

Plane Knowledge Organiser

Tier Three

Vocabulary

Housing joint

Tenon saw

dowel

coping saw

marking gauge

pillar drill

sander

evaluate

design

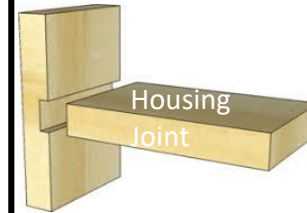
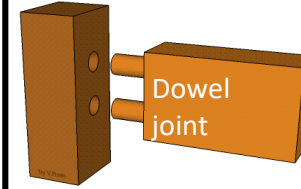
annotate

Knowledge

- what a specification is and why we write them (a specific list of decisions that have been made by the students through their research)
- how to use the correct tools and equipment (marking gauge, try square, steel rule, tenon saw, coping saw, mortise and bevel chisel, mallet, vice, pillar drill, sander)
- how to use redwood, dowels, acrylic and using water based acrylic paint accurately
- how to spot hazards such as debris on the floor and inappropriate use of tools and equipment
- the safety procedures such as when to wear goggles, correct use of tools and machinery
- why accurate measuring and marking skills are important to a good outcome for instance using a try square and marking gauge correctly
- how to evaluate (give an opinion) and annotate (e.g. name the finishes and what their design is based on)

Skills

- work effectively as an individual to produce a high-quality product
- write and develop an effective specification
- use tools equipment and machinery safely and accurately (marking gauge, try square, steel rule, tenon saw, coping saw, mortise and bevel chisel, mallet, vice, pillar drill, sander)
- demonstrate accurate measuring and marking out using a template
- demonstrate good annotation and evaluation of their work using the correct terminology
- self-assess their work against the mark scheme



Tools and Equipment

Here are the tools and equipment used to manufacture a timber plane:

Try Square - used to mark 90°



Marking gauge - used to mark a parallel line along the edge



Pencil



Steel rule



Coping saw - used to cut curves



Tenon saw - used to cut straight lines



Mallet:

Used to tap the chisel to create the housing joint



Chisels:

used to remove small pieces layers of timber



Sander - used to remove small areas of timber parts smooth



Pillar Drill : used to create accurate holes in Materials



Evaluate
Judge from available evidence/
experience.

Analyse
Separate information into
components and identify their
characteristics.



CQ How would you complete a specification for your plane?

- I am designing and making an: _____
- The client who I am designing my product for is: _____
- The materials I will be using are - _____ because _____
- The colours I will use are: _____ because _____
- The jointing methods I will use are: _____ because _____
- The theme for my product will be: _____ because _____
- The quality of the product will be evident in the: _____
- The product I am manufacturing will have a minimal impact on the environment because: _____

Aeroplane Achievement Descriptors

Good

- Aeroplane mostly complete
- 3mm gap in the housing joints the joints
- All components made close to the correct size
- Larger than an 85-degree angle between the body and the wings and tail
- Little attempt to remove saw and pencil marks evident
- Paint applied with little accuracy

Better

- Aeroplane complete
- 2mm gap or less in the housing joints
- All components made to the correct size
- 85 to 90-degree angle between the body and the wings and tail
- Some saw and pencil marks still evident
- Paint applied with a good level of accuracy

The Best

- Aeroplane complete
- 1mm gap or less in the housing joints
- All components made to the correct size
- 90-degree angle between the body and the wings and tail
- No saw and pencil marks evident
- Paint applied with an excellent level of accuracy