

MY FIRST ENAMELLING PROJECT

DESIGN BRIEF AND ASSOCIATED CRITERIA
SAMPLE OUTLINE DESIGNS
YOUR DESIGN SHEET
DEVELOPING YOUR DESIGN



RECOMMENDATION

Study the Jewellery Section of technologystudent.com in preparation for this project.



https://technologystudent.com/prddes_2/jewellery1.html

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MY FIRST ENAMELLING PROJECT - ENAMELLED PENDANT

WORLD ASSOCIATION OF TECHNOLOGY TEACHERS

<https://www.facebook.com/groups/254963448192823/>

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DESIGN BRIEF

Project Title: Enamelled Pendant

Objective: You are to create a unique, visually appealing enamelled pendant, that combines skilled making, with contemporary design elements. The pendant should be suitable for everyday wear and special occasions.

TARGET AUDIENCE

All ages.

Fashion-conscious individuals / customers, who appreciate handcrafted jewellery.

DESIGN REQUIREMENTS

Materials: The blank will be copper. The design may incorporate copper wire.

Pendant size: You will be given a copper blank by your teacher.

Shape: Geometrical forms that complement the enamel design.

Design Elements: Simple patterns inspired by nature, art or cultural symbols. Balanced use of two enamel colours, to create a harmonious and eye-catching design.

Functionality: The pendant should be lightweight and comfortable to wear with secure attachment to a chain or cord. It should be durable and resistant to everyday wear and tear.

PACKAGING

Elegant and eco-friendly packaging that enhances the overall presentation of the pendant. Inclusion of a care guide for maintaining the enamel and metal

TIMELINE

Initial design concepts: 2 weeks

Prototype development: 2 weeks

Production and quality control: 6 weeks

EVALUATION CRITERIA

Aesthetic appeal and originality of the design.

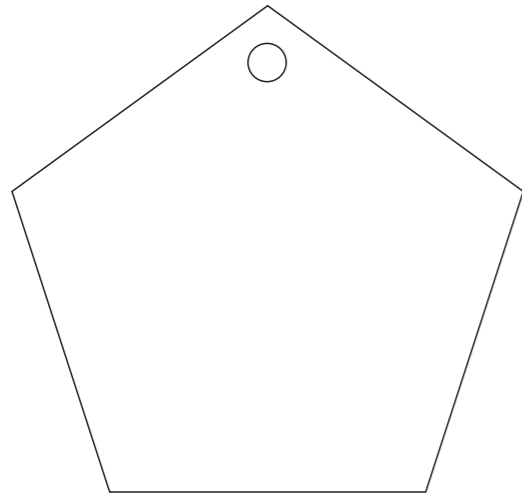
Quality and durability of materials used.

Functionality and comfort of the pendant.

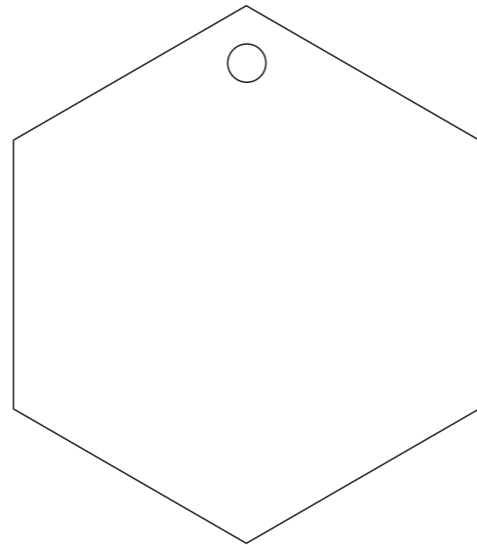
Positive feedback from target audience during prototype testing.

You have been given a small copper blank. The first stage is for you to decide on a shape.

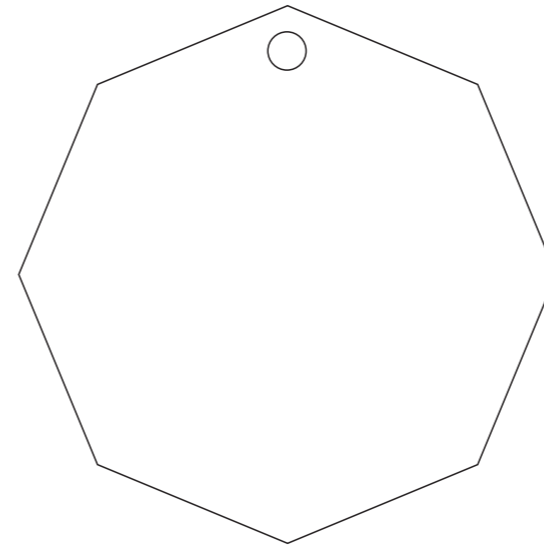
Draw eight shapes that you think could be used. It is essential that you keep your 'design' as simple as possible, as you will be cutting it from copper by hand. Complicated shapes are very difficult to cut. Copper is expensive, so minimise waste by cutting away as little as possible. Consider starting by selecting geometrical shapes. Where will the hole for the chain link be positioned?



