**WEEK TWO**

**WOODWORK HAND TOOLS-BORING TOOLS, CUTTING TOOLS**

**CONTENT**

**BORING TOOLS**

Boring tools are the tools used for making holes on wood. The major tzpes are

* 1. The brace
  2. The bits
  3. Gimlet
  4. Bradawl
     1. **THE BRACE**: This is a tool used for holding and turning the drill bits or twist drill when drilling hole. There are two types of brace and they are plain brace and ratchet brace.

Parts of brace are the head, crank, chuck and ratchet.

The head: this is made of hard wood and shaped to fit the hand of the user. It is screwed to a steel sleeve it fits over the the crank rod and runs on the hardened steel balls.

The crank: This is a rectangular bent metal rod, it fits into hardwood plastic handle. It moves in circular way called “the sweep of the brace”.

The chuck: the end of the crank is enlarged, threade and slotted to receive the socket and the jas respectively.

The ratchet: This is a mechanical device fitted to the brace so that holes can be braced in confined places such as close corners and enable the use of “Half the sweep” of the brace. A ratcet brace allows the bit to be rotated in one direction only.

* + 1. **BITS**: A bit is a tool used in wood. Bits generally have a threaded centre point for drawing.

**TYPES OF DRILL BITS**

* + - 1. Twist drill
      2. Twist bits or auger
      3. Countersink bits
    1. BRADAWL: This is used to make small holes in wood before using screws or nails. It can also be used to mark position of a hole before drilling.
    2. GIMLET: This is used chiefly to make holes in wood before inserting small screws and nail.

**EVALUATION**

* + - 1. What are boring tools?
      2. Mention three types of boring tools and state their uses.

**CUTTING TOOLS**

A saw is a tool for sawing or cutting wood into two or more parts. The teeth of saws are set alternately left and right to allow clearance.

**TYPES OF SAW**

We have various types saw based on their on specific operational usefulness.

These are:

1. RIP SAW
2. CROS-CUT SAW
3. PANEL SAW
4. BACK SAW
5. TENON SAW
6. DOVETAIL SAW
7. COPING SAW
8. FRET SAW

**RIP SAW**

The is used for sawing along the grain of wood .It has 4-5 points per 25mm and it is 610-710mm **long**

**CROSS-CUT SAW**

This is used for cutting wood across the grain .It is similar to the rip saw in appearance but it is only 460mm-10mm long. It has 6-9point per 25mm.

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**PANEL SAW**

This is a saw that is capable of doing the work of both the rip saw and the cross-cut saw. It is

an all-purpose saw>It is 460-550mm.

**BACK SAW**

This saw is called backsaw because it has a steel or brass beck.

These includes

1. Tenon saw
2. Dovetail saw

**TENON SAW**

The tenon saw is used for cutting tenon, joints and other small jobs on the bench. It has a folded steel or brass back pressed to the blade. This gives it stiffness and weight when cutting. The saw 12 –14 points per 25mm and a length 200-350mm

**DOVETAIL SAW**

The saw is used for dovetailing and other small jobs on the bench. It is a smaller version of the tenon saw, but has an open handle. The length is 200- 260 mm. It has 20 points per 250mm.

**COPING SAW**

This is used for cutting accurate curves in thin wood and plywood. The blade can be adjusted to cut in any direction. The blade is about 150 mm long and has about 14 points per 25mm.

**FRET SAW**

It is used for complex shapes and curves in plywood and veneers. The blade of this saw is finer than the coping saw blade .It has a high frame, which allows it to be used over a wide area.

**EVALUATION QUESTIONS**

1. What is a saw?
2. State 7 types of saws
3. Describe the following saw and the uses (a) fret saw (b) panel saw

**PLANES**

We have:

1. JACK PLANE
2. SMOOTHING PLANE
3. SPOKESHAVE
4. THE FORE PLANE
5. THE TRYING PLANE

**JACKPLANE**

The jackplane is so called because it is a general-purpose plane. It is used generally to plane rough surface of timber and to prepare timber to size. The length of the plane is 250mm – 380mm.

**SMOOTHING PLANE**

It is used after the jackplane for final cleaning up of the surfaces of wood. It is 140 –250mm long.

**EVALUATION QUESTIONS**

1. Mention three types of plane.

State the functions of the planes mentioned above.