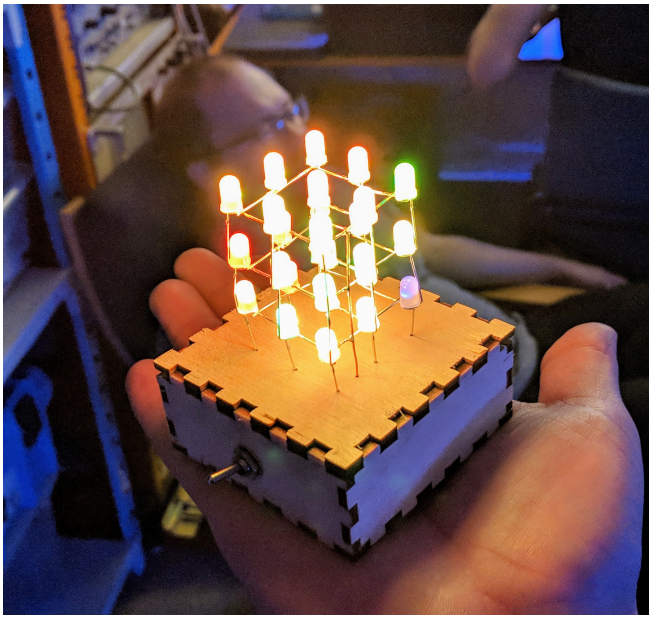
LED Cube

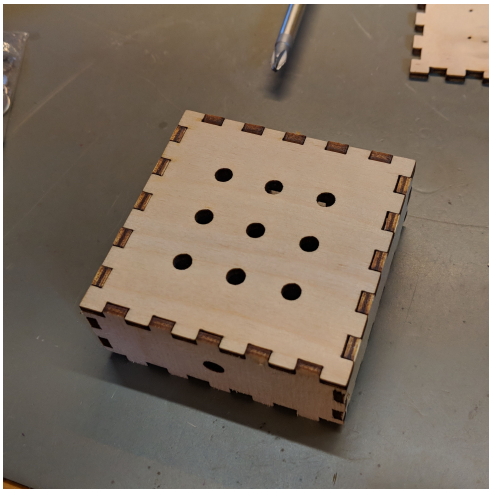


Quantity	Name
6	Wooden box elements
27	5 mm RGB LED
1	Switch
1	Battery holder for Mignon (AA)
1	Wire, stiff
1	Cable, flexible
2	Mignon Batteries (AA, not included)

Difficulty: ●●●○○

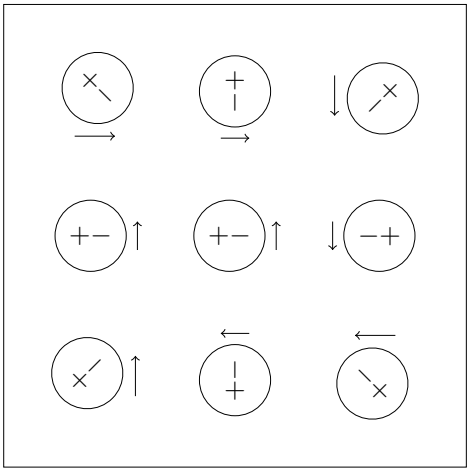
Step 1

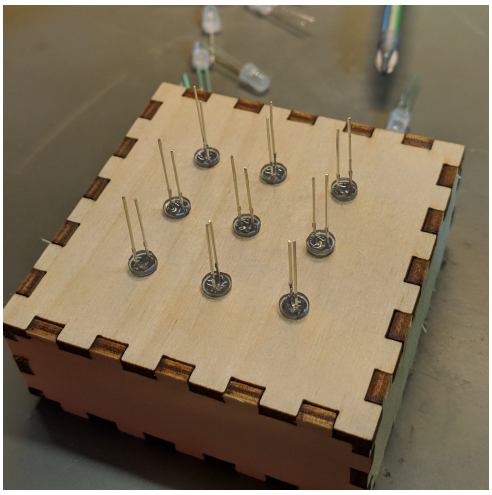
a) Mount the side-elements of the box to the bigger plate with the 5 mm hole matrix
b) Hint: Every side has matching stripes engraved
c) The stripes match
d) They should be in the inside afterwards
e) Do not mount the plate with the small holes



