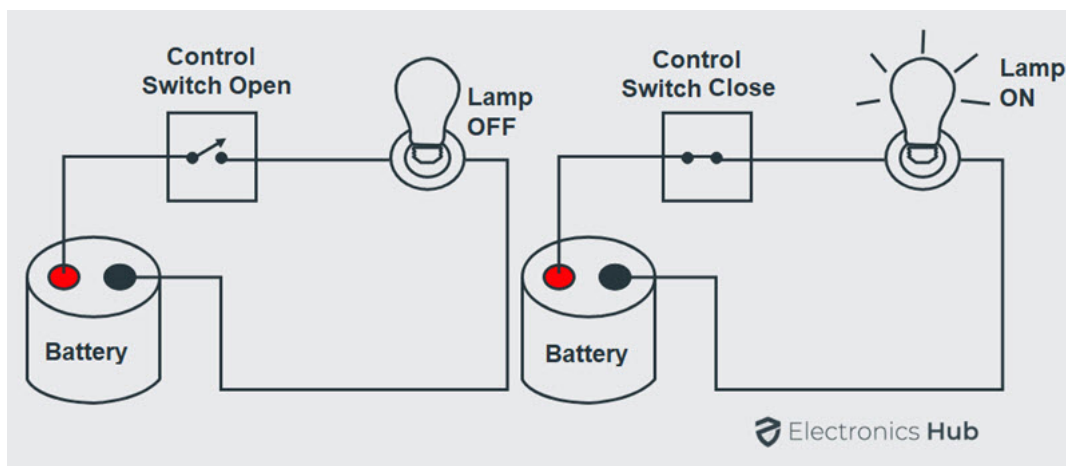


Switches and triggers

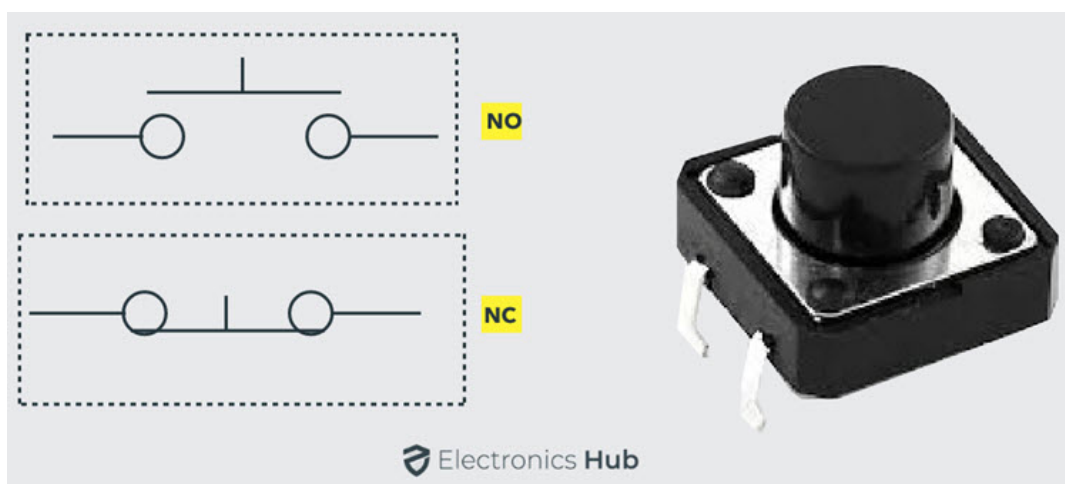
What is a switch?

