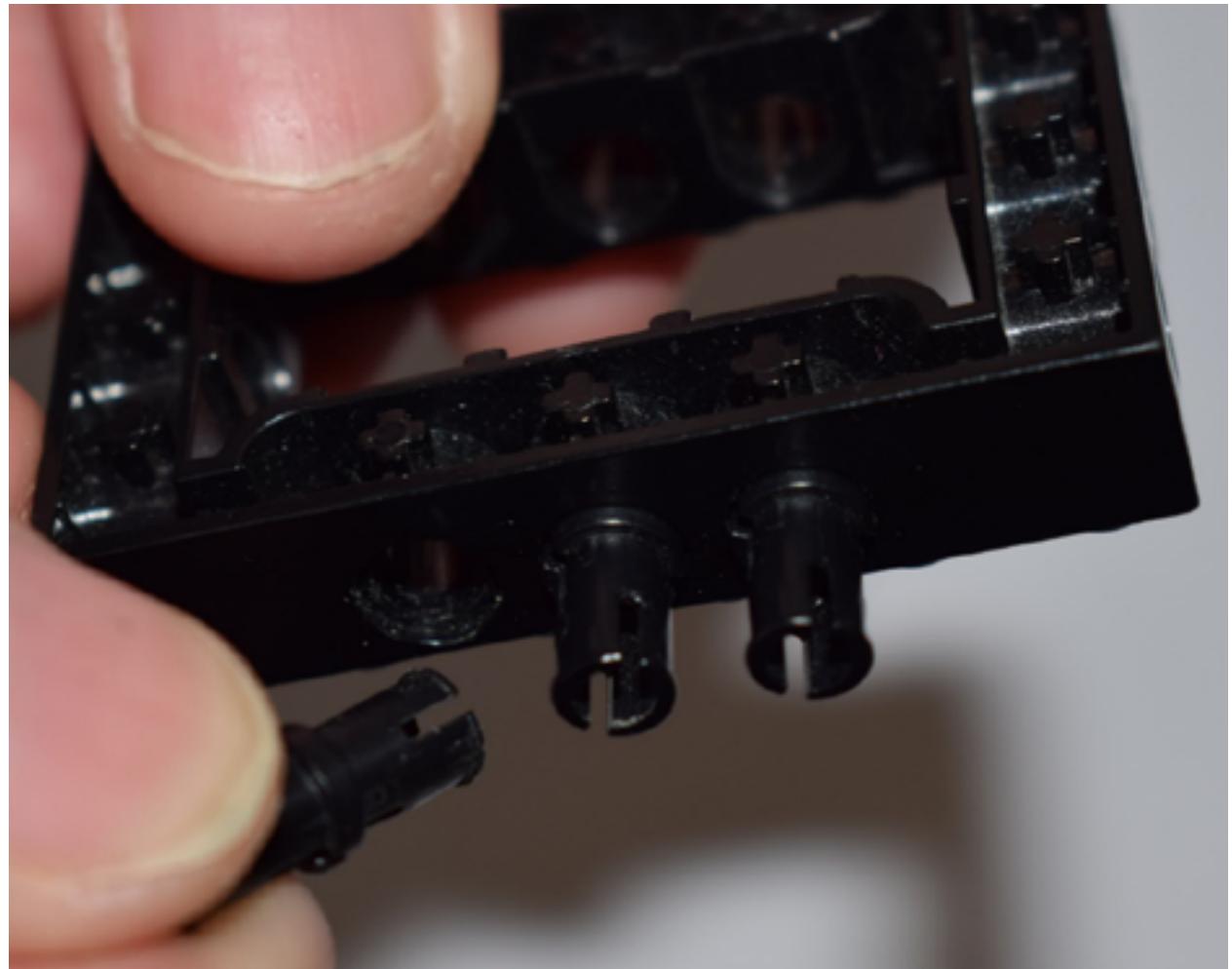
Lock the Arduino and breadboard into it's case. You can still use the USB port if you flip the blocking locking part.