Step 2

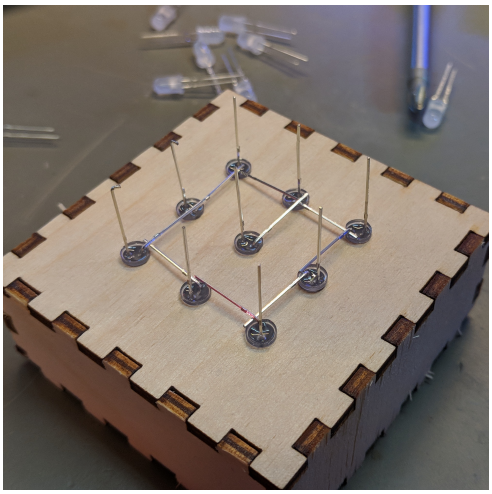
a) The LED cube consist of 27 RGB LEDs in three 3x3 LED levels
b) The long leg of the LED is the positive side
c) Push the LEDs into the plate, as shown in the diagram
d) The '+' and '-' indicates the positive and negative pole of the LED
e) The arrow is used in the next step





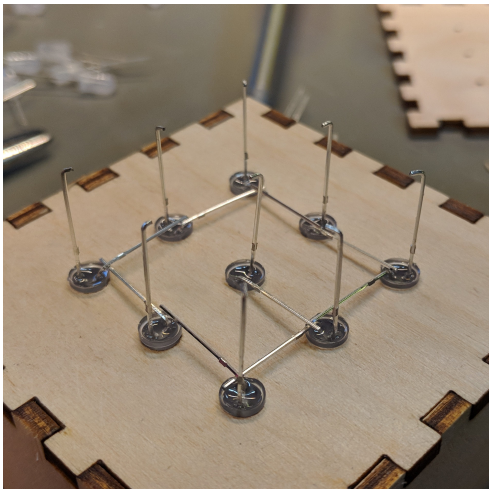
Step 3

a) Bend all negative pins in the direction of the arrows shown in the diagram
b) The positive and negativ pins should not touch each other
c) All negativ pins should touch another negative pin on another LED
d) Solder all negative pins



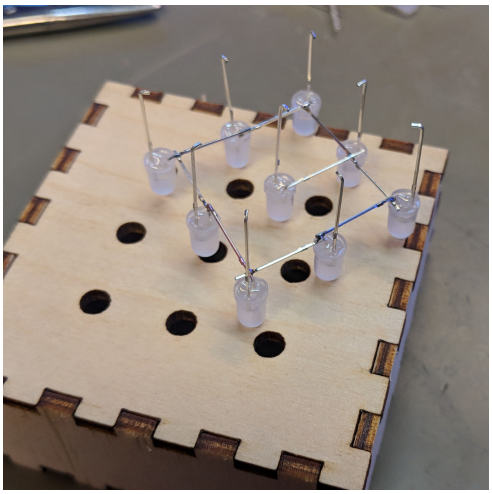
Step 4

a) Bend 2 mm of the tip of all positive pins with an 90° angel towards the negative pin