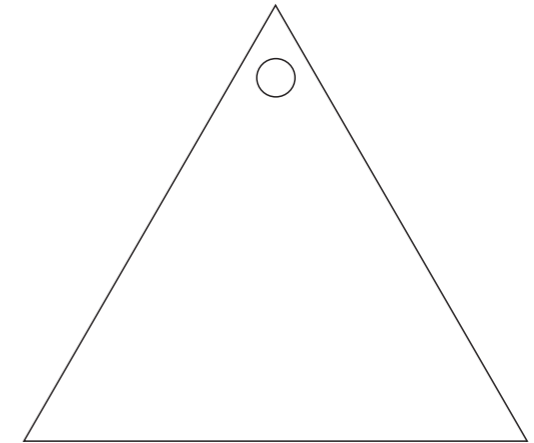
PENTAGON



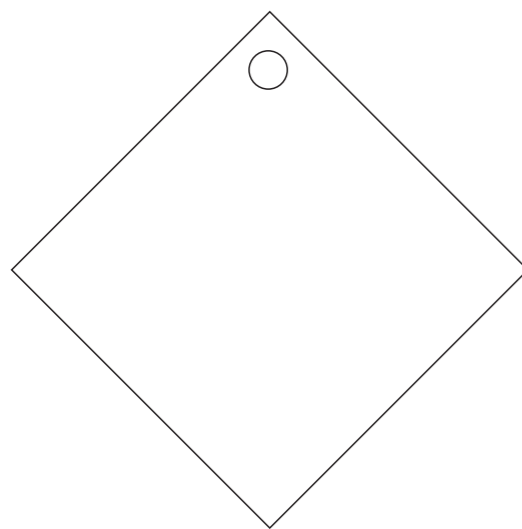
HEXAGON



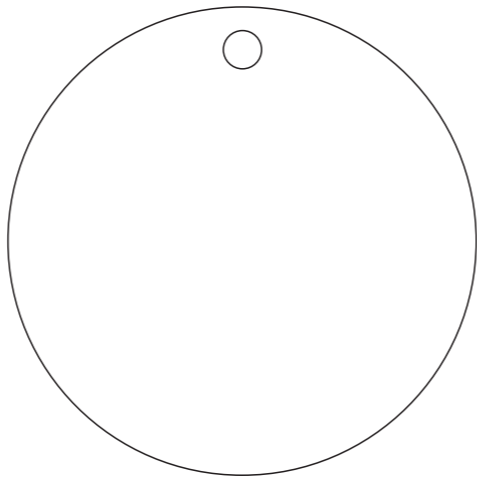
OCTAGON



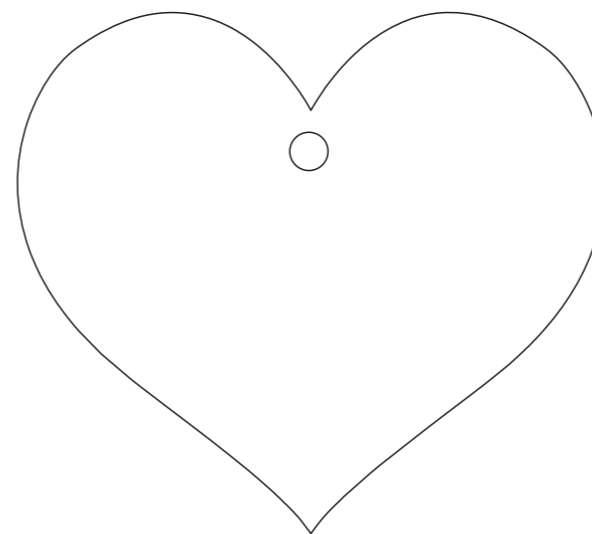
TRIANGLE



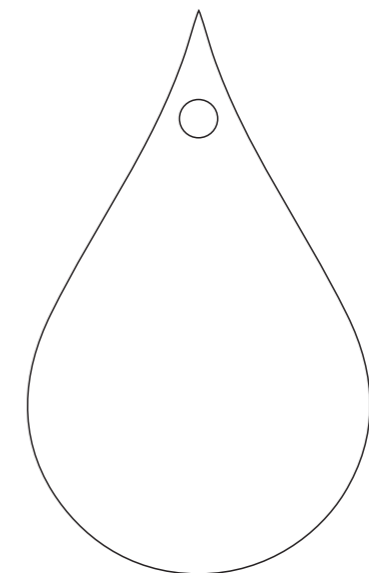
DIAMOND



CIRCLE



HEART



TEAR

MY FIRST ENAMELLING PROJECT - ENAMELLED PENDANT

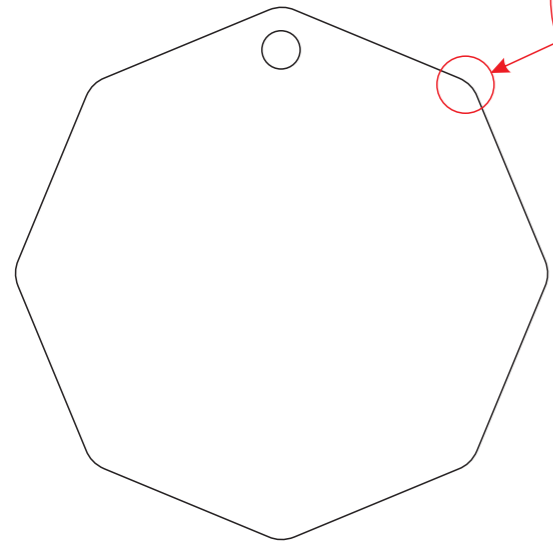
You have been given a small copper blank. The first stage is for you to decide on a shape.

Draw eight shapes that you think could be used. It is essential that you keep your 'design' as simple as possible, as you will be cutting it from copper by hand. Complicated shapes are very difficult to cut. Copper is expensive, so minimise waste by cutting away as little as possible. Consider starting by selecting geometrical shapes. Where will the hole for the chain link be positioned?

<hr/> <hr/>			<hr/> <hr/>

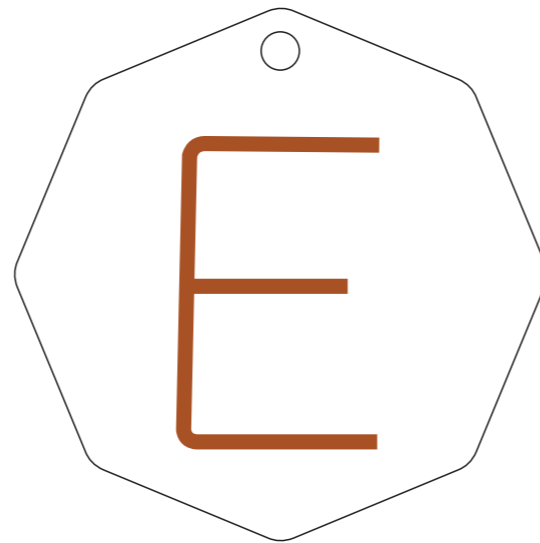
<hr/> <hr/>			<hr/> <hr/>

1. I have chosen an octogon shape



Each corner must be rounded. Sharp corners would be uncomfortable and a safety risk

2.

