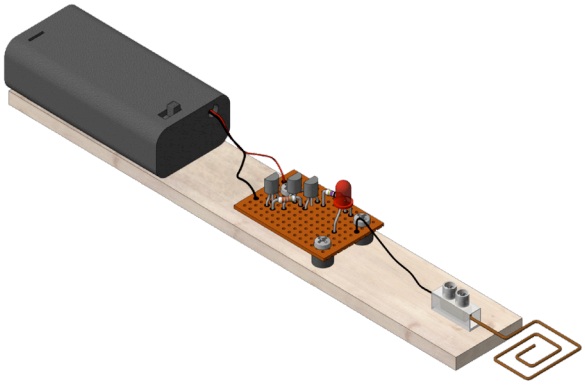
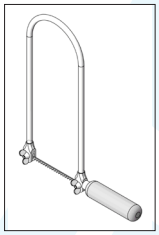
329.544

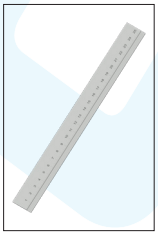
Alternating Current Tester

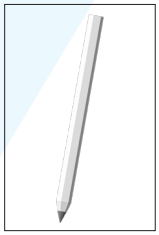


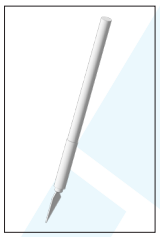
Tools required:

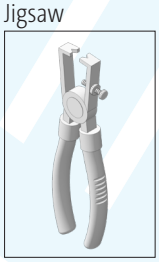
Drill

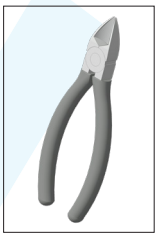

Jigsaw


Ruler

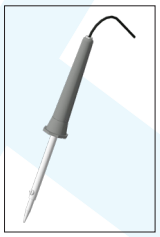

Pencil

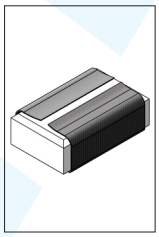

Craft knife

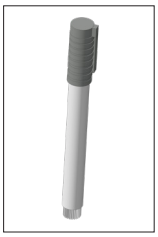

Insulated Wire Strippers


Side cutters

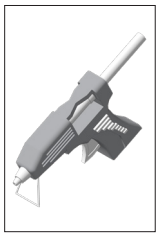

Pliers


Soldering Iron


Sand Paper


Edding Marker


Screwdriver

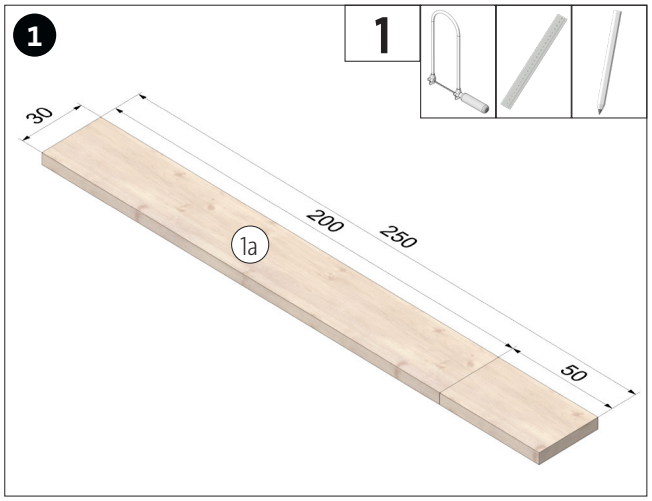

Hot glue

NOTE:

