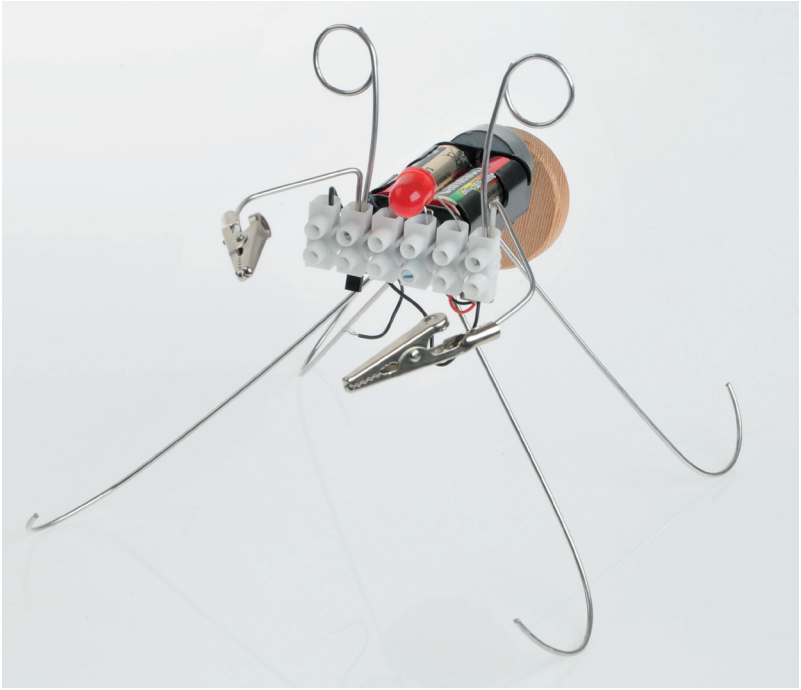
OPITEC

Hobbyfix

110.707

Component tester " Crazy Vibes"



Please Note

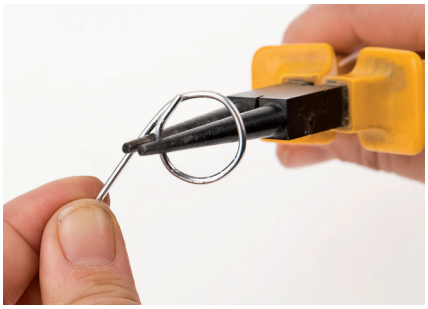
The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technolo- gy.These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable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

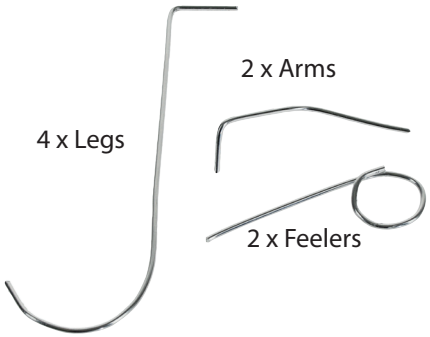
Necessary tools

Round nose pliers
Side cutters
Slotted screwdriver
Hammer
Drilling machine
Drill ø 2mm
Ruler, Pencil
Workshop file
Hot glue gun

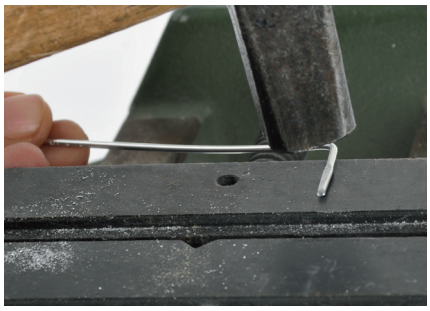
PARTS LIST				
	Quantity	**Size in mm**	**Description**	**Part no.**
Aluminium wire	2	ø1,6x500	Legs, Feelers, arm	1
Crocodile clip with screw	2	50	Holder	2
Battery 2x AA	1		Power source	3
Solarmotor RF 300	1		Drive	4
Wooden wheel	1	ø 40	Drive	5
Connection block 12 pole	1	2,5	Switch	6
Jumbo-LED red	1	ø 10	Lighting	7
Transistor BC 548 C	1		Circuit	8
Resistor 6,8 kOhm (blue,grey,red)	1		Circuit	9
Resistor 68 Ohm (blue ,grey,black)	1		Circuit	10
Wire	1	500	Circuit	11