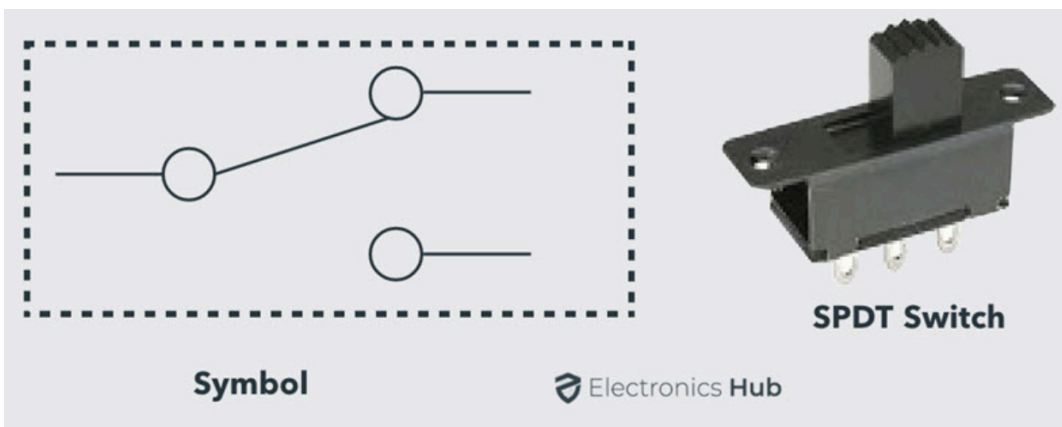
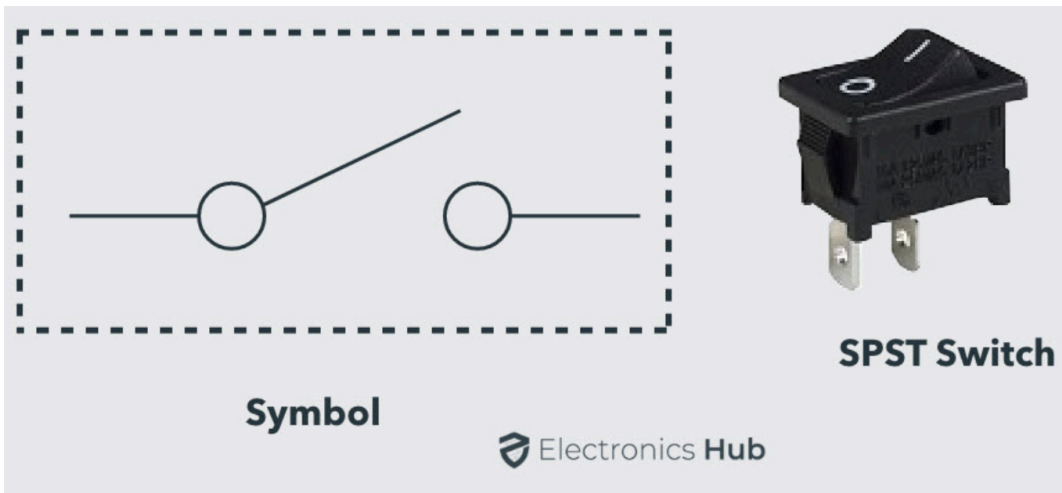
There are many different switches, and they are all based on the same principle. When a circuit is "open" or interrupted, there cannot be a circular flow of electrons. If you change something, the circuit is "closed" meaning there's a loop so electricity can flow, turning on the devices in the circuit.



Credit: [Electronics hub](https://www.electronicshub.org/)

Looking at schematic representations of electronic switches give you a basic idea of how they work.



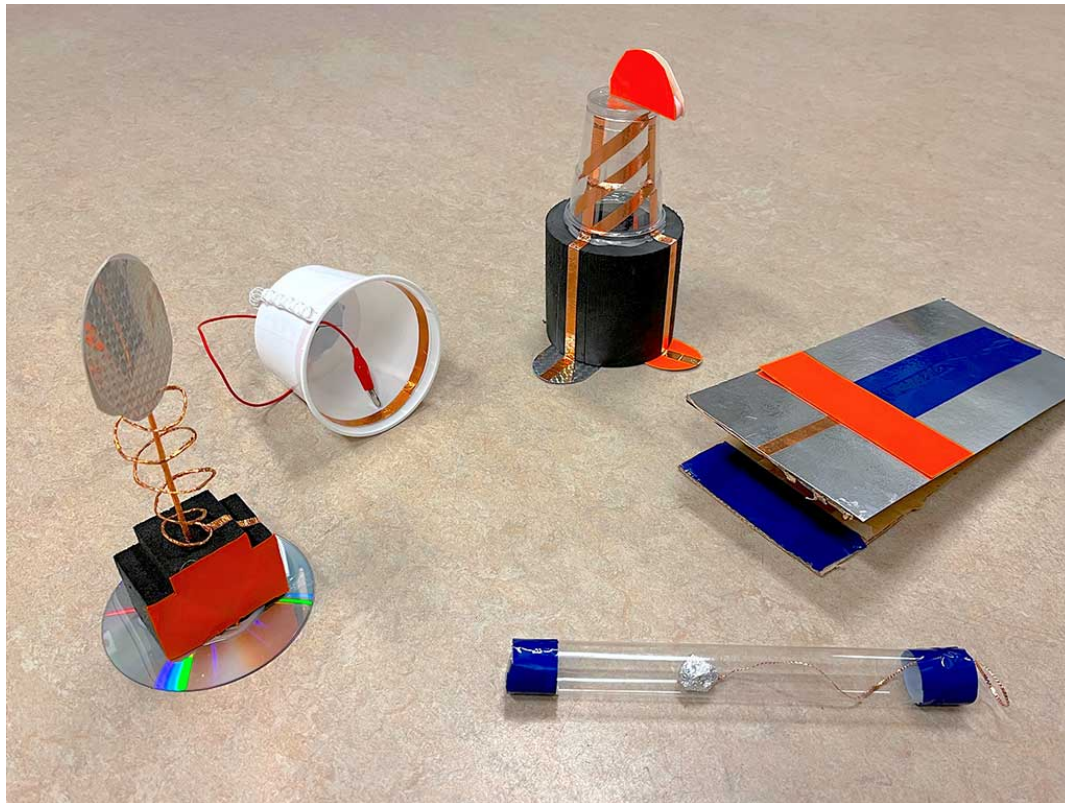


Credit: [Electronics hub](https://www.electronicshub.org/)

Triggers

The little modules are switches that are not manually controlled (e.g. by pressing a button with your finger), instead they are controlled by a contextual change. E.g. the light changes, the device is tilted, or senses the presence of a magnet. The modules contain multiple components such as an analog sensor, resistors, and a chip. As a whole, the module is created to *act as a switch*. When the device is manipulated, it sends out a HIGH signal (voltage in the circuit $> 0V$), which can trigger for example an audio file to play, or turn a light on.