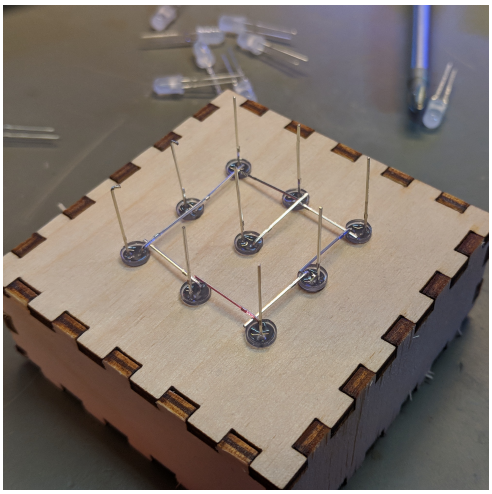
Step 5

a) Carefully push out the first layer of the LED cube



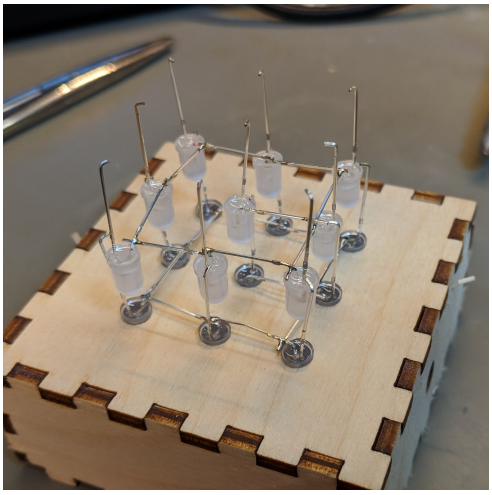
Step 6

a) Repeat the steps for the second layer



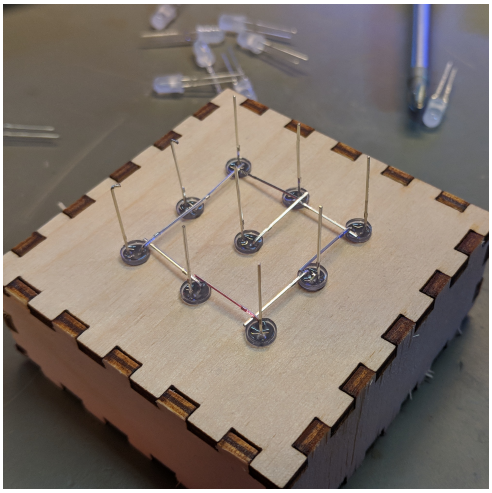
Step 7

a) Keep the second layer in the hole matrix
b) Put the first layer of LEDs onto the second layer so that all lines match each other
c) The bended tips of the positive pins should now touch the positive pins of the second layer
d) Solder all positive pins of both layers
e) Carefully push out the soldered layers



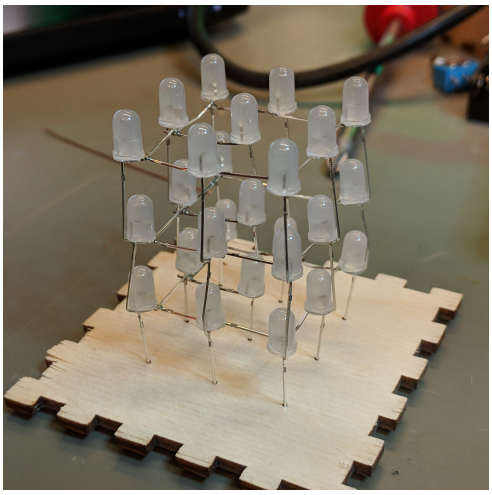
Step 8

a) Repeat the steps for soldering the third layer, exept do not bend the tips of the positive pins in the third Layer!
b) Push out the third layer



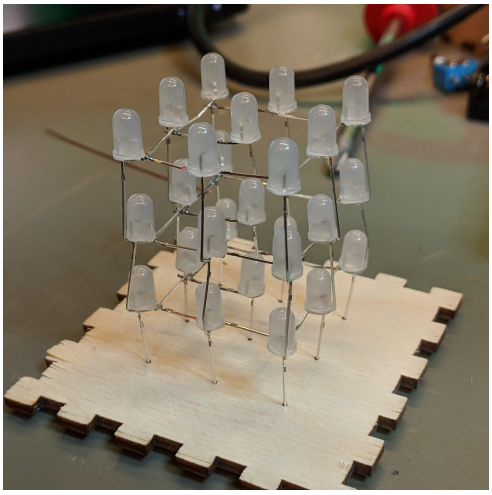
Step 9

a) Put back the already soldered two layers from before in the hole matrix
b) Match now the third layer onto the other two
c) Solder the third layer
d) Push out the finished cube



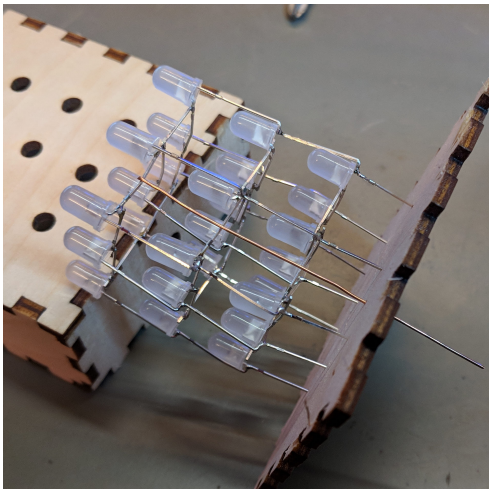
Step 10

a) You are finished with all three layers
b) Push the positive Pins through the small holes in the other plate



