



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

## **Exemplar for Internal Achievement Standard Technology**

This exemplar supports assessment against:

**Achievement Standard 91623**

**Implement complex procedures to create an applied design for a  
specified product**

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	Grade Boundary: Low Excellence
1.	<p>For Excellence, the student needs to efficiently implement complex procedures to create an applied design for a specified product.</p> <p>This involves undertaking the procedures in a manner that economises time, effort and materials.</p> <p>The specified product is a child's backpack.</p> <p>This student has interpreted a complex screen printed design which requires careful registration of multiple screens and colours. Trialling of two different screen printing techniques was used to determine the equipment, materials and complex techniques required to create the complex design (not shown). The student has also undertaken testing to demonstrate that the applied design enhances the aesthetics of the product as specified (not shown).</p> <p>Evidence of economy of time (1) when implementing the complex procedures can be seen as the student efficiently organised their workspace, tools, equipment, and wrote a flowchart to guide their process and use of the hairdryer to cut down drying time between layers.</p> <p>Evidence of economy of effort (2) when implementing the complex procedures can be seen, as the student used prior knowledge when trialling the complex techniques.</p> <p>Evidence of economy of resources (3) when implementing the complex procedures can be seen, as the student was careful of not wasting resources during trialling and implementation of the applied design.</p> <p>To secure Excellence, the assessors could make a judgement about the ways in which procedures were implemented, as well as the quality of the applied design for the product. Annotating an assessment schedule is one way for the assessor to confirm judgements around if the student has worked in a manner that economises time, effort and materials. These annotations could be derived from classroom observation and/or discussions with students.</p>

Cleaning the printing screens is crucial otherwise the ink will dry in them blocking the screen and making it unusable. This is a waste of resources and materials. To avoid this happening I will use a scrubbing brush to scrub out the ink with cold water which I then lent up against the top of the sink to dry overnight

I then got out all necessary equipment that I will use for my print including permaset white, yellow, and blue ink, a silk printing screen, three reusable plastic spoons, the small rubber squeegee, and my stencil. Once I was all set up, I checked I had everything and then laid my first stencil down on the bag, placing newspaper around the edges to stop any extra ink going onto the fabric. I then put the printing screen over my stencil and got one of the spoons and placed one spoon full of yellow ink along the top of the stencil, getting a friend to down the screen so that it didn't move and smudge my

#### Evaluation from testing

For my applied design testing I trialled two different screen printing techniques, these were the stencil method and the NEHOC method. First, I trialled the stencil method as I had done it before in year 11 on my hoodie and had reasonably good results for that, so I thought that I would probably get a similar result this time. Because of my previous experience using this technique I found it quick and easy to complete and it didn't take up much time at all which meant that I had time after to complete some bookwork.

Although I did have difficulty cutting out the bee stencil with the craft knife because it kept ripping the paper, which resulted in me only being able to use the outline stencil that I had cut out instead of the middle section of the stencil that included the stripes of the bee. This meant that I got a solid shape with a bee outline that didn't look like a bee as seen above. Although since I only did the block outline, I found out that the stencil method creates a very even and solid coloured print that isn't patchy at all. This led to thinking that the stencil method would probably be the best option for any background colours in my print as it is easy to make it look good if you choose a simple outline.

The other technique that I trialled was a new technique that I have never used before called the NEHOC technique. When I trialled this method, to save resources, because the screen paper is expensive, I used a pre-existing screen that was left over from last year that already had a pattern on it for my print. The teacher only had to show me once and I got the technique. Because of the way that the image is transferred it will usually come out accurately and have very few imperfections, therefore when you print with it unlike the stencil method the design will be very precise and much more realistic. The only downside to the NEHOC method is that since the ink must work its way through the mesh onto the fabric sometimes the coverage of the print is a bit patchy meaning that it may need a few touch ups. Because of this I have decided to use the Permaset aqua ink over the fastex ink as it is a lot thicker, meaning that it is much less likely to run and smudge my print.

