



**THOMAS
HASSALL
ANGLICAN
COLLEGE**

Year 12 Industrial Technology Portfolio Workbook
Use of Appropriate Processes and Equipment

Student Name: _____



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Design

Tools and Machinery usage

This section is for putting down all the tools and machinery you used throughout the construction of your project

Machine/tool	Description	Set up procedure	Safety procedures	Risk assessment	Picture of machine/tool

Ongoing Evaluation – what was the biggest lesson I learnt through this stage...

Equipment, Materials and Resources

This section is for putting down all the equipment, materials resources and jigs hat you needed to make for the construction of your project

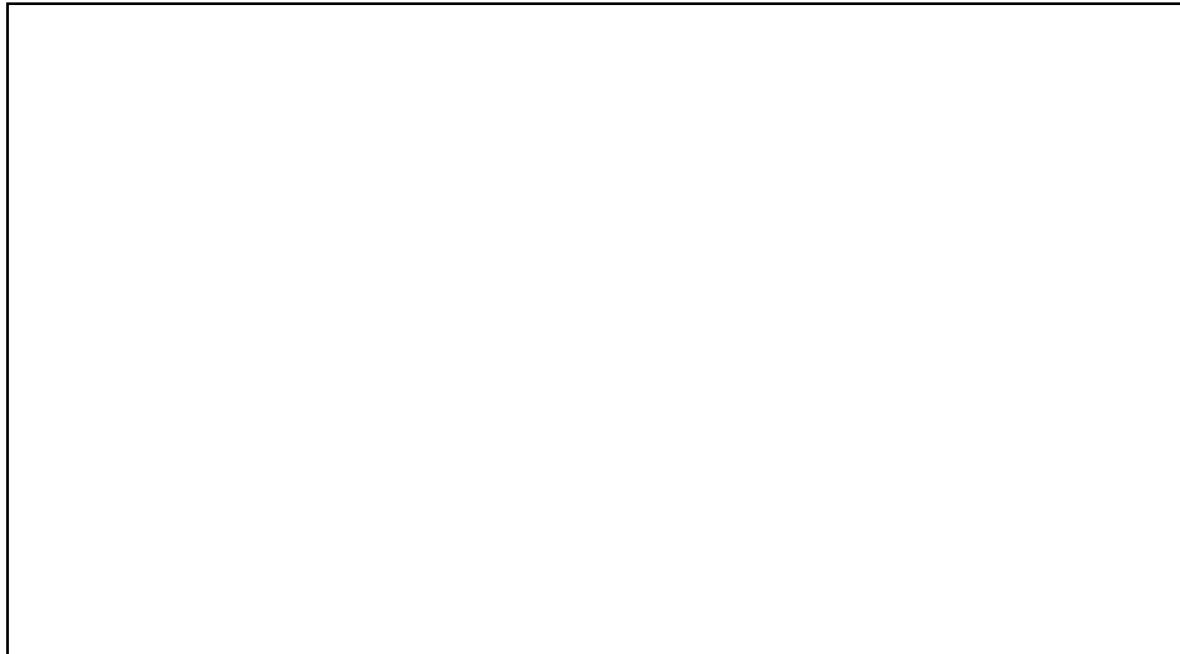
Equipment/material resource and jig	Description	Set up procedure	Safety procedures	Risk assessment	Picture of equipment or material

Ongoing Evaluation – what was the biggest lesson I learnt through this stage...

Evidence of Safe Working Practices in the Classroom

This section is for pictures of each machine or tool or equipment or material or resource or jig that you used to construct your project.

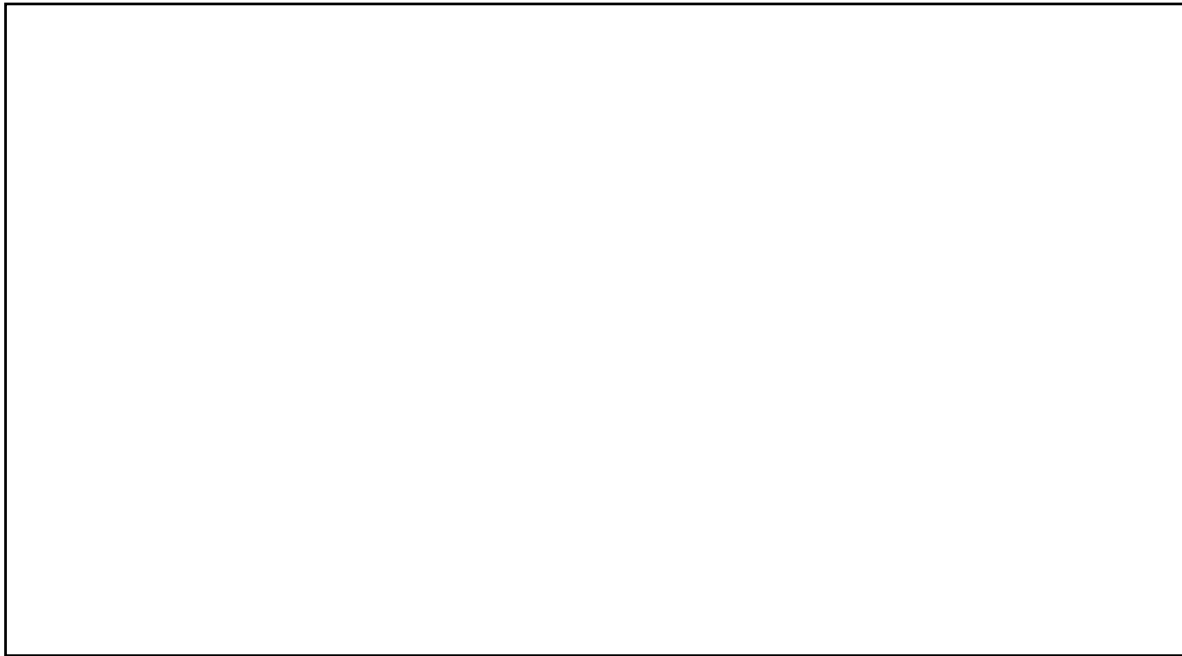
Place a picture in the square provided of you working on the specific tool, machine or process...write notes about any mistakes or things that went wrong or went well...



1. _____

In the spaces provided include a picture of the machine, tool, equipment, material, jig or process with you actually working on this...

