

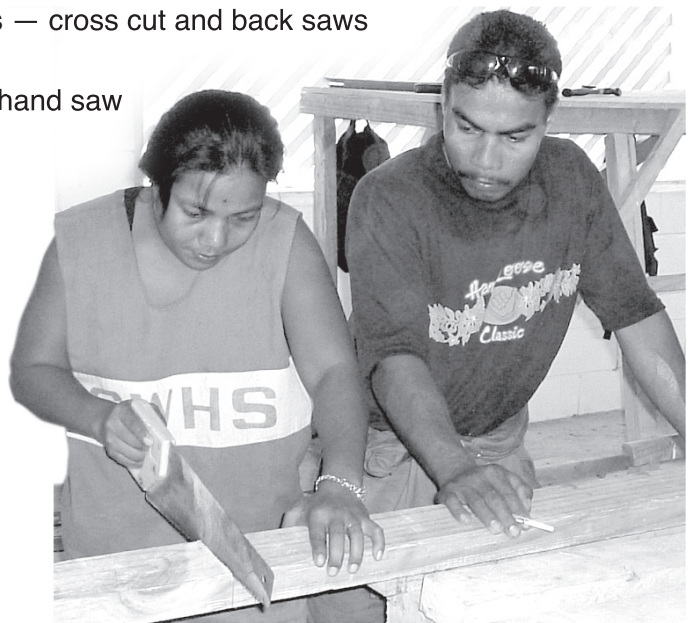
# Hand saws

This worksheet is about  
the saws you use to cut timber.

## What you will learn

When you have finished this worksheet,  
you should be able to:

- Name different kinds of hand saws — cross cut and back saws
- Choose when to use each type of hand saw
- Use the saws correctly and safely



## Things you need before you start

### Materials

You will need some scrap timber to saw.

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### Tools or equipment

Different kinds of hand saws: cross cut saw, back saw

Something to put the timber on — a bench, table or a saw-horse.

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### Course resources

Course video. Video player

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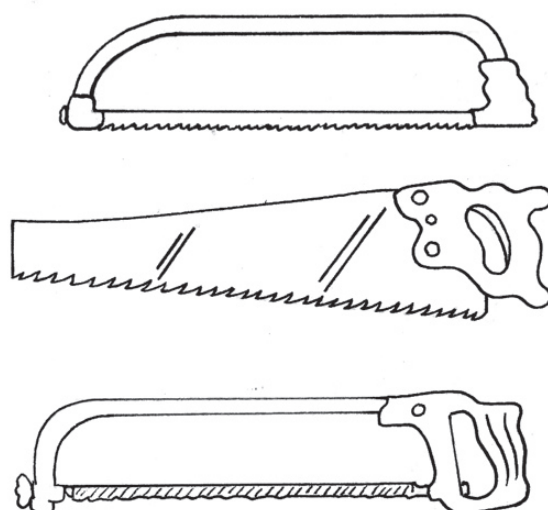
## Introduction

Saws are made in many sizes and shapes and are used for different things. You need to choose the correct saw for a job. This worksheet tells you about the cross cut saw and the back saw.

All saws cut timber by taking out a thin slice of the wood — the sawdust. It is not like cutting with a knife or scissors where no material is removed.

The amount of wood that is cut out is the same as the width of the saw blade and teeth.

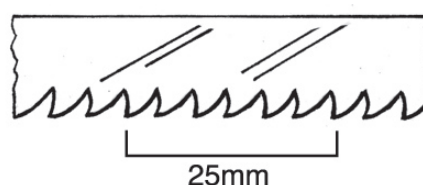
You could use almost any saw for any job, but if you use the correct saw it will make it easier, quicker and more accurate.