Images	Steps
	<p>As talked about throughout my portfolio one of the standards that I am completing is applied design. This requires me to design an applied design print that consists of at least two layers that need to accurately match up together. I have chosen to do a buzzy bee screen print design as my client, loves buzzy bees. As a result of trialling hand cut stencil vs NEHOC stencil I have chosen to use two different block stencils, one for the body and one for the wings, as well as a NEHOC stencil for the black strips and overall outline of the buzzy bee. The overall process of completing my applied design is written in detail in a flow chart of the steps completed when I trialled the full process during my mock-up testing. This chart will act as a checklist for the steps I need to take so I don't miss anything. Overall I completed four different applied design tests of the buzzy bee, therefore when I went to do my final design, I was comfortable and confident with the process which allowed me to complete the design quickly and accurately to a high standard. Initially the only thing that I was concerned about was the amount of time that each layer takes to dry before you can add another one on top of it. As I have written in my mock-up flow chart each layer is required to dry before I can apply another layer because of this the applied design process often takes a few hours. As I am working on a tight schedule and don't have 2-3 hours to spare, I decided to alleviate the drying time by using a hairdryer in between each layer. By applying heat to each part of the print I am minimising unnecessary time spent completing my applied design when I could be working on other aspects of my portfolio. To ensure the highest accuracy of my print I got one of my secondary stakeholders to assist me with my design by holding the printing screen still while I used the squeegee to avoid any smudging that may bring down the quality of the applied design.</p> <p>An aspect of screen printing that is very important is health and safety, this means that when I am screen printing in H4, I need to have the windows open and the extractor fan on so that any fumes that are produced by the ink can be let out of the class. Another safety precaution that I always take when screen printing is wearing a waterproof apron. This way any misplaced ink won't accidentally get onto my clothes, or if there is a spillage it is much more likely to go on the apron. Overall I found my final applied design print to be the easiest so far as I had lots of practice so I knew exactly what I was doing, I was very pleased with the outcome of the print, and I believe that it will meet the needs of my client in terms of satisfaction for my client.</p> 

	Grade Boundary: High Merit
2.	<p>For Merit, the student needs to skilfully implement complex procedures to create an applied design for a specified product.</p> <p>This involves showing independence and accuracy in undertaking the procedures.</p> <p>The specified product is a jacket for a formal occasion.</p> <p>The student has interpreted a complex design which requires careful registration, definition and multiple coloured threads. Trialling (1) has been used to determine the equipment, materials and complex techniques required to create the complex design.</p> <p>Merit requires the skilful implementation of the chosen techniques and evidence of independence and accuracy. The student has undertaken testing which ensured the accurate registration and quality finish of the machine embroidered motifs.</p> <p>The duplicate testing also meant the student could independently (2) determine the equipment, materials and complex techniques required to create the design. As a result, each of the floral motifs were skilfully and accurately (3) applied on the fabric.</p> <p>The assessor has also annotated the assessment schedule (4) with comments that confirm the student has worked independently and accurately. These annotations came from observations made in the classroom.</p> <p>To reach Excellence, evidence of how the student undertook the procedures in a manner that economised time, effort and materials is needed.</p>



1

I researched a wide range of methods to apply fabric paint to my specific material.

1. I found that the hand cut screen printing method was quite easy and efficient. The only trouble I had was removing the screen from the fabric in a manner that the fabric paint would not go outside the specific design. Overall the fabric paint spread evenly throughout all the material and left quite an effective and sharp design onto the material.