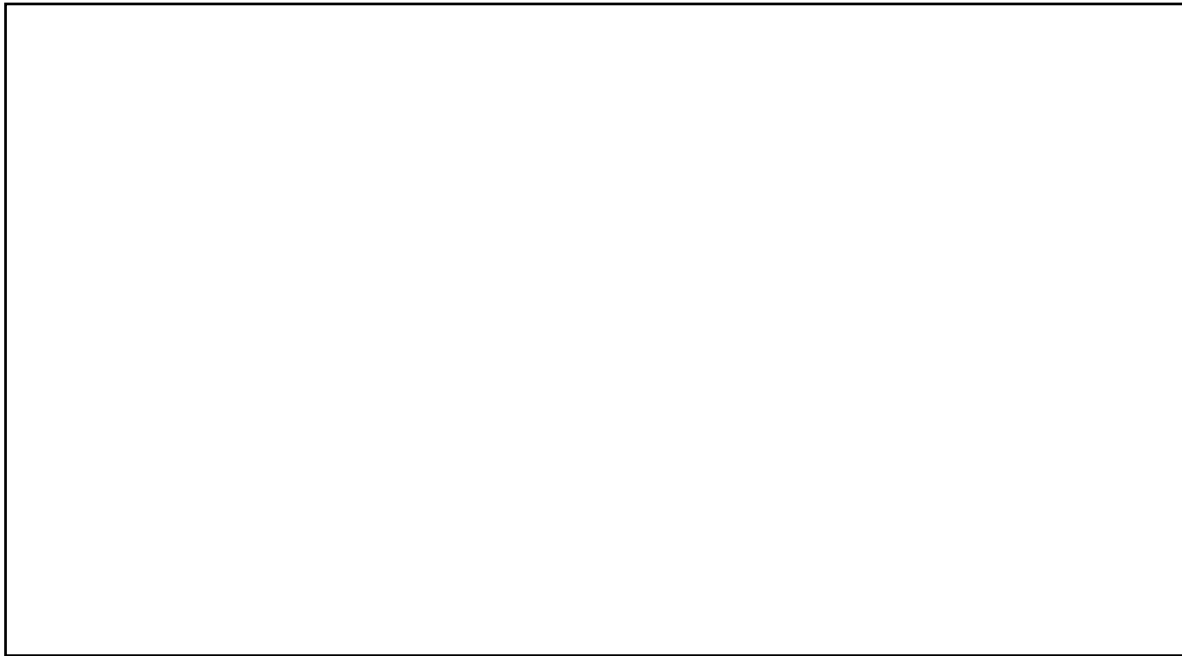
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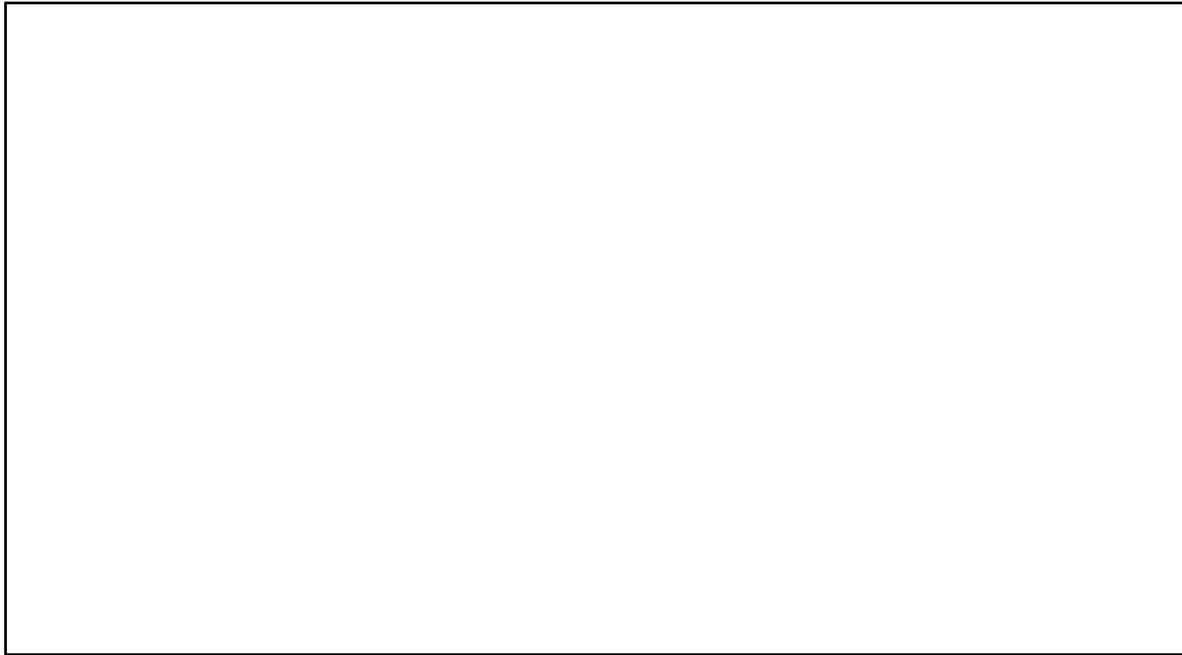
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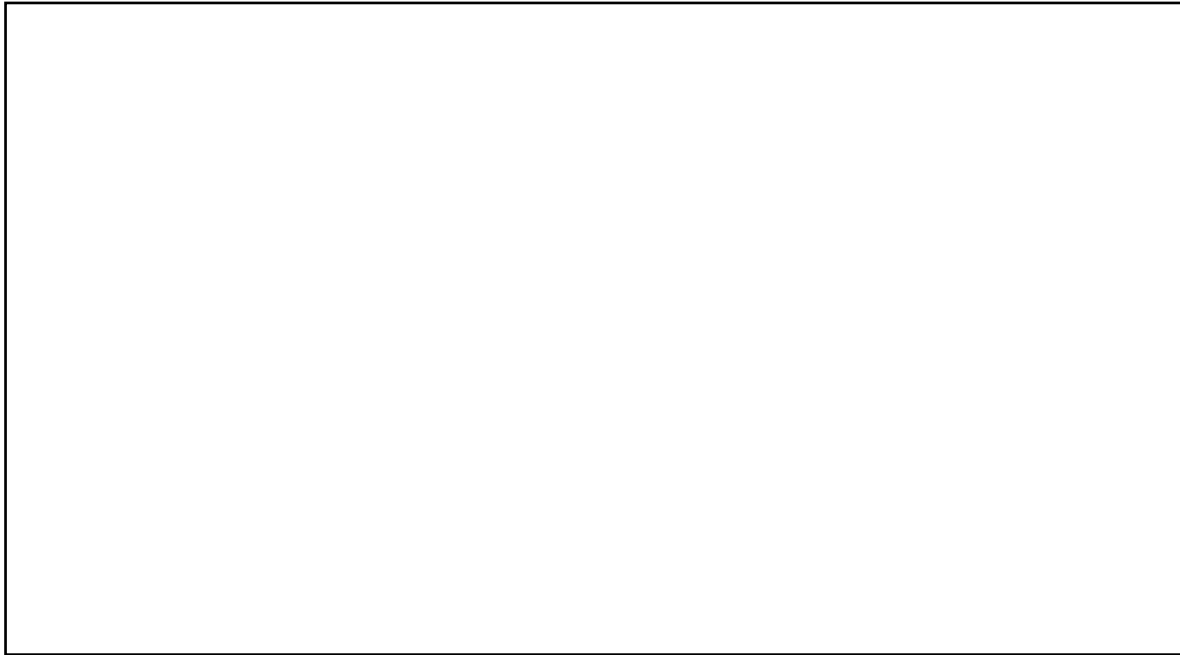
