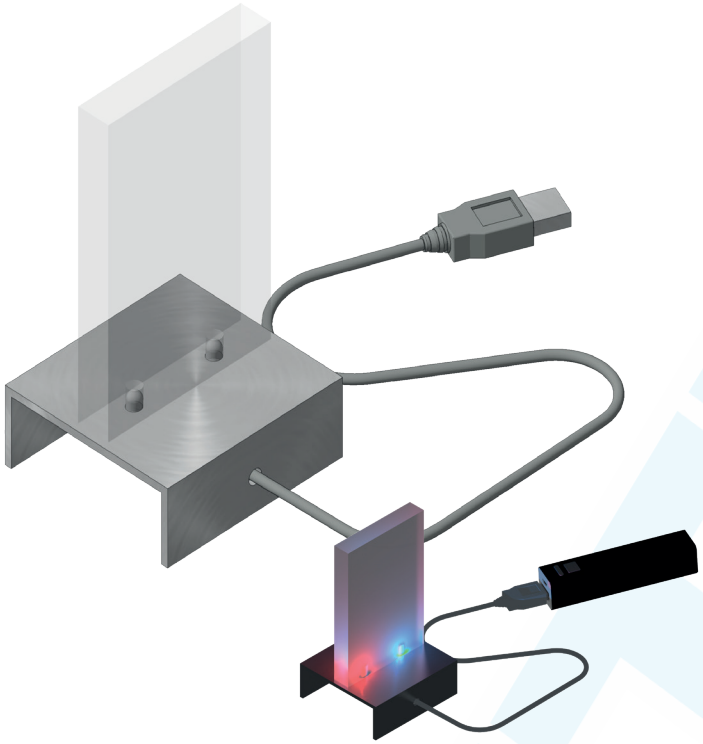
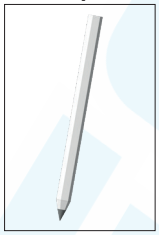
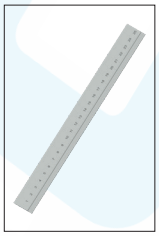
116460

Rainbow Light with USB Port

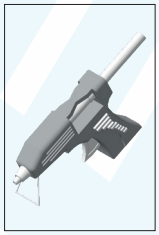


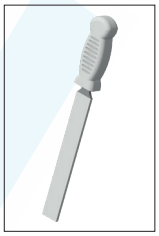
Tools required:

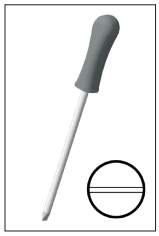

Pencil

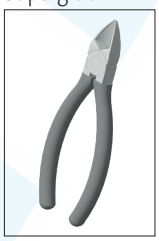

Ruler

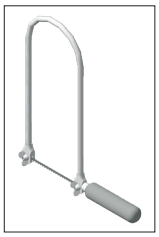
Drill

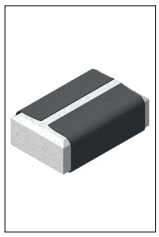

Superglue

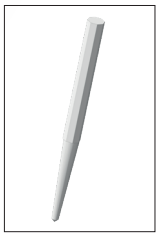

File

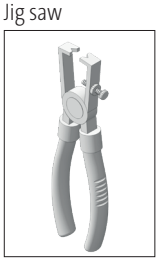

Screwdriver


Side cutter


Jig saw


Sandpaper


Punch


Wire stripper

Superglue

NOTE:

The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technology.These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation! Not suitable for children under 36 months. Choking hazard!

Part List	Quantity	Dimensions (mm)	Description	Part no.
aluminium U-profile	1	70 × 60 × 25 × 2.5	Base support	1
Acrylic glass	1	100x65x12	Light amplifier	2
RGB LED	2	ø5	Light bulbs	3
Luster terminal	1	3-pin	Wiring	4
USB cable	1	approx. 750	Connection cable	5
Resistor 100 Ohm	1		Resistor	6