## Teeth

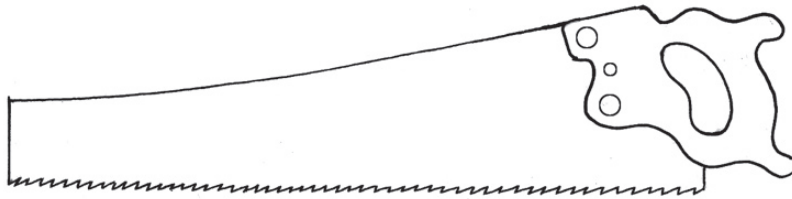
The number and size of the teeth on a saw are different for different timber and different jobs. Normally, big teeth cut faster in soft wood, but they leave a rough finish. Smaller teeth are needed for finer work and harder materials.

The number of teeth on a saw are measured by the number of tooth points along 25mm (1 inch) of the blade. The picture shows a big (7 point) saw blade. Smaller blades might have up to 25 points.



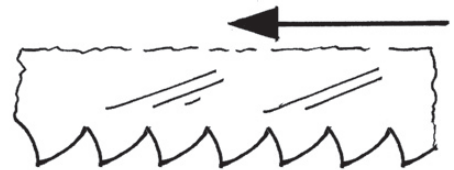
## Cross cut saws

This saw has a long and flexible (bendy) saw-blade with a shaped wooden or plastic handle.



Common sizes of cross-cut saw for general use are:

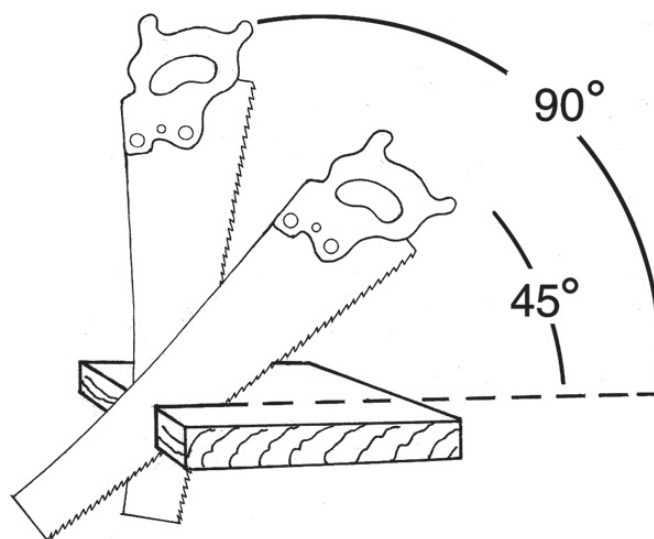
500–700mm long blade with 6–12 point teeth



## What is a cross cut saw used for?

- It can be used for most jobs
- It is best used for cutting across the grain of the timber.
- to cut large pieces of timber.
- to cut plywood and hardboard (10–12 point teeth)

You will find it easiest to saw if you hold the saw at a 45 degree angle to the timber you are cutting.

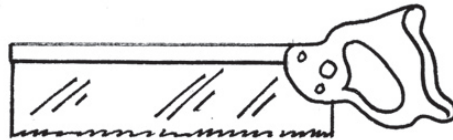


## Back saws

This saw has a thin blade and a rectangular shape. It has a strengthening piece along the top of the blade. Back saws are usually about 250 to 400mm long.

The teeth are very like the cross-cut saw, but they are usually smaller — about 12–22 points.

The back saw is sometimes called a *tenon* saw.