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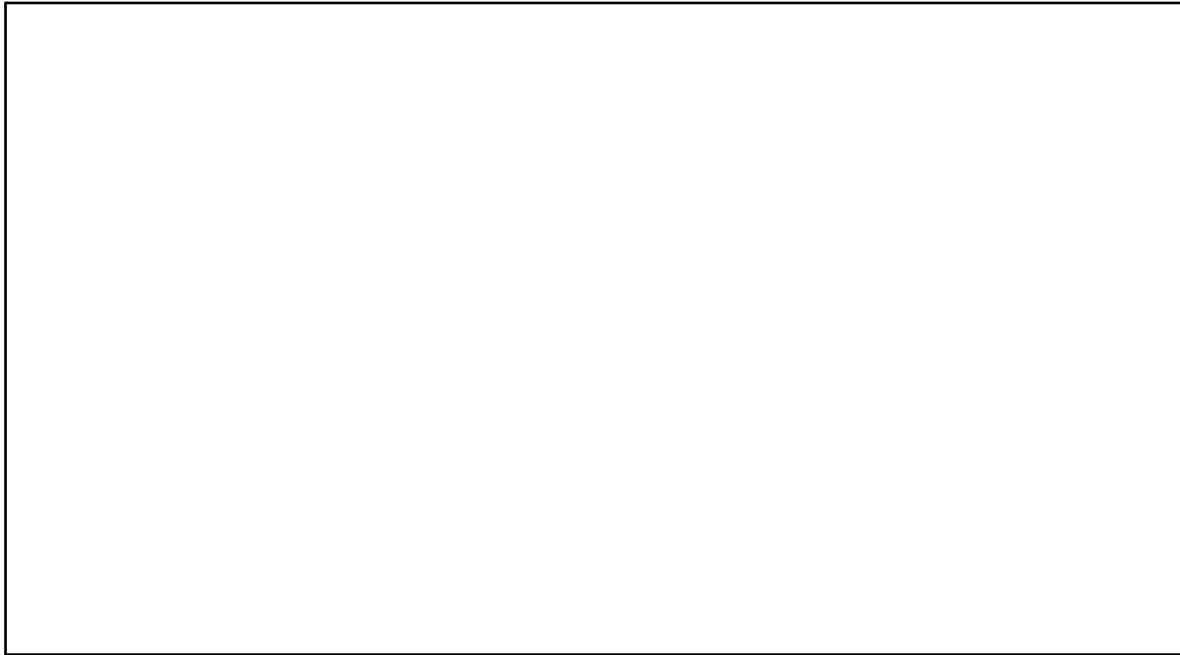
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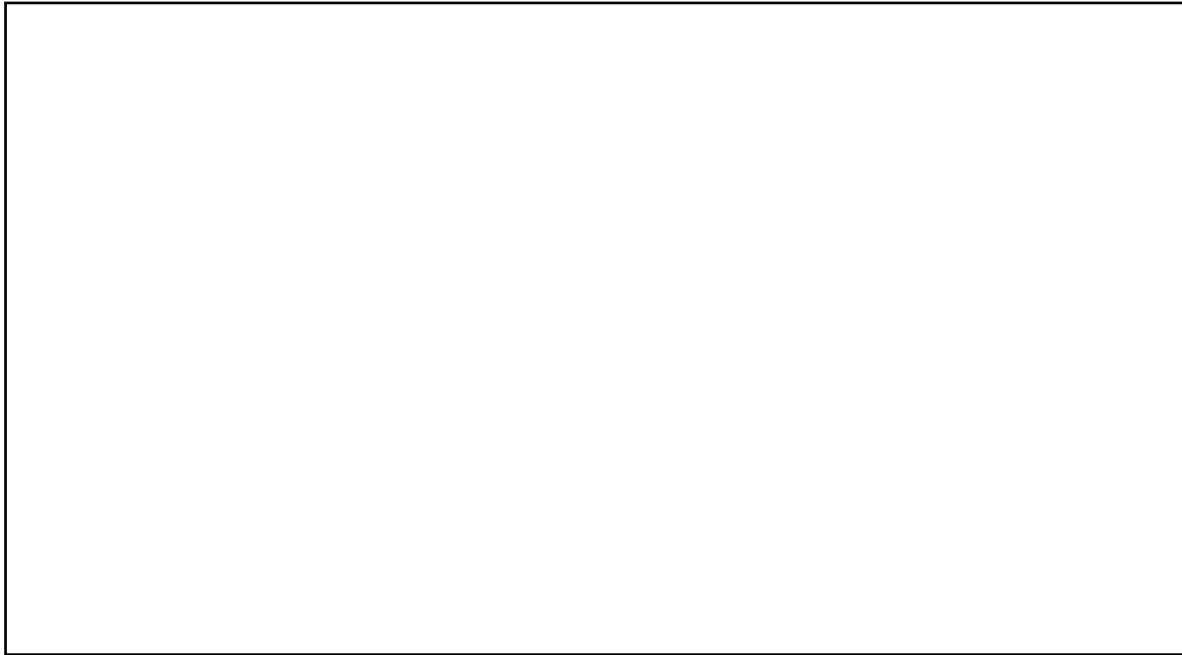
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