[redacted]

East Renfrewshire Council: Education Department
Practitioner Moderation Template

Prior to the moderation exercise, please complete the following information and submit it to your facilitator with assessment evidence from one learner that you judge to have successfully attained the Es' and Os'.

Experiences and Outcomes:

I can apply design thinking skills when designing and manufacturing models/products which satisfy the user or client. TCH 4-09a

I consider the material performance as well as sustainability of materials and apply these to real world tasks. TCH 4-10a

Learning Intentions:

I will learn about appropriate wood joints to pick during design tasks.
I will learn to selects tools and equipment to mark-out, cut, shape, form and finish models/products independently.
I will learn to produce accurate prototypes, in scale, by reading drawings and sketches to retrieve dimensional and material information
I will learn how to plan the most suitable methods for manufacture.

I will learn to describe the properties of materials.
I will learn to recognise sustainability issues when selecting materials.
I will learn about how to increase the durability of materials or products.

Success Criteria:

I can identify different wood joints and give reasons for their suitability.
I can manufacture joints to a tolerance of +/- 1mm.
I can design and make a backboard for my target market.
I can select tools and plan for manufacture.

I can discuss the suitability of materials in the making of the clock.
I can create well fitted joints.
I can apply a finish to my clock.

Briefly outline the context and range of quality learning experiences that have been provided making reference to the chosen design principles.

Pupils have a set of working drawing that they must follow to manufacture a kitchen clock. The delivery of this is mostly within the workshop but there are classroom elements also where pupils design components of the clock, plan for manufacture and evaluate the suitability of the design given. Pupils are involved with identifying the suitable success criteria.

Pupils started off in the classroom and were introduced to the topic and given the working drawings of the kitchen clock.
Pupils then had to justify the choice of the construction methods, material choices, finishes and create a sequence of operations for the manufacture of the clock.

Pupils began the manufacturing process in the workshop but 1 period a week the class used a design room to plan the design elements of the clock (backboard and crown).

Pupils had to research their particular target market for their clock and then had to create a backboard design in a suitable format to be laser cut. Pupils also had to create a template for their crown piece to in some way match the design they had come up with.

Pupils then evaluated the manufacture of their finished clock.

Record the range of assessment evidence that was gathered to meet the success criteria (Say, Write, Make, and Do) considering breadth, challenge and application.

Say: Discuss the steps and any problem solving that may occur.

Do: Design the backboard and crown.

Make: Pupils have made a digital file of their back board design, template for the crown and the make the final model.

Write: Pupils will write up a sequence of operations and an evaluation of their work.

Briefly outline the oral/written feedback given to the pupil on progress and next steps, referring to the learning intention and success criteria.

Pupil was given oral feedback on an on-going basis on the quality of the joints and on the techniques they employed in the manufacture.

Pupil was given feedback on the suitability of the backboard for the design.

Teacher written feedback on the clock given via comments on GLOW Teams.
Comments included:
Excellent sequence of operations. Make sure you take your copy into the workshop this time!
Good succinct answers but try and go into more detail about the specific properties of the joints and the wood.
Clearly the critical sizes for the inside of the clock are well within tolerance.
The shelf joints look great and fit well. The top joints are also within tolerance but you could have sanded the front edge down a bit to even out the step. Nice and square. Good job!

Next Steps: Integrate the skills that you have demonstrated into future projects where it is applicable.

Pupil Voice:
What have you learned? How did you learn? What skills have you developed?

Having the chance to go through the project independently gave me a big confidence boost knowing that I can do these things on my own.

Did the learner successfully attain the outcomes? YES/NO

YES

[redacted] High School

22/11/2017

KITCHEN CLOCK

SEQUENCE OF OPERATIONS

TOOLS USED

marking gauge,
steel rule,
Try-square,
tenon saw,
chisel,
coping saw
Hand router
Gent saw
Forstner drill bit
Belt faced sander
Pillar drill
Rebate joiner

SIDES

1. Mark 158mm from the top of the wood, then mark 12mm down from your last mark with a steel rule
2. Using a marking gauge, mark half way down the side of the wood
3. After marking previous sizes mark 10mm from the edge, in line with your first lines, join lines up using a try-square
4. Cut down half way on the lines on the front of the wood with a gent saw.
5. Drill hole between cut lines with a 12mm forstner bit
6. Using a bevelled edge chisel clear out wood between the cuts
7. Smooth out gap with a hand router. This creates a stopped housing joint for the base
8. Use stencil to mark out curve for bottom of clock.
9. Cut wood away with a coping saw
10. Sand edges of in belt faced sander. Turn wood over to neaten up edges
11. Repeat for both sides