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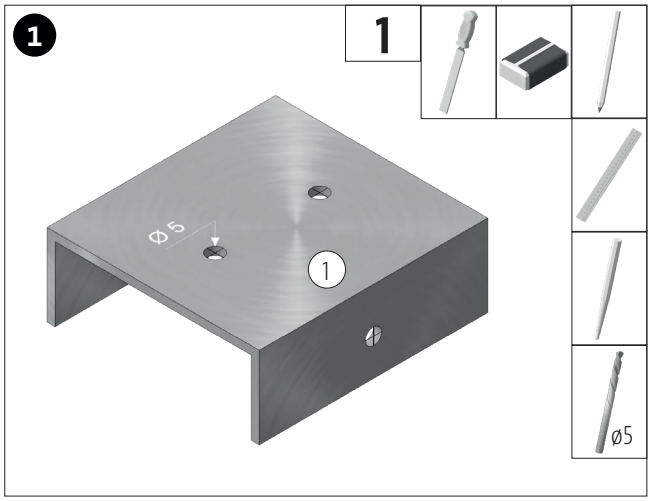
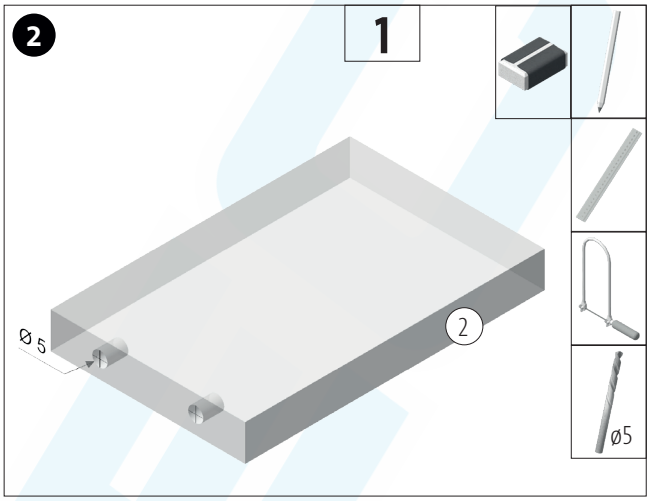
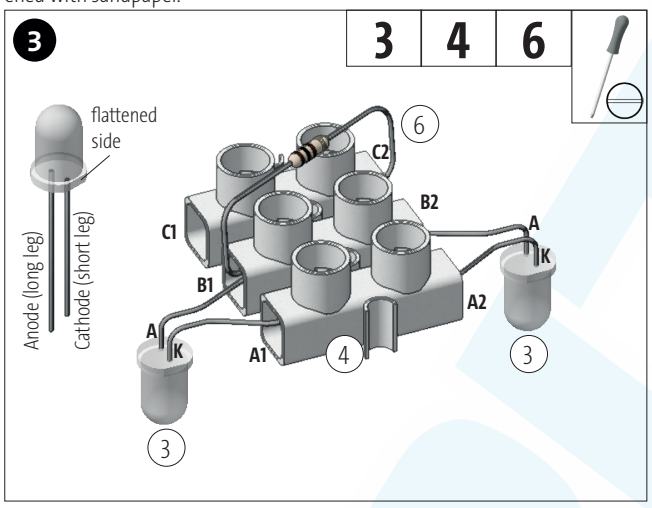


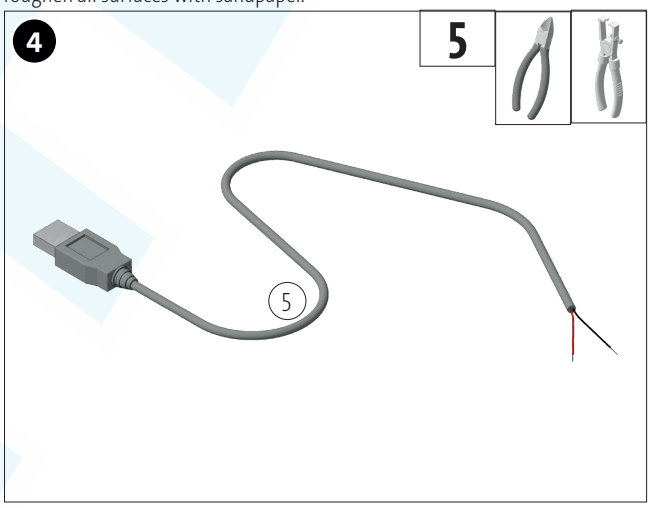
Carefully deburr the aluminium profile (1) using a workshop file. Mark the holes using the template (A), centre them with a centre punch and drill through to a diameter of 5 mm. **Note:** The surface can be polished or roughened with sandpaper.