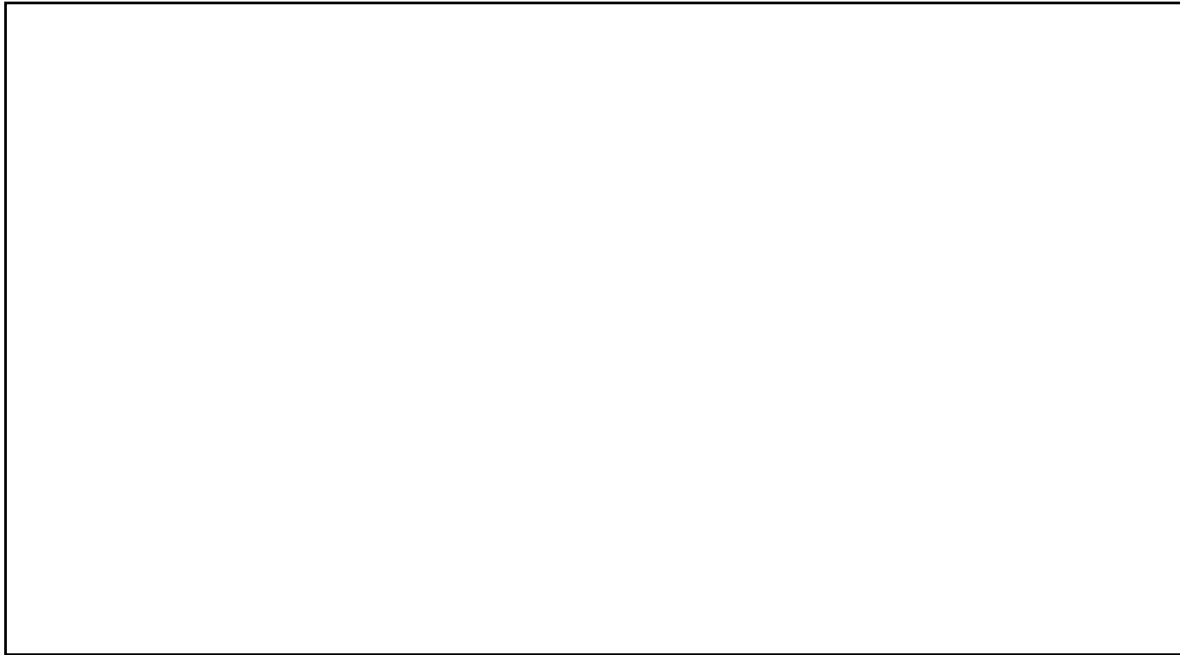
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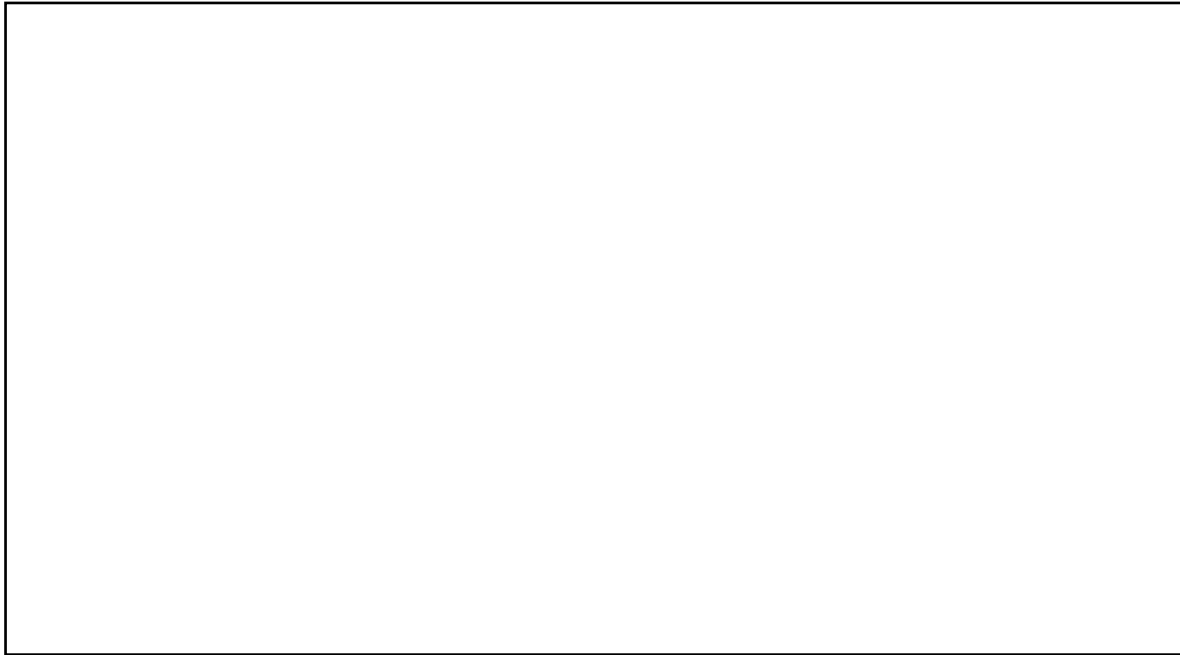
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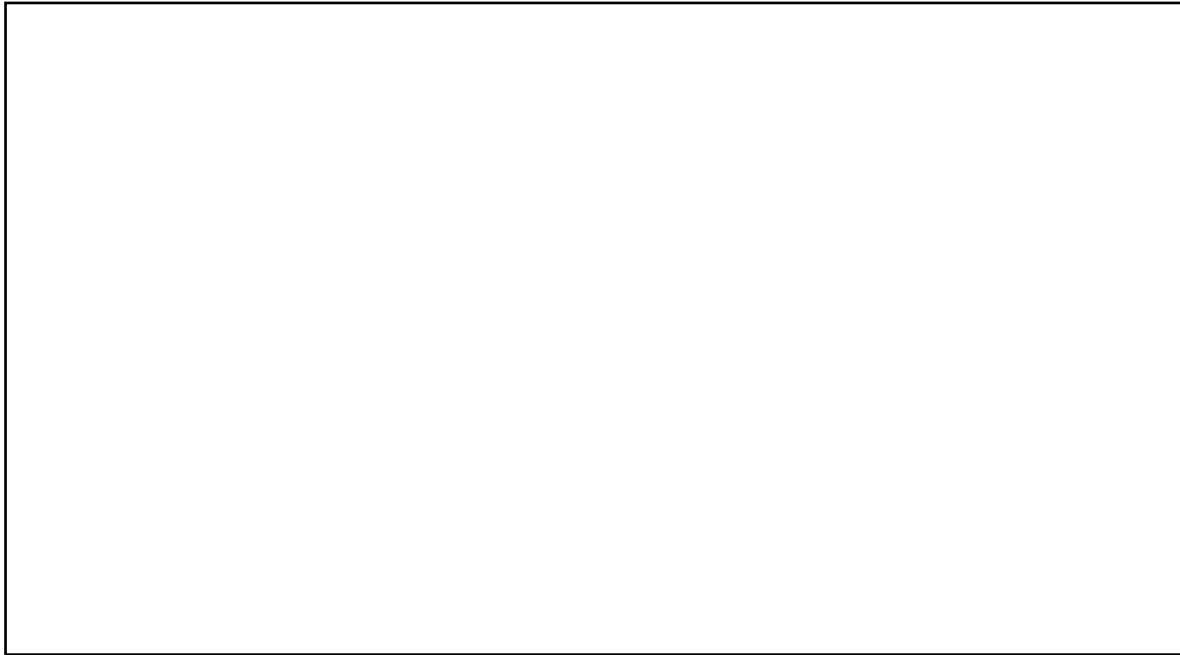
