104.180

Wind Chimes

Contents:

3 x Aluminium tube 25/23mm	approx. 600mm
3 x Aluminium tube 25/23	approx. 500 mm
1 x Pine board	150 x 150 x 15 mm
1 x Gabun plywood	110 x 110 x 5 mm
1 x dowel	ø 8 x 50 mm
1 x Wooden ball	ø 60 mm
1 x Thread	appr. 5000 mm

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!

The wind chimes which consist of 6 approx. 60 0mm long aluminium tubes are sturdy enough to to be hung outside. Whether in a garden or on a balcony, the chimes will produce a soft relaxing tone.

P L A N N I N G A N D M A K I N G

1. The Aluminium tubes.
3 lengths 600 mm long and 3 lengths 500 mm long (length is approximate)

1.1 Drilling the tubes.
The plan shows where to drill the hole 3mm diameter.To ensure that the drill does not slip use a centre punch to mark the spot. (Diagram 1)

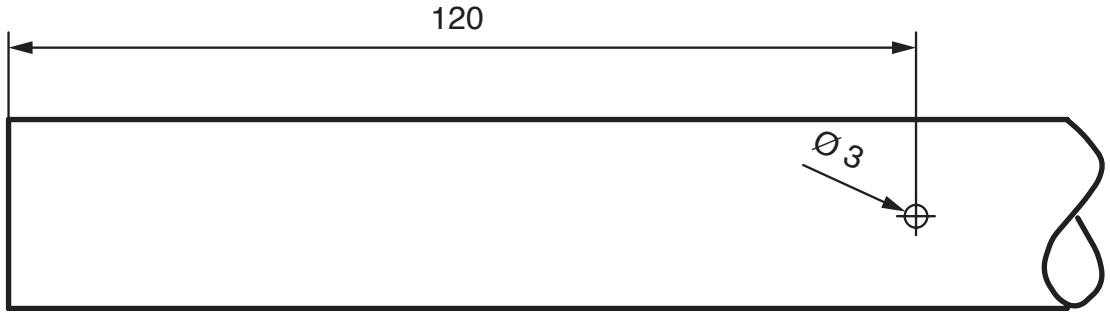
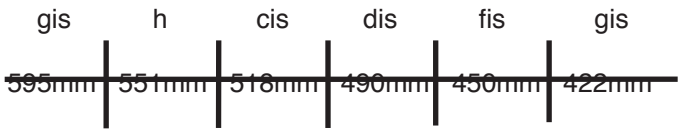


diagram 1

Make sure the tube is held in a vice before drilling, use safe jaws to stop the tube from being scratched.
Using a pillar drill, bore a 2 mm hole, making sure, that the hole passes completely through the tube. Clean up the holes, using a needle file. The holes should then be sligthtly countersunk on either side of the tube, so that the thread will not wear through.(See diagram 2)

diagram 2

1.2 Shortening the tubes.
So that the tubes make a harmonic sound, they need to be tuned.
Using a pentatonic scale we can tune our chimes as follows:-



Cut the tubes to length as shown above, using a sawing guide to ensure that the ends are square. Use a Metal hacksaw with a fine blade.
Smooth the sawn ends using a file. Remove any oxidisation with 00 steel wool used in conjunction with soap and water.

2. The pine base 150 x 150 15mm

Trace the plan (Scale 1:1) on to the wood.(see diagram 4) Saw out the shape and then drill the 3mm diameter holes. Chamfer the edges at approx 45 degrees.(see diagram 5) The holes marked A B and C are for hanging the completed chimes.
4. Assembling the chimes