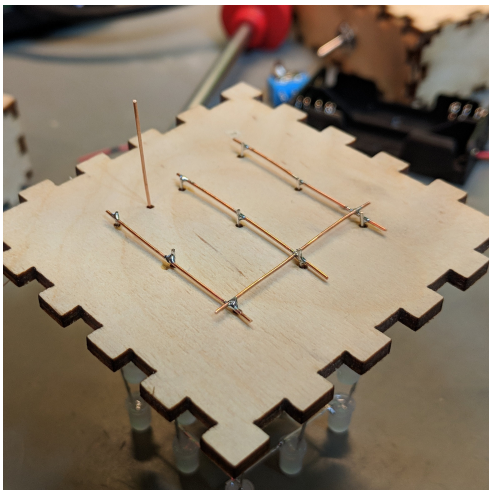
Step 11

a) Remove the insulation of the stiff wire completely
b) Push it through the last hole and connect alle negativ pins of the three layers
c) Cut the rest of wire and leave a rest of 5 mm on the other side of the plate



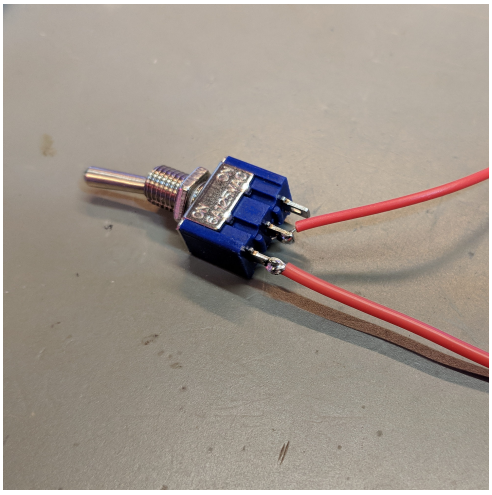
Step 12

a) Solder the inner side of the positive pins as shown in the picture



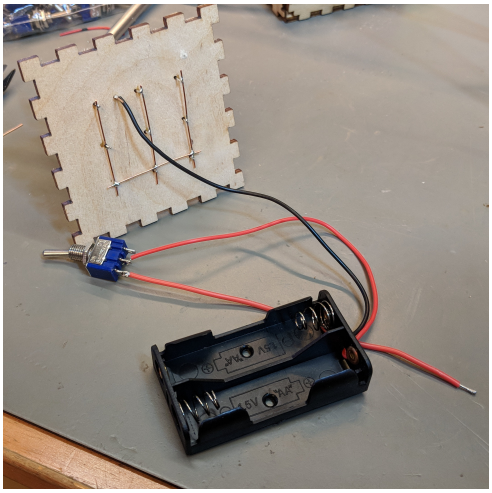
Step 13

a) Sodler the red wire of the battery holder to the midde pin of the switch
b) Solder the other wire to one of the other pins



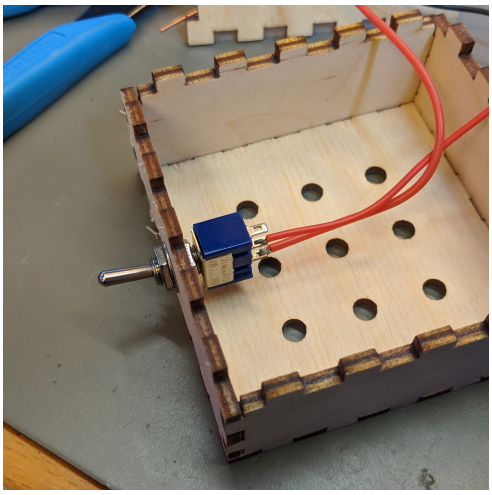
Step 14

a) Solder the black wire of the battery holder to the negative pin of your cube
b) Solder the other open wire to the positive pins



Step 15

a) Screw the switch into the hole in one of the side-elements
b) Put batteriesPut the battery holder into the box



Step 16

a) Close the box
b) You are finished!
c) To change the batteries, the side-element with the switch can be opened more easily