

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 create solutions in 3D and 2D and can justify the construction/graphic methods and design features. **TCH 3-09a**

I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required. **MNU 3-11a**

Learning Intentions:

1. Generate a range of creative ideas to support a product of your choice
2. Use 2D and 3D sketching skills to present ideas
3. Model a final idea from card and produce a template for use in the workshop
4. Plan for manufacture of the final design proposal
5. Evaluate your design proposal against design features and workshop experience

Success Criteria:

1. I can follow a design process to reach a given brief
2. I can identify relevant design factors which have an impact on my design
3. I can apply knowledge of construction methods to justify my design solution
4. I can use tools and equipment to manufacture models and products
5. I can apply safety working practices when creating a final model
6. I can extract dimensions from a drawing or card model and transfer these onto material to create a final solution

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

Lesson One: **Research and Analysis**

Using the design process as a class discuss the relevant design features and analyse the brief. Learners are asked to explore products that they may want their design to support.

Lesson Two: **Idea Generation**

Learners were shown a Power Point and examples of different products to help them generate a range of ideas. Learners discussed how their ideas supported the design brief and asked to annotate their ideas with relevant design features. Learners also had the opportunity to create a 3D card model to support their learning.

Lesson Three – Four: **Plan for Manufacture**

Learners were taught how to create an accurate template including dimensions to support their learning in the workshop. They also worked in groups and shown different manufacturing methods to allow them to plan for manufacture.

Pupil Voice:

What have you learned? How did you learn? What skills have you developed?

Exit Cards – See evidence of pupil exit cards lessons 1-3.

Did the learner successfully attain the outcomes? YES/NO

Structural damage

Material

aluminium, Properties → Bends easily
- easy to die
- easily to cut, bend, mould, shape
- strong
- light weight

User
- Personal
- friends
- family
- gift

Design Analysis

Function
- Support
- phone
- tablet
- book
- pen &
- case

Cost

Retail cost
- cost of raw materials
- cost of manufacture

safety
- no rigid edges
- must not damage product

Shape
Geometric
organic

Finish
Spray painted
Alcorac
Polished

Aesthetics
size - 200 x 100 mm
Theme -
Animal
Sports
Characters

SC1 & 2 met -
Pupil has identified relevant design factors as an individual and as a class.
Analysis of the brief has taken place.

1

3D model



Function
Phone holder
or book holder

Shape
bend to stand
phone or book
L shape

2

light weight

could hold phone, glasses,
book

No sharp edges
L Shape



bend to help stand up

3 ✓



Christmas tree



Plan

Elevation

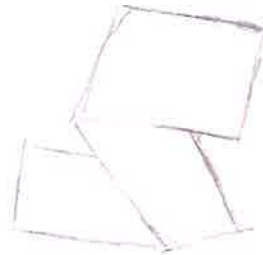


end elevation

holes to shine tealight
through

tip goes backwards so
easier to stand

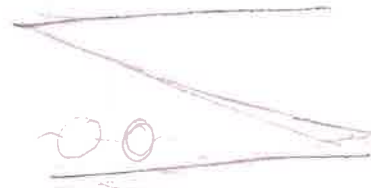
4



Shape

bent to
hold phone,
glasses

hold stuff on top



2. sided z holder

LI 1 & 2 demonstrated -

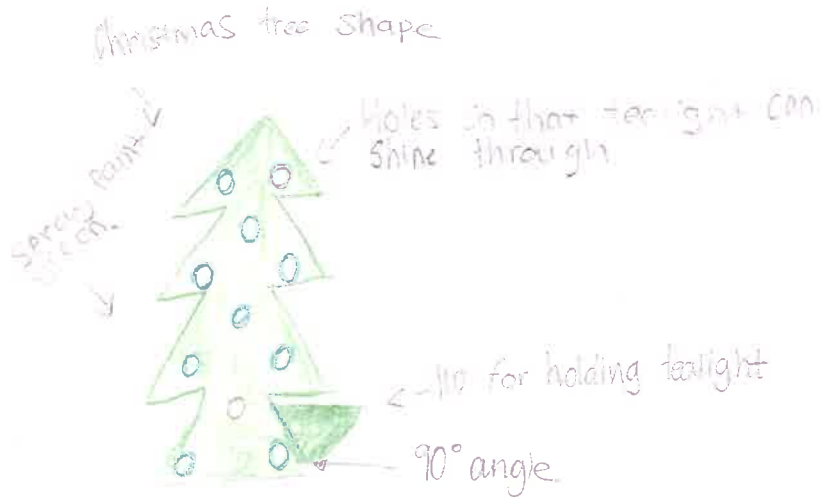
Pupil has demonstrated a range of ideas using 2D and 3D Sketching skills.

SC 1 & 2 met -

Pupil has followed a design process and annotated ideas using design factors analysed in first task.