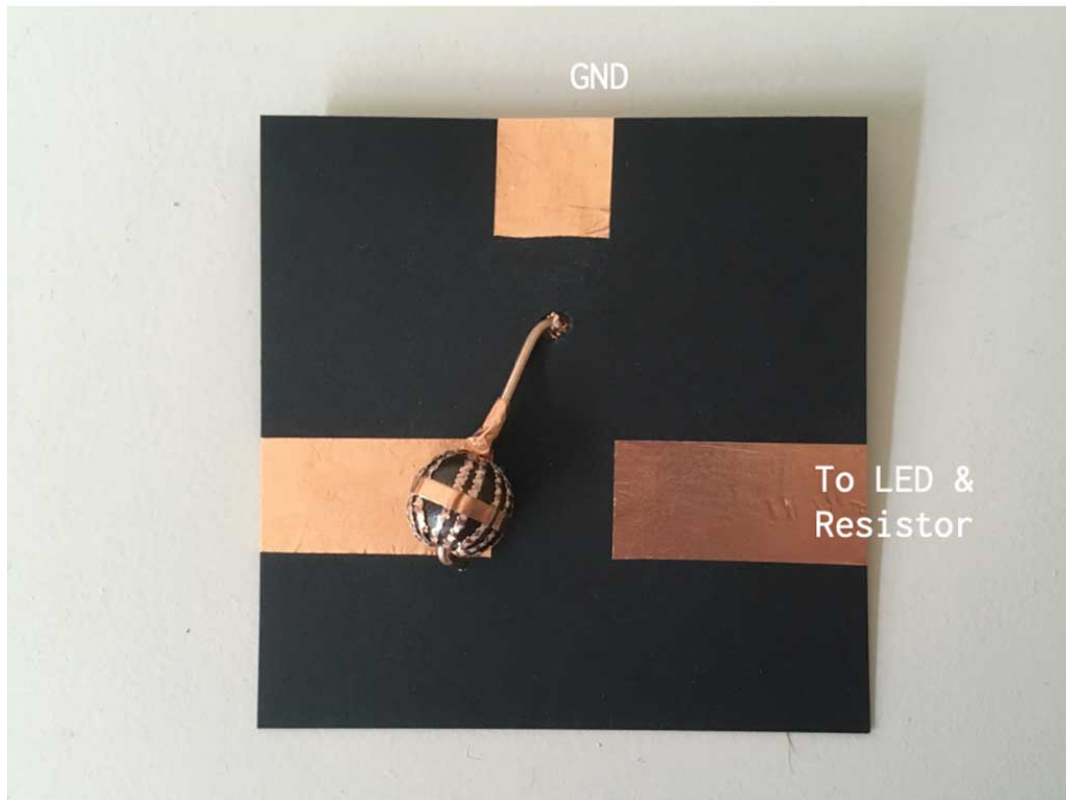
DIY Switches



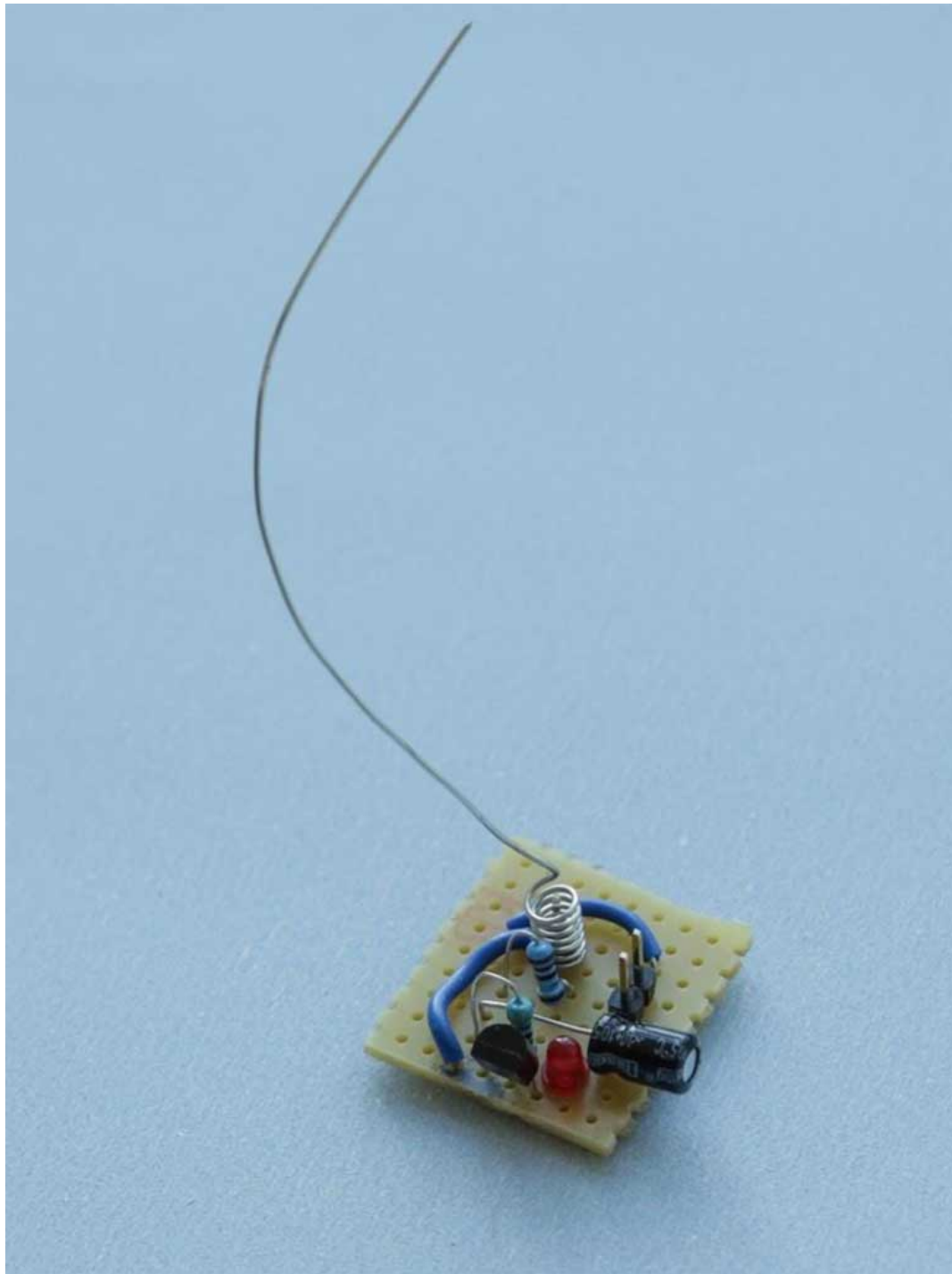
Clockwise, starting bottom left: flick switch, bell switch, turning knob, pedal, tilt switch. Credit: Loes Bogers