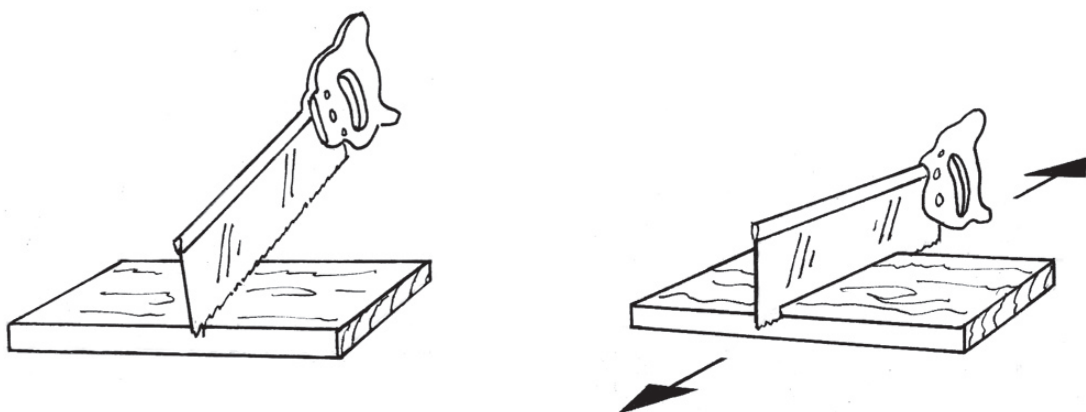
### What is a back saw used for?

It is used when it is important to cut very straight lines, for example when cutting the housing or halving joints you will make later.

The strengthening piece helps to keep the saw cut straight.

It is used for more accurate and finer jobs than the big cross-cut saw.

For the back saw, start sawing with the saw at 45 degrees to the timber, then gradually lower the saw until it is sawing flat.



The strengthening piece on top of the blade will get in the way if you cut long or thick timber.

# How do I cut with a saw?

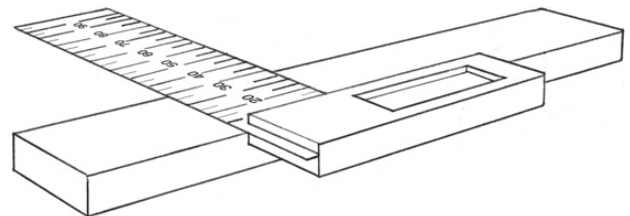
## Things to check:

Choose the best saw for the job;

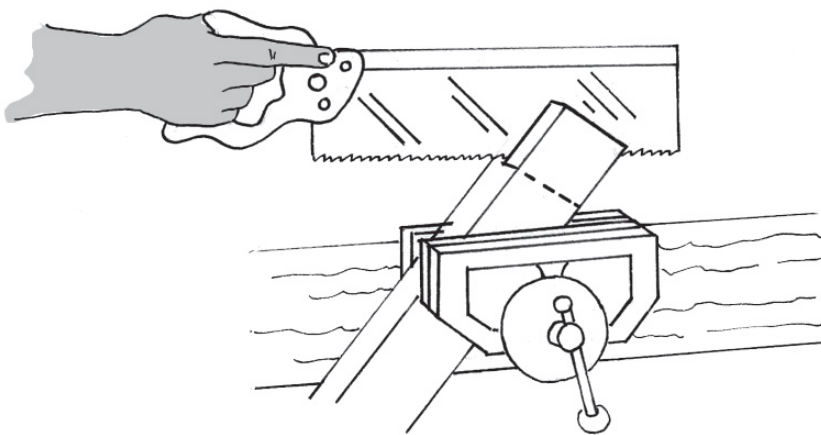
- cross-cut for large jobs and panels
- back saw for smaller and detail jobs

## Step 1

Measure and mark a line where you want to cut.



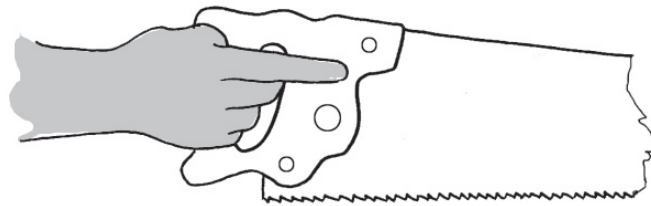
Make sure that the timber is held tightly on a firm bench or table. You don't want it to start moving when you begin sawing. Use one hand to hold the timber — or use a vice or a clamp if you have one.