BASE

1. Place block of wood inside housing joint on sides, draw around sides, this will give you the area of wood that you need to keep.
2. Use try-square to join up lines for waste material
3. Place wood in vice and use tenon saw to cut away waste material
4. File away to get down to size, repeat on opposite size.
5. These will go into the stopped housing joints in the sides

TOP

1. Measure to the centre of the wood with a steel rule and mark with a centre line using a try-square.
2. Measure the distance between the two sides when joined together with the base. Divide distance by two and mark that far away from the centre line with a try-square.
3. Mark 12mm from the lines and make another line with a try-square, this will be the width of the through housing joint
4. Using a marking gauge, mark half way down the wood.
5. With a tenon saw make two cuts down to the half way point.
6. Clear wood away with a bevelled edged chisel
7. Smooth out joints with a hand router

ALL PARTS

1. Clamp parts together, if joints and measurement have been done properly the inside size of all the edges will be 150mm and hill have 90 degrees angles, you can check this with an engineer square, if sizes or angles are not correct adjust accordingly.
2. After sizes are correct, create a rebate joint for the backboard with a rebate joiner, make sure the rebate is at the front of clock.
3. Once rebates have been made sand all pieces.
4. After first round of sanding, raise the grain of all pieces with a damp paper towel, then leave to dry
5. Once all pieces are dry, sand again.
6. When all wood is smooth apply a thin even layer of varnish to all of the wood except joints.

Excellent sequence of operations. Make sure you take your copy into the workshop this time!

WHY WE USE WHAT WE DO.

Why do we use a stopped housing joint?:

we use a stopped housing joint because it looks good and provides the look of a butt joint but is more secure.

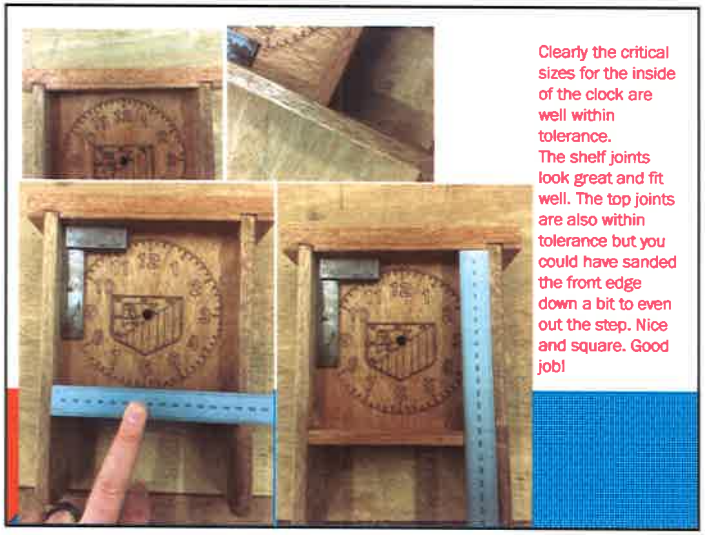
Why do we varnish the wood?:

Simply so that it looks better and to protect the wood, therefore extending its life time.

Why do we use Mahogany?:

Just because it looks good and has a wonderful finish.

Good succinct answers but try and go into more detail about the specific properties of the joints and the wood.



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S3 DESIGN AND MANUFACTURE

KITCHEN CLOCK

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I can apply design thinking skills when designing and manufacturing models/products which satisfy the user or client. TCH 4-09a

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KITCHEN CLOCK – WHAT WILL I LEARN

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I will learn how to plan the most suitable methods for manufacture.

KITCHEN CLOCK – WHAT WILL I LEARN

I consider the material performance as well as sustainability of materials and apply these to real world tasks. TCH 4-10a

I will learn to describe the properties of materials.

I will learn to recognise sustainability issues when selecting materials.

I will learn about how to increase the durability of materials or products.

KITCHEN CLOCK – SUCCESS CRITERIA

I will learn about appropriate wood joints to pick during design tasks.

I will learn how to manufacture a product to a high standard.

I will learn about how best to satisfy a client brief.

I will learn how to plan the most suitable methods for manufacture.

