

SANGAM SKM COLLEGE - NADI
LESSON NOTES – WEEK 1
YEAR 9
BASIC TECHNOLOGY

Strand	Hand Tools and Appliance
Sub-Strand	Hand Tools
Learning Outcome	Identify the basic woodwork and metalwork hand tools, their parts and uses.

CLASSIFICATION OF TOOLS

1. **Holding and supporting tools** - These tools are used to hold or support the job while working on it.
2. **Geometrical tools** - These tools are used for measuring, marking, testing and setting out the work.
3. **Abrading and Cutting tools** - These tools are used for reducing the timber to required sizes and shapes.
4. **Percussion and impelling tools** - These tools are used to drive nails, screws, chisels and take out nails and screws.
5. **Boring tools** - These tools are used to bore holes.

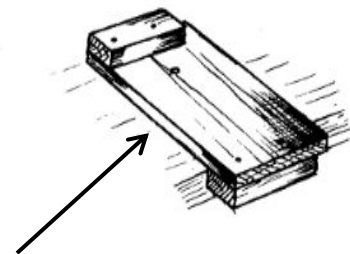
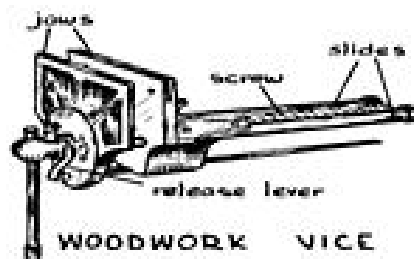
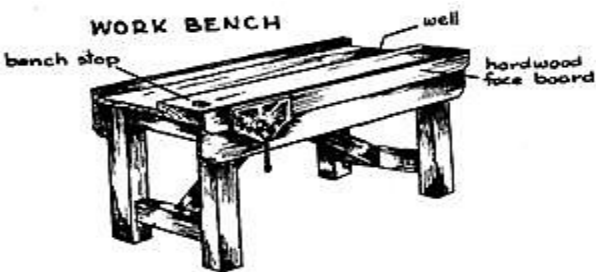
1. HOLDING AND SUPPORTING TOOLS

Woodworking Bench- work bench is used for supporting your practical work piece or project while you work on it and during various other operations.

Bench Well- used for storing the tools which are in use.

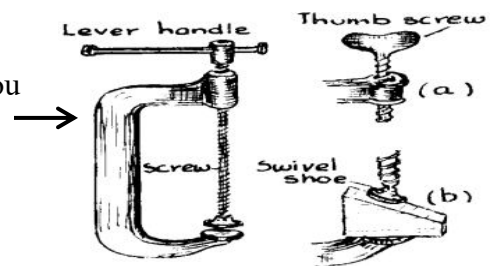
Bench Stop- used to block and prevent the timber from sliding away while planing on the bench.

Bench Vice- used to hold your job piece while you work on it; cutting, chiseling, sanding, assembling, etc.



Bench Hook- used for holding the timber while you saw or chisel on the bench and at the same time preventing the bench top from damage.

G-Cramp - used for holding down the piece of timber on the bench while you work on it and also used to hold together glued pieces of timber and projects left for drying.



EXERCISE

1. What is the use of a bench hook and a G - cramp
2. What are the 5 classification of hand tools?
3. Research work – List three types of Geometrical Tools.

Note: if you cannot print and paste the notes you can write in your note book. Answer all exercises in your note book.

SANGAM SKM COLLEGE - NADI
LESSON NOTES – WEEK 2 AND 3
YEAR 9
BASIC TECHNOLOGY

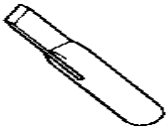
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2. GEOMETRICAL TOOLS

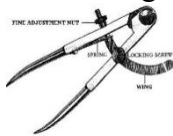
Steel Rule -used to measure pieces to length, measure the side and end dimensions.



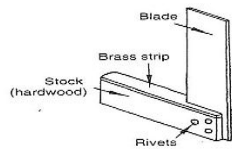
Marking Knife- used where a fine and accurate cut line is required for marking joints and other more detailed markings on timber.



Wing Compass- used for setting out and marking arcs and circles for designed work pieces.



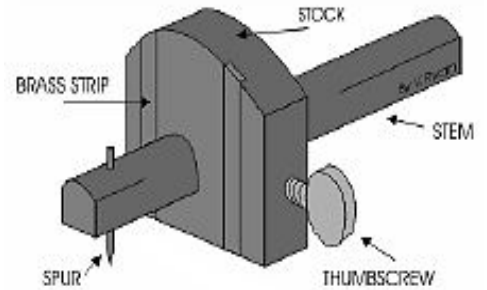
Try Square- used for marking lines at right angles on a piece of timber, testing timber surfaces for square and marking out square lines on the work piece.



Sliding Bevel- used for marking lines at any angle on a work piece and setting out, testing bevels and miters.