Step 18



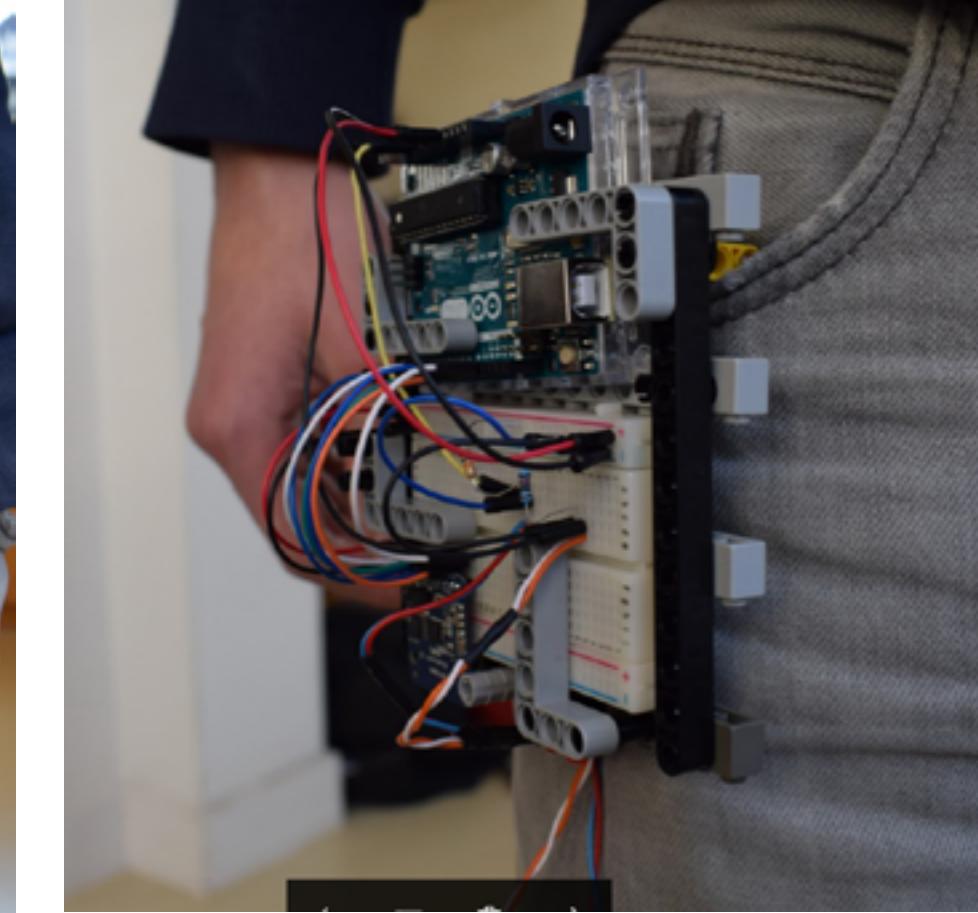
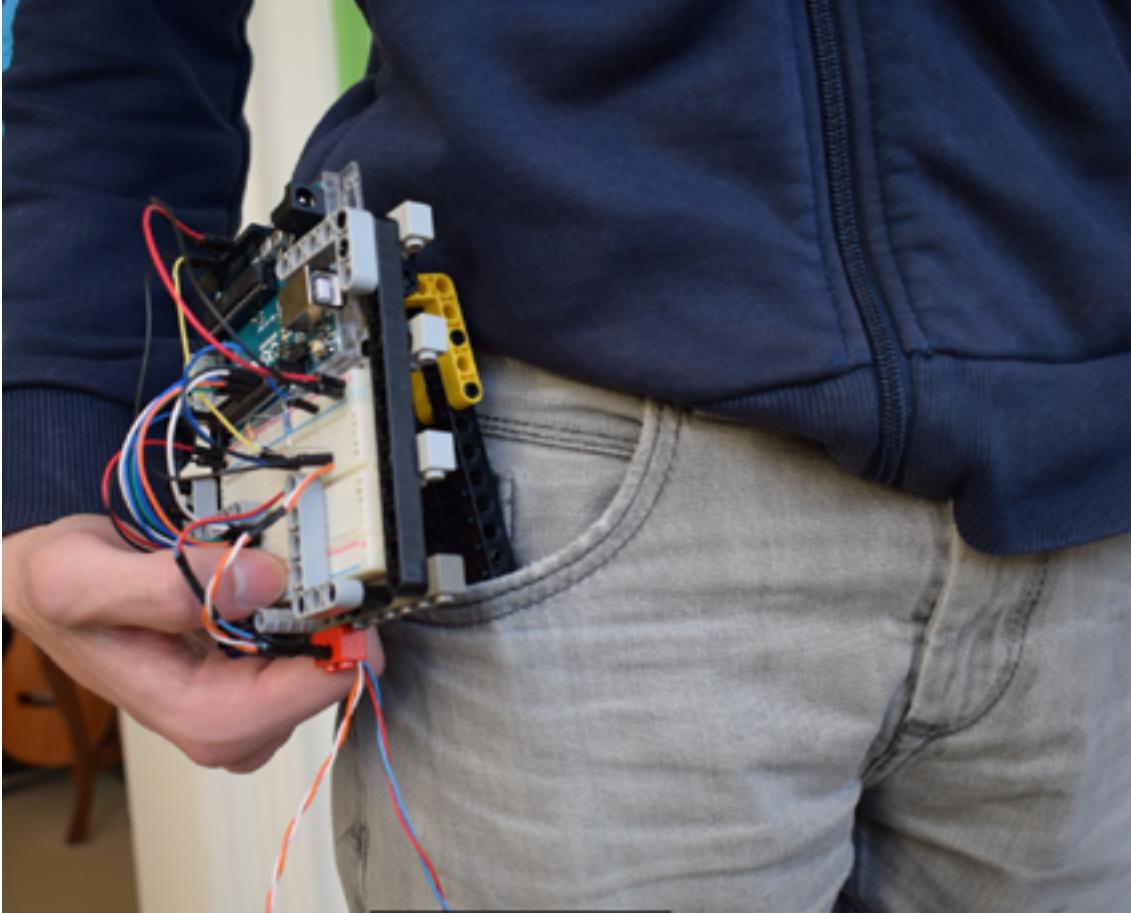