1

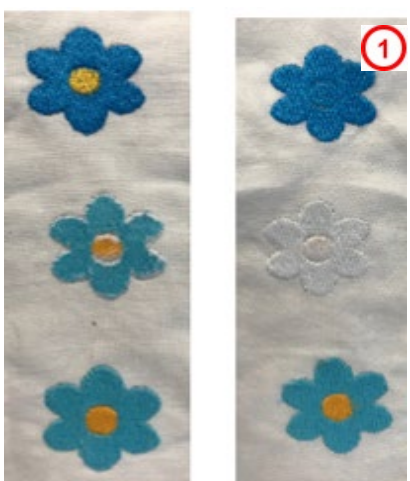
2. I found the hand painted stencil method more difficult than the screen printing method. I found that some fabric paint went beneath the stencil leaving an untidy finish. The commercial stencil was more difficult than the stencil which I created myself. This is due to the stencil being more intricate in design and smaller in design. This process also took longer, and I found that the time spent painting didn't resemble the completed finish.

3. I choose to do heat-transfer foil for the method it applies my design. I liked the finished look of the foil once it was on the garment. The application itself was very simple and quick. I enjoyed that the foil shape came out perfectly and that there were little errors to the completed design. I found the method which I choose to apply the foil to my design very effortless and straightforward. I liked that the design came out perfectly because the adhesive paper was already cut into the flower shape. The overall finish of the foil on the material is quite nice and I like how the foil catches and reflects the light.



1

4. Using the embroidery Q570, I tried my applied design for my garment. I sewed my design using a pattern which I have created. I tested 3 different materials and interfacings to find out which is the most appropriate, and which thread to use. I found the whole machine-embroidery very enjoyable and fulfilling. I felt that it captured all the different elements that I envisioned when I was creating the design for my garment. Although the whole process took a long amount of time, I felt that it would be suitable for my jacket as it fit my brief perfectly. Both the style and design of the flower has a major impact without be unsuitable for an office environment.



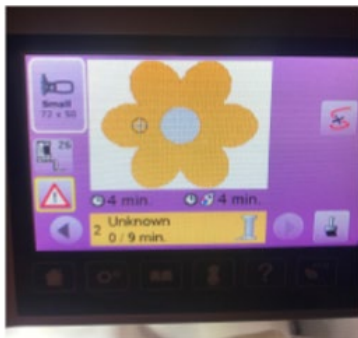
1

I chose to do machine-embroidery to create my applied design using the flower pattern I have made. The stabiliser which I will sew with will be the tear-away stabiliser, this is because it is easy to apply and prevents the fabric from stretching when in the embroidery hoop. Finally, my applied design will be sewn with

polyester thread to create shininess and because it interacted well with both the material and the sewing machine. Each of the embroidered flowers will be different colours with the same coloured centre to give the garment uniformity and also give it more options to be worn with other garments.

When completing the testing for my applied design I struggled to find the correct tension. At first, my flowers were untidy and the machine did not sound correct. However, after completing more research and tests I was able to sew an embroidered flower without any problems or help from Miss . I learned that when constructing my garment I needed to check the back every time to ensure that the bobbin thread was sewing well as well as checking the tension of each flower. 2

16. Place the embroidery hoop into the machine embroidery module.
17. Adjust position of the flower on the machine to ensure that it aligns with the marked centre on material.



18. Place the sewing needle down.

Because I had mapped out where each flower would go on my pattern and pre-marked the centres of each flower, each flower was accounted for and was sewn in the correct place. I practised so many flowers I could easily and quickly adjust the position on the machine to make sure my flowers were always in the right place. 3 The pattern for the embroidered flowers is simple yet classical in design, therefore my garment will be able to be worn with multiple outfits. I created an embroidery pattern which was simple but very carefully planned and applied to the fabric with precision. 3 Because of the size of the flowers and the simplicity of the design, they are able to be seen clearly on the garment. When constructing my garment, the applied design was the most time-consuming. However, I feel that the time spent completing my embroidery design gives my garment individuality.