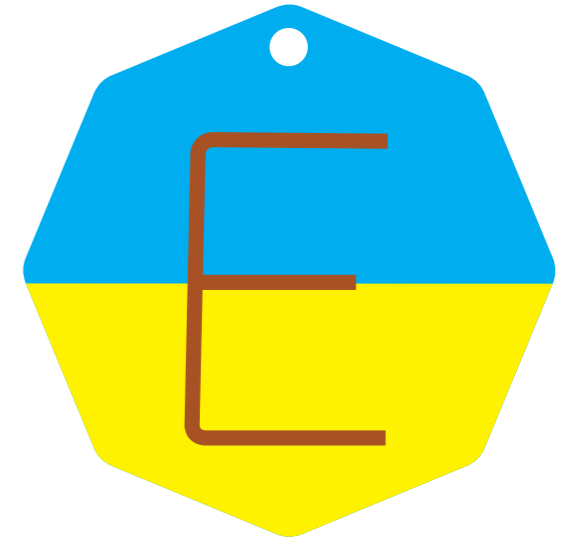


I will consider bending copper wire into shapes / letters, so that they can be set in the enamel. They will be 'glued' to the backing copper, with klyr-fire gum solution and allowed to dry, before enamelling.



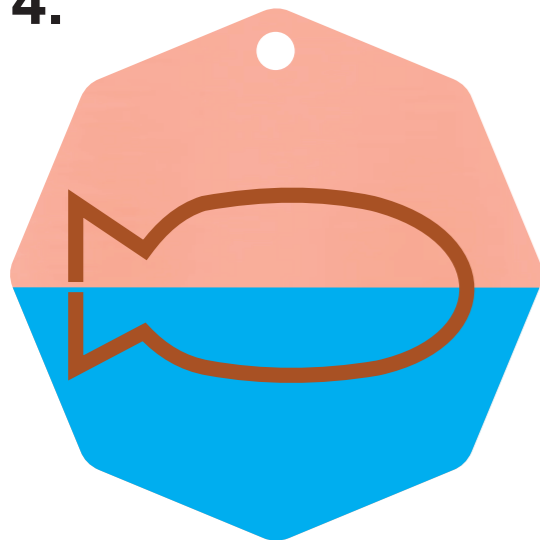
3.

I will apply the klyr-fire gum to the rest of the blank and sprinkle two colours of enamel on to the surface. I will hold a piece of card half way down the blank and sprinkle the top blue. Then, reverse the card and sprinkle to bottom half yellow.



I will move card to the top and sprinkle yellow enamel powder on the bottom half of the blank.

4.



This design is wire shaped as a simple fish. Only the bottom of the copper has been enamelled in blue, mimicking the sea.

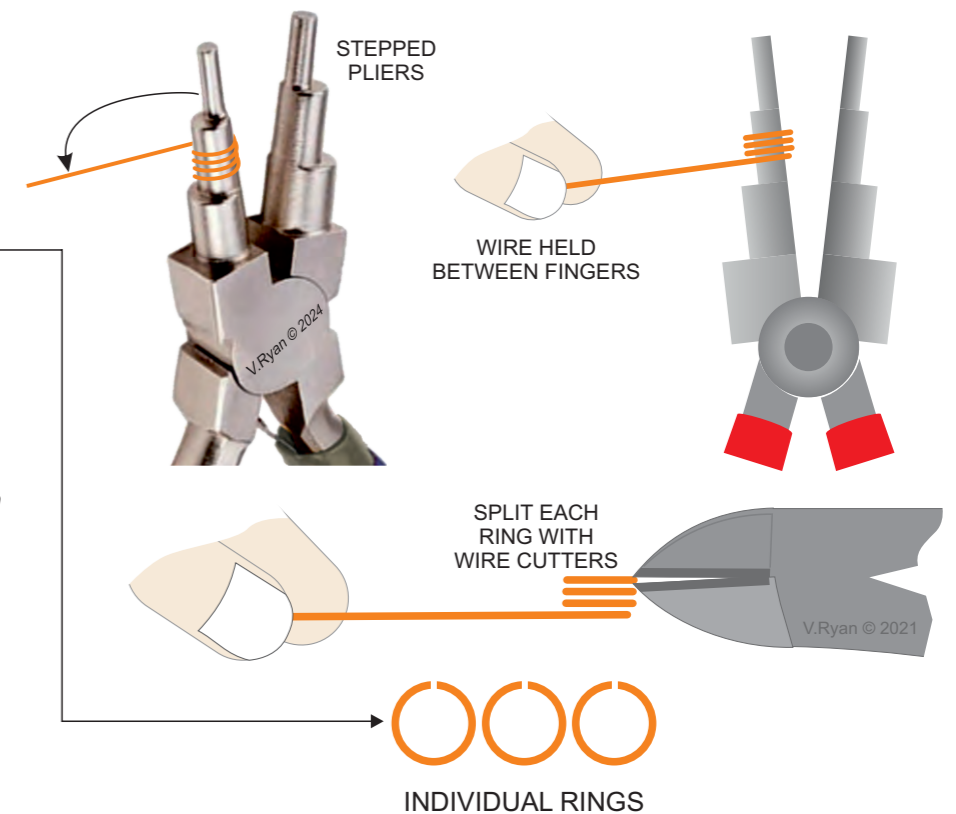
5.



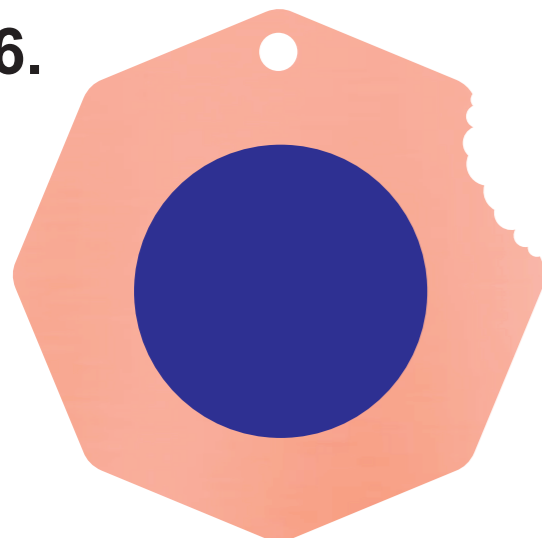
This design represents the half moon (formed with copper wire) with the night sky in the background

8.

Eyelets for a chain can be made from 18 gauge / 1.02mm diameter wire. metal. A stepped pliers is the perfect tool.