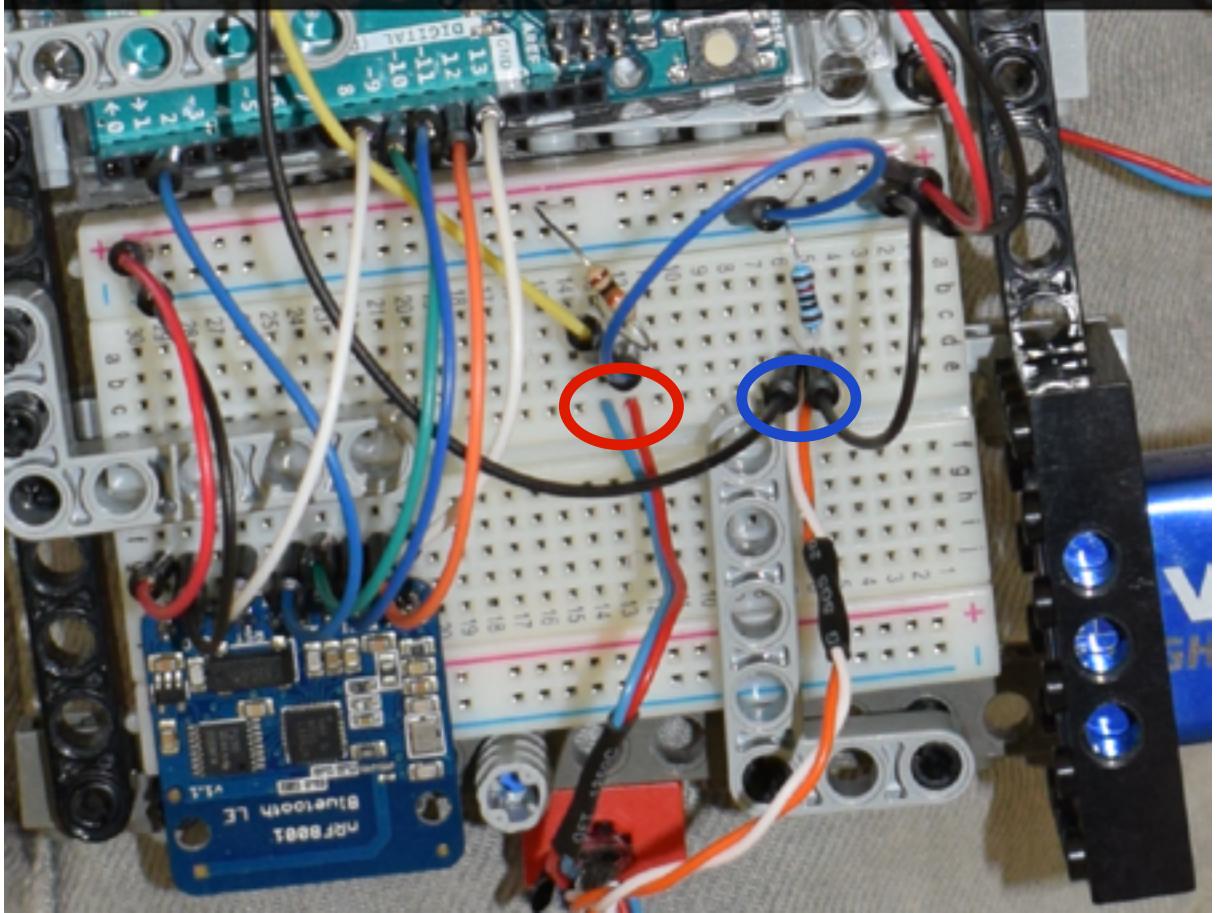
Connect the battery to the cable.