STRUCTURAL DAMAGE - FINAL DESIGN

TASK 1 - SKETCH FINAL IDEA



TASK 3 - DESCRIBE YOUR FINAL DESIGN

What is the function of your product?

The function of this product is a teatight holder for a Christmas decoration.

What does your product look like? Shapes? Colours? Inspiration?

The product is green with tree triangle shapes and is folded up at the back.

Is your product safe to use?

The product is safe because there is no sharp edges and is lightweight so won't damage anything.

TASK 4 - EVALUATE FINAL IDEA

Function	Is my product fit for purpose?	Yes my product is fit for purpose because it matches the diagram with the teatight holder.	If I was to do it again would I change anything?	NO because it is perfect.
Aesthetics	Does my final product look good? Has it turned out the way I wanted?	Yes because it matches the diagram.	What finish did I apply to my product and why?	Spray paint to give a nice finish.
Manufacture	Is my product made to a high standard?	Yes my product has a good finish and is made to a high standard.	Has my product been manufactured to the correct size?	Yes because it is the right size and fits perfectly.
Material	What material is my product made from?	aluminium	What is good about this type of material?	its easy to bend to create things easily.
Workshop Experience	Rate your workshop experience and how safely you worked out of 10	10 because it was fun and I learned a lot and I was able to make something out of it.	What went well and what will you improve on?	matching my sizes and I could improve on my sizes.

LI 3 & 5 demonstrated -

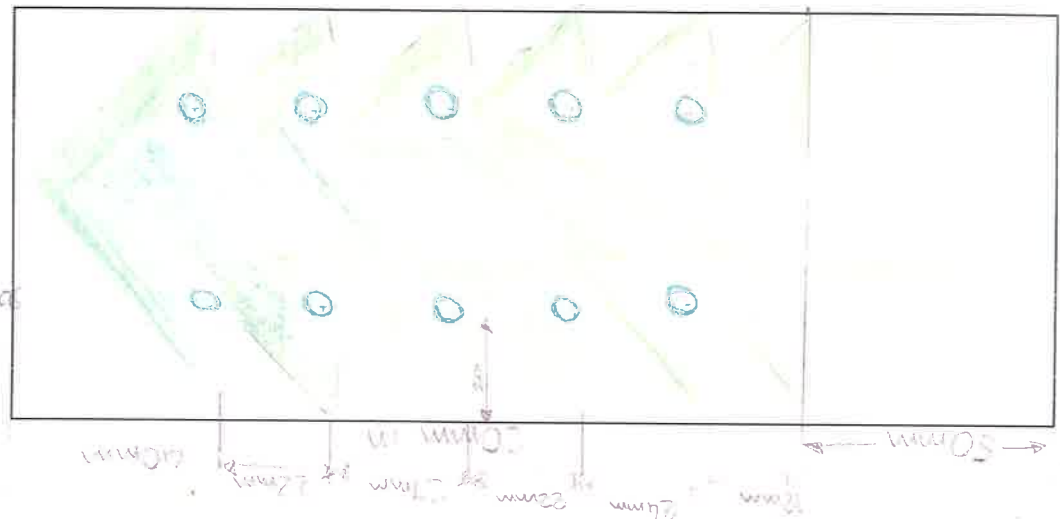
Pupil has created a template for use in the workshop and evaluated the effectiveness of the final prototype.

(Note: Evaluation took place after workshop experience was completed)

SC 1 & 6 met -

Pupil has followed a design process and created a template including dimensions that were extracted to create the final solution.

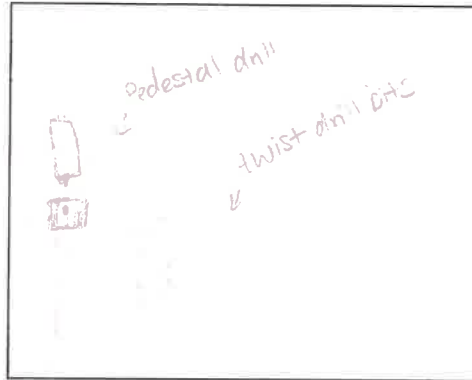
TASK 2 - MEASURE & MARK OUT DESIGN



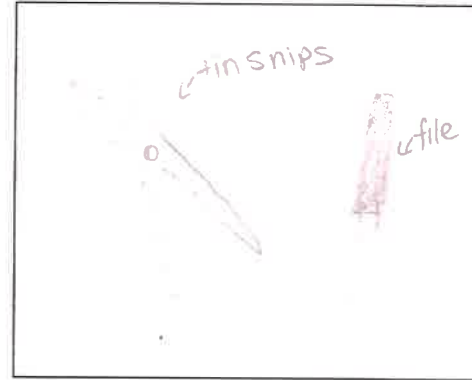
STRUCTURAL DAMAGE - PLAN FOR MANUFACTURE