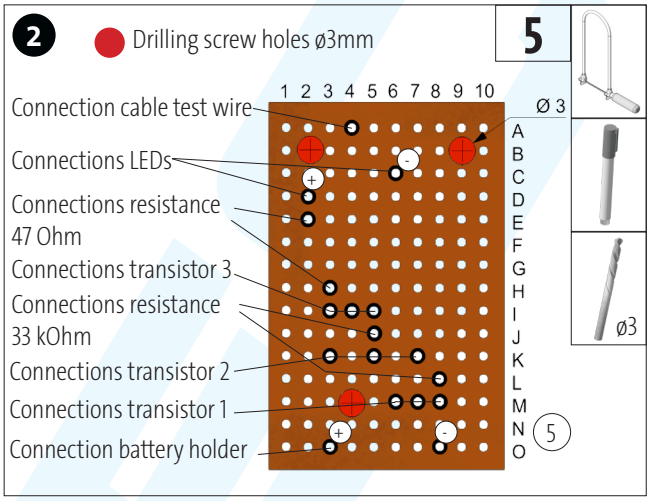
After completion, the OPITEC work kits are not articles with toy character of a generally commercial kind, but teaching and learning aids to support educational work. This kit may only be built and operated by children and young people under the guidance and supervision of competent adults. Not suitable for children under 36 months. Danger of suffocation!

Parts list	Quantity	Dimensions (mm)	Designation	Part no.
Wooden Strip	1	250x30x5	Base plate	1
Welding rod	1	ø1x250	Test wire	2
Luster terminal strip	1		Connection test wire	3
Spacers	3	ø7x5/ø3,6 innen	Mounting circuit board	4
Strip grid	1	40x25x2,54	Circuit Board	5
Battery holder 2xAA	1		Power source	6
Resistance 47 Ohm	1		Resistance	7
Jumbo LED red	1	ø 10	Indicator light	8
Transistor	3		Transistor	9
Pan head screw	3		Mounting circuit board	10
Resistance 33 kOhm			Resistance	11

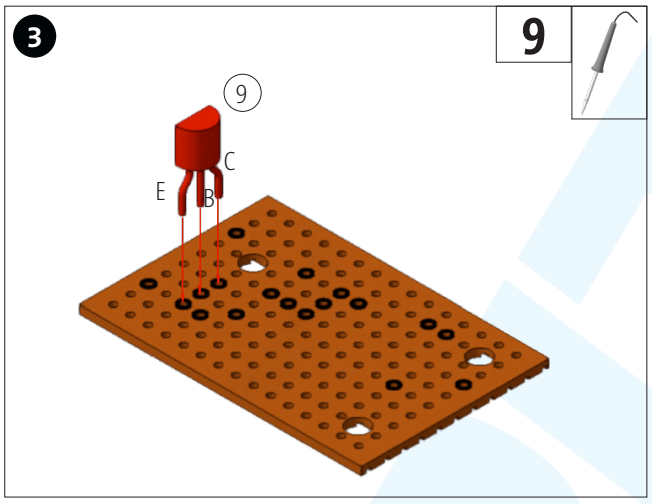
OPITEC



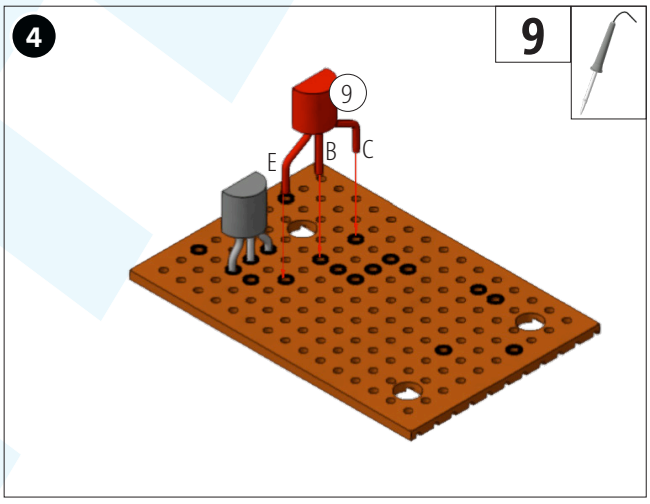
Cut the wooden strip (1) to 200mm as shown. Clean saw cut