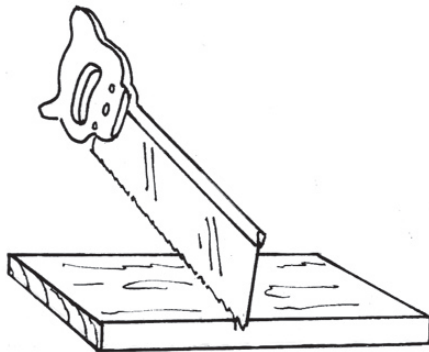
If you are sawing through the timber — make sure there is space for the saw underneath the timber. Do not saw the bench in half as well!

## Step 2

Hold the saw by the handle, with your first finger pointing towards the end of the saw.



Hold the saw at about the correct angle to the timber (45 degrees)



and upright, with the blade in line with your marks.



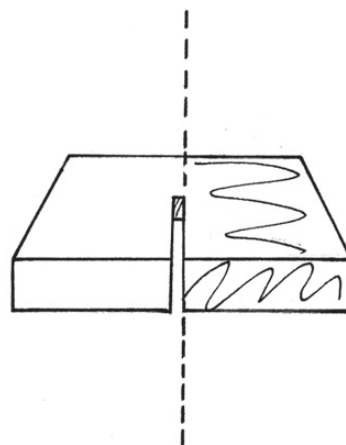
You could check your angle with a square — but it is hard to saw like that.

## Step 3

Start the cut on the waste side of your line

Start sawing using short strokes

keep the angles about right!



**Remember that saws cut only on the forward stroke.**

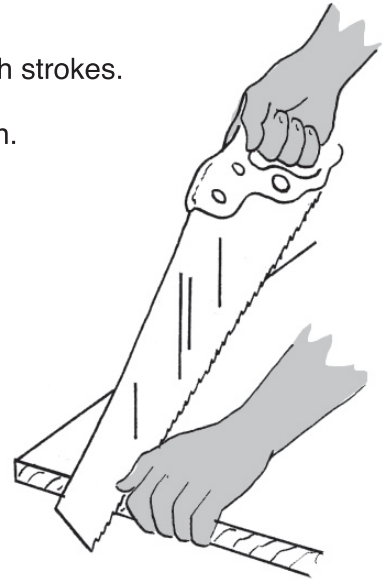
Push firmly on the saw as you go forwards

Lift slightly as you pull the blade back.

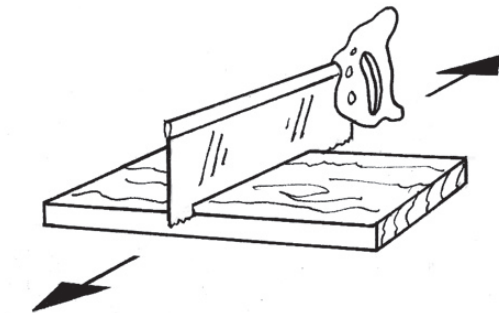
## Step 4

Continue cutting — slowly increasing until you have long, smooth strokes.

Follow along the marks, and keep the saw as straight as you can.



If you are using a back-saw, gradually lower the saw angle.



## Step 5

When you reach the end of your cut, hold the waste piece with one hand so it doesn't fall — it can split and break the good piece of timber.



## Safety tips for using hand saws:

- Saws can cut you badly if they slip, so always be careful.
- Choose a saw of the right type and size for the timber you are cutting.
- Hold the timber firmly in place.
- Check that you are not cutting anything dangerous or important that is under your piece of timber.
- Keep your fingers out of the way once you have got the saw started.
- Push firmly on the downstroke — but not too hard. Let the saw do the work.
- Blunt saws can be dangerous — they can make you push too hard — and slip.

### Activity

1. Find out what kinds of handsaws you have available. What sorts of material do they cut?
2. Practise cutting timber with each type of saw.
3. Cut off a piece of timber square across — follow across the marks
4. Cut a piece of timber square across to half way. Then saw along the grain from the end of the timber to form a half joint.
5. Keep practising !

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