

PENANG SANGAM HIGH SCHOOL

P.O.BOX 44, RAKIRAKI

WEEK 14 WORKSHEET

Subject: Basic Technology

Year/Level: 10

Strand	BT10.4 HAND TOOLS AND MATERIALS
Sub Strand	BT10.4.6 SHARPENING HAND TOOLS
Content Learning Outcome	BT10.4.6.1 Demonstrate competency in sharpening skills and care and maintenance of hand tools.

LESSON NOTES**Electroplating**

Thin layer of metal is deposited on the surface of the metal to be used. Some examples are chromium plating on steel, silver and gold plating on jewellery and simple copper plating.

Sandstones

Sandstone is a sedimentary rock, typically formed from the most common minerals in the earth's crust. Sandstone has been a popular building material for thousands of years, used by ancient civilizations for construction, as well as for housewares.

Common uses of sandstone

Sandstone is a popular choice for both flooring and walls, indoors and outdoors. It's also commonly used as a decorative stone, or carved into items like bookends, coasters and paperweights.

Common finishes of sandstone

Along with slate, sandstone often comes with a natural cleft surface finishing. However, there are many options when it comes to sandstone finishes. One popular choice is a **honed finish**. This finish is created by grinding and sanding, resulting in a smooth surface that is not as glossy as a polished finish.

The **Stone Oil** has excellent penetration properties and therefore ensures a hard-wearing, dirt and water resistant surface. The Stone Oil is a pre-polish sealer formulated to give an aged appearance to natural stone and enhances the natural structure of the floor.

Sharpening Hand Tools

Planes and chisels cut well only if they are sharp. Two kinds of operations are done to sharpen these tools. Grinding reshapes the cutting edge of tool. It should be done only when the tool needs a new bevel or when the edge of the cutter is nicked. Otherwise, honing-sharpening the tip of the cutting edge is enough.

Grinding plane blade

- Check the cutting edge of the blade under light. If it reflects light, sharpening is needed.
- Hold a try square on the edge of the blade and check to see if the cutting edge is square with the sides. If it does not, grind off the old edge at right angles to the sides till the edge is straightened.
- If you are grinding the blade "freehand", grind as close as possible to the same angle each time the blade is returned to the wheel.
- Continue to grind the blade until a wire edge appears.

**Sharpening the Blade**

- Apply few drops of mineral oil to the face of the oilstone.
- Place the blade at an angle of about 30 to 35 degrees to the stone.
- To hone the edge, move the blade back and forth in a straight line.
- Now turn the blade over and place it flat against the stone. Move it back and forth to remove the wire edge.
- To test for sharpness, try slicing a piece of paper with the blade.

**STUDENT ACTIVITY**

- Identify the steps involved in grinding plane blade?

- _____
- _____
- _____
- _____

THE END