	Student	Teacher	<span style="border: 1px solid red; border-radius: 50%; padding: 2px;">4</span>
<b>Merit</b>			<b>For merit I have to <i>skilfully</i> implement complex procedures to create an applied design for a specified product.</b>
	√	√	<p>I have shown independence and accuracy when undertaking the complex procedures.</p> <p><span style="background-color: #90EE90; border: 1px solid black; padding: 2px;"> </span> was regularly observed selecting the correct tools and equipment without any assistance. <span style="background-color: #90EE90; border: 1px solid black; padding: 2px;"> </span> was also guiding other students in the use of the embroidery machine. <span style="background-color: #90EE90; border: 1px solid black; padding: 2px;"> </span> control of the settings on the machine and careful selection (using test results) of threads meant the final embroidery flowers were stitched and placed so accurately on the precut fabric.</p>

	Grade Boundary: Low Merit
3.	<p>For Merit, the student needs to skilfully implement complex procedures to create an applied design for a specified product.</p> <p>This involves showing independence and accuracy in undertaking the procedures.</p> <p>The specified product is a decorative dice tray with inlays.</p> <p>Trialling (1) has been used to determine the equipment (drum sander, band saw), materials (rimu, pine, linseed oil) and complex techniques required to create the complex design.</p> <p>Merit requires the skilful implementation of the chosen techniques and evidence of independence and accuracy. The student has undertaken testing (2) to ensure an accurate depth for the router for inlay. The testing also meant the student could independently determine the equipment, materials and complex techniques required to create the design. As a result, each of the inlays was skilfully applied to the tray.</p> <p>The final applied design enhanced the aesthetics of the product (3).</p> <p>To secure Merit, additional evidence that demonstrates how the applied design met specifications is required. While some evidence can be deduced from the student's work, additional evidence of the student working accurately and independently could also be included. For example, it could be noted in the assessment schedule how the student wore PPE without reminders, or tested the settings on the CNC after other students had been using it to ensure the carve was accurate (4).</p>



I have now decided on what I'm trying to make, I want to create an inlay from rimu and tray from pine for dice. I had done research to determine which wood to use. Pine was a good colour to contrast with the rimu. It would make the design a bold statement piece. ①

This will be a CNC task of a routed design, and then working around it to build a tray suitable for rolling dice. I would then probably apply a simple stain and possibly something like a felt bottom for the tray.

The first stage for this was ultimately choosing and making the design suitable for CNC methods. I found a good geometric outline that I wanted to use online, there was an issue with the font and the background not really being transparent, so I loaded the image into photoshop and refined design. I removed all the white parts and the number in the centre, and then found a better font. Finally I needed to get the image into a suitable dxf format, for this I used Inkscape.

Unfortunately, this left two lines of points for each edge, so I had to load this new vector image up again using Onshape as it's easier and more intuitive to use and manually deleted all the points I didn't want to use. Once this was done, I was ready to begin the CNC processes.

I then began my attempt to try and create a CNC design for the first time. To do this, I used a program called F-Engrave. ②



I followed the workshop safety rules for CNC and made sure someone was spotting me on my first trial. I also wore goggles and earmuffs. There were several problems with this first attempt, including both in the setup, tool selection and routing process. One of the problems was I had set this to carve too small, leaving not enough of the details and several of the lines and corners too harsh. The initial V-Carve was fine, but I had set the cleanup tools diameter to 3mm. Also, this was printed incredibly slowly and on a low spindle speed.



Carve two also failed, I thought the cleanup tool this time was 2mm but didn't check and the student before me had done something weird to the machine. This was a total waste of my time. I finally got a small sample done at 2mm and decided for future prints to increase both, along with increasing the size and decreasing the inputted size of the cleanup tool to 1.5mm. ④



I set the diameter to 1.5 for carve three. It was working great but half of the way through the first carve a communication error occurred between the laptop running the routing software and the CNC machine. Normally when this happens the software manages to restart and simply continue from where it stopped. This time however, it didn't restart properly and instead moved to the wrong part of the print. I quickly shut it down to avoid mess and it compounds into bigger errors.



