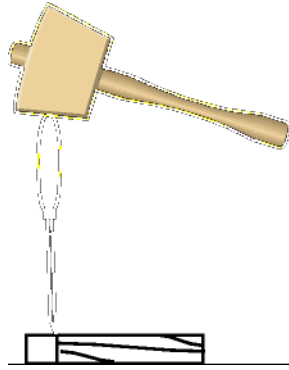


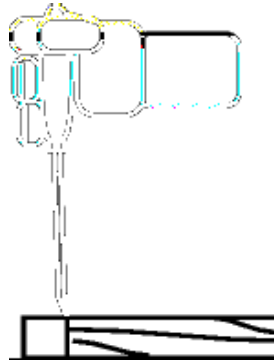
# Design & Manufacture

## Homework 16

Chisels are used for chopping away waste wood when cutting a joint and for paring small amounts of wood away when fitting the two halves of the joint together accurately.



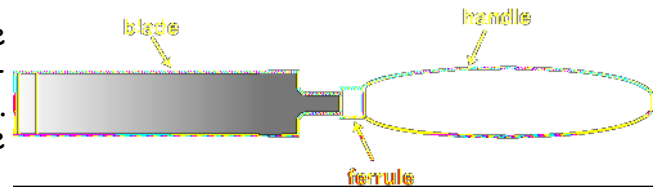
Chopping, using a mallet



Paring by hand

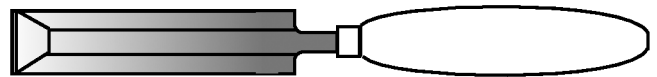
### Firmer chisel

The firmer chisel, like most chisels, has a blade made from tool steel and a handle made from Ash or polycarbonate and is designed for chopping away waste wood. The ferrule is a brass ring that stops a wooden handle from splitting.



### Bevel-edged chisel

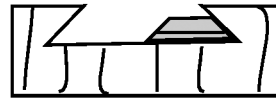
The blade is thinner at the edges than a firmer chisel and is used for paring and for cleaning out corners.



An end-on view of a firmer chisel in use

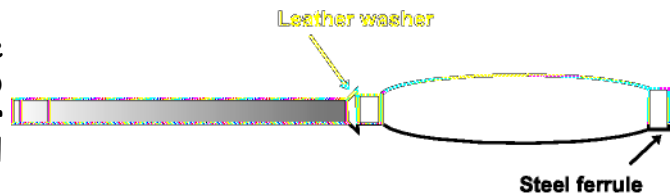


An end-on view of a bevel-edged chisel in use



### Mortise chisel

The mortise chisel is used for cutting the hole (the mortise) for a mortise and tenon joint. It is designed to withstand being hit hard with a mallet. The leather washer helps to absorb some of the shock and the steel ferrule stops the handle from splitting at the end.



### Gouge

The gouge has a curved blade and is used to cut shallow depressions in wood.



An end-on view of a gouge in use



# Questions

1. Make a labelled sketch of a firmer chisel.

2. From what materials are chisel handles made?

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3. What is the purpose of a ferrule on the handle of a chisel?

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4. What is the advantage of the bevelled edges on a chisel?

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5. From what material are chisel blades made?

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6. What is a mortise chisel used for?

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7. What is the purpose of the leather washer found on a mortise chisel?

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8. What is the difference between a gouge and a firmer chisel?

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9. What is a gouge used for?

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