



# woodworking



*A handsome hand-made table.*

## what is it?

It's the creation of objects from wood using hand or power tools. It's more diverse than it first seems - from rustic green woodworking to intricate cabinet-making. In the industry, carpentry refers more to structural woodwork in housebuilding, usually carried out on site. People who make doors and windows etc. are called bench joiners - usually based in a workshop. A good woodworker knows how to get the best out of different materials, from natural timber to plywood or strandboard. It's not just about proficiency with tools, but also design and planning.

Wood is such a workable material, with the simplest of tools, it would have been one of the first things humans used to create useful things. There's a huge range of tree species, which come in different grades and for most conventional work is dried to prevent movement after it has been worked. There are many specialist woodworkers - e.g. chairmakers, barrel makers, wheelwrights, shipwrights, woodcarvers & instrument makers. Each craft has its own specialised tools - chair makers have travishers for hollowing chair seats to make them more comfortable, and woodcarvers have a huge range of gouges for cutting different shapes. Woodworking techniques enable us to create things as diverse as houses, boats, furniture, shelves, doors, windows, animal housing, workbenches, utensils, picture frames, toys, containers and much more.

Woodworking encompasses a large quality range too - a piece of work can be held together with nails, or intricately-made joints; wooden structures in houses are commonly held together with nails and screws, but a chair or an older house can contain mortice and tenon joints. Experienced woodworkers use a different joints for different situations, to resist the different forces exerted on

the finished work. Examples of joints include mitre, bridle, finger, box, housing, dovetail, butt, tongue & groove, mortice & tenon, halving or lap joints. Some are easily done with hand tools, others require power tools - like biscuit or domino joints - designed to save time and very strong.

## what are the benefits?

- It's about using a renewable, biodegradable and non-toxic resource - wood - to make useful, environmentally-friendly and healthy items for yourself, your friends and family.
- Hand-made items are unique and beautiful, and they make great presents.
- Woodworking skills enable you to carry out repairs on your home.
- Woodworking is good for you - it's a meditative, therapeutic, satisfying hobby or career, it's good exercise and can save you money.
- If you're really keen (and good), you could consider starting a small business, and help steer some money away from the ubiquitous flat-pack giants.
- The environmental and exercise benefits are greater if you're using hand tools - lower embodied energy and no electricity required, just muscle power.
- The environmental benefits are even greater if those hand tools are second-hand; many old tools are made of very high-quality steel, unmatched by tools of the same price today.
- Wood is very durable; wooden objects can last several lifetimes if they're well-made, and solid wooden furniture is very repairable. There's great satisfaction to be had from making things that can be handed down through the generations; but even if they come to the end of their life, they can be recycled or used as firewood, rather than ending up in landfill.
- It can stimulate demand for local timber, and therefore tree-planting.



*Saws: gent's, panel, Japanese & tenon.*



## what can I do?

Getting started needn't be expensive. Wood is a readily-available material, maybe free if you know a landowner or tree surgeon, or if you recycle old pieces. Steer away from MDF – it contains formaldehyde, so there are health risks associated with cutting it. Sometimes using man-made materials like plywood makes sense – it's cheaper for making box-type structures like wardrobes, kitchens or cabinetry. Using solid wood in that situation can be difficult and expensive.

Attend a course to gain skills and learn right way to approach a job. You don't need lots of gear - just start, and it will accumulate over time. You don't necessarily need a dedicated workshop. You can work outside for much of the year, but you need a dry space to store wood, and something to work on. It can be a simple wooden box or bench - or you could make your own workbench.

**Tools:** must be very sharp - able to take the hairs off your arm. New tools don't usually come fully sharpened, but with a ground bevel that needs to be refined with a fine-grade sharpening stone. There are different stones – diamond, ceramic or waterstones. The basic principle is to start with a 25° bevel made on an electric grindstone or coarse sharpening stone, progress to a finer sharpening stone and hone the bevel at 35°, then hone the back flat and polish on a leather strop.

Get specialised tools from mail order companies or a local hardware store, where you can get advice on tools and techniques. Used tools from second-hand shops or specialist market stalls are great - but you need to really understand the tools first to avoid damaged or unsuitable ones. There

are companies you can send second-hand tools to to be sharpened, or again, you can try your local hardware store. Find good quality old tools that can be sharpened - you don't want your tools to be disposable. Be wary of old tools that don't look as if they've been used – it might be because they weren't very good.

You can make a wooden toolbox to store your tools, so that they don't get damaged. A plastic one is useful if you'll be working outside, or a traditional canvas carpenter's bag is easy to carry. If you're using power tools you'll need goggles, gloves, dust mask and ear defenders.

**Saws:** a saw's teeth are alternately splayed (called the 'set'), to cut slightly wider than the body of the saw, so that it has room to move through the cut. If a saw tends to get stuck, it's lost its set. There are different saws for rough or fine work - the more tpi (teeth per inch) the finer the saw. There are saws for cross-cutting (across the grain) or rip-cutting (with the grain). There are different types of saw for different jobs: panel saws for large jobs; carcass, tenon, gent's and dovetail saws for smaller jobs; Japanese saws are pulled to cut; and piercing, fret, coping and frame saws for cutting curves; and compass saws for holes.

**Other useful tools:** hammer; cordless drill & set of drill bits (inc. spade bits for bigger holes); tape measure; metal rule; combination square; pencils / marking knives; marking gauges; plane; pincers and pliers; chisels; wooden mallets for the chisels; spokeshave; clamps.

**Sundries:** you'll need a stock of 'stuff' or you'll have to keep running to the shops: a selection of screws and nails in different sizes; abrasive paper in various grades; glues; fillers, dyes etc - usually bought for a particular job and kept until needed.

## resources

- see [lowimpact.org/woodworking](http://lowimpact.org/woodworking) for information, courses, links, magazines and books, including:
- Albert Jackson & David Day, *Collins Complete Woodworker's Manual*
- Stephen Corbett, *the Practical Woodworker*
- Terry Porter, *Wood Identification & Use*
- Peter Korn, *Woodworking Basics*
- [bwf.org.uk](http://bwf.org.uk), British Woodworking Federation
- [gutenberg.org/files/21531/21531-h/21531-h.htm](http://gutenberg.org/files/21531/21531-h/21531-h.htm) - free e-book of woodworking joints
- [bobsplans.com](http://bobsplans.com) - lots of free woodworking plans



Applying PVA glue to a round-tenoned stool leg.

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