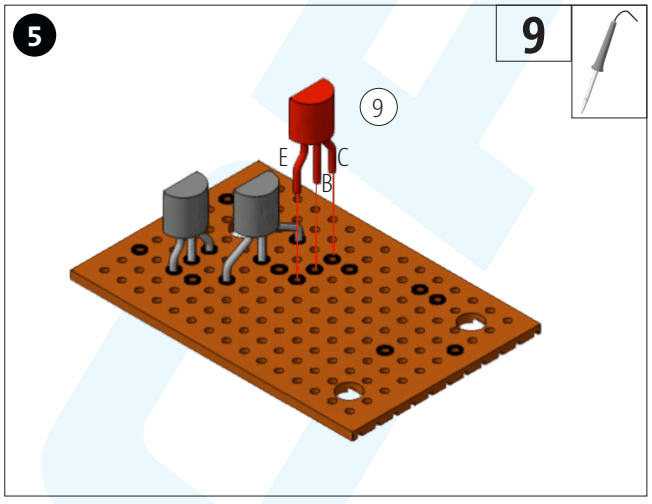
Use a waterproof pen to mark the connections for the individual components on the strip grid (5) as shown in the illustration. Drill the holes for the screw holes.



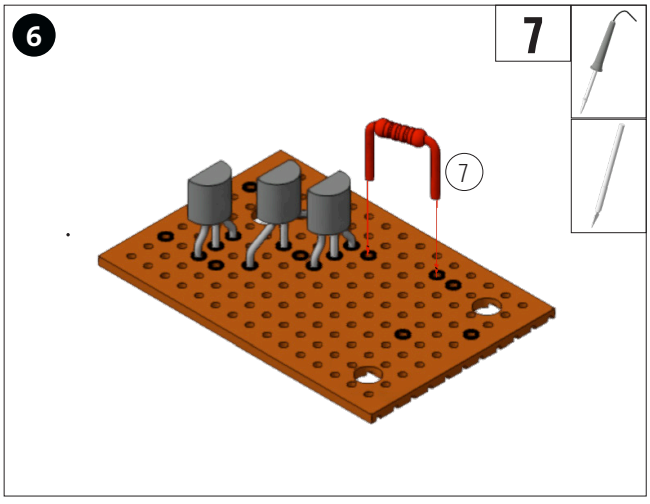
Solder the 1st transisor (9) at the marked point (M6/M7/M8) as shown.



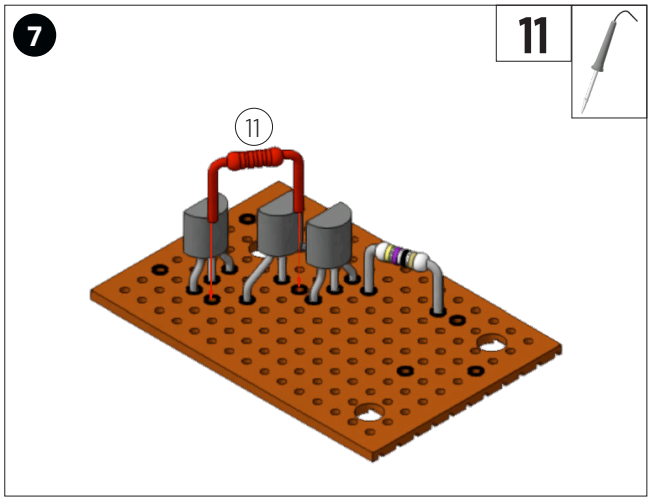
Solder in the second transistor (9) at the marked point (K3/K5/K7) as shown.



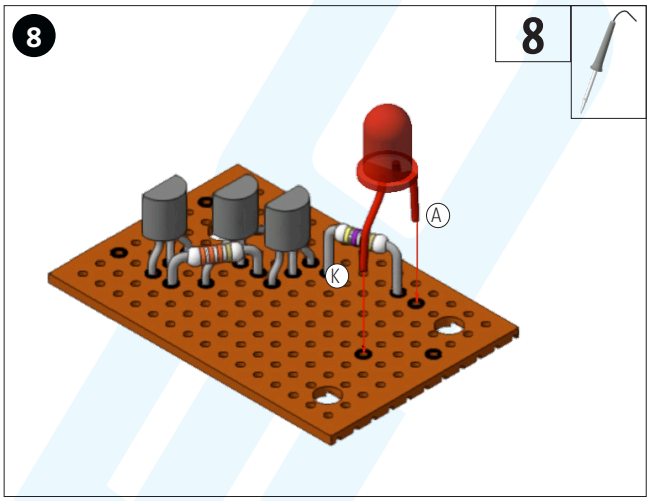
Solder the 3rd transistor (9) at the marked point (I3/I4/I5) as shown.