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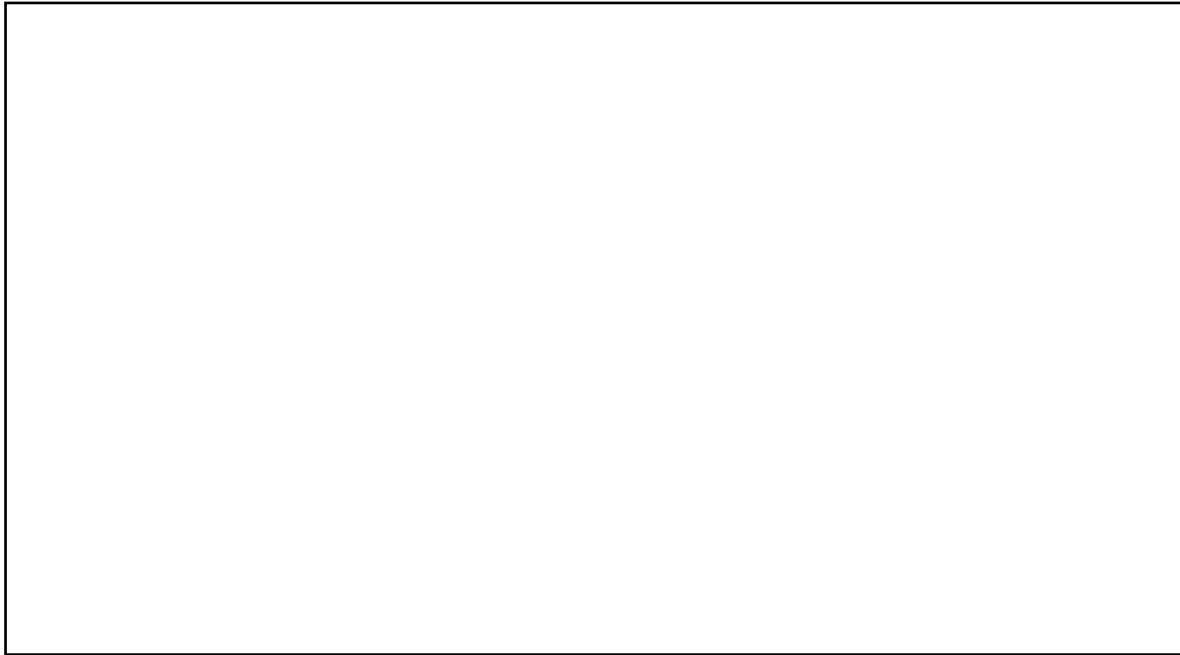
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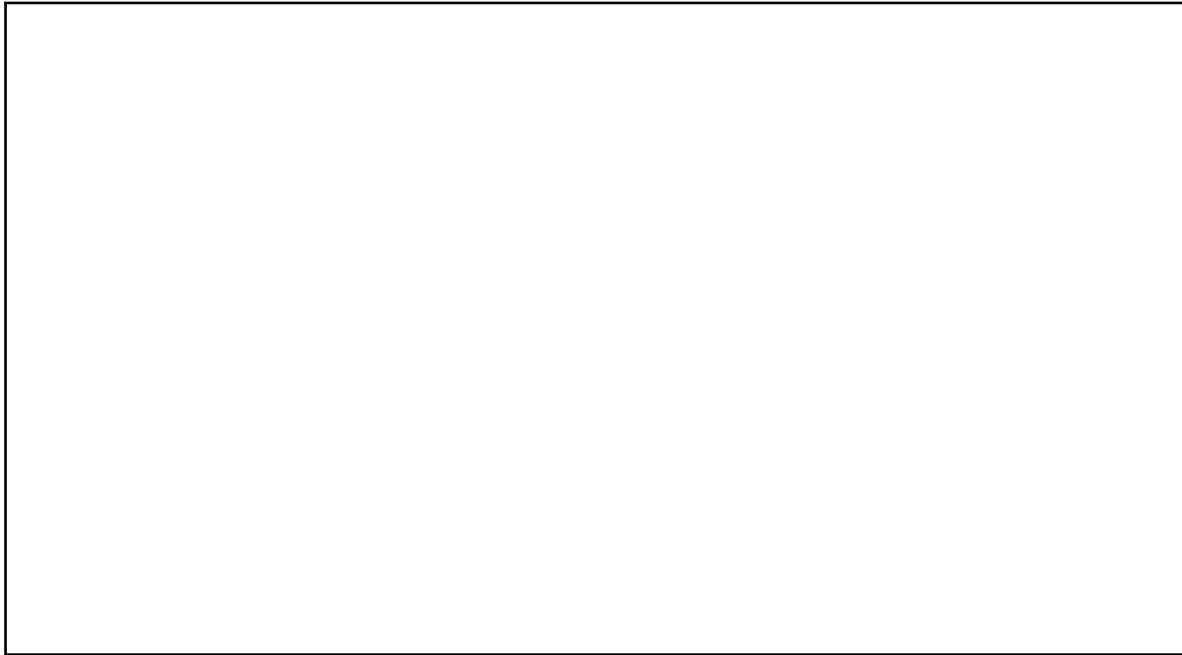