Clockwise, starting bottom left: knife switch, tilt switch, clothespin switch, pressure switch, push switch, magic wand switch. Credit: [Michael Fricano II](#)



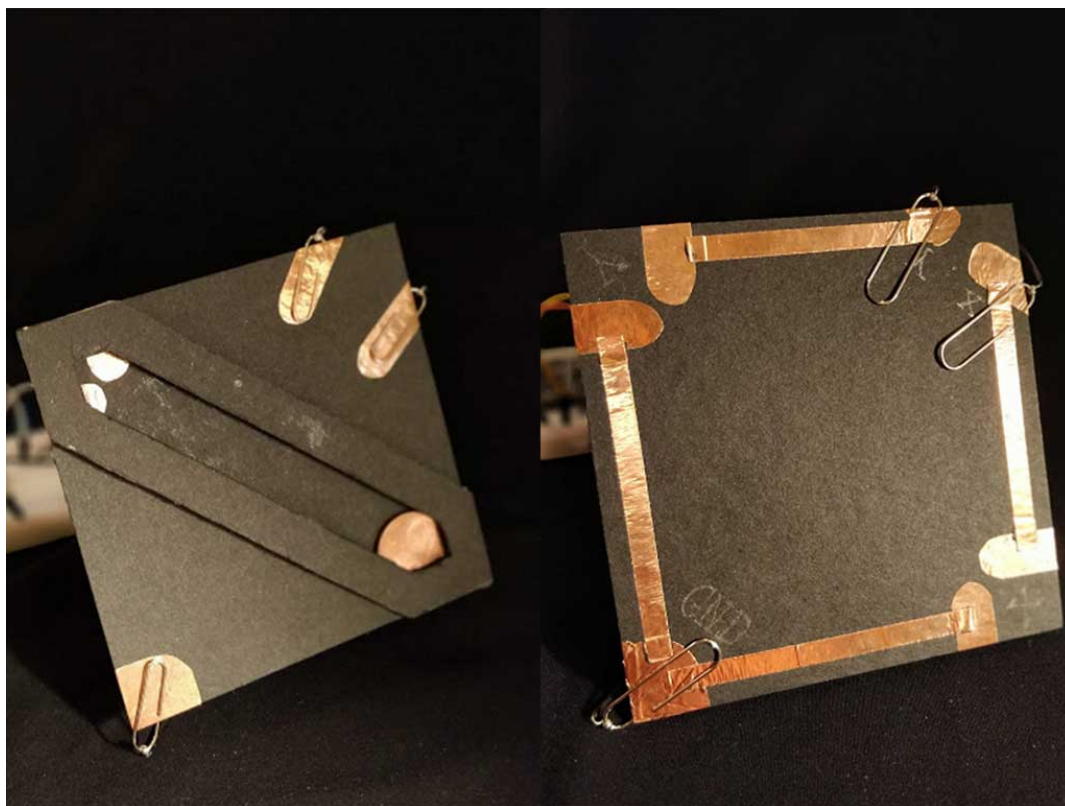
Paper tilt switch. Credit: Loes Bogers



Flick switch (pushing the long tail closes circuit when it touches the coil). Credit: Geert Lens



