

**PENANG SANGAM HIGH SCHOOL**

**P.O.BOX 44, RAKIRAKI**

**WEEK 7 WORKSHEET**

**Subject:** Basic Technology

**Year/Level:** 10A,B,C,D

<b>Strand</b>	<b>BT10.4 HAND TOOLS AND MATERIALS</b>
<b>Sub Strand</b>	<b>BT10 4.1.1 HAND TOOLS AND APPLINCES</b>
<b>Content Learning Outcome</b>	Familiarize with the common woodworking and metalworking hand tools and exhibit competence in their appropriate, safe and effective use

**LESSON NOTES**

**OUTCOME**

After studying this chapter students should be able to:

- Identify and familiarize with basic and common hand tools.
- Exhibit their competency in appropriate, safe and effective use of these hand tools.

**Introduction**

Every workshop should be well equipped with a number and variety of tools and equipment for work to be done efficiently. Although you may not be using all the tools at this level, it is necessary to be familiar with these tools, also able to identify and select right tool for the job, and use it safely and correctly.

**Hand Tools and Appliances**

All hand tools and appliances must be used for their intended purpose. Hand tools must be inspected before and after use. The use of any hand tools should be stopped if it becomes unserviceable during operation.

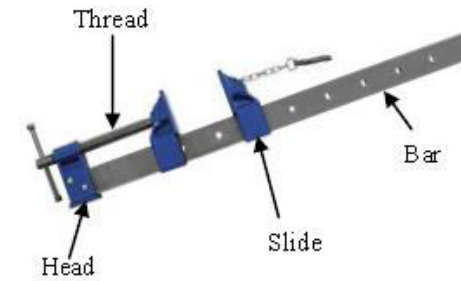
- 1. Combination Square** - Combination square can be used for leveling, as a try square, to determine the squareness of a piece of joint.



- 2. Sliding Bevel** - It is used to mark lines at any angle on a work piece.



- 3. Sash Cramps** - Sash cramps are used to clamp work together when it is glued. They vary in size and are normally used in pairs.



- 4. Hand Saws** - Hand saws are hand-held tools, manually-driven, that are designed to cut through softer materials mainly wood. There are many different types of hand saws that vary based on how and what they cut.

- i. Keyhole Saw** - A keyhole saw is perfect in cutting holes in wood and curves.



- ii. Cross Cut Saw** - It is used to cut large pieces of timber or cuts through a tree across the grain of timber.



- iii. Panel Saw** - It is especially used for cutting light boards like plywood across the grain.



- iv. Rip Cut Saw** - It is specially designed for making cut parallel to the direction of the wood grain.



- v. Back Saw** - It is used for making fine accurate cuts in small pieces of wood such as cutting of joints, angles with and across the grain.



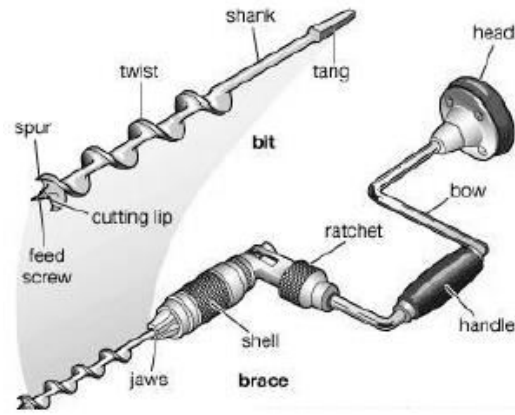
- vi. Coping Saw** - Coping saws are perfect for cutting complex patterns on wood.



- vii. Hacksaw** - It is used to cut rods, bars, angle plates to required lengths and sheet metals to specific size and shape.



- 5. Ratchet Brace and Bits** - Hand-operated tool for boring holes in wood, consisting of a crank-shaped turning device, the brace that grips and rotates the hole-cutting tool, the bit.



**STUDENT ACTIVITY**

1. What kind of saw must be used to cut across grain and with the grain?

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2. Why should planes and chisels be kept sharp?

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3. What happens if you bore a hole through a piece of wood from one side and don't support it with scrap stock on the other side?

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4. What are two kinds of hardware used in constructing projects?

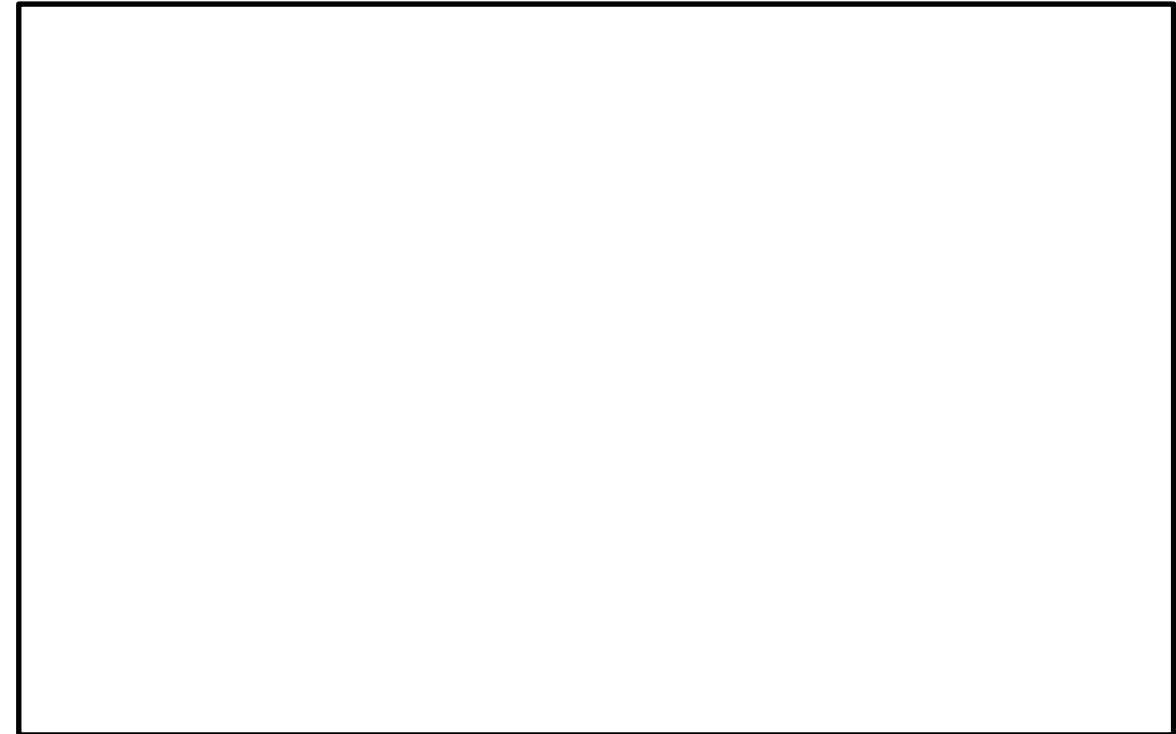
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5. Draw and label the parts of **keyhole saw**.



6. Draw and label the parts of **Sash Cramp**.



7. Identify the use of **Hack saw**?

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8. Identify the use of **Coping saw**?

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**THE END**