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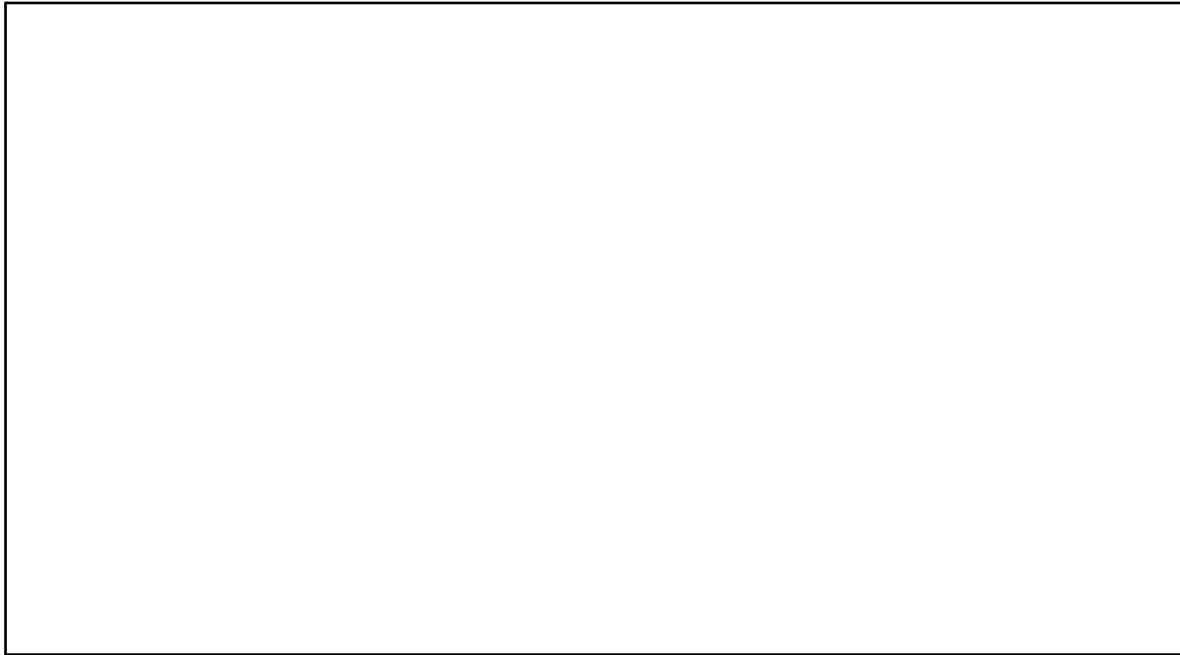
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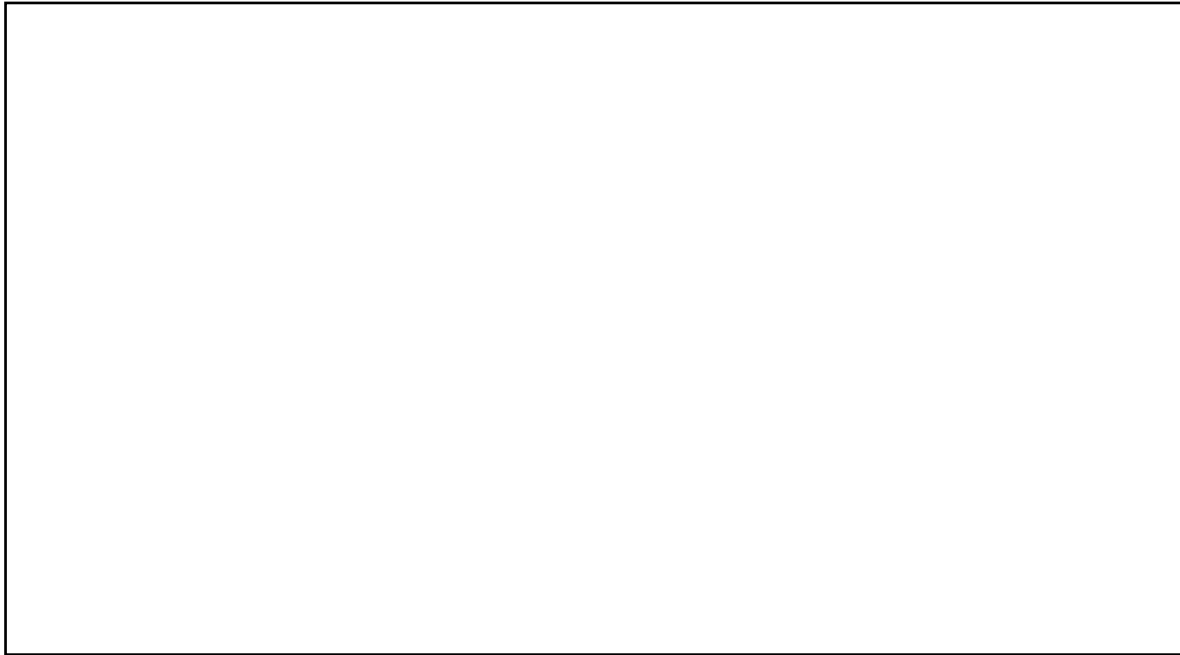
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