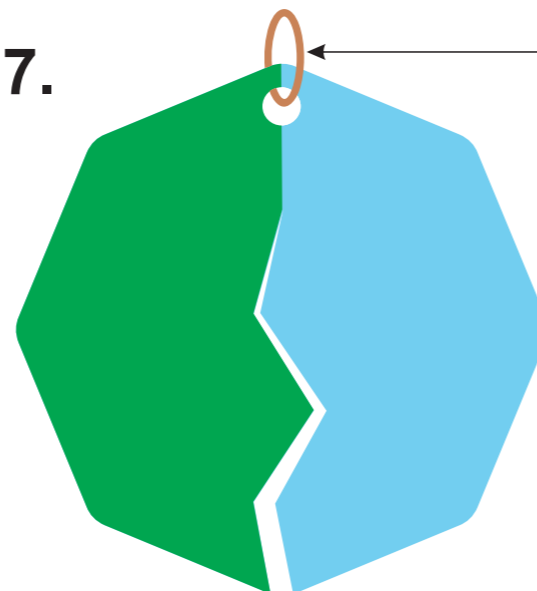
6.



The shape has been nibbled away, as if by a 'mouse' (using a round file).

The dark blue enamel has been sprinkled through a piece of card with a circle cut out, forming the enamel circle.

7.



A 'crack' in blank has been cut out carefully. Both sides of the blank have been enamelled in different colours.

DEVELOPING MY ENAMELLED PENDANT DESIGN

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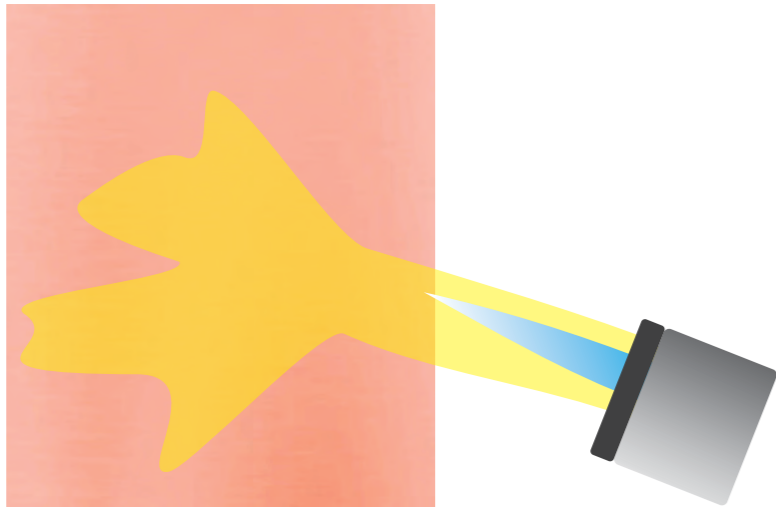
SELECT YOUR SHAPE. THEN, USE THIS SHEET TO DEVELOP YOUR JEWELLERY DESIGN. STUDY THE SAMPLE PAGE FIRST.

MY FIRST ENAMELLING PROJECT

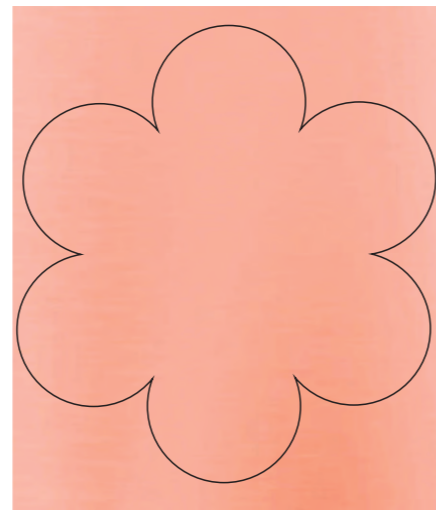
PRACTICAL WORK - TECHNICAL GUIDANCE WORKSHEETS AND LINKS TO INFORMATION



1. ANNEALING TO SOFTEN THE COPPER



2. SHAPE SELECTED AND DRAWN ON BLANK



3. SHAPE CUT OUT AND SMOOTHED. HOLE FOR CHAIN DRILLED.



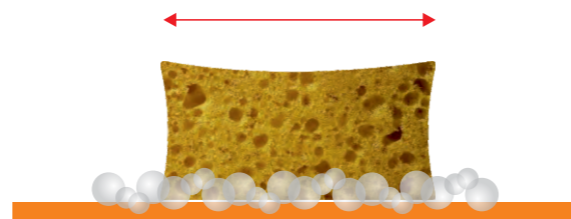
4. PICKLE IN ACID BATH



5. WASH



6. CLEANED WITH PUMICE POWDER



7. WASH



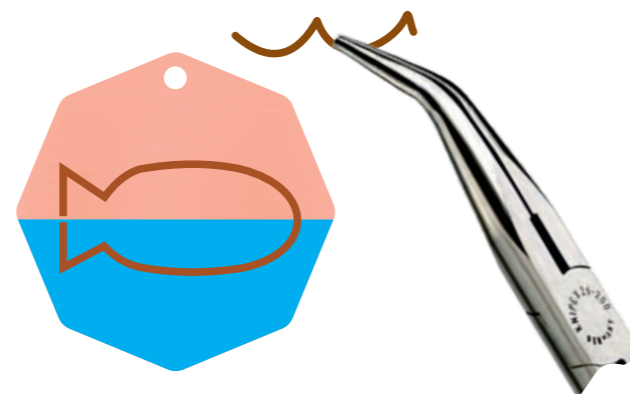
8. A 'HOLDING' SOLUTION (ENAMEL ADHESIVE) IS APPLIED



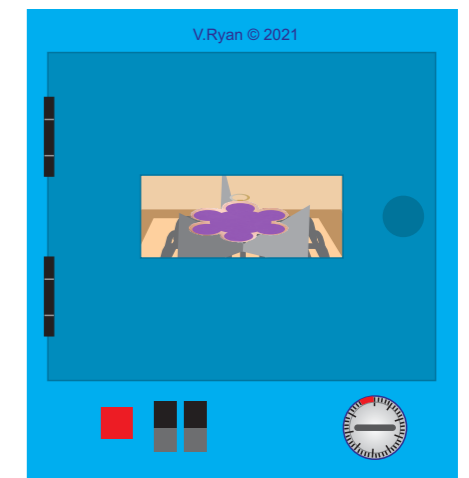
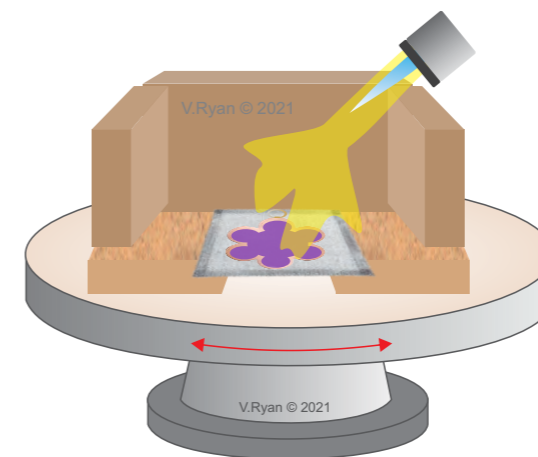
9. ENAMEL POWDER SIEVE THROUGH A MESH