INSTRUCTIONS



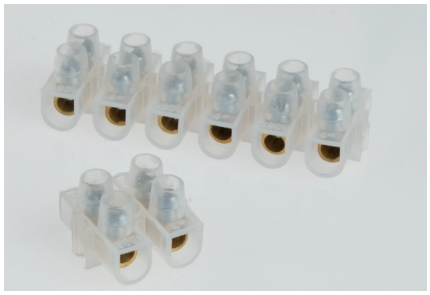


1. Cut the aluminium wire (1) according to the plan (Page 4). Bend all the parts (Page 5)with round nose pliers.
Note: for the round bends you can use other round objects for the bending former , provided that they are the correct diameter.

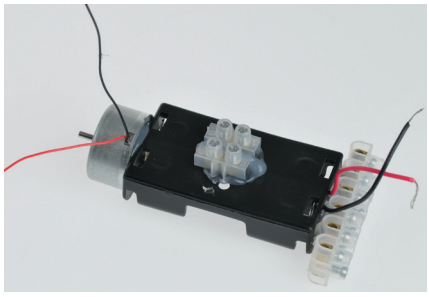


2. Make the 90 degree bend at the end of the leg with a hammer and a hard surface.

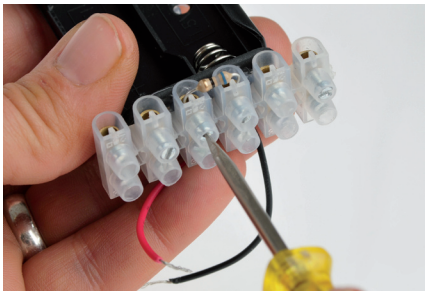
3. Open the connection end of the crocodile with a screwdiver and fix it to the arm. Carry out the same procedure with the second arm



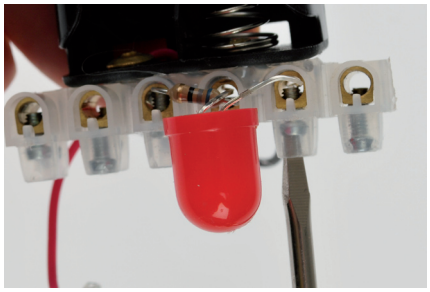
4. Cut off two blocks from the end of the connection block



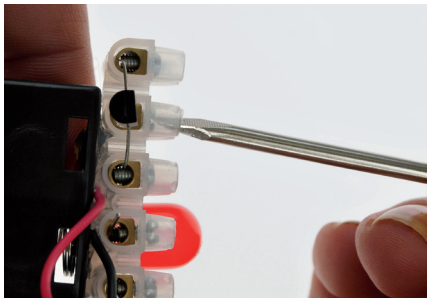
5. Glue to battery case (3) the connection block (6 blocks) On the bottom of the battery case (3) the connection block (2 blocks) and the motor (4)
to the opposite side of the cable (12) using a hot glue gun



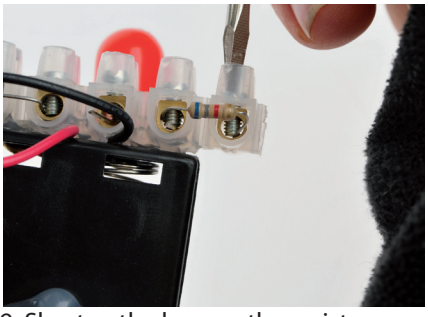
6. Shorten the legs on the 68 Ohm resistor (10)Die Beine des Widerstandes 68 Ohm (10) and screw it between connetions 3b+4b (See diagram on page 4)



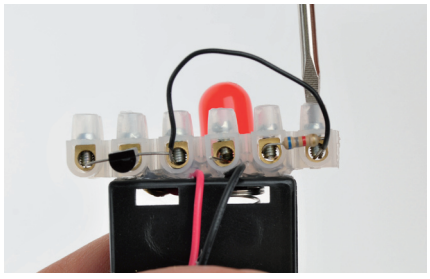
7. Connect the Anode of Jumbo-LED (7) to connection 2b and the cathode (= short leg) to connection 3b.