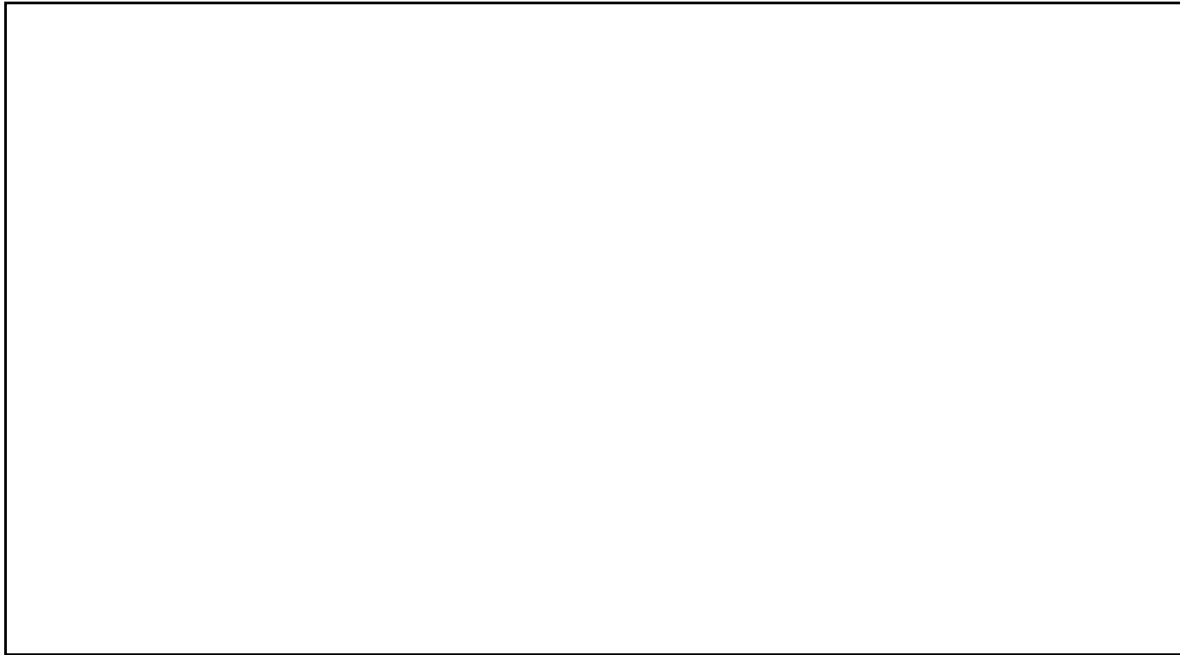
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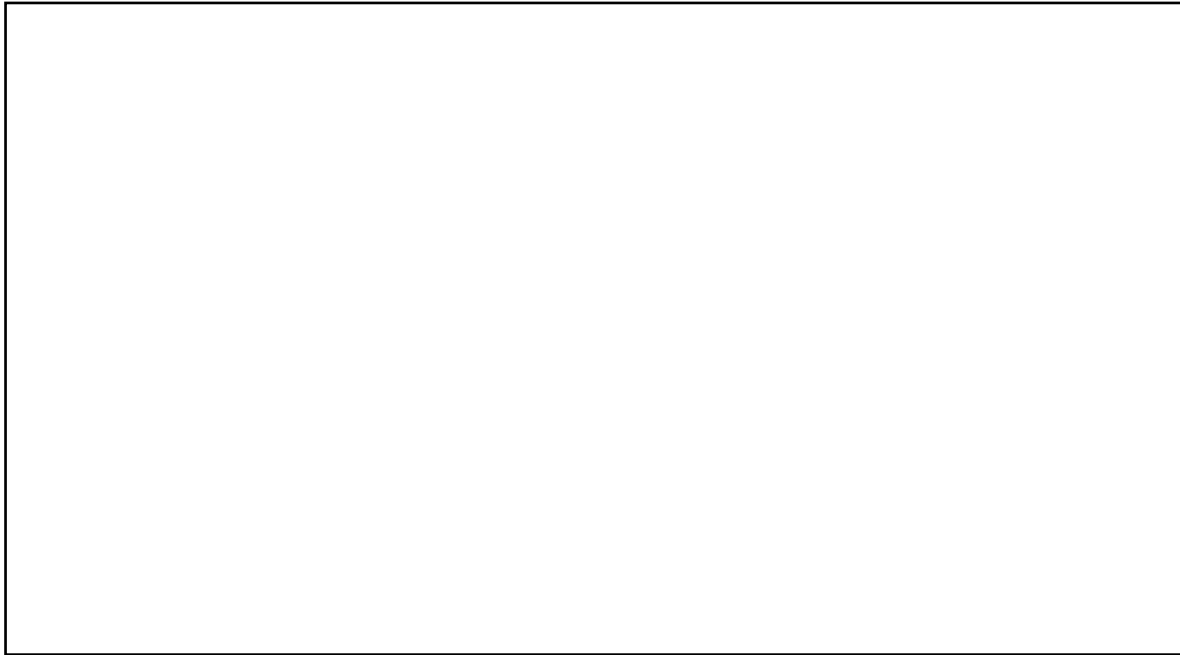
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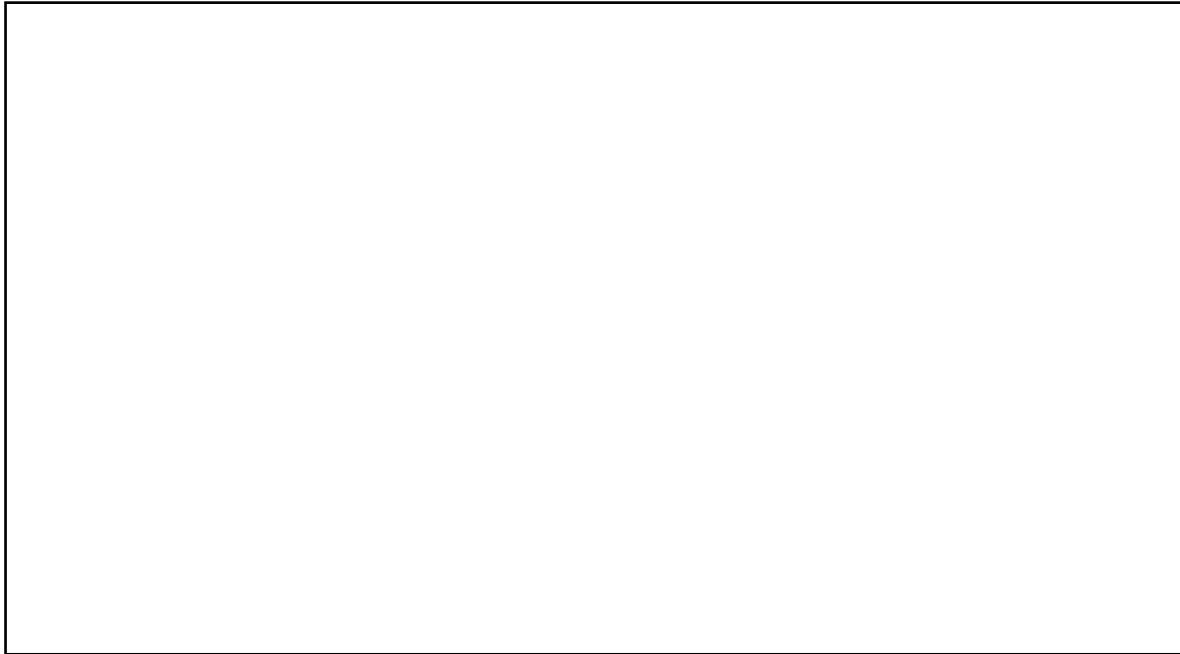