10. BEND AND POSITION COPPER WIRE



11. ENAMEL - BRAZING HEARTH OR KILN



EXPLAIN / DESCRIBE THE PROCESS AND TOOLS / EQUIPMENT FOR EACH STAGE OF MAKING THE ENAMELLED PENDANT

STAGES OF MAKING AN ENAMELLED PENDANT

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1. ANNEALING TO SOFTEN THE COPPER

2. SHAPE SELECTED AND DRAWN ON BLANK

3. SHAPE CUT OUT AND SMOOTHED. HOLE FOR CHAIN DRILLED.

4. PICKLE IN ACID BATH

5. WASH

6. CLEANED WITH PUMICE POWDER

7. WASH

8. A 'HOLDING' SOLUTION (ENAMEL ADHESIVE) IS APPLIED

9. ENAMEL POWDER SIEVE THROUGH A MESH

10. BEND AND POSITION COPPER WIRE

11. ENAMEL - BRAZING HEARTH OR KILN

LINKS TO RESOURCES TO HELP YOU COMPLETE THIS TASK

STAGES OF MAKING AN ENAMELLED PENDANT

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1. ANNEALING TO SOFTEN THE COPPER



https://technologystudent.com/equip_flsh/jtorch1.html

2. SHAPE SELECTED AND DRAWN ON BLANK

Describe using a pencil to draw your shape on to the copper surface

3. SHAPE CUT OUT AND SMOOTHED. HOLE FOR CHAIN DRILLED.



https://technologystudent.com/equip_flsh/tinman1.html



https://technologystudent.com/equip_flsh/needlefile1.html



https://technologystudent.com/equip_flsh/piercingsaw1.html

https://technologystudent.com/equip_flsh/abrade1.html



4. PICKLE IN ACID BATH

5. WASH

6. CLEANED WITH PUMICE POWDER

7. WASH

8. A 'HOLDING' SOLUTION (ENAMEL ADHESIVE) IS APPLIED



https://technologystudent.com/prddes_2/cleaning1.html



https://technologystudent.com/prddes_2/enamelling2.html

9. ENAMEL POWDER SIEVE THROUGH A MESH



https://technologystudent.com/prddes_2/enamelling2.html

10. BEND AND POSITION COPPER WIRE



https://technologystudent.com/prddes_2/pliers1.html

11. ENAMEL - BRAZING HEARTH OR KILN



https://technologystudent.com/prddes_2/enamelling3.html



USEFUL LINK

https://technologystudent.com/equip_fish/abrade1.html

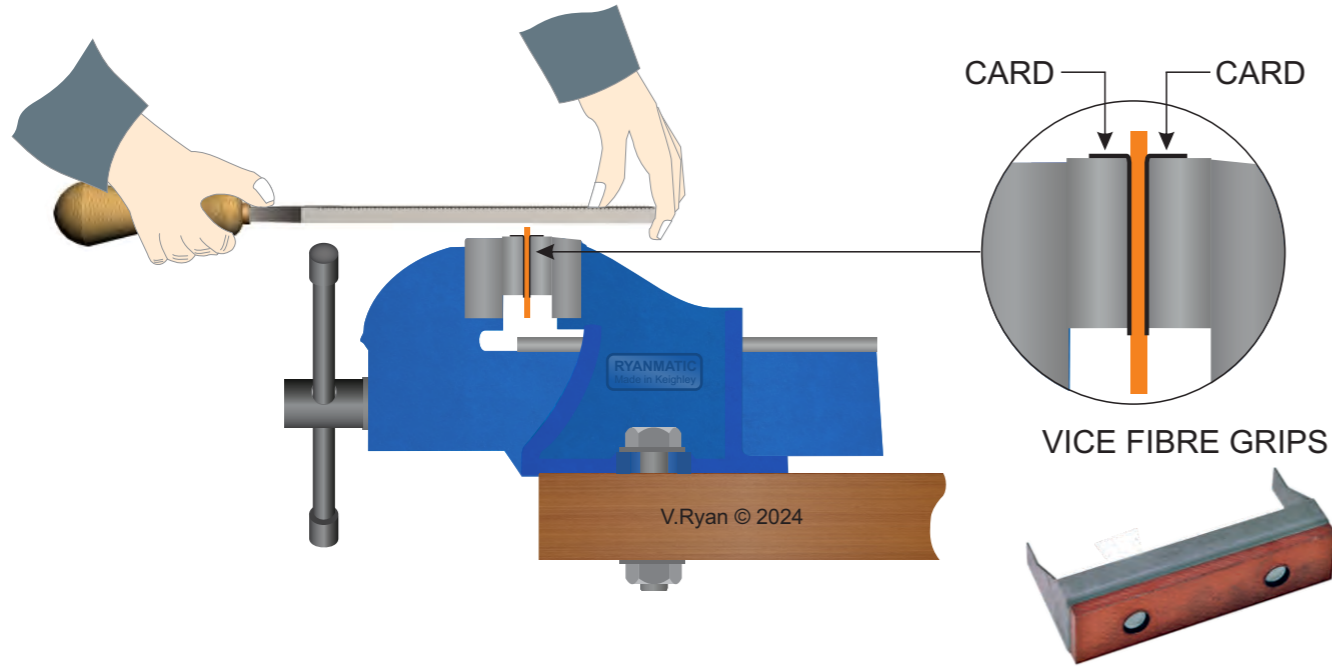
FILING AND ABRASIVES - ENAMELLED PENDANT

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1. Using the diagram below for reference, explain how the edges of a small piece of soft copper suitable for jewellery, can be filed effectively.