Step 19



Build the battery holder and put the battery in it.

Step 20



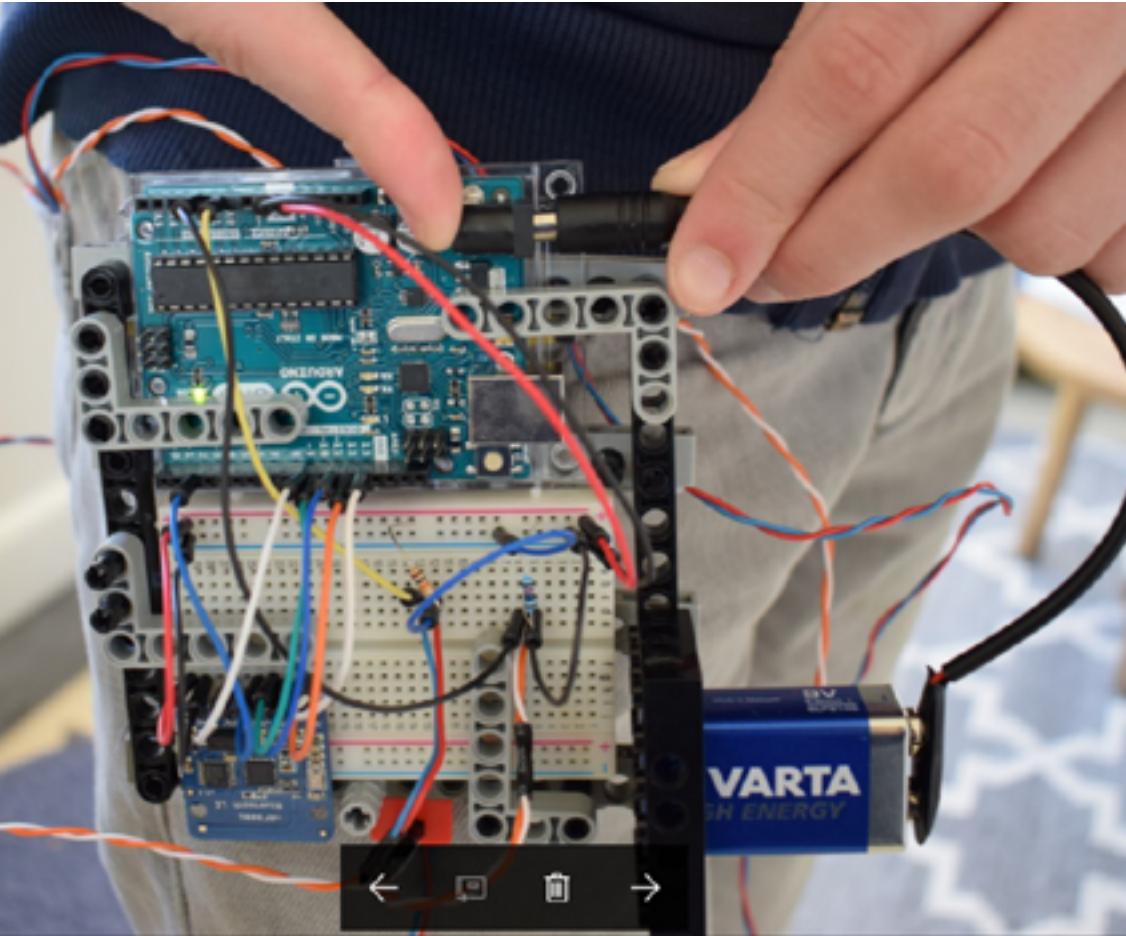
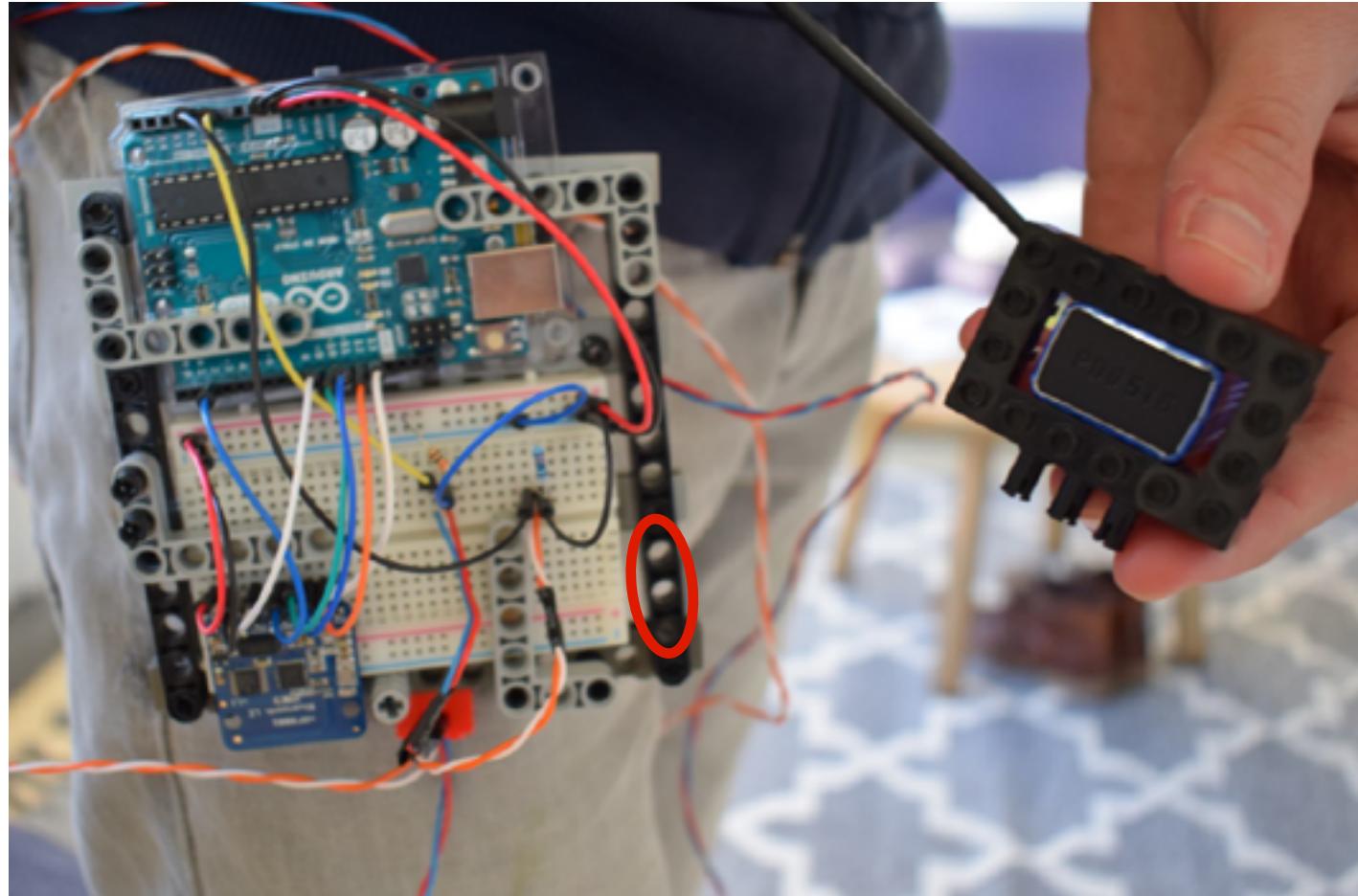
Hook up the both sets of wires to the breadboard. Connect the little Lego piece with the hole to the bottom of the case. Put the hinge of the case into your pocket.