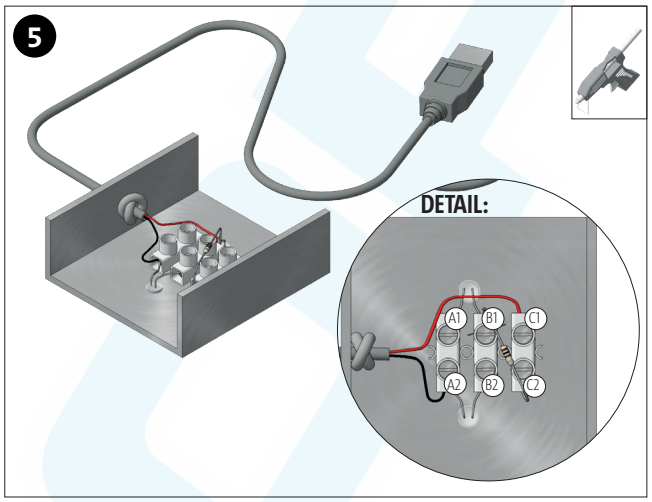
On the acrylic blank (2), mark the two drill holes for the LEDs on the underside using template (B), and drill holes with a diameter of 5 mm to a depth of approx. 6–8 mm. Choose template C or D as required and cut it out. Then roughen all surfaces with sandpaper.



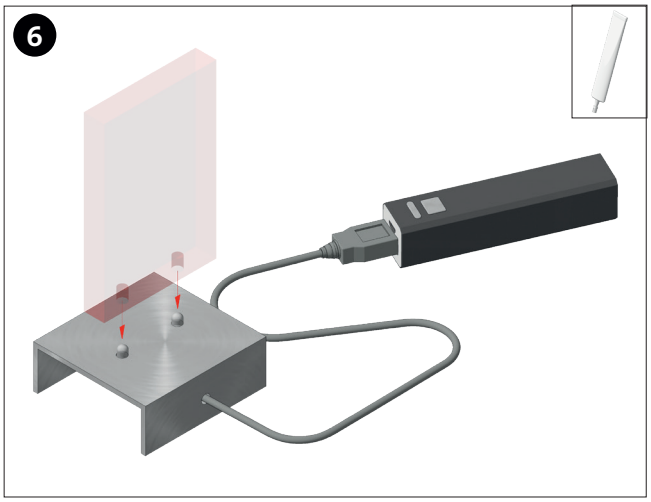
Connect both RGB LEDs (3) as shown, with the same polarity and facing each other, to the terminals (A1+B1 & A2+B2) of the terminal block (4). Connect one leg of the resistor (6) to terminal B1 and the other leg to terminal (C2).



Strip back approx. 25 mm of insulation from the end of the USB cable (5). Only the live wires (red and black) are required. The two data cables of different colours can be stripped back to the insulation.



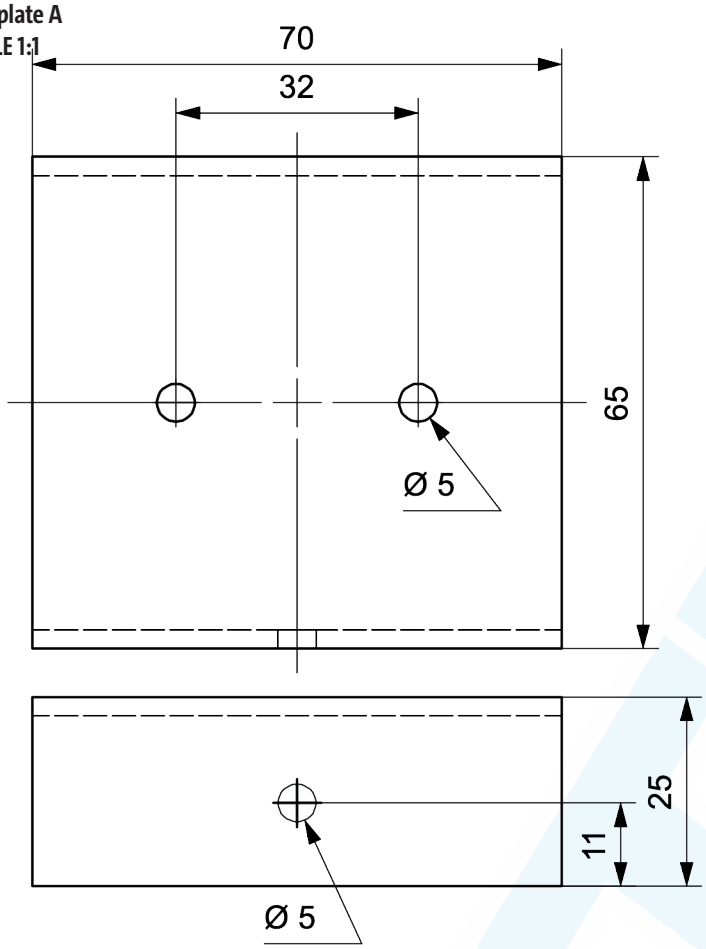
Thread the USB cable (5) through the hole in the side and tie a knot to act as a strain relief. Insert the LEDs into the 5mm holes and, if necessary, secure the terminal block with hot glue. Connect the red cable to terminal C1 and the black cable to terminal A2.