Side view of the base

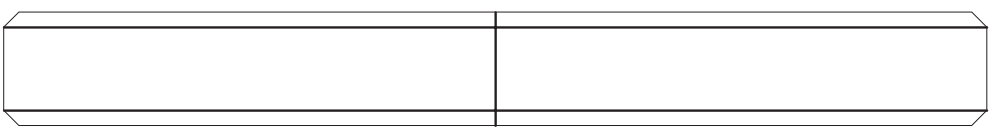
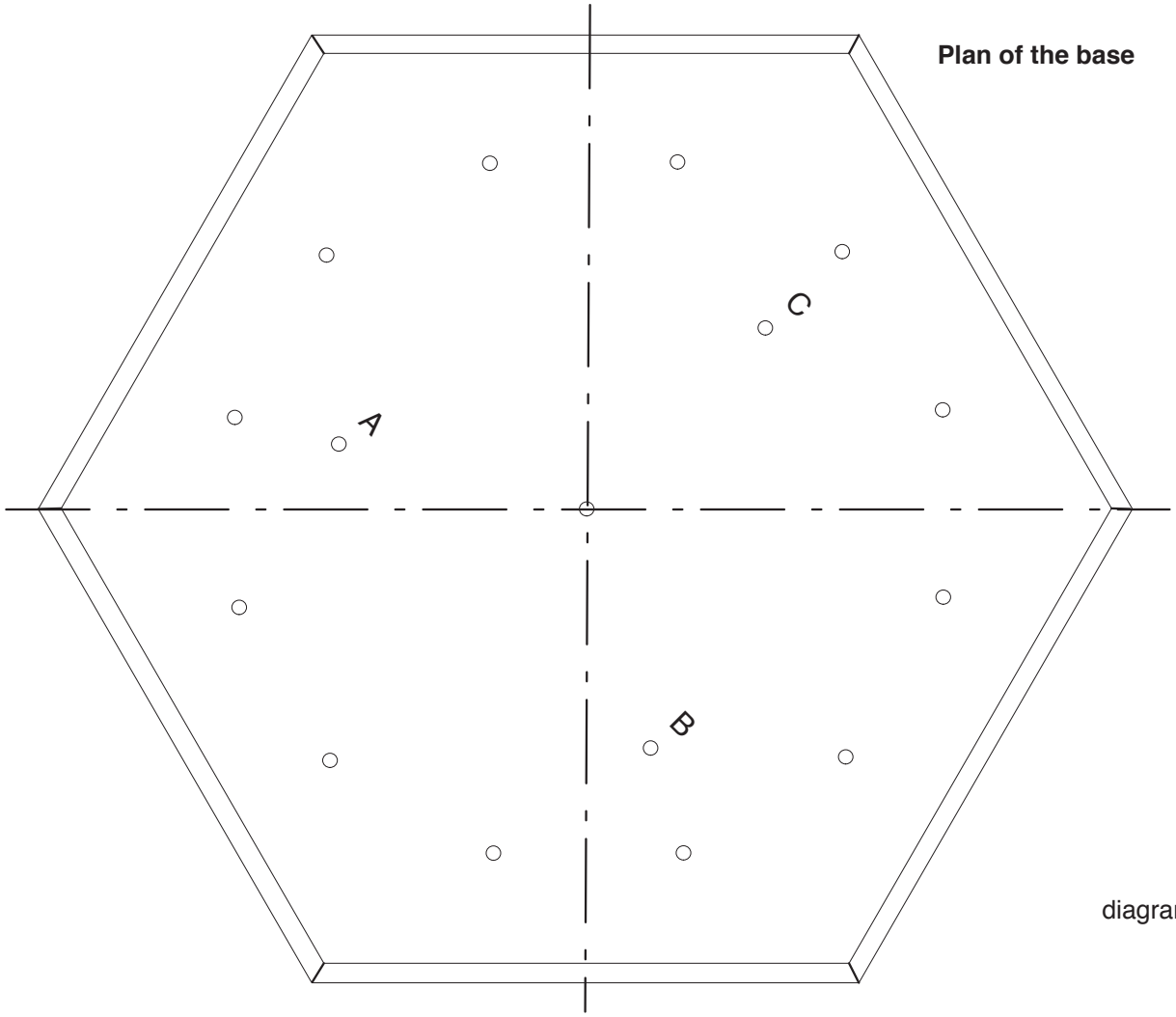


diagram 5



Plan of the base

diagram 4

3. The Wind vanes Gabun plywood 110 x 110 x 5mm

The pattern below shows a suggested layout for the vanes so as to ensure little waste of material. All the holes shown are 2 mm dia (see diagram 6).