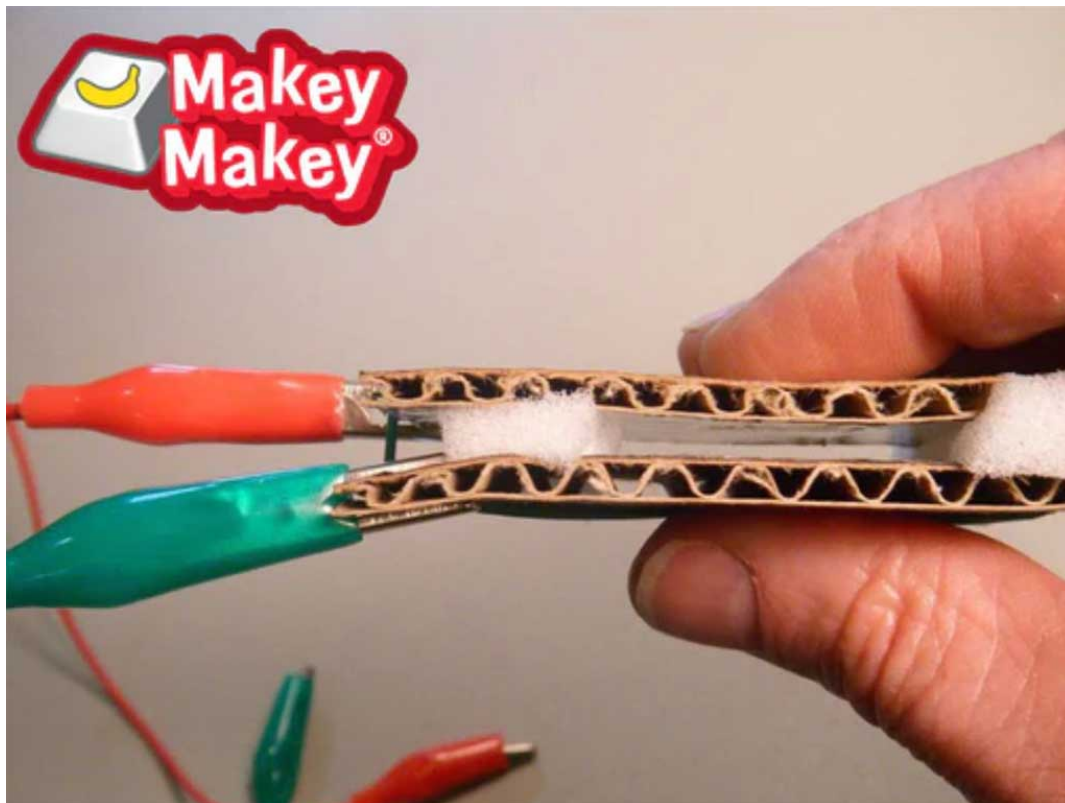
Blowing against piece of loosely attached aluminum foil closes circuit (and a whistle tone plays). Credit: Berit Janssen