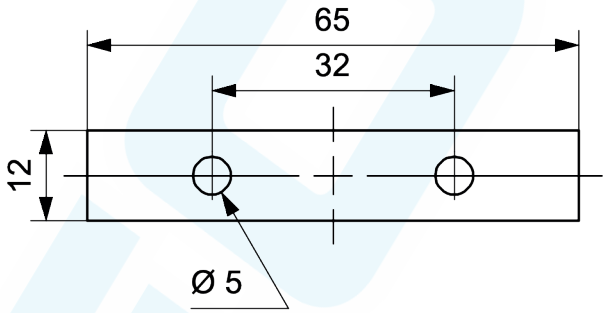
To check that it is working, connect the cable to a power bank, for example. Next, fit the acrylic cut-out over the LEDs and stick it to the aluminium U-profile using superglue. Done!

Assembly instructions 116.460
Rainbow Light with USB Port

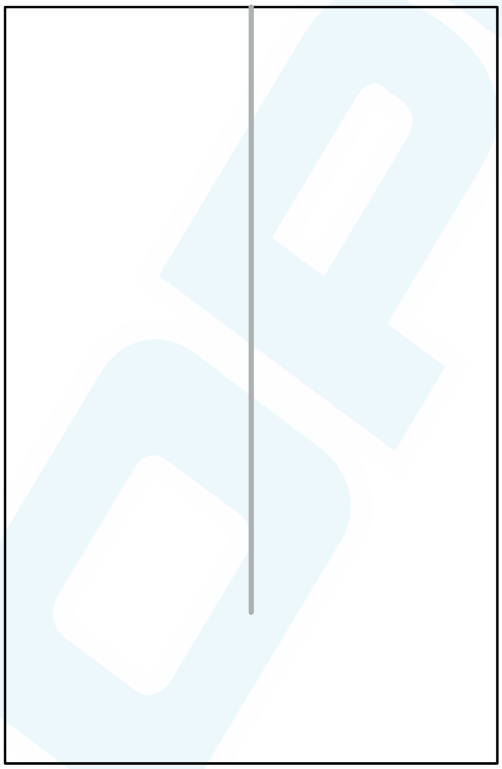
Template A
SCALE 1:1



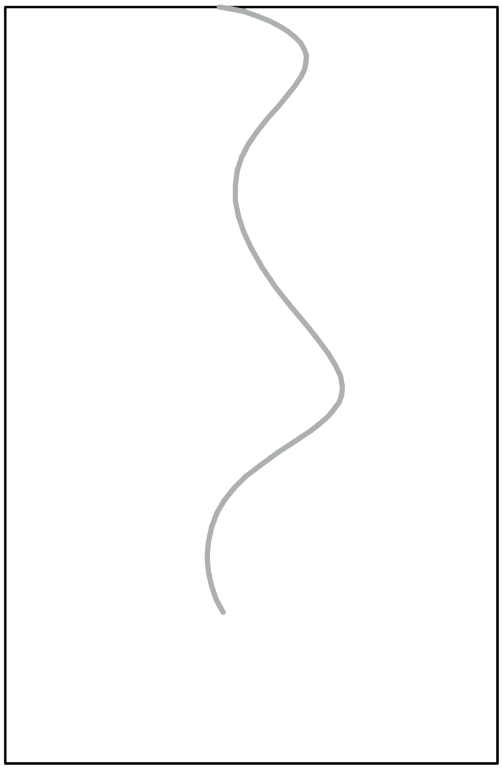
Template B
SCALE 1:1



Template C
SCALE 1:1



Template D
SCALE 1:1



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