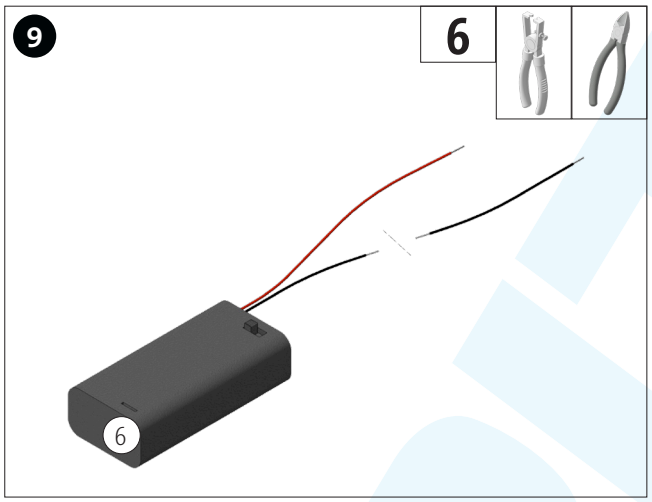
The resistor (7) at the marked position (E2/H3).



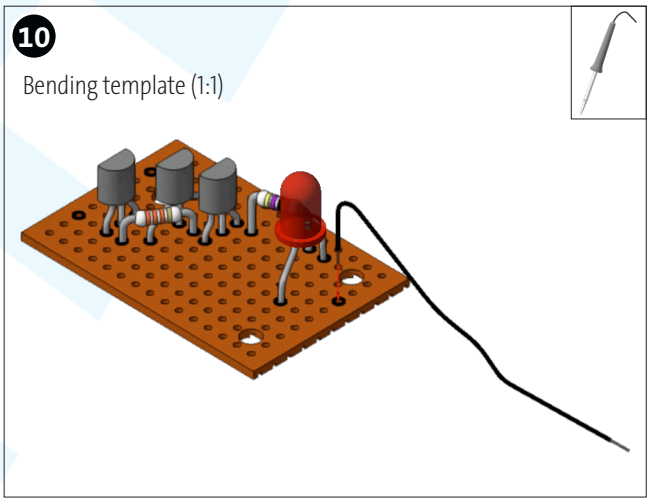
The resistor (11) at the marked position (J5/L8).



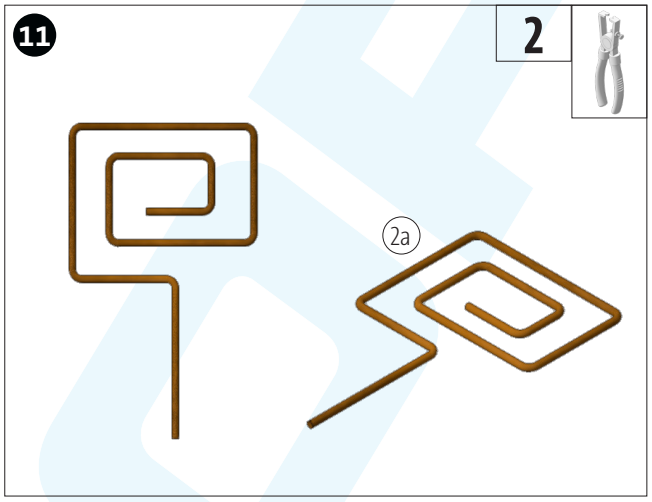
Solder in the jumbo LED (8) at the marked position as shown.
PLEASE NOTICE: Note the direction of flow of the LED! Cathode (K/C6) = short leg, anode (A/D2) = long leg.



