Joining timber

What students will learn

When they have finished the joining timber sessions, students should be able to:

- ❑ Identify the common types of timber-joint
- ❑ Choose the correct join for a job
- ❑ Make simple joints correctly
- ❑ Choose the correct fixings for a job.
- ❑ Fix simple joints correctly.

Things you need before you start

Information

Find out what types of timber joints are normally used in the area where these students live.

- What are they commonly used for?
- What sizes/types of fixings are used?
- What do they cost?

Think about:

- types of wood joint
- nails/screws/bolts.

Materials

Get samples of locally available joints for students to look at.

Get samples of materials for students to work with

- timber
- nails, screws, bolts

Tools or equipment

Students will need different tools to make joints :

- measuring and marking tools
- saw, chisels
- hammer, screwdriver and drill
- vice or clamps

Course resources

Video player. Course Video. This shows joints being made and the fixings used.

Note for Tutor

Most of the information and material about joining timber is given on a set of worksheets that you can choose to match the types of joints and fixing you have available locally.

Copies of the worksheets are included in your manual here as well as in the Student Workbook.

You need to work through each worksheet with the students, talking about the joints and fixings and showing the students how to use them. The worksheets are not designed to be used by the students learning on their own.

Check the students have their workbooks and the appropriate worksheets.

Read through these notes on how to introduce the subject, and how to use the worksheets.

Worksheet activities

The activities in the worksheets should help students to gain a basic skill in making the joints.

Make sure you give them time to have lots of practice with the tools to make each joint and hammer nail, drive screws etc.

If you wish, you can link activities together and then with the worksheets for using tools. For example, you could link the worksheets on using saws and chisels to the worksheets on making butt and lap joints.

Introduction

To start, talk to the students generally about the main things they will learn and what they will do in these sessions:

- the types of timber-joint
- how to choose the correct joint for a job
- how to make simple joints correctly
- types of common fixings (nails, screws etc)

The types of joints we use

Talk about

The joints that are used locally for construction.

include —

- traditional/customary construction (buildings, boats)
- butt joints
- housing or dado joints
- lap or halving joints

The Student workbook has photos and pictures of different types of building construction. Ask the students to find the joints in the pictures.

also mention

- mortise and tennon joints
- dovetail joints
- any others you know about

These are used for finer carpentry work rather than construction work. They are not covered in this course.

Fixing for joints — nails, screws and bolts

Talk about

The types of fixings available

They strengthen and hold the timber joints

Pictures of a nail, screw and bolt are in the Workbook, Ask students if they know of any other types.

Suitable fixings for a job

- what is best to use,
- what is OK,
- what is not good.

Decisions on what type of fixing to use are based on the sort of questions below

Discuss each one with students — what do **they** think ?

There is room for them to make notes in their workbook.

Ease of use	
Does it need special tools or skills to use?	nails are simplest
Speed in use	
How long does it take to fix the joint?	nails are quickest
Strength	
How strong does it need to be?	bolts are strongest
Does it need to be flexible as well as strong ?	screws are least flexible
Type of construction	
Lightweight material, or heavy timbers?	bolts are best for heavy work
Permanent — or be able to take the joint apart again?	screws and bolts can be undone
Long lasting	
Rust proof?	all can be made rust proof
Appearance	
Will the fixing be seen?	
Does it matter what it looks like?	screws look best
Cost	
The cost of each type.	nails are cheapest
Availability	
the availability of a particular type in quantity	

Talk the students through each worksheet

Each worksheet shows

- what the joint or fixing is normally used for
- how the joint is made
- how to use the fixing
- safety issues
- activities for the student to practise

Show and explain

You need to:

- show local examples of each joint or fixing.
- explain and follow each step, demonstrating how to:
  - — make each joint correctly
  - — use each fixing
- explain the dangers and
- show safe ways to making joints.

Student activity

Students do the activities on the worksheets

For example:

- saw square timber for butt joint
- make and fix housing and halving joints
- drive nails and screws

Students should practise making each type of joint and fixing.

Where possible, get students to work in small groups of 2 or 3 people.

Encourage them to

- talk about what they are doing
- help each other to get things right
- check that others are doing things safely

Check students activity work and give feedback on how they have done.