8. Turn the work over and connect the transistor (8) in the following way Connections 4a=C+5a=B+6a=E as shown in the diagram.

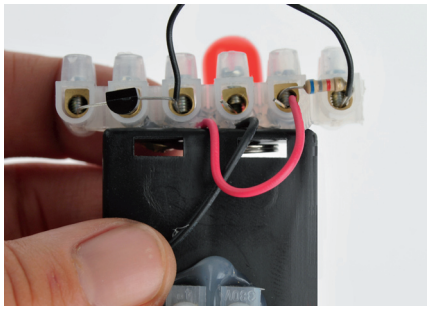


9. Shorten the legs on the resistor 6,8 kOhm (9) and connect them to 1a+2a

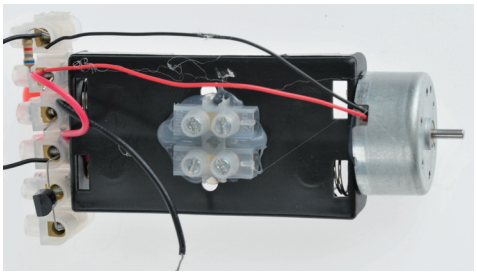


10. Cut a 30cm length from the cable (11) and remove insulation from the ends. Connect the cable between 1a and 4a

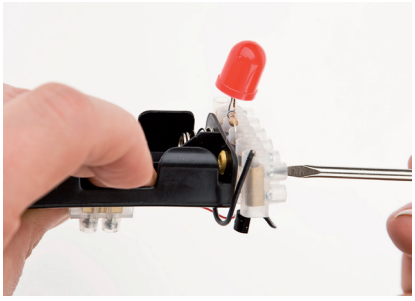
INSTRUCTIONS



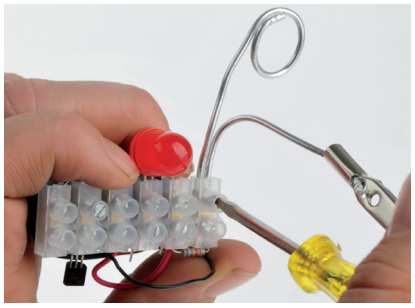
11. Shorten the cables from the battery holder to 50mm and remove the insulation from the ends. Connect the red cable from the battery holder (3) to the (3) to the connection (2a)



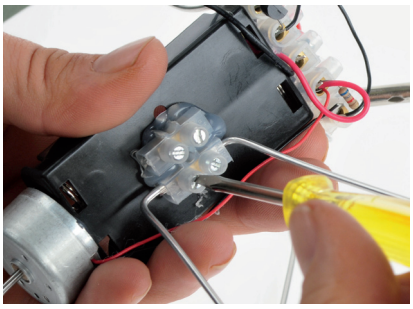
12. Shorten the cables from the motor to 80mm and remove the insulation from the ends. Connect the red cable from the motor (4) to connection 2a, the black lead from the motor is connected to 1a.



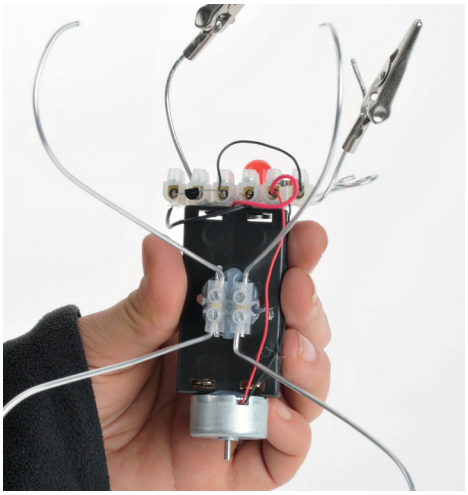
13. The black cable fom the battery holder (3) is connected to 6b (see wiring diagram on page 4)