2. Complete the 'abrasives grit table' below, by adding the missing information.

COARSE GRADE	40 - 50 GRIT	
MEDIUM GRADE		For general abrasive work, as it is slightly finer than the coarse grade.
	120 - 220 GRIT	For producing a smoother / finer surface finish
VERY FINE GRADE		

3. Describe four advantages of wire wool, when it is used to clean the surface of a metal such as copper.

4. Complete the diagram of the hand file, by adding a strip of abrasive sheet to the blade of the file. Include an explanation.

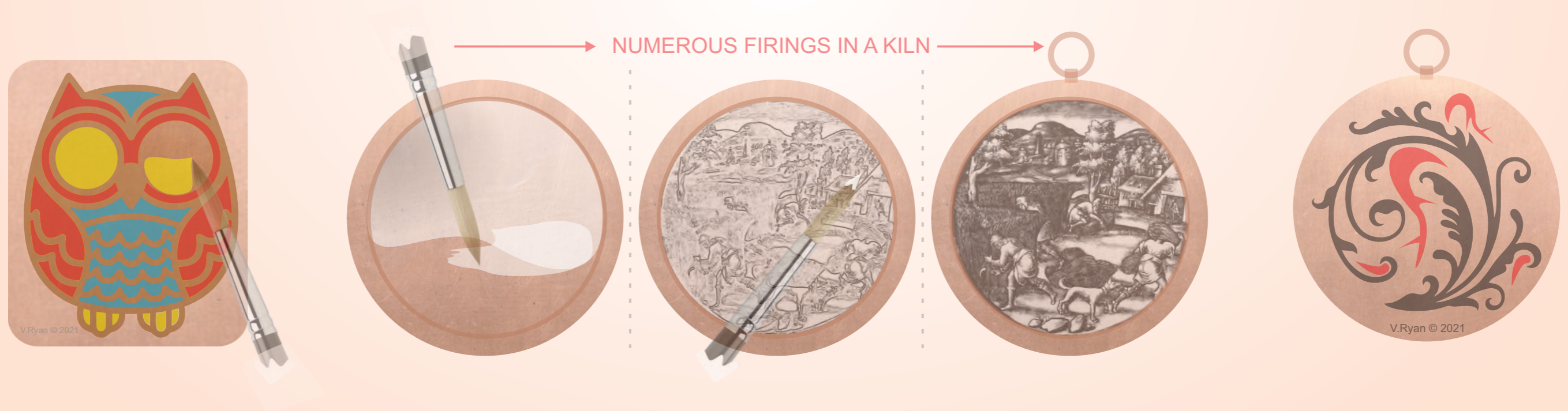


5. Describe three advantages of sheet abrasives have compared to wire wool.

MY FIRST ENAMELLING PROJECT

QUESTIONS ON ENAMELLING
including extension questions.

PACKAGING TEMPLATE



ENAMELLING - TECHNIQUES AND PROCESS - QUESTIONS

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USEFUL LINK

https://technologystudent.com/prddes_2/enamelling1.html



USEFUL LINKS

https://technologystudent.com/prddes_2/enamelling2.html

https://technologystudent.com/prddes_2/enamelling3.html

1. What is enamelling? *Include notes and images / sketches.*

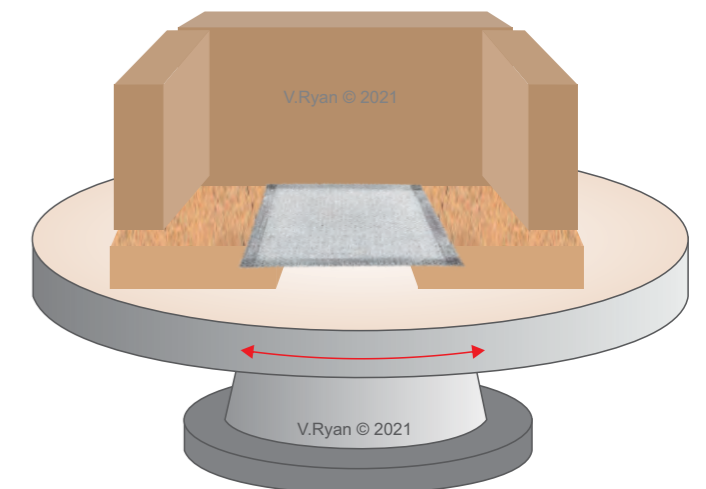
2. What is the difference between 'opaque' and 'transparent' enamels?

Include images to help explain your answer.

3. Explain the use of a 'holding solution' and 'sieve', when apply enamel powder to the surface of a nonferrous metal.



4. Explain how enamelling is achieved using a brazing hearth. You will need to complete the drawing and add explanatory notes.



ENAMELLING - TECHNIQUES AND PROCESS - QUESTIONS

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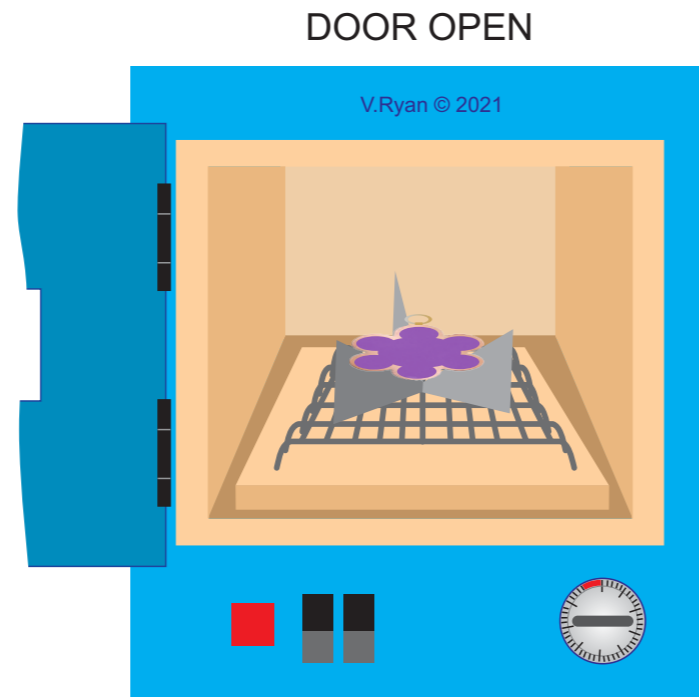
USEFUL LINK

https://technologystudent.com/prddes_2/enamelling3.html

5. What is a 'trivet'? Include notes and a labelled sketch(s).

6. Explain the use of a kiln in the enamelling process

You can make references to the image.



