



- (a) (4) frame - wood 15cm (or quarter stick).
- (b) (2) frame - wood 11cm
- (c) (2) neck - wood up to 59cm
- (d) (1) string - thread, fishing line, guitar string?
- (e) (1) bridge - cut to fit each 'soundbox'
- (f) frets - matchsticks
- (g) (1) soundbox - plastic cup shown
- (h) (3) drawing pin

Although this can be built as an instrument in its own right, it is really intended to be used as a test rig. A range of containers, both plastic and metal, can be placed, in turn, in the frame and the resulting effects compared.

Similarly the 'string' can be changed, and once an acceptable configuration has been discovered, this information can be used to determine the design of a more robust instrument.

A BOW - You can improvise a bow (like a violin bow) from two pieces of thin cane tied together. You could use kebab skewers or cane from a bamboo window blind. If you rub this on the string you won't find much happens. There is no rosin on your bow. Now here's a trick. Look through the softwood you have in class and find a resinous split or knot. Break the wood open at this point and rub (vigorously) the cane against the dried resin. Your bow should now work.

- Take two of the 15cm lengths of wood and the two uprights (b) and glue together. Keep the two 15cm pieces flat on the table and arrange the uprights so they are . . .upright! Use a right-angled card to get the angle correct or, if you trust them, use your eyes to estimate. One upright should be at the end of the base pair, and the other about 3 to 4cm from the end.
- Once the glue has set enough, turn this assembly over and glue the other two 15 cm pieces to the other end of the uprights. (Make sure that the 3- 4cm overlap is at the same end).
- Fit the neck into the slot formed by the overlap. LEAVE UNTIL THE GLUE IS SET.
- Push a drawing pin into the end of the frame, as shown above, and two more under the end of the neck. Tie a small loop in the end of your string and loop it over the drawing pin. Pull the thread as tight as possible over the far end of the neck and wind it figure-of-eight style around the two pins.
- Push your plastic cup (or whatever you are using as a soundbox) into the frame and slip a piece of wood (the bridge) between the frame members until it rests on the cup. Stretch the string over the top of the bridge and it should hold everything in place. You will realise that different sound boxes will necessitate different bridges. Raid the scrap box for suitable lengths of wood.
- If you want raised frets, as found on a guitar, stick half matchsticks along the neck. Sandpaper the ends of the matchsticks once the glue has dried.