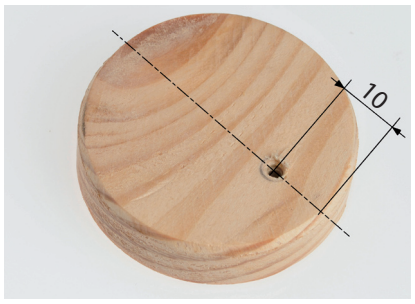


14. File the ends of the feeler (1c) and the grip arm (1b). Connect both to 1b. Connect the second feeler to 5b.



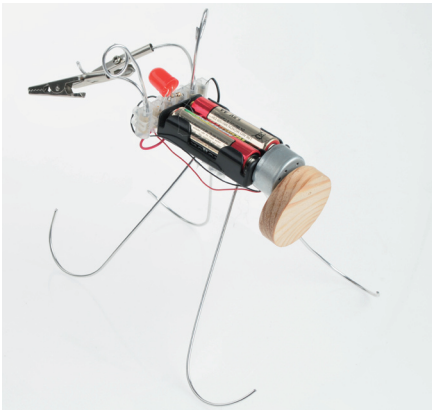
15. Connect the legs to the 2 block connector as shown





16. Take the wooden wheel (5) and mark out of a hole, 10 mm from the edge. Drill a 2mm hole

17. Place the wooden wheel on the shaft of the motor (4)

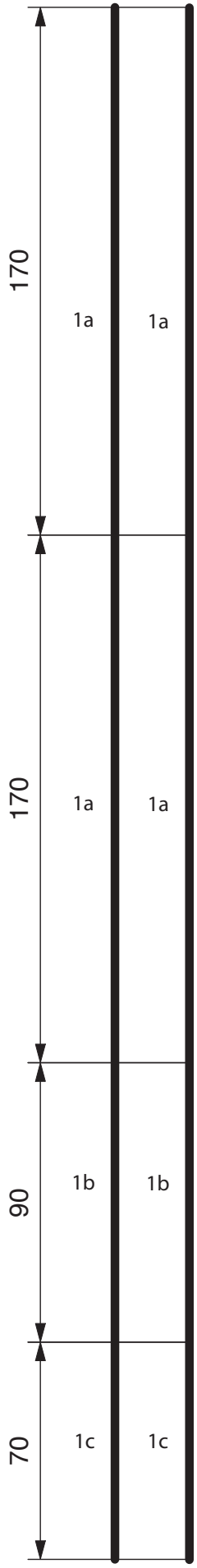


18. Insert 2 batteries in the holder- Ready