USEFUL LINK

https://technologystudent.com/prddes_2/counter1.html

7. What is counter enamelling? (This technique is not always required - include the reasons for counter enamelling). Also, include a labelled image / sketch to help explain your answer.

8. List five safety factors regarding enamelling.

ENAMELLING - TECHNIQUES AND PROCESS - EXTENSION QUESTIONS

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USEFUL LINK

https://technologystudent.com/prddes_2/namelling1.html

9. What is a 'PLIQUE-À-JOUR'? *Include notes and a labelled sketch(s).*



USEFUL LINK

https://technologystudent.com/prddes_2/namelling2.html

10. What is a 'CHAMPLEVÉ'? *Include notes and a labelled sketch(s).*



USEFUL LINK

https://technologystudent.com/prddes_2/namelling3.html

11. Select either 'BASSE-TAILLE or GRISAILLE'? Explain the technique you have selected. *Include notes and a labelled sketch(s).*

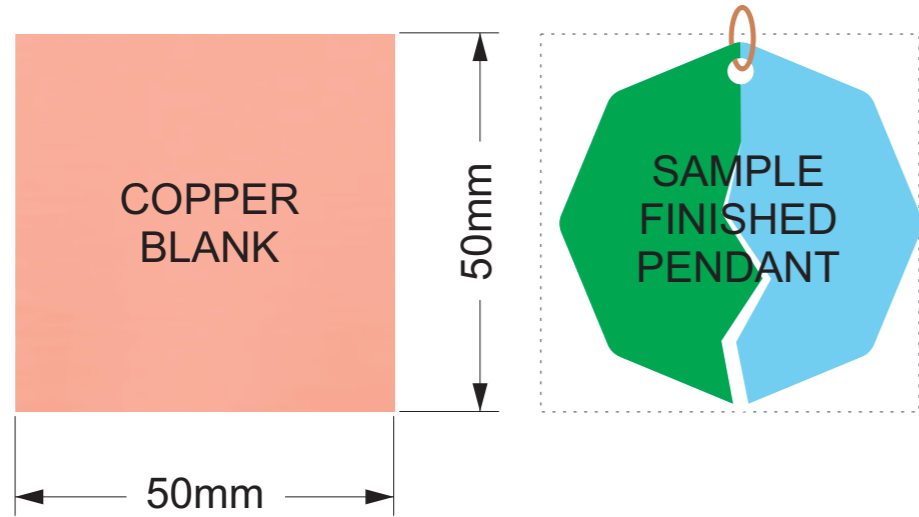


USEFUL LINK

https://technologystudent.com/prddes_2/namelling4.html

12. What is a 'CLOISONNÉ'? *Include notes and a labelled sketch(s).*

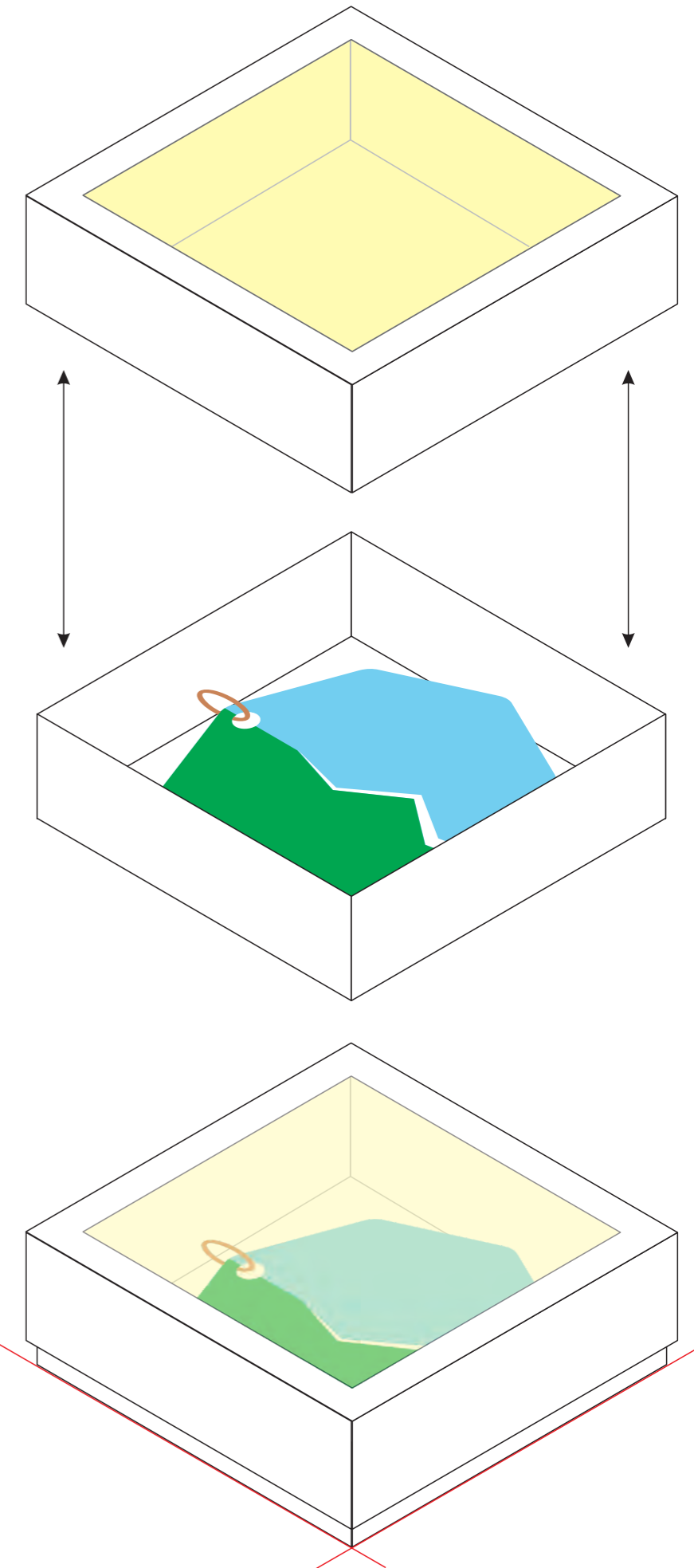