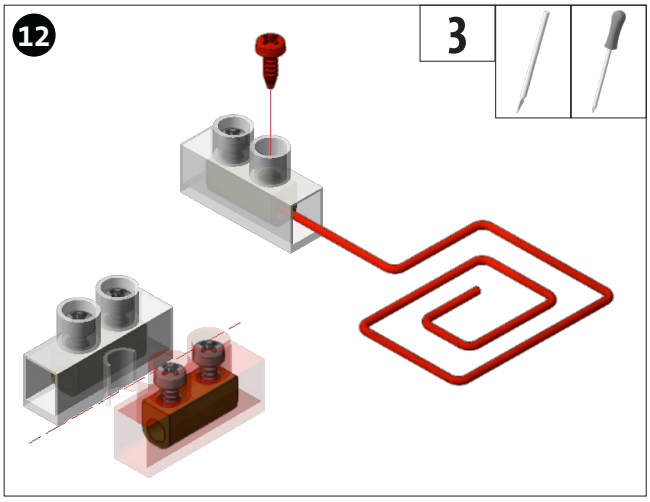
Split the black cable of the battery holder (6) into 2 parts. Strip all cable ends approx. 5-10 mm



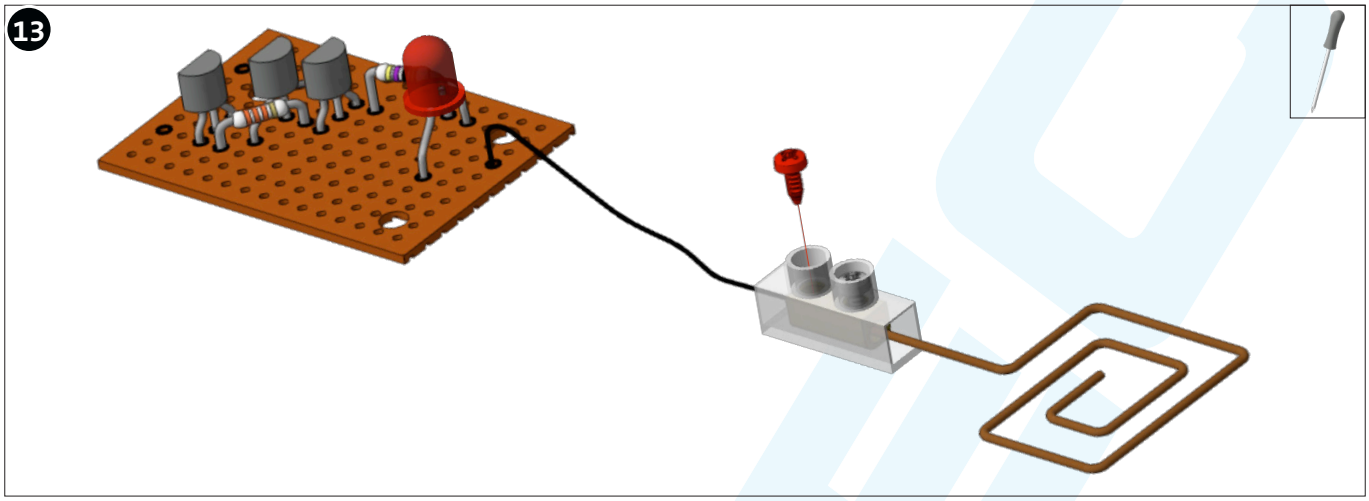
Solder the black cable piece of the battery holder at the marked point (A4).



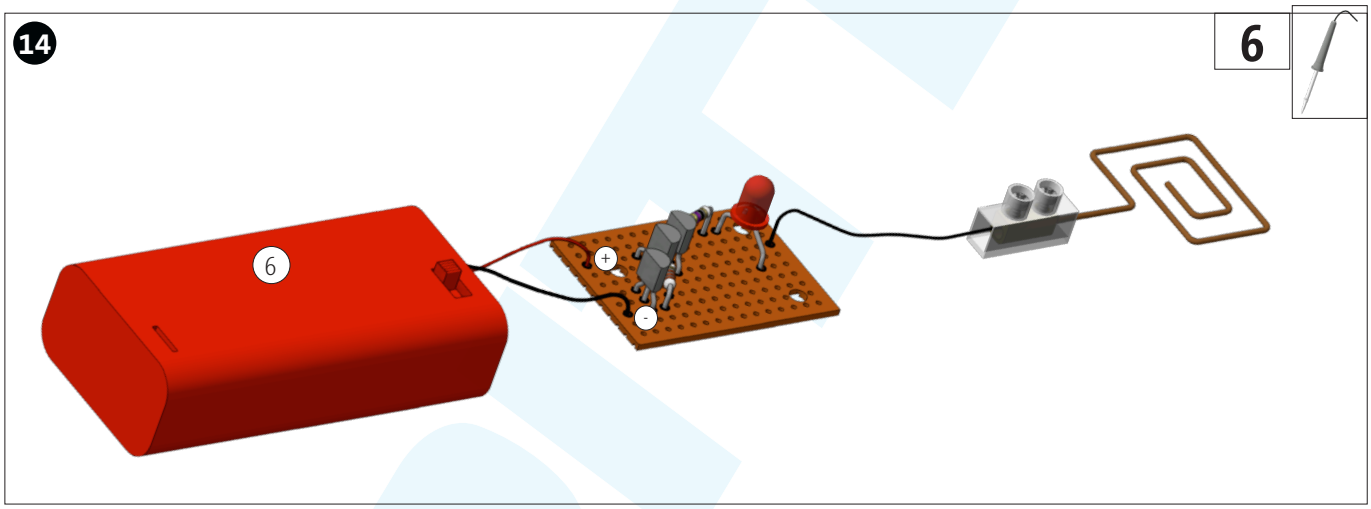
Bend the welding wire (2) according to the bending template.



