

So often one sees schemes of work that start the youngest children on junk, progress to card and save wood until they're older. If there is a right way round, then this is exactly the wrong way round.

**Wood** is the easiest material to use for technology models. It's clean, easy to cut, easy to fasten, strong and rigid. *It's also relatively expensive - so, nothing's perfect!*

**Card** is a much more sophisticated medium. If it's thick enough to bear loads then it's too thick to cut. If it's thin enough to cut it needs stiffening to withstand forces. When it's wet it's weak (*like when it's being glued*). Card demands careful handling and accurate working.

**Junk** is a potential minefield. The average junk box contains a lot of plastic which is difficult to cut and virtually impossible to glue. You don't know the history of containers - what's been in them? - where have they been? Worst of all there is no consistency of supply. That cheese box might make a perfect wheel - but what are we going to use for the other three? If you are going to use 'reclaimed' materials be very choosy. *Cardboard boxes? - OK: paper cups? OK: plastic cups? for string telephones and glue pots? - OK: card tubes? Great! Got the idea?*

## WOOD

**All the strip wood used in the projects in this book is 10mm square section softwood.**

Let's go through the significant part of this statement.

**Ten millimetres** rather than one centimetre - the centimetre is not an official SI unit of measurement, so catalogues will almost always use millimetres. You can buy a range of sizes of softwood strip. 8mm square is quite common, and quite popular, though not with us. We prefer the robustness of 10mm, especially when you want to drill 5mm holes through it, and it greatly simplifies the maths for the children. *Imagine making a 10cm square frame from 8mm wood. You would need either four pieces 9.2cm, or two pieces 10cm plus two pieces 8.4cm!*

**Square section** - the section is the shape you get when you cut across the strip.

**Softwood** - timber from coniferous tree species, (pine, spruce, larch, etc.). Timber from deciduous species is known as hardwood. This means, paradoxically, that you can have a hard softwood (pitch pine) and a soft hardwood (balsa).

It is better to buy your wood from an educational supplier even though it's expensive. It usually comes in packs of 100 pieces 59cm long. A local joiner or kitchen fitter might let you have off-cuts for free, but the sizes will vary considerably and there may well be pieces of hardwood included. Some of these hardwoods can be very difficult to saw and drill.

*Primary seven may well be able to make use of a free supply of timber like this. This is assuming they have accumulated six years' technology experience and so can cope with the vagaries of an inconsistent supply.*

## DOWEL

Round section wood is called dowel (or dowelling). All the dowel used in the projects is 5mm diameter. The most common species used for dowel is ramin, which is a hardwood. You can cut it with a junior hacksaw but it's very fibrous and doesn't always cut cleanly. The modelling saw is perfect for cutting dowel but we use a sharp knife. If you roll the dowel under the blade (preferably on a cutting mat) you will cut all the way round and the dowel will snap cleanly. We don't expect the children to do this. *We have started replacing dowel with 5mm diameter paper sticks in many instances. They are cheaper and of a more consistent diameter, but have their own cutting problems.*

## LOLLY STICKS

We use a large number of wooden lolly sticks, as you'll find when you explore the projects. If you try to drill anywhere near an end you'll find that a lot of the lolly sticks will split. If you use a heavy duty punch hardly any will. The trouble is that the hole will be a little too small to take a 5mm dowel so you'll need something like a round file to enlarge the hole. It is said that it is easier to punch a hole in a lolly stick if you soak the lolly stick in water. This may be correct, but it's then almost impossible to glue it until it's completely dry. *You can trim the rounded ends off with utility snips if you can't be bothered to use a saw.*

## SPATULAS/TONGUE DEPRESSORS

Like an extra large, but thinner, lolly stick. None of the illustrated focussed activities rely on these but they might be useful to have as part of the kit. We certainly make use of them.

## SPLINTS/SPILLS

A relatively new addition to our travelling kit. These are very thin and narrow strips of wood (*184 x 5 x 1.5mm - very approx.*) intended for lighting the candles and your pipe in the evening! We use them mainly as glue spreaders but they have other potential uses (*planks?*). Very brave teachers might like to use them for building structures like bridges, (*that's what one catalogue suggests!*).

## MATCHSTICKS

These come by the thousand and seem to last forever! Masts on boats, rungs on ladders, reinforcements on frames. Very useful.

## WOODEN/MDF WHEELS

A luxury item. We rarely make use of wooden wheels. They are expensive and wheels, of course, tend to get used four at a time! The MDF (medium density fibreboard) discs are useful as centres for pulleys wheels, sandwiched between two card discs. *You will notice on the wheels page that these are used to make wheel jigs to use to when making card wheels.*