PACKAGING FOR THE ENAMELLED PENDANT



PACKAGING BASED ON A 50mm X 50mm COPPER BLANK

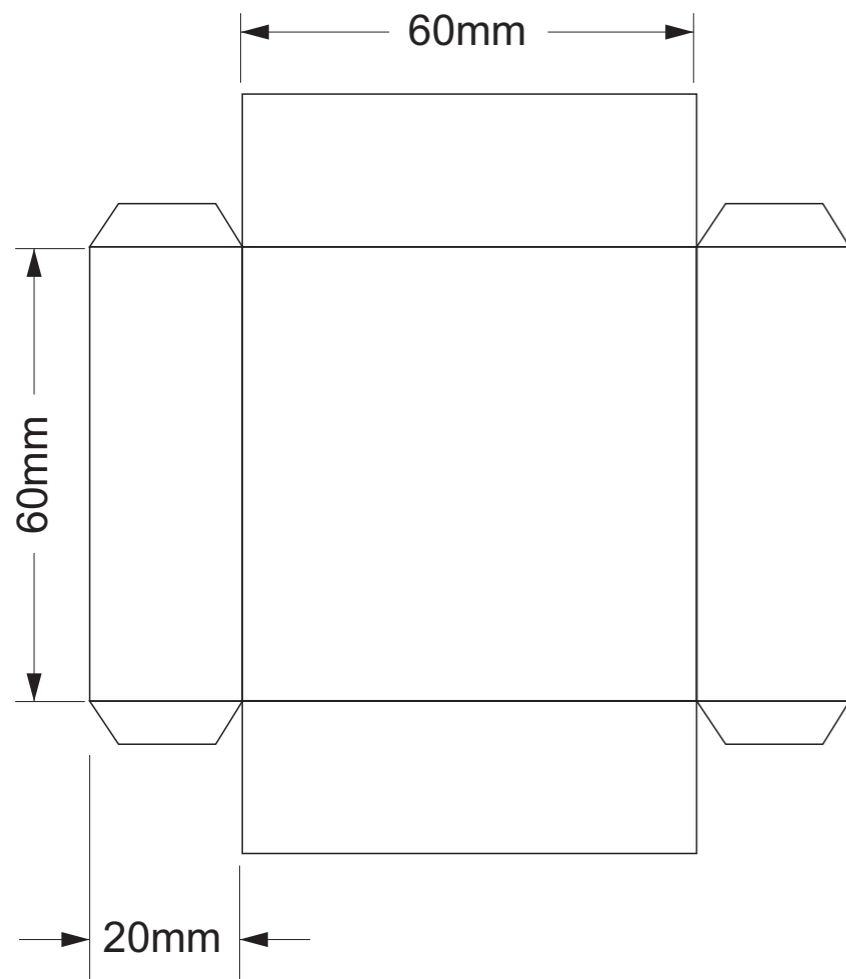
Measurements will vary,
depending on the size of your final pendant

Use good quality card for the packaging. Allow for a clear acetate window. You could add a lining of cotton wool, to rest the pendant on (or similar material).

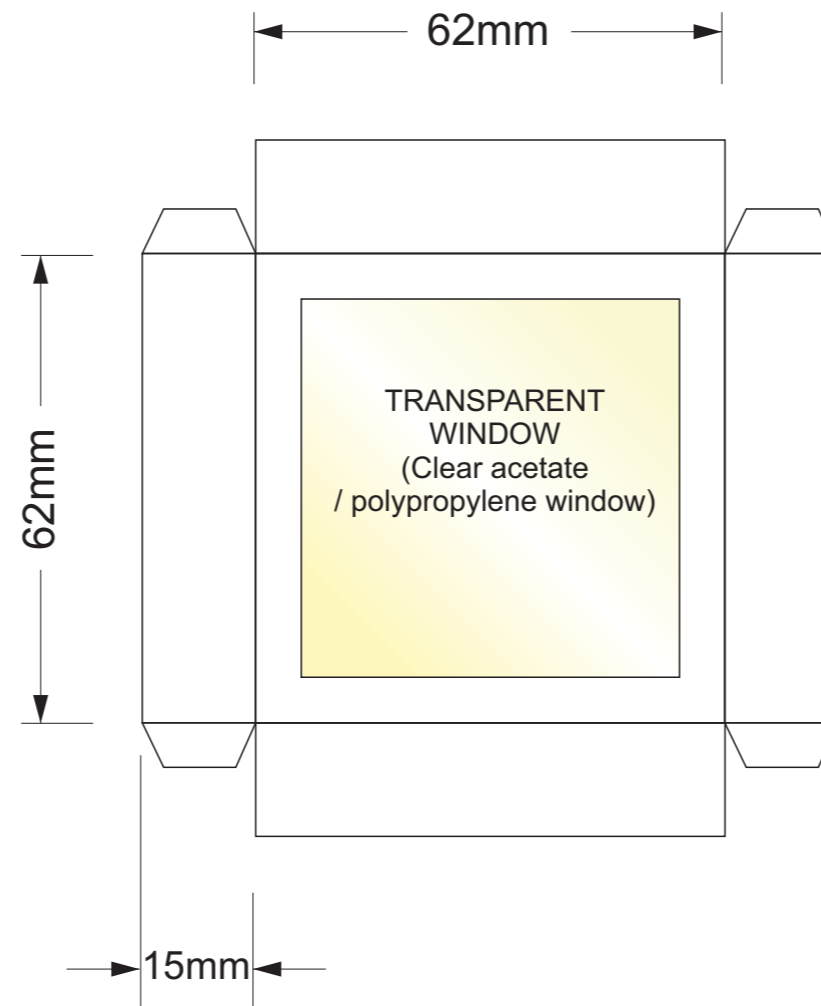


CARD TEMPLATE

BASE



TOP / LID



PACKAGING SYMBOLS FOR THE ENAMELLED PENDANT



USEFUL LINK

<https://technologystudent.com/prddes1/perfpk4.html>



USEFUL LINK

<https://technologystudent.com/despro2/drink7.htm>
<https://technologystudent.com/despro2/drink14.htm>

1. Why is Quality Card ideal for the manufacture of the pendant's packaging?



USEFUL LINK

<https://technologystudent.com/prddes1/perfpk5.html>

2. Why is a clear 'window' in the lid a good idea? What material could be used for this component?

3. Draw four packaging symbols that could appear on the packaging of your jewellery pendant.

Briefly explain why each symbol could be printed on the packaging.

A.

B.

C.

D.