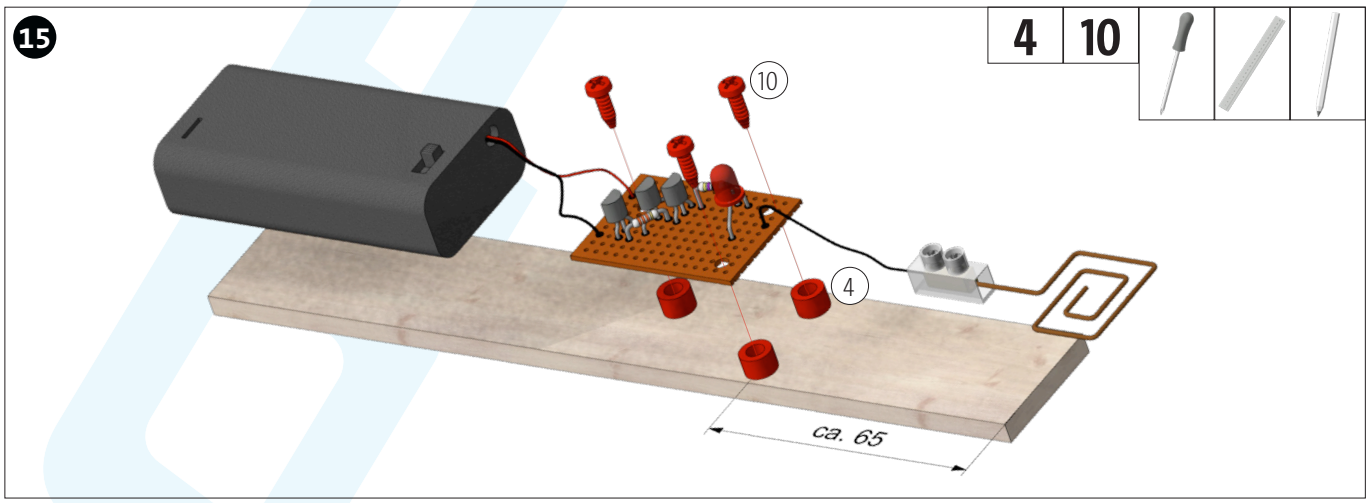
Fasten the bent welding wire (2a) in the luster terminal (3) as shown.



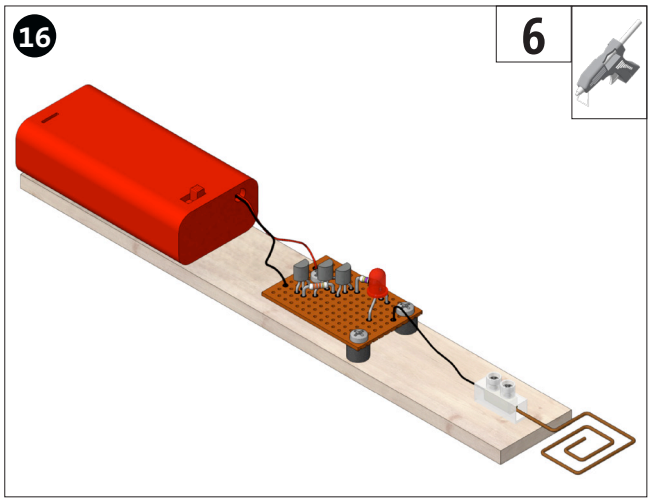
Then fasten the connection cable of the circuit board in the luster terminal strip.