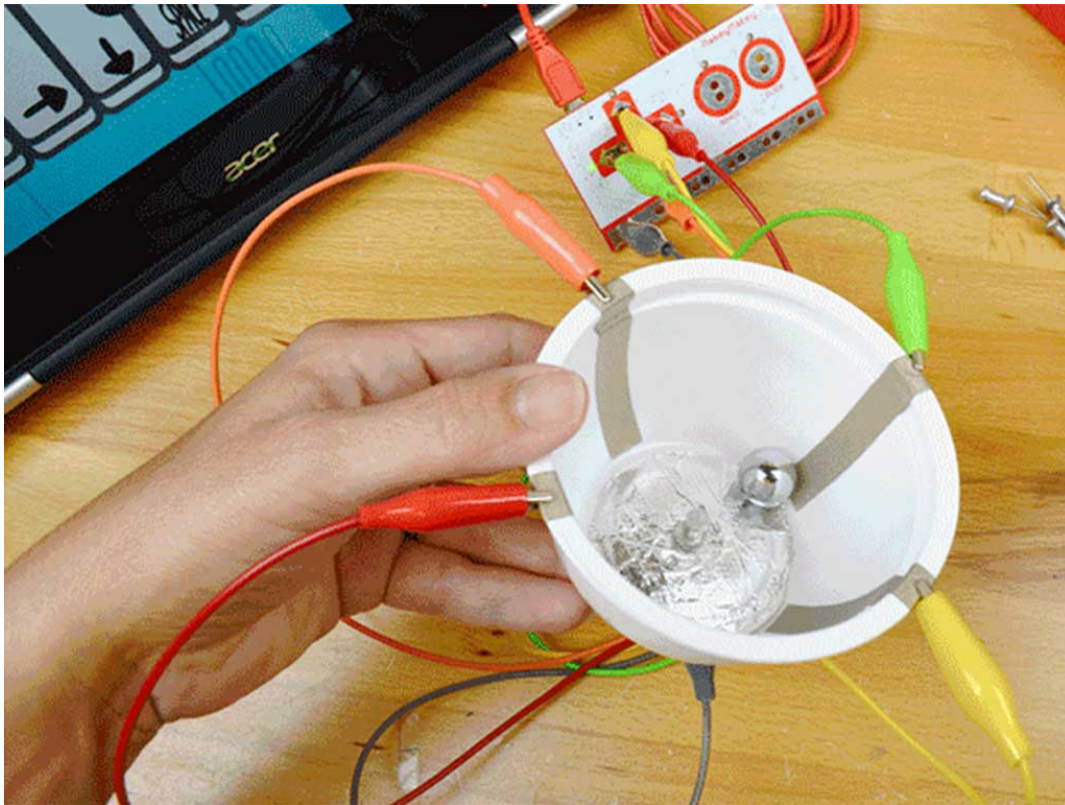
Paper tilt switch. Credit: Summer Danoe



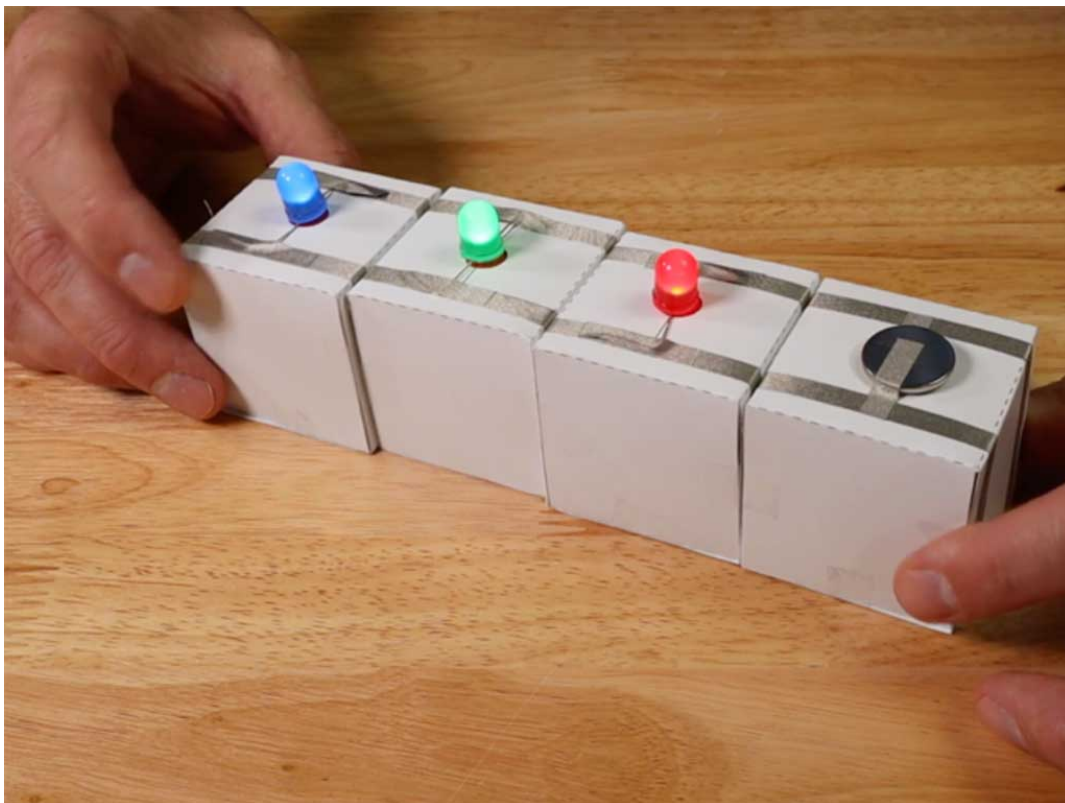
Paper tilt switch. Credit: Summer Danoe



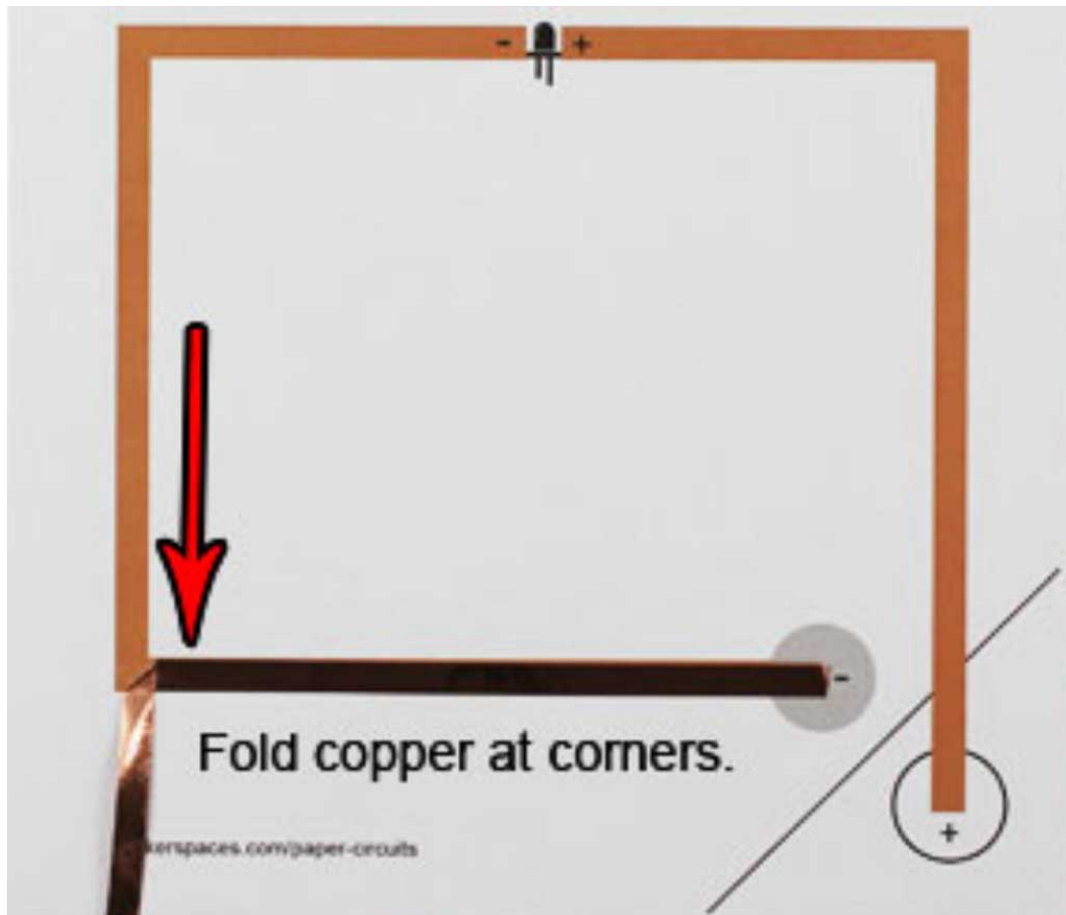
Push switch. Credit: Makey Makey



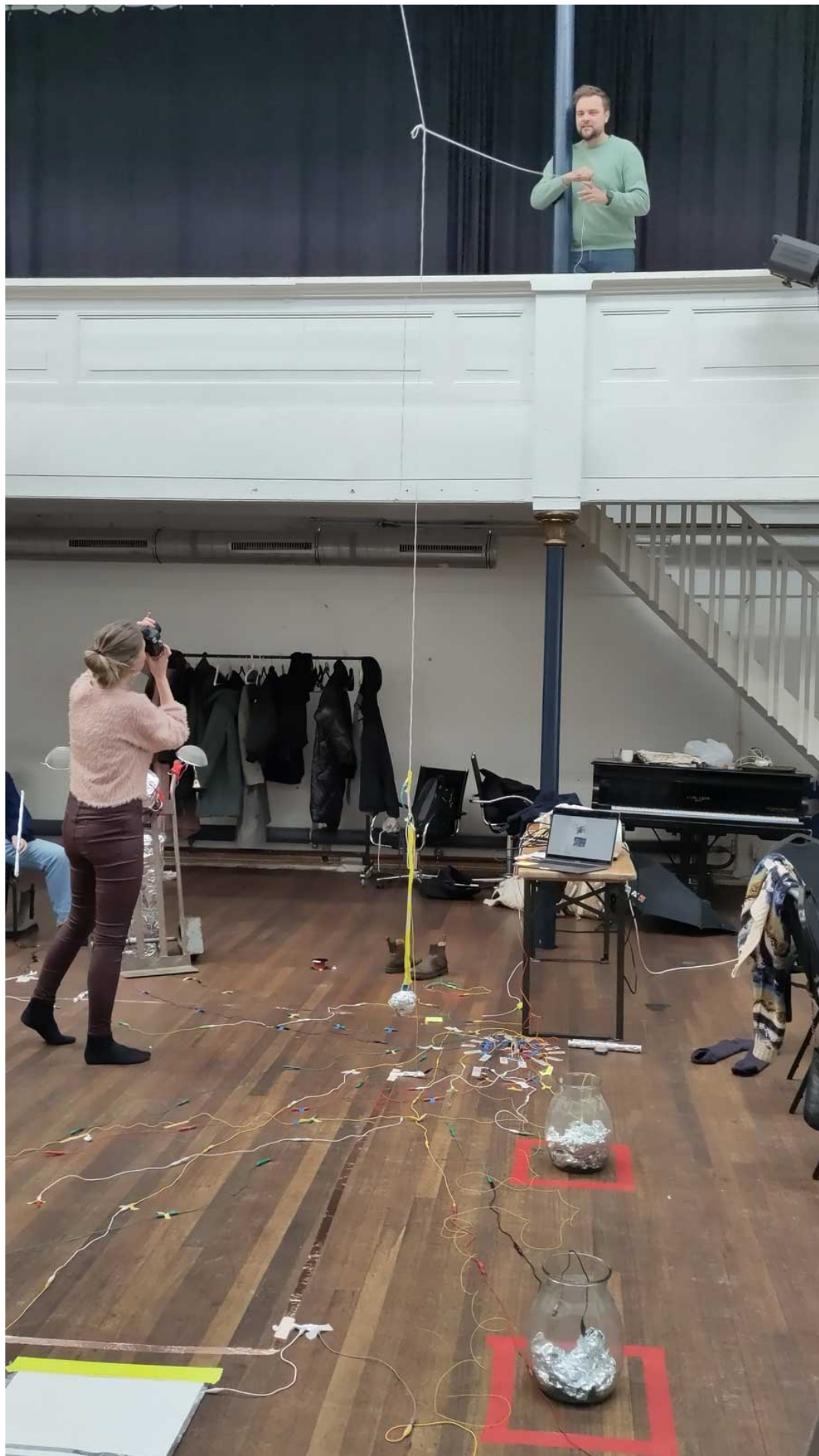
Tilt switch. /Credit: Makey Makey



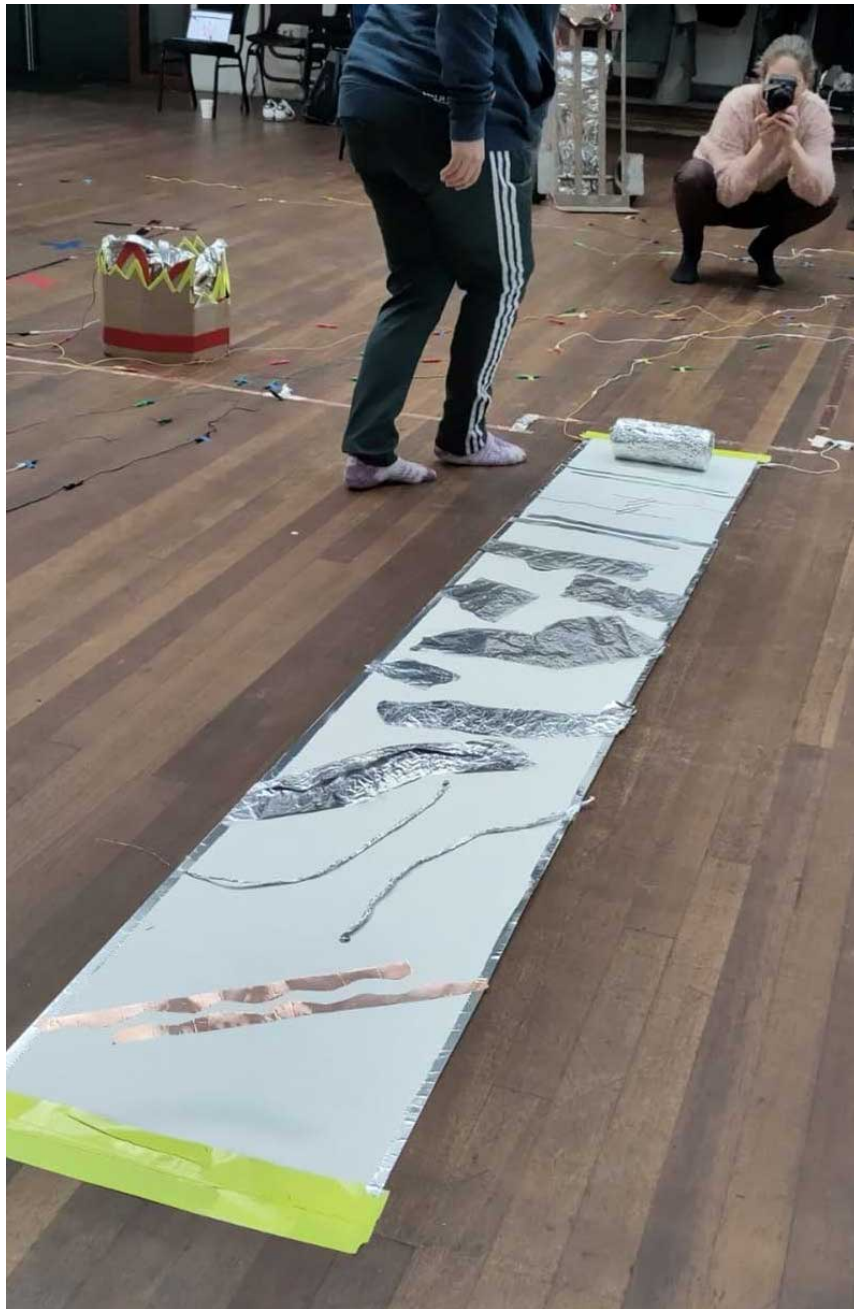