I can identify different wood joints and give reasons for their suitability.

I can manufacture joints to a tolerance of +/- 1mm.

I can design and make a backboard for my target market.

I can select tools and plan for manufacture.

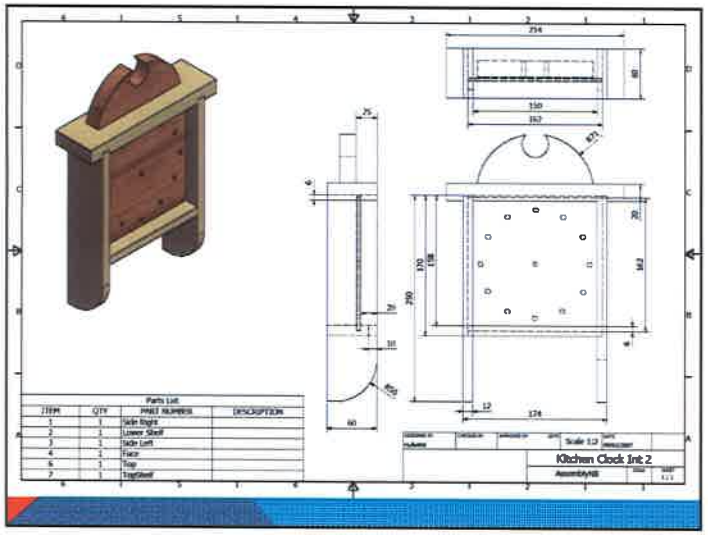
I will learn about the properties of materials and when they are useful.

I will learn about how to increase the durability of materials or products.

I can discuss the suitability of materials in the making of the clock.

I can create well fitted joints.

I can apply a finish to my clock.



KITCHEN CLOCK

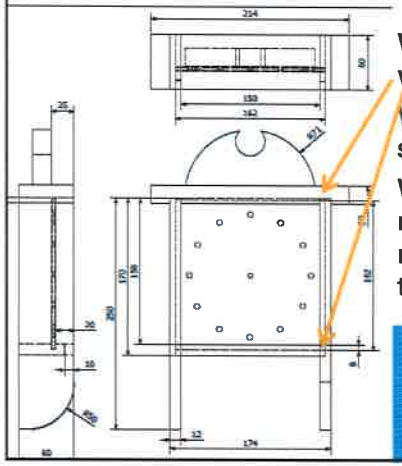
KITCHEN CLOCK - MATERIALS

What material are we going to use?

How do we know that this is ____?

Why is ____ a suitable material?

KITCHEN CLOCK - JOINTS



What joints are we going to use?

Why are they suitable?

What tools will we need to manufacture these joints?

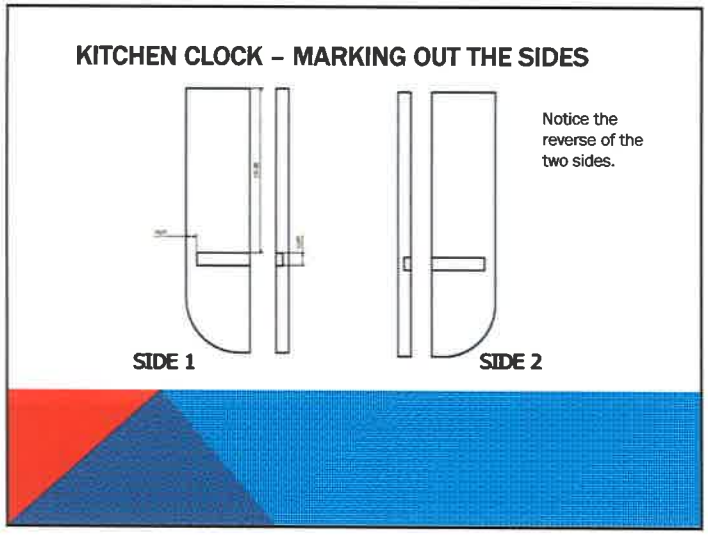
KITCHEN CLOCK - TOOLS

Steel rule	Coping saw
Marking gauge	Bevelled edge chisel
Tenon saw	Hand router
Gent saw	Pillar drill

KITCHEN CLOCK – GENT SAW

How would you use this and what would you use it for?

KITCHEN CLOCK – MARKING OUT THE SIDES



Notice the reverse of the two sides.