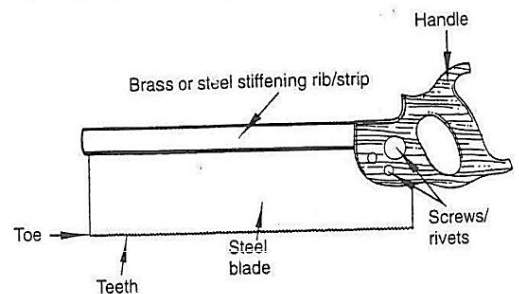


Marking Gauge- used for making lines parallel to the face or working side or edge of timber.



3. ABRADING AND CUTTING TOOLS

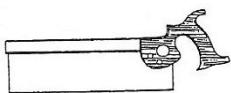
- Saws are the most heavily used of all woodworking tools.
- To hold the saw properly and the best method is described as 3-1-1 which represents the placing of the fingers on the handle.
- The cut made by the saw is called a kerf.
- Back Saws
- These are small saws with stiff thin blades used for making accurate cuts in small pieces of timber.
- Tenon saw- used for general bench work such as cutting of joints, angles, with and across the grain.



Exercise 1 :

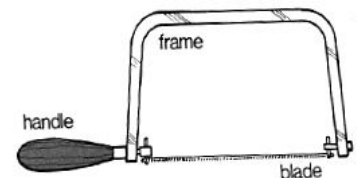
- What is the use of a tenon saw.
- State the purpose of the stiffening rib.

Dovetail saw- used for fine accurate work and for cutting dovetails.



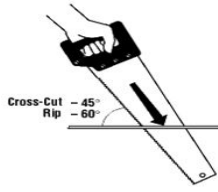
Curve cutting saws

Coping Saw- used to cut small curves, slots and difficult shapes in fairly thin timber, plastic, glass fibre and mild steel.

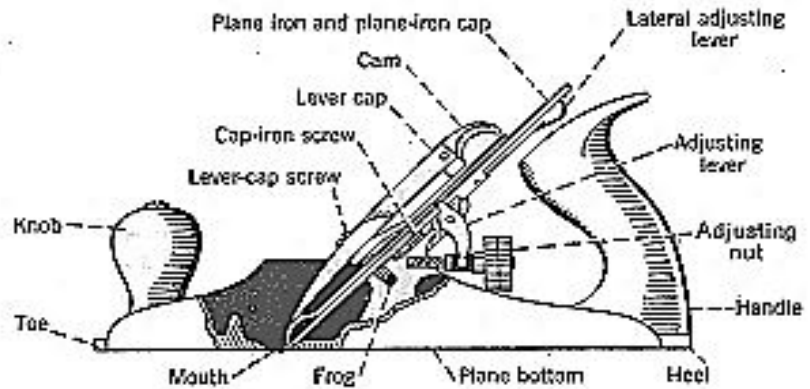


Cross cut saw - specially designed to cut timber across the grain of timber, especially cutting large pieces of timber. hold it at about 45 Degrees to the wood.

Rip Saw- used for cutting timber along the grain or ripping lengthwise, especially cutting large pieces of timber.



Bench Plane- used to level off wood and for finishing prior to sanding, painting and sealing.



Exercise 2 : Draw/render/label and complete the BENCH PLANE

Jackplane- used to squares up rough timber to correct size and quickly removes waste wood.

Smoothing plane- used to produce a final smooth planed surface on the wood.



Exercise 3

1. What is the use of a Jack and smoothing plane
2. Make your sketch neat by rendering.

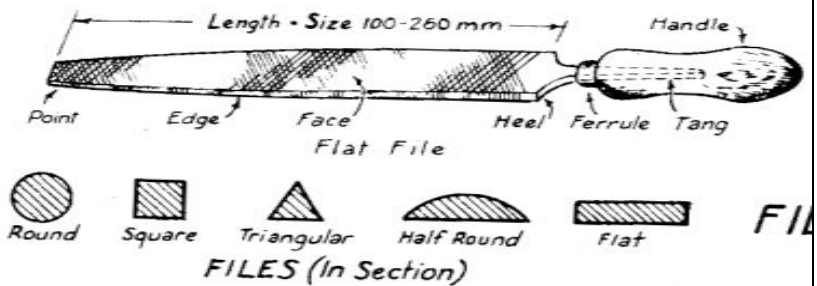
Files

Files are used in woodwork for two purpose:

1. Tool sharpening e.g. a saw.
2. Smoothing edges and small curves in wood which are difficult to reach with other tools.

Files have three distinguishing features:

1. Length is measured from heel to shoulder.
2. Kind, shape or style may be flat, mill half-round, circular, or triangular.
3. Cut having set of furrows; single or double cut.



Exercise 4

1. What is the use of a FILE?
2. Handle of a File is made of which material.

Rasp- It removes the wood more rapidly than a file but leaves a coarse finish, which must be smoothed with a file or glass paper.



Exercise 5

1. What material is a FILE made of?
2. What is the use of a Rasp

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