Modular switch (several cubes can be pushed together to close the circuit) Credit: Pete Prodoehl (Brown Dog Gadgets)



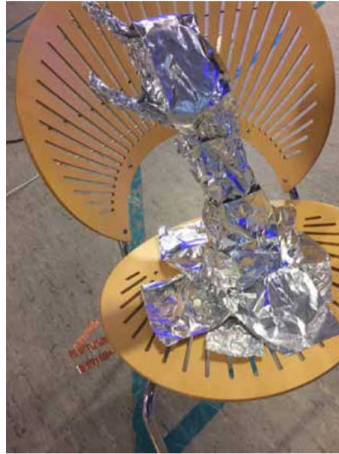
Push switch making use of a paper fold). Credit: makerspacescom



*Fishing switch: getting the dangling bowl into one of the vases on the floor closes the circuit.
Credit: Hackers & Designers and students MA Arts Education AHK*



*Switch made of patches that are connected when a conductive cylinder rolls across them.
Credit: Hackers & Designers/Master students arts education AHK*



Several handmade switches that require large gestures. Credit: Hackers & Designers





Combined switch (metal of tap shoes 1 > wet rug > metal of tap shoes 2 hold the ground connection, and body of person 1 > body of person 2 are the switch: they close the circuit when their skin touches) Credit: Loes Bogers