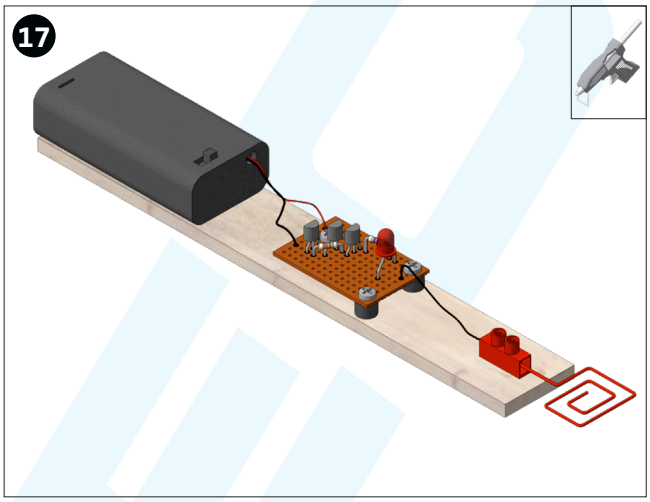
Solder in the connecting cables of the battery holder (6) at the marked position (O3/O9) as shown. Switch on the switch on the battery holder and check the function.



Measure and mark the position of the circuit board on the wooden strip (1). Then fasten the circuit board with the screws (10) and the spacer rollers (4).



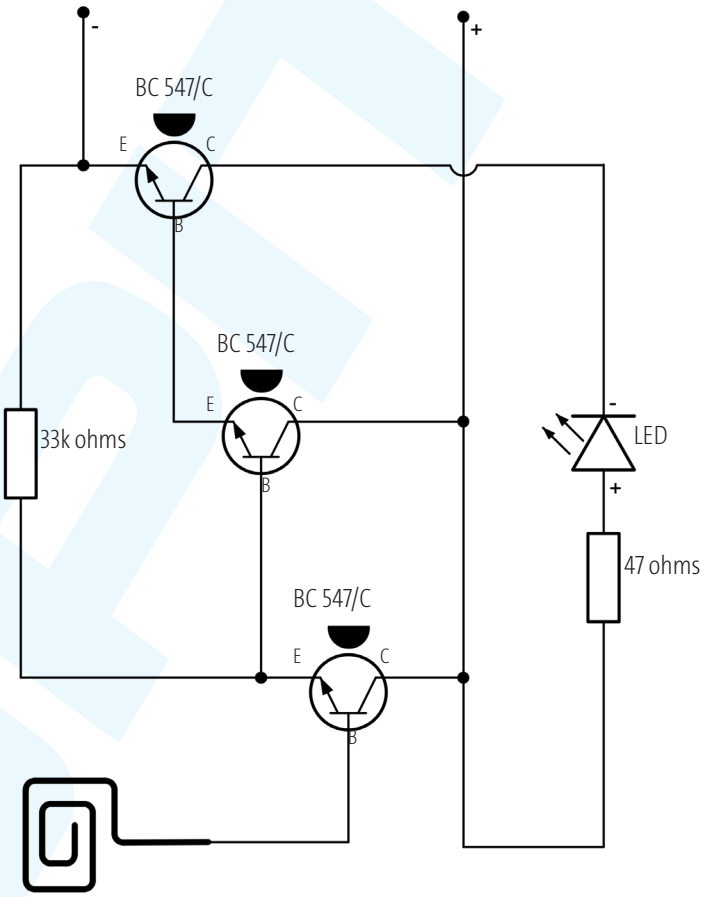
Glue the battery holder (6) flush to the outer edge with hot glue.



Glue the luster terminal block with the test wire with hot glue as shown.

FINISHED!

Circuit diagram



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