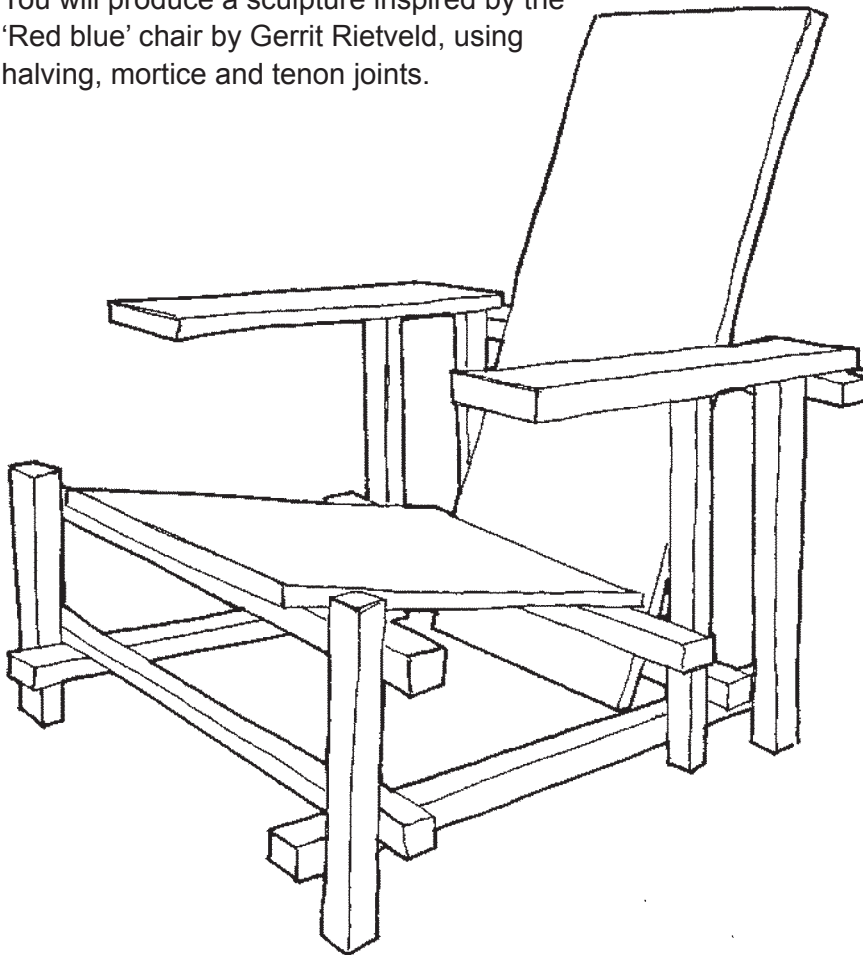


Seating: A sculpture using useful joints

You will produce a sculpture inspired by the 'Red blue' chair by Gerrit Rietveld, using halving, mortice and tenon joints.



L Learning

To cut and assemble joints that are used for seating construction

Student's Booklet

Design Guide1: Seating

Timing

1 hour (If you work in a team)

