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Solar Table Fan

Necessary Tools

Fret saw
Wet & dry paper
Glasspaper (medium)
Permanent marker
Drills 3mm & 6.5mm dia
2 part epoxy glue or glue gun
Tin snips or side cutters
Soldering Iron 30Watt
Multicore Solder
Screwdriver



Contents:

1 x Plexiglass sheet	3 x 80 x 115 mm
	or 3 x 80 x 110 mm
1 x plywood base	10 x 70 x 80 mm
1 x Solarmotor	
1 x Propellor set	
1 x Solar cell	400 mA
2 x Wood screws	3 x 16 mm
1 x Insulated wire	30 cm
2 x Drawing pins	

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 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!

Planning and Making

The first stage is to mark and drill out the holes for the motor and base mounting screws. (If you do not drill the holes before sawing the shape, the plastic may crack) For the motor fixing, drill a 6,5 mm hole and for the base screws 2 x 3 mm dia holes.

Saw out the shape of the design with a fret saw (use a fine metal or plastic blade) and polish the edges with wet and dry paper. Then colour the edge with a black permanent marker.

The motor is best fixed by using an epoxy glue or a glue gun.

The propellor can now be assembled and pushed on to the motor shaft.

Make a chamfer on the longer side (80mm) of the base, using a block and glasspaper. This will make the fan slope backwards.

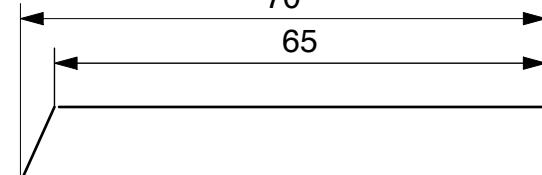
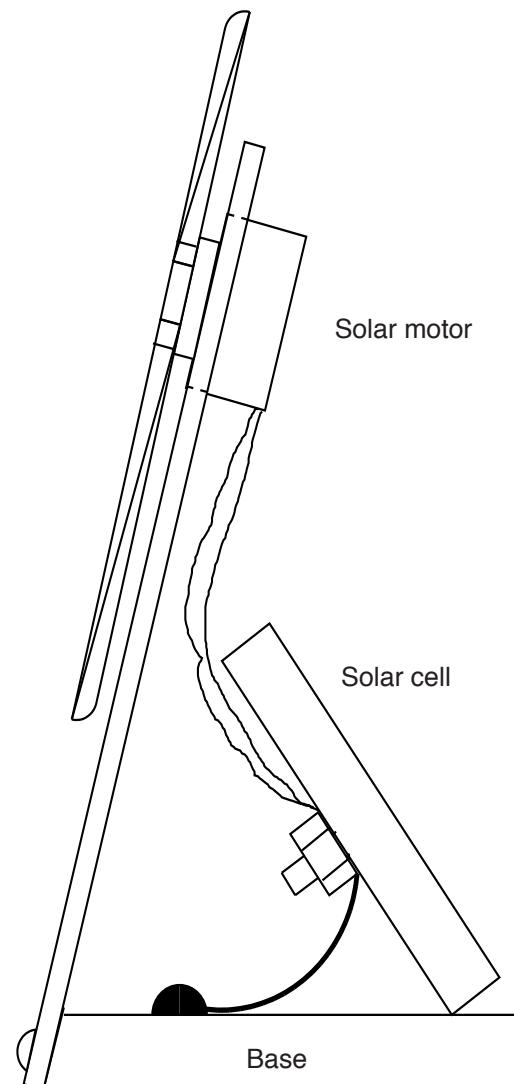
Mounting the Solar cell:

On the rear of the solar cell you will find a brass metal strip. Remove this strip and cut it in half, using tin snips. Mount both halves to the screw fixings on the rear of the cell and bend them to act as supports. (see drawing)

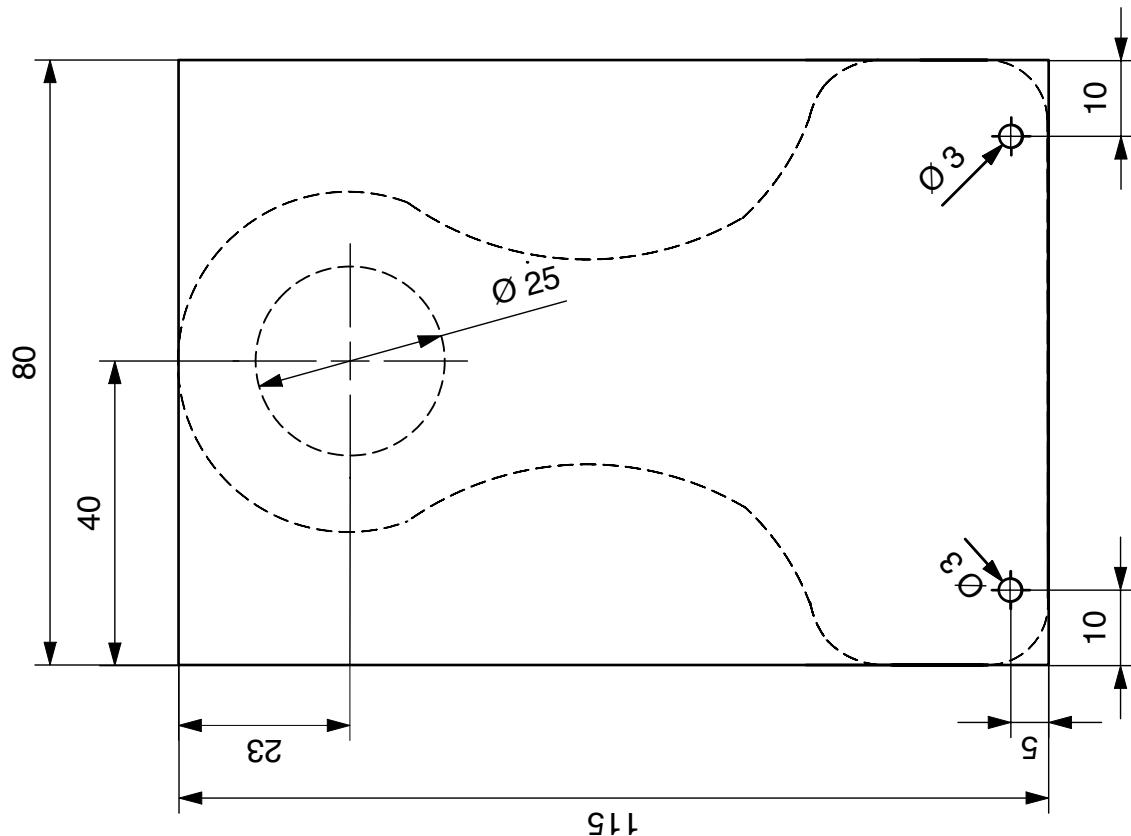
Die abgebogenen Enden löten wir auf zwei Reißnägel. Die Anschlußdrähte vom Motor zwischen Muttern und Metallstreifen klemmen. Beim Anschließen der Drähte auf die Drehrichtung des Motors achten! Durch die Drehrichtung wird der Luftstrom des Lüfters bestimmt.

The ends of these strips can then be soldered to the heads of the two drawing pins which must be pushed into the base. Solder two leads from the motor to the strips. Before making the final connection, check on the rotation of the fan, as this will effect which way the air blows. If the direction is wrong simply swap the leads over on the cell.

Place the completed fan near a light source and adjust, by bending the brass cell supports, to achieve the optimal angle.



Pattern Plexiglass sheet
115x80mm



Pattern Plexiglass sheet
110x80mm