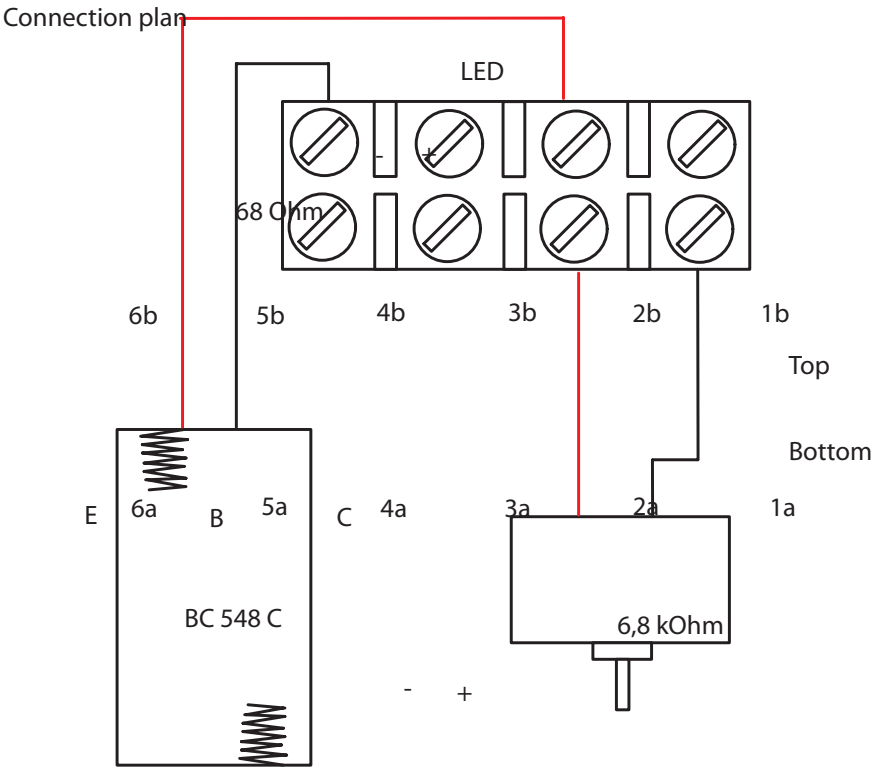
Testing

When a conductor is place bewteen the crocodile clips the motor will turn and the "Crazy vibes" will jump about and the LED light

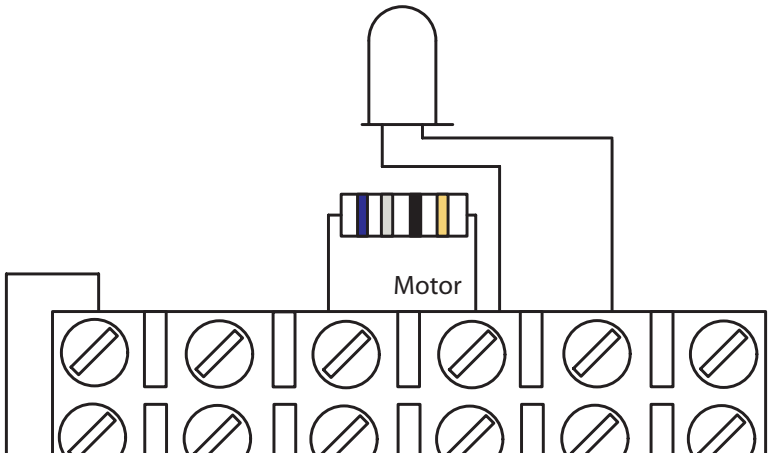
Cutting plan, Aluminium wire
M1:2



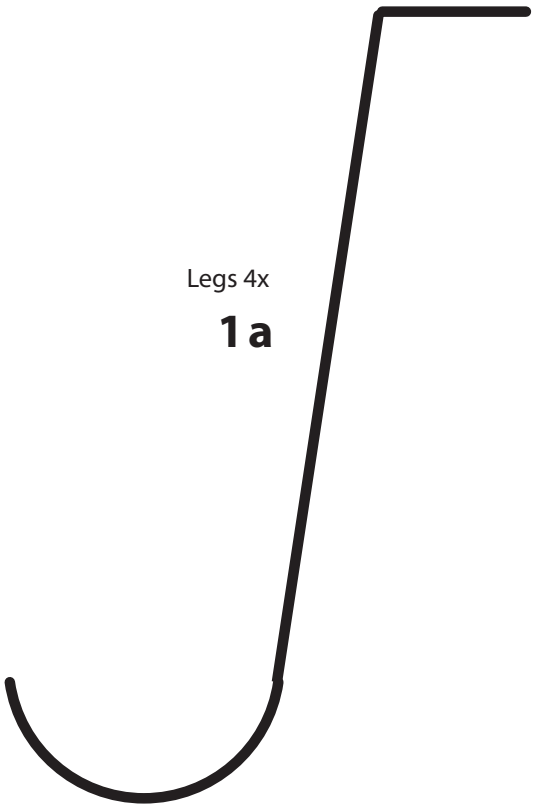
Connection plan



Battery holder



Bending plan Legs/Arms/Feelers
M1:1



Legs 4x

1 a

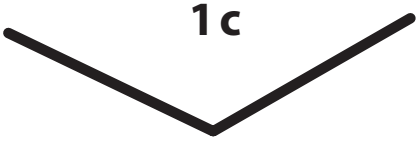
Feelers 2x

Step 1 -side view

90 ° turn

Grip arm 2x

1 c



Step 2 - Top view