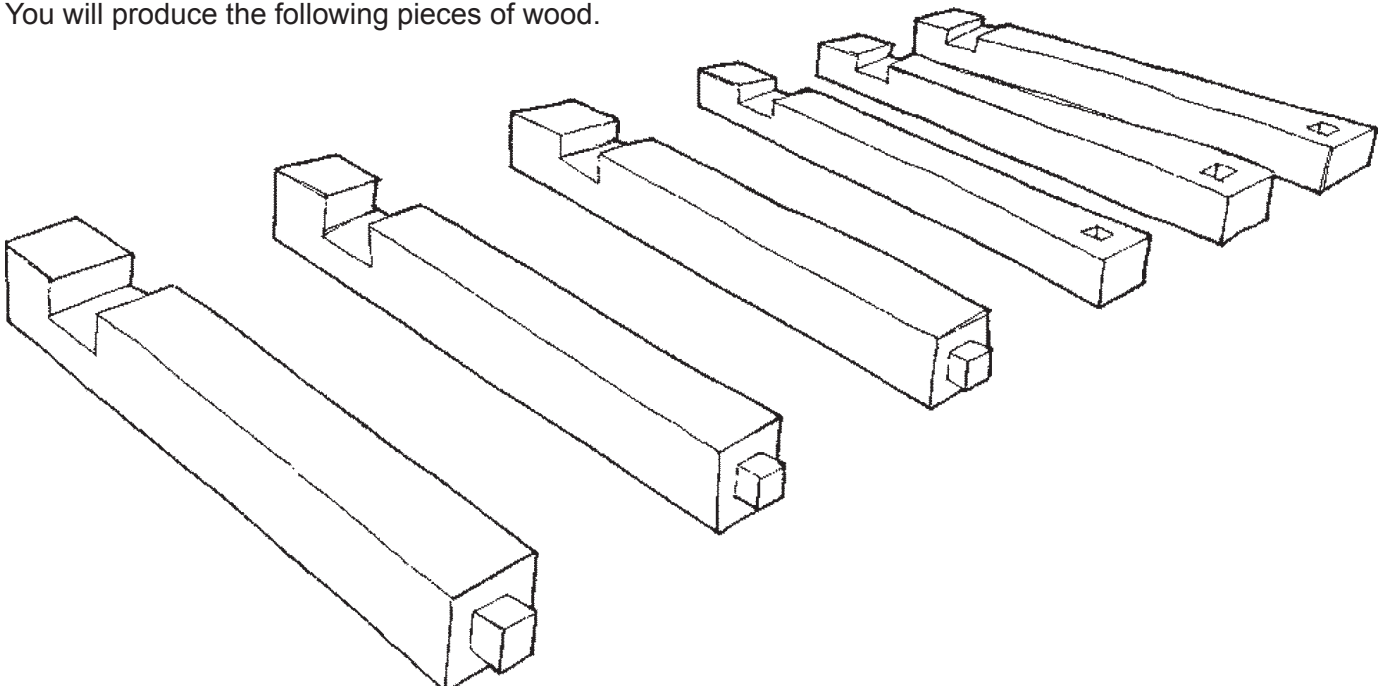
Equipment and materials

- 6 softwood or ramin strips (18 mm x 18 mm x 100 mm)
- marking gauge
- tenon saw
- 6 mm chisel
- mallet
- try square
- bench hook
- PVA glue

Type of task

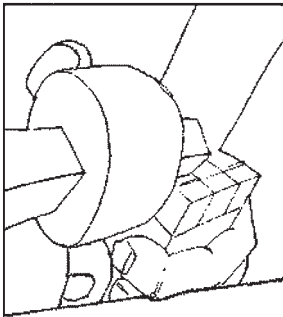
Extension

You will produce the following pieces of wood.

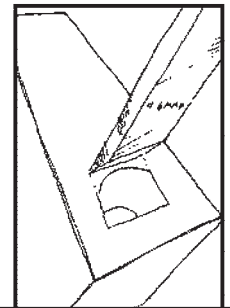
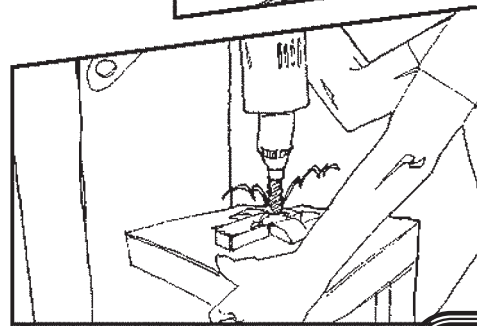
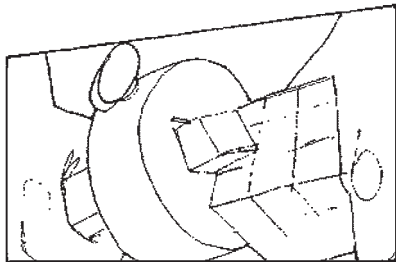
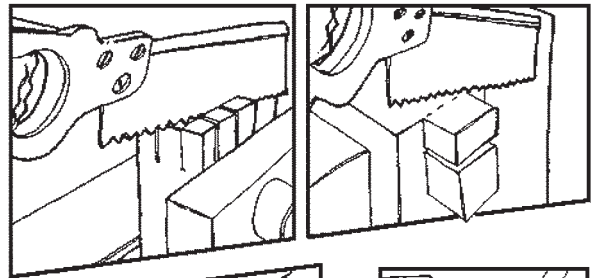