17. _____

In the spaces provided include a picture of the machine, tool, equipment, material, jig or process with you actually working on this...

Ongoing Evaluation

Place a collage of pictures of you working on everything and write an ongoing evaluation about this whole experience...



Ongoing Evaluation: _____

In the space provided include all your picture of the machine, tool or process with you actually working on this in a collage form...

Justifies the selection of some industrial processes and equipment in the development of the major project.



Industrial Technology

Folio

MPR

Use of appropriate industrial processes & equipment

PROCESSES USED IN THE CLASSROOM

PROCESSES	EQUIPMENT	SAFETY APPLICATION
Cutting out wood from templates	Bandsaw & scroll saw	Plastic glasses, dust extractor
Cutting square ends	Compound mitre saw	Plastic glasses, ear muffs
Reducing woods thickness, revealing grain patterns	Thicknesser	Eye protection, ear muffs
Smoothing wood	Orbital sander, belt sander, sand paper	Dust mask, dust extractor & eye protection
Shaping joints & components	Grinder (sander), files, belt sander, router, spokeshave & plane	Plastic glasses, ear muffs, dust extraction
Drilling & screwing	Hand drill, drill press, Phillips head screw driver	
Cutting specific joints	Dozuki fine precision saw	Eye protection
Joining components	Dowel joints, dozuki saw, chisel & bandsaw	Eye protection, ear muffs
Rounding back legs, rockers, seat & armrests	Spokeshave, router, grinder sander	Goggles, ear muffs
Shaping seat	Grinder (cutter & sander) spoke shave & router	Eye protection, ear muffs & dust extractor
Finishing	Sand paper, rag	Eye glasses, dust mask



Industrial Technology

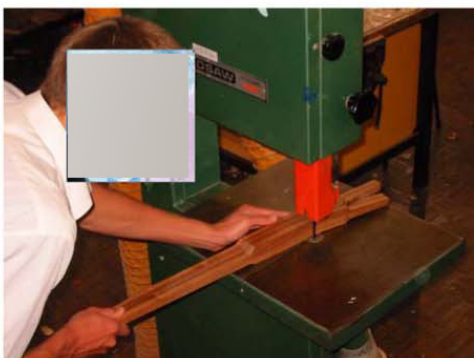
Folio

MPR

Evidence of industrial processes in the classroom

LATHE

The lathe has a high-speed rotation, which allows you to circularly shape timber. I used the lathe to round over the front legs. As you can see the tool is held firm and resting on the tool rest for total control, the dust extractors are on to remove dust particles from the air.



BANDSAW

I used the bandsaw to cut most of my components out. [REDACTED] uses the bandsaw to shape various pieces himself. The bandsaw proved very useful in accurately cutting along drawn lines, making shaping the spindles in this picture relatively easily.



Industrial Technology

Folio

MPR

BENCH PLANE

This particular plane was very useful in getting flat surfaces & Squaring up timber. In this picture I am shaping up a spindle.



SPOKESHAVE, CHISEL & PLANE

The spoke shave has been one of the main shaping tools I have used to shape the spindles & back legs, it cuts smoothly resulting in a clean carve. The chisel has helped me trim up edges, joints & surfaces sharp and precise it made a clean joint possible.

OILING

There are 2 finishes that contain a mixture of oils and estapol that I used for the finish created by _____,

- 1 contains -1/3 urethane
 - 1/3 raw tung oil
 - 1/3 boiled linseed oil
- 2 contains -2 handfuls of shredded beeswax
 - 1 Gallon oil mixture

These finishes allow an indefinite shelf life

HSC 2002 – Industrial Technology

Use of Appropriate Industrial Processes and Equipment

Band 4/5

Describes the selection and use of some industrial processes and equipment, and other resources in the development of the major project.



- * Cutting the chromed plated steel into shelf supports and legs.
- * Notice the steel resting against the adjustable stop and Oil based solution running over the cutting surface
- * View of the bottom of the top desktop
- * Notice routed grooves for compartment walls.

ever it has been stuck too. This worked well as the gun can be used with one hand and being light was an advantage too.

Circular saw:

The circular saw is one of the most useful portable tools. It is mainly used for making straight cuts in timber as it is easier than using a handsaw and will give a cleaner and more accurate cut.

It can also be used for:

- Making joints
- Cutting sheets of timber
- Cutting wood away to start off a slot

Drill Press:

More accurate than any portable drill, a drill press uses a drilling head positioned above an adjustable table; they are both fastened securely to a sturdy base. The drill press motor is run of a belt, which is adjustable by hand. The larger the cogs the slower the speed tends to get. The drill also has a depth gauge. When drilling always use a faster speed for small diameter holes and a slower speed for larger drills.

Power Hand Drill:

This drill can come with a cord or run off a battery. This drill is very handy because it can be used in almost any application but suffers the accuracy of a bench drill. The drill has a keyless three-jaw chuck that can hold up to 10 or 12mm drill bits.

Orbital Router:

This tool is very powerful, as it can get very high in the rev range. Routers are often used to make fancy edges with different bits but they can also be used to trim larger pieces of wood with curves to size. Routers have bolt on bits such adjustable fences, which are used when

HSC 2002 – Industrial Technology

Use of Appropriate Industrial Processes and Equipment

Band 4/5



* Notice the bearing follow the template underneath the particle board.



Jigsaw:

1. Secure jobs by using clamps.
2. Cut in a forward direction only.
3. Do not try and cut an acute angle or blade will break.
4. Always wear safety protection (glasses, ear muffs, apron).
5. Tie back loose clothing and long hair.
6. Don't lift saw out of job until blade has stopped moving.

Router:

1. Place power cord over shoulder to prevent it getting tangled in router.
2. Place the router on the job and cut sideways.
3. Tighten router bit to insure it wont fly out.
4. Position the router to the right speed.
5. Don't lift router bit out of job until it has stopped spinning.
6. Always wear safety protection (glasses, ear muffs, apron).
7. Tie back loose clothing and long hair.

Radial arm saw:

1. Adjust height of the blade.
2. Lock into place.
3. Hold job in place with left hand.
4. Pull the saw across in one motion, keeping elbow straight.
5. Wait until blade has stopped spinning before cutting another piece.
6. Always wear safety protection (glasses, ear muffs, apron).
7. Tie back loose clothing and long hair.

Drill:

1. Tighten drill bit until it is locked in.
2. Position the drill to the right speed.
3. Secure job to table by clamping.
4. Place cord over shoulder.
5. Always wear safety protection (glasses, ear muffs, apron).
6. Tie back loose clothing and long hair.