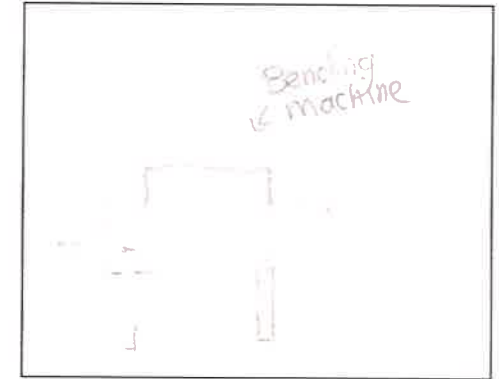
Mark out dimensions with steel rule, centre punch, ball hammer and scriber.



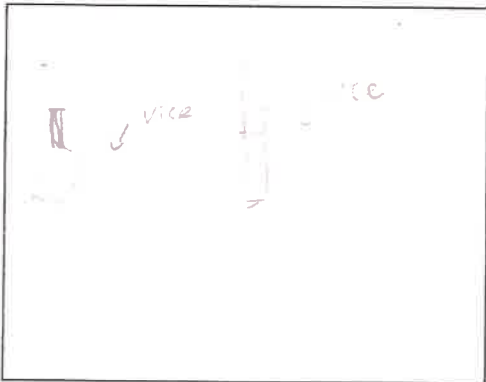
Set up drill with twist drill bits.



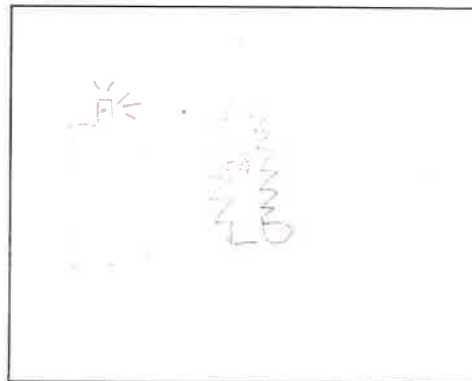
Cut tree shapes out with tin snips and file sharp edges.



Use Bending machine to make base.



File round edges with vice.



Spray paint finished product.

LI 4 demonstrated -

Pupil has created a detailed plan for manufacture that includes all relevant tools, equipment and steps needed to manufacture the final solution.

SC 3, 4 & 5 met -

Pupil has applied prior knowledge and understanding of metal working tools and equipment to manufacture a final solution.

Pupil has also been assessed on appropriate use of manufacturing tools and applying safety working practices.

Lesson 3 - Exit Card

Describe why dimensions are important...

because it allows me to see accurate sizes and if my product is possible.

I understand what manufacturing processes I am going to take to create a successful final model.

I fully understand I slightly understand I don't understand

What have we used in today's lesson?

Literacy Numeracy Health & Well-being

What was your favourite part of today's lesson?

making the template because it gave an idea of how it would look like.

Lesson 2 - Exit Card

One thing I have learnt today is...

how to annotate and sketch designs in 2D and 3D.

I can produce a range of ideas and understand how to annotate.

I fully understand I slightly understand I don't understand

What have we used in today's lesson?

Literacy Numeracy Health & Well-being

What could I have improved on in today's lesson?

More annotations on different drawings.

Lesson 1 - Exit Card

One thing I have learnt today is...

material properties and what design factors are important.

I understand what a design feature is and how they impact on the user.

I fully understand I slightly understand I don't understand

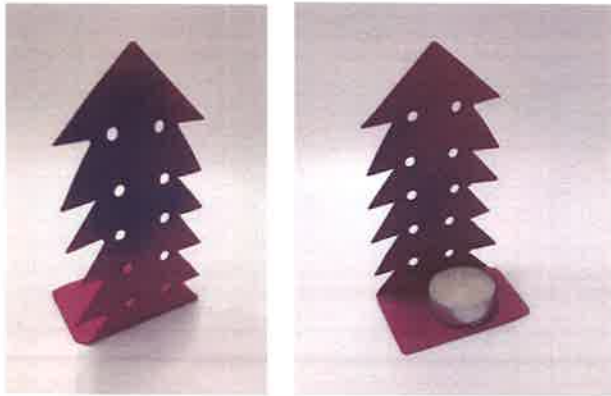
What have we used in today's lesson?

Literacy Numeracy Health & Well-being

What possible products could my structural damage product hold?

tabletop phone holder

Final Prototype Model



LI 3 demonstrated -

Pupil has created a card model to the size of the final solution.

Pupil has been given feedback and understand how to mark out centre points of drilling holes.

SC 6 met -

Pupil used card model in the workshop to reach a final solution.

Scanned Card Model

(Created at preliminary ideas stage)