Part 1 Making the mortice and tenon joints

1 Set marking gauge to 6 mm gap and mark out the tenon.



2 Cut the tenon.



3 Mark out the mortice.

4 Cut the mortice

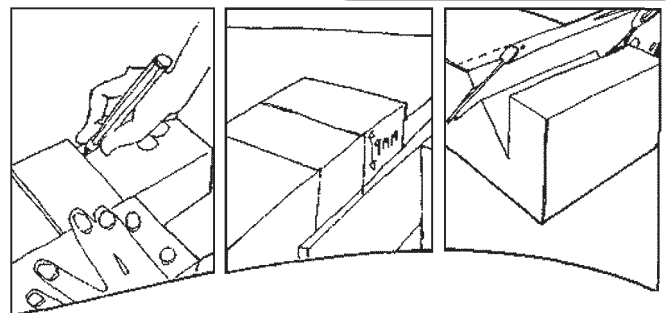
SAFETY NOTE

Guard removed for safety

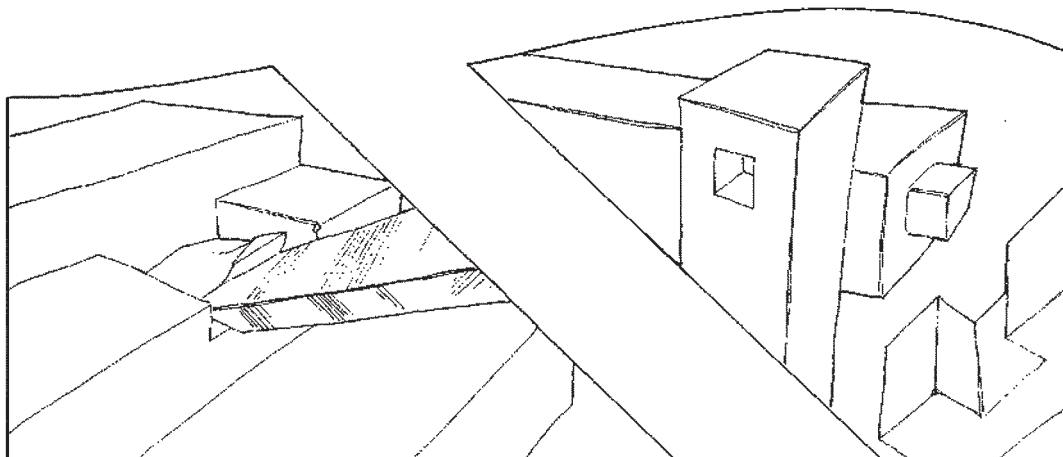


Part 2 Making the halving joints

1 Mark out the halving joint.



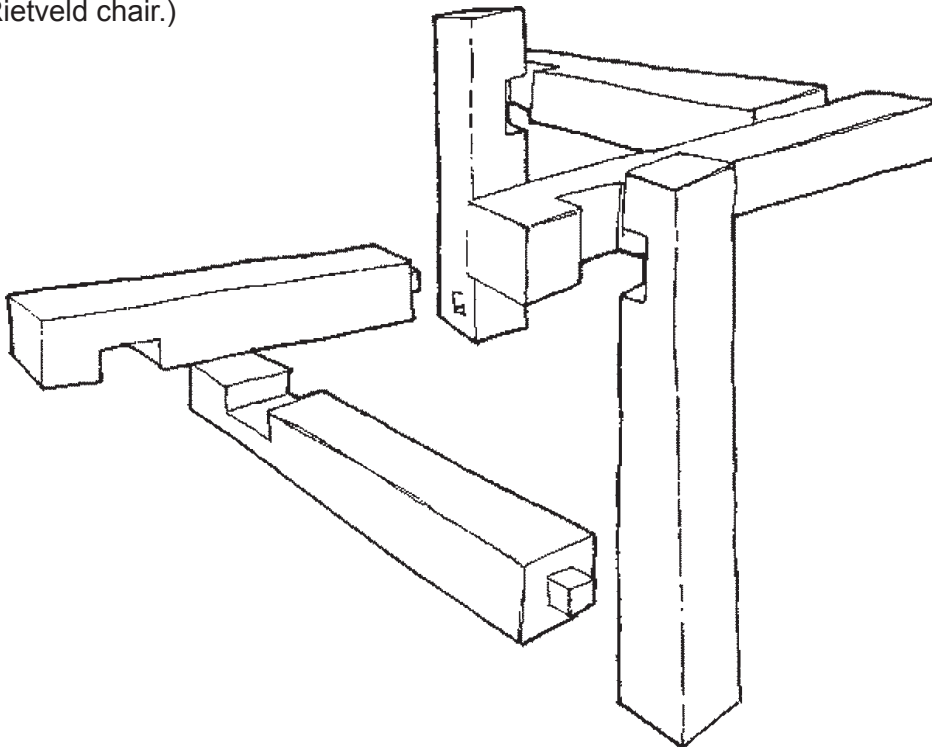
2 Cut the halving joint



Now you have these joints

Part 3 Assembling and decorating the sculpture

- 1 Assemble the sculpture, noting how well the joints fit together. If necessary trim or add thin packing for a better fit. Glue with PVA glue taking care to wipe the surfaces clean.
- 2 Decorate using an appropriate finish. (You could base the decoration on the Rietveld chair.)



The sculpture can sit several different ways up. Choose your favourite before finishing.

Part 4 Thinking about tolerances

- 1 Ask yourself the following questions.
 - (a) How accurately did you mark out the joints? To the nearest cm or the nearest mm?
 - (b) How accurately did you cut out the joints? Did you always cut to the waste of the line? Did you always follow the direction of the line?
 - (c) Did you have to trim or use packing to achieve a good fit?
 - (d) Did the pieces lie at right angles to each other when joined?
 - (e) How does your accuracy in marking out and cutting out affect the final product?

Further/homework

- 1 Design a structure which fits together using the same types of joint but in a different way.
- 2 Present your idea as a clear labelled sketch.
- 3 If you have time, try to make your structure.