Step 21



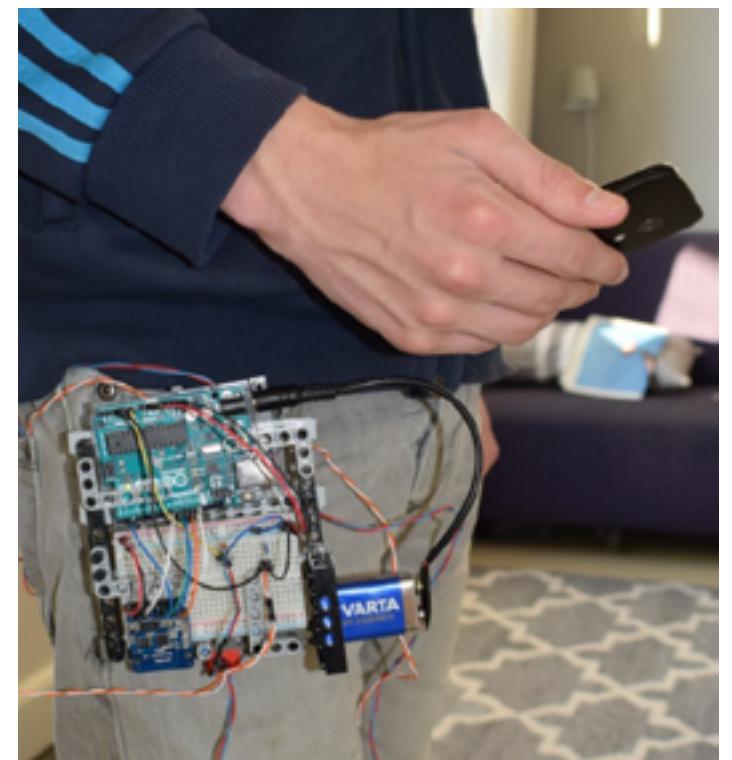
Put the elastic bands around your shoes. Make sure it is at the front of your shoe. Also make sure that the pressure plate is at the bottom of your shoe and that it makes contact with the ground when you are standing. Fasten the bands with the Velcro strips.

Step 22



Attach the battery holder to the highlighted set of holes and put the cable into the Arduino.

Step 23



Open the app and connect to the Arduino. You are now ready to enjoy BeatBoots!