The fourth attempt worked perfectly. It finally had no errors, and the carve went smoothly and created a high quality finish. There was a section (The top of the leftmost triangle) where it cut off some of the wood which was meant to remain, but overall it exceeded my expectations and worked well.



I was now confident enough in my ability to take a piece of recycled wood and work the CNC router to create the fitting inlay piece. The tests I had done helped me to feel confident, but I didn't want to use my good timber and get it wrong, so I found a piece of rimu of which one side had obviously been ruined by someone's attempt at using the CNC router. I screwed this on to the CNC router and checked the file that had been generated before the holidays Z values and did a dry run to make sure it looked like it was carving it out properly. I also did one last check that the image had in fact been mirrored, as otherwise it would not fit, and this is a common mistake I had seen being made. This worked surprisingly well, it ultimately was not the smoothest carve but at this point I realised I had forgot to check the grain of the base bit of wood. The fitting piece had to have its grain perpendicular to the base.

I then went on to make the final design on my good timber and I made rough cuts around a piece of rimu and pine using the bandsaw (not the handsaw because it takes too long) to make them able to be glued together, this was not required to be fine cuts, which I decided I would do later when I had decided on the exact dimensions of the finished piece. I then did both the cuts successfully and at this point, the part I was most worried about had to happen, fitting the two pieces together and gluing them in place. I knew I would be using wood glue, which is runny, so I made a jig and organised my clamps before I used the glue and then pressed them together, clamped them up and then left it overnight.

1

As a whole class we did trialed how to separate the layers to get to the inlay and we had worked out the bandsaw was the best piece of equipment. It saved a large amount of time sanding. So I used the bandsaw to cut off most of the wood, leaving a smaller amount that would be reasonable to sand off carefully in the drum sander. We had tried different ways to sand the inlay in class and found out the belt sander was too rough.

1



The finished product was good and while there were a few ugly gaps here and there, I simply used some wood shavings and wood glue to fill them in, this would mean it had to be sanded more later, to remove any glue which would block a stain, but ultimately it would result in a much cleaner looking outcome. After some cleaning up of these gaps and the outside edges, I began to consider the frame for the tray. Ultimately the best solution was to use some more of the smaller pieces of wood left over from other projects, bevelled joints were decided would look the best.



3

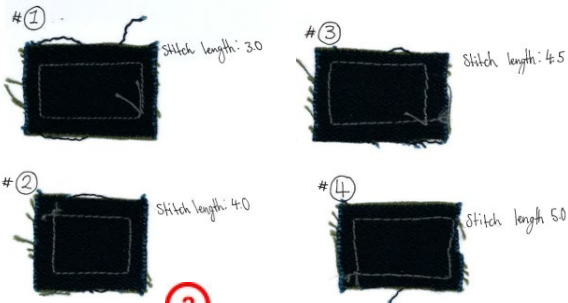
I had tried stains and varnish to see which was the nicest finish and decided the best option was to use some linseed oil for the stain, and so I used this to check where it wouldn't stain and re-sanded it until the stain stuck. Eventually, it all worked, and I was left with this product. The only thing left to do was adding some felt underneath the base of the tray, to make it feel nicer to pick up and use and to make it stick to the table underneath better. The tray meets the specifications my stakeholder gave me.

1

	Grade Boundary: High Achieved
4.	<p>For Achieved, the student needs to implement complex procedures to create an applied design for a specified product.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• interpreting a complex design to determine an applied design medium suited to the product</li> <li>• trialling to determine the equipment, materials and complex techniques required to create the design</li> <li>• undertaking appropriate tests to demonstrate that the applied design enhances the product as specified</li> <li>• applying complex techniques that comply with relevant health and safety regulations.</li> </ul> <p>The specified product is a jacket for a formal occasion.</p> <p>The student has undertaken appropriate trialling (2) of Cricut cutting machine, hand embroidery and freehand machine embroidery (not shown) to determine the most suitable medium for their product.</p> <p>The student tested the combination of techniques (3) and undertook visual checks of alignment, colour and finish. They have also used stakeholder feedback (4) to ensure the applied design suits the product. The final product and evaluation demonstrate that the applied design enhances the product aesthetically and meets specifications (5).</p> <p>Safe practices in the classroom were followed (not shown).</p> <p>To reach Merit, the student could undertake further testing to ensure the applied design is applied skilfully and with accuracy. Teacher annotation on an assessment schedule, giving evidence of what they were seeing to show independence, is another way to confirm judgements of Merit.</p>