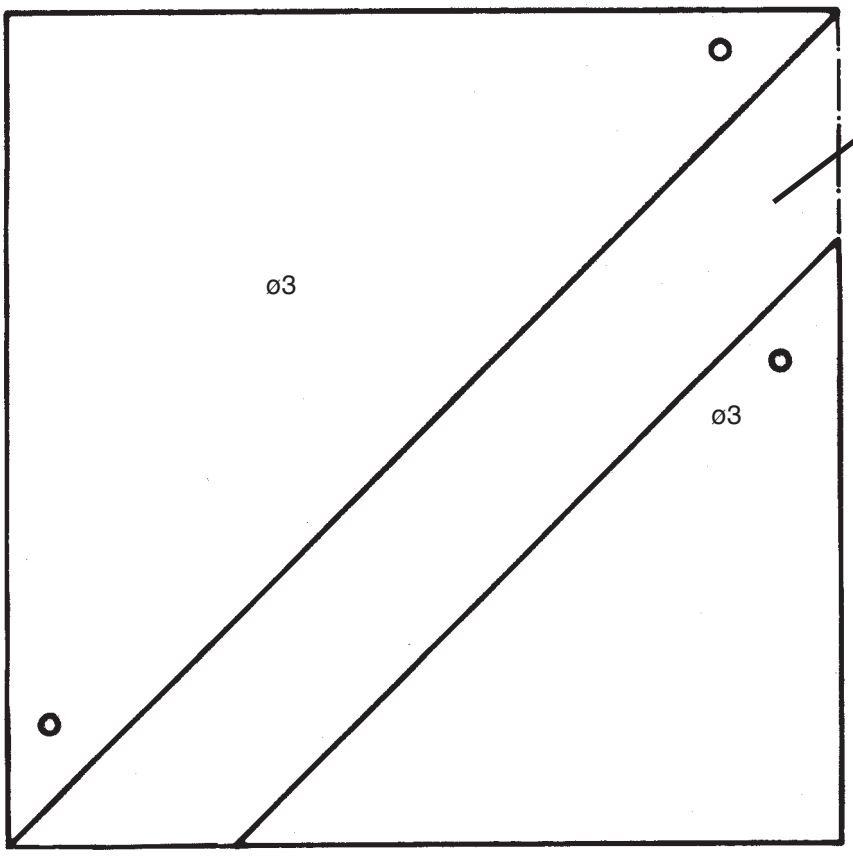


diagram 6

4.1 The wind chime base

Cut 6 lengths of thread, each 450 mm long and and use them to hang the tubes from the base (see diagram). Each tube should hang with approximately 20-30 mm clearance under the base.

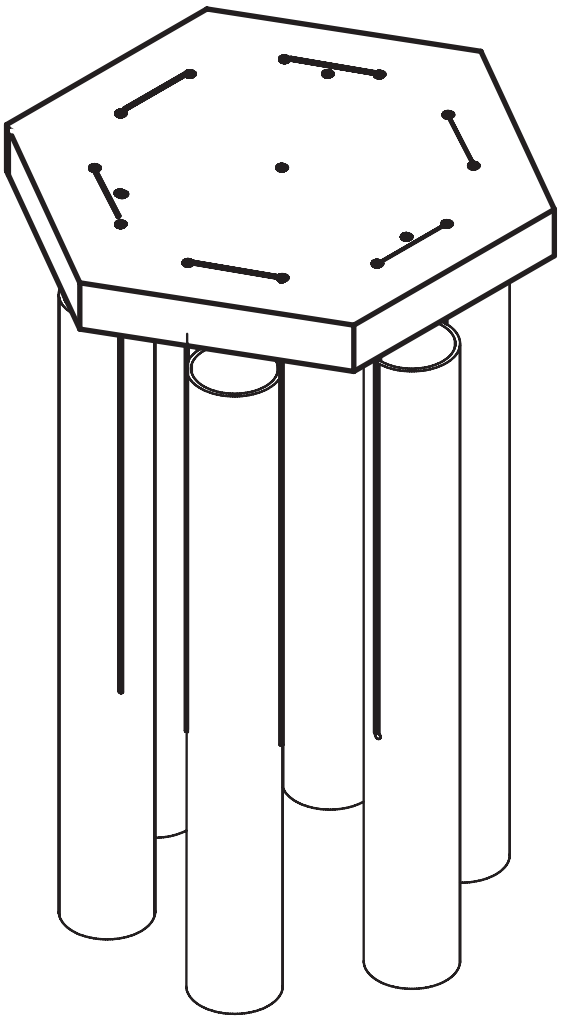


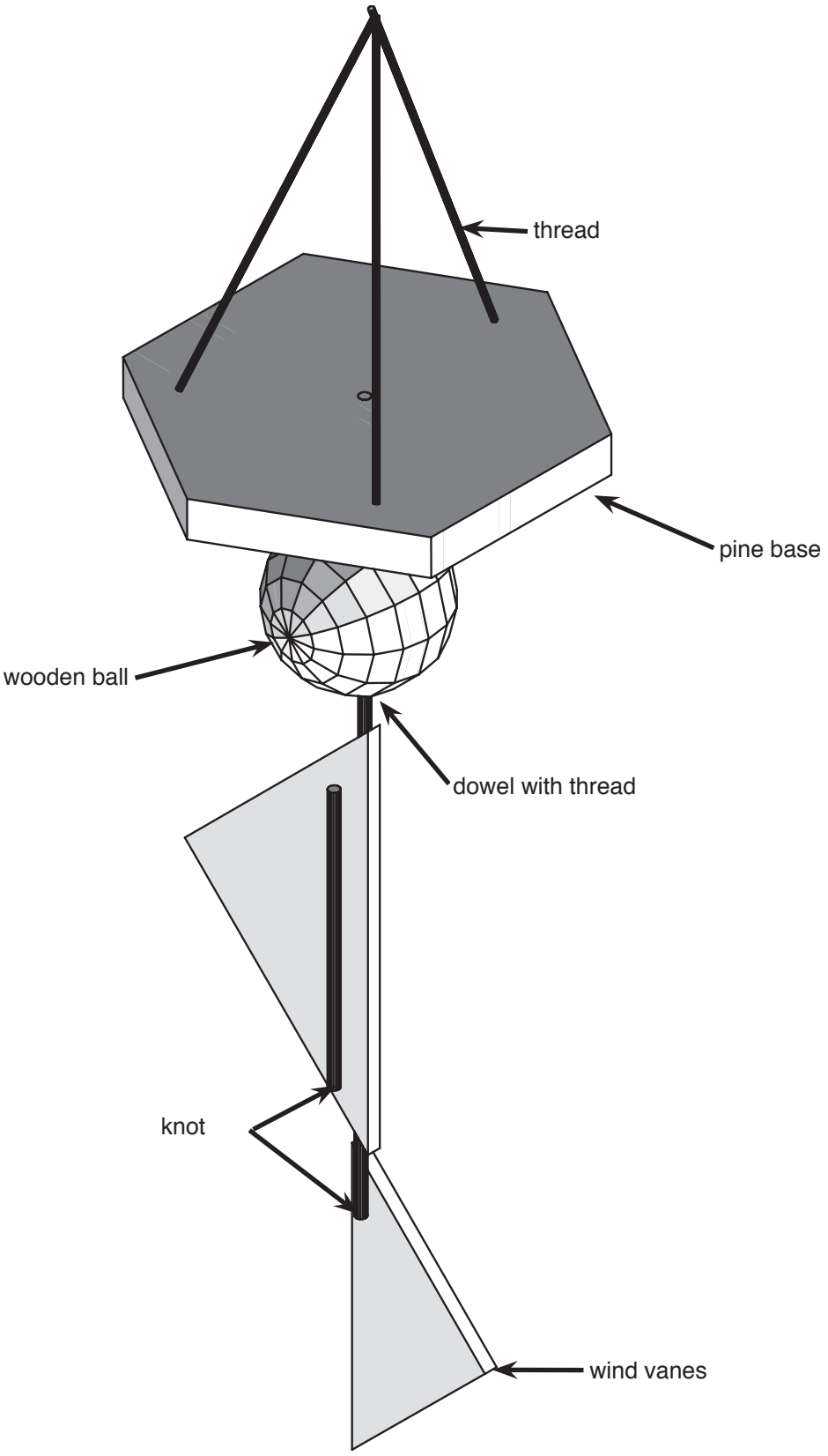
diagram 7

4.2 The dowel- base - ball - and wind vanes.

Take the base and insert a 450 mm long thread in each of the holes marked A B and C and tie the threads with a knot. (See diagram 8) Then fix a further length of thread from the centre of the base. On this thread add the wooden ball so that it hangs in the middle of the tubes. Insert and glue the dowel 8mm dia x 60mm into the underneath of the wooden ball to trap the thread which should then hang down further, so that the vane can be added. (see diagram 8). Finally thread the larger wind vane to the end of the thread 200 mm under the longest tube then add the smaller vane.

Finish wooden parts of the completed project with several coats of waterproof varnish for a long lasting weather resistance.

diagram 8



ATTENTION!

WE WOULD LIKE TO MAKE YOU AWARE THAT SOME OF THE ALUMINIUM TUBES MAY “OXIDISE”.

THIS LAYER OF OXIDISATION CAN BE REMOVED WITH FINE STEEL WOOL (ORDER N° 509.147) WATER AND NORMAL SOAP.

TO PREVENT A FURTHER RE-OCCURRENCE THE ALUMINIUM TUBES CAN BE COATED WITH CLEAR VARNISH OR FURNITURE WAX, WHICH CAN BE POLISHED.