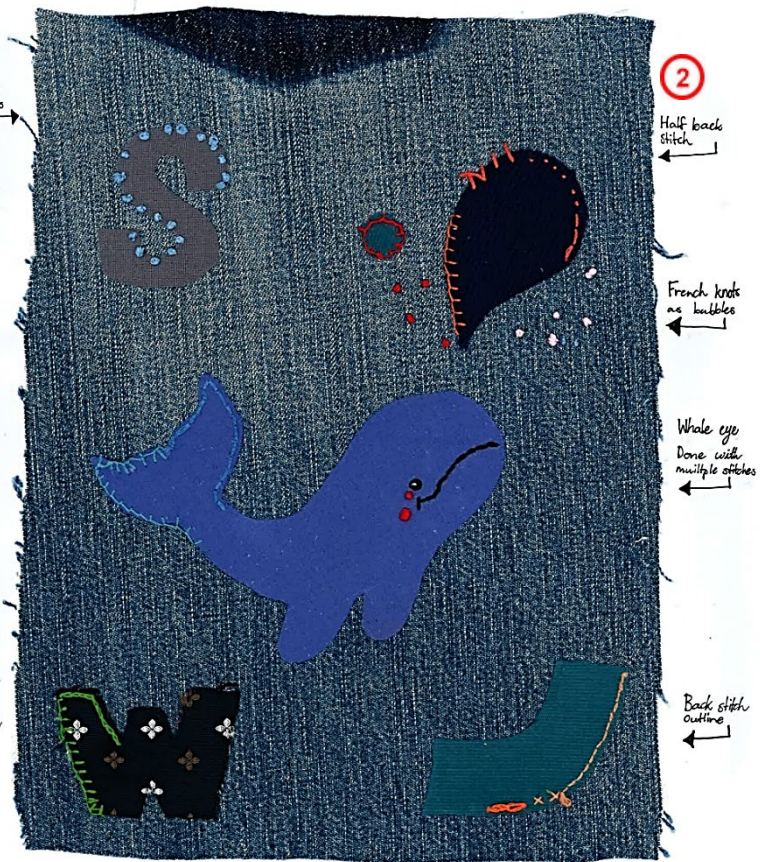
TESTING AND TRIALLING  
STITCH LENGTH



2

Machine embroidery:

- More serious.
- Simple but detailed.
- Clean and neat.

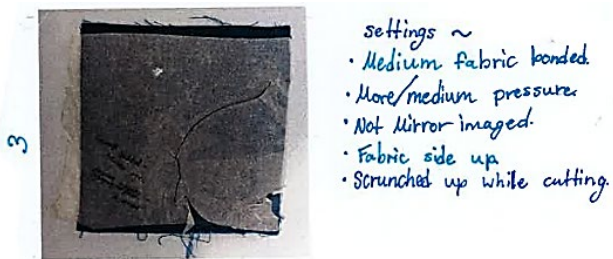


2

Hand embroidery - More detailed/easier to add detail.

- Less order than machine embroidery.
- Easier to make it your own with details.
- Does not have to be neat.
- Whales are more detailed - intricate - sophisticated.

Trail 2 and 3 of whale.



settings ~

- Medium fabric bonded.
- More/medium pressure.
- Not Mirror imaged.
- Fabric side up.
- Scrunched up while cutting.

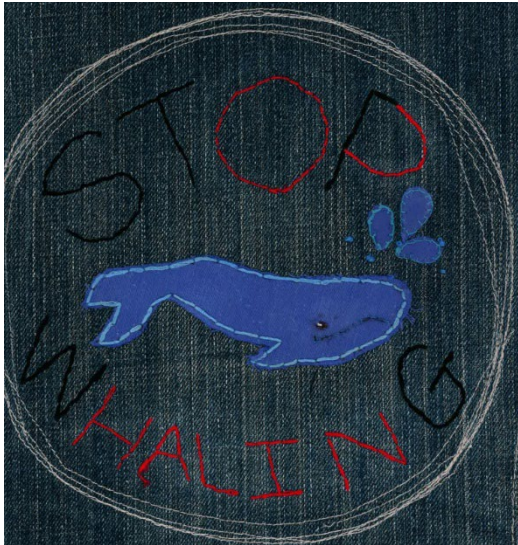


settings ~

- Medium/more pressure.
- Fabric side down/bonded side up.
- Medium fabric bonded.
- Mirror imaged.
- Fabric and bonded not cut to size.
- Got scrunched up while cutting.

After trialling and cutting out the whale and the water drops + talked to my teacher and we decided for me amount of effort it was taking (and would take) to cut out the whale shape with the cricut cutter it was not worth it. Especially since it was much easier and quicker for me to draw the whale and cut it out by hand. I personally also think that the whales cut with the machine do not look as nice as they could. They look neat, but the blade frayed the fabric which did not look very good, but on the water drop it looked better. Though still cutting the shapes out with the scissors this didn't happen as much. After getting stakeholder feedback from my classmates they thought that

## TRIALING



3



I talked to my teacher and my classmate Jess and got their feedback on my on-going testing and trialing of applied design. They liked the orange letters the best and the blanket stitching around the whale. My teacher also thought that there should only be a few red french knots and with some blue ones. Ms. also originally liked the orangy-gold though after talking to Jess they both agreed that the greeny-blue outline looked the best, which was the one I liked. When I was first doing it Ms. Main suggested I do a different blue colour, which I thought was a good idea as the fabric look quite purple on my actual designs. Therefore I will use in my final applied design:

- Orange lettering
- Greeny-blue outline
- Cyan blue fabric for the whale, as it will match/go with the outline.
- Red (less) and blue french knots.

4

The black embroidery thread for the lettering does not stand out and the red and blue embroidery lettering does not look that great. I also do not think the orange embroidery lettering does not look very good with the orangy-gold outline, ~~as~~ they sort of clash. Therefore I am glad that my stakeholders thought the same as me with my applied design.

I put my design on the back of my jacket in the middle as it would be the centre spot and would be hard to miss if you saw my jacket from the behind. I put it in the middle as I wanted to avoid sewing over the topstitching and I wanted it to be at eye view for anyone who was behind me, so you could not miss it. I also did not want the seams/topstitching to end up in my applied design and I wanted my design to be centred so there would be symmetry on the back of my jacket, so it is balanced.

5

### Use adornment to communicate your message:

I think that my applied design on my jacket clearly communicates my message of, 'Stop Whaling' as my stakeholders have said that my design is pretty intense, and I feel that it is pretty straightforward, to the point and eye catching, which helps to get my message across.



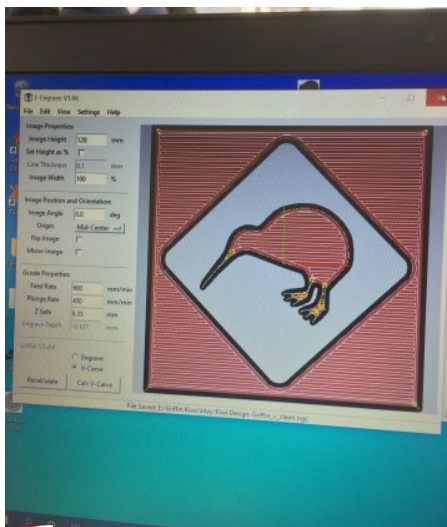
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For this assessment I used the school's CNC router to create my cheeseboard. I decided to use a kiwi road sign design. **①** To find out which technique I wanted to use on my final design I did three different techniques on a smaller scale to see which one I preferred. I did resin fill, inlay, and laser.

After trying all 3 techniques on a smaller scale I decided that an inlay was the best design choice for my cheese board. **②**

I did one more practise of the inlay design on a smaller piece of wood, once that was done and I was happy with it I went straight to my final design, doing my inlay design first and then cutting out the circle cheese board.

**③** I had realised from the practise that before starting the router to check that the stock was large enough to accommodate the work, and the work was going to be engraved in the centre. I also checked that all the settings were exactly how I wanted to avoid having to do it more than once. I checked the preview on the CNC router and looked at the amount of time it would take to finish. I made sure I had time to allow it to complete its task to avoid having to interrupt it mid-way, which could possibly ruin the work.



After drawing the design in Onshape and exporting it as a CNC compatible DXF file I opened it in an engraving and cutting programme to set the specifications of the engraving and cutting. The engraving programme allowed me to set the depth of cut (because the router uses a tapered bit that also controlled the width of the cut) and the feed rate.

I opened the CNC routers program (Mach 3) and loaded the file from the engraving and cutting programme (Mecsoft) which contained the design along with the feed rate, cut depth and other information the router needed.

**③** I experimented with different feed rates and chose a feed rate of 900 m/second which would allow the machine to do a good job without struggling yet wouldn't take too long to complete the job.

**③** I realised I had to be quite precise with centering because the stock was not much larger than the image to be engraved. I did a test which centered the bit of the router in the centre of the workpiece and worked out that the best way was finding the centre of the stock with a ruler and jogging the router bit over to the mark using the x and y axis buttons on the CNC program. Once I had the bit over the centre of the stock, I had to find the surface of the cheese board. To do this I placed a piece of paper on the surface of the work and used the z axis button to jog the bit downwards. I started off moving the bit large amounts, until it was close to the surface. I lowered it to the surface of the cheese board until it was just touching then zeroed the z axis and brought the bit up. The CNC program shows a small diagram of the workpiece, with a marker where it thinks the bit is. I had previously put the marker in the centre of the diagram, so when I

clicked 'reset zeros' the bit was now in the centre both physically and on the program. The router was now ready to run. I looked at the preview then started the operation. I made sure the machine was undisturbed the whole time it ran, and no one interfered with it.

Health and Safety: There are many places loose things could get caught in on a CNC router, including the fast moving cutting bit and the rotating shafts that move the cutter. To avoid accidents, loose clothes were tucked in. We programmed the machine to create 5 tabs. This allowed us to keep the board in shape when the last cut is being cut and keeps flying objects from not happening. A tripping hazard was presented by the power/data cables going into the machine. To prevent this the machine was placed near a power point, and to avoid excess cables (the router has two separate power leads) we placed a splitter board on the bench and ran the splitter boards lead to the wall. This meant there was only one lead on the floor to the power point. I also made sure that the USB data cable from the laptop to the machine was not dangling off the bench. As the machine cut it formed very small chips, these could have been flicked off the machine by the fast spinning cutter. However this was extremely unlikely due to the chips being too small to fly far enough to exit the machine, this meant safety glasses were necessary. The piece of wood that was being cut was secured with screws. This meant there was no way that the work could slip or be flung off the machine while operating

**Checking against specifications:** 4



I have inspected the piece and it appears to have been routed properly. There are no blemishes or imperfections, and the design is well defined. On the trial piece the inlay design had some glue residue left over, this was because I didn't run it under the belt sander enough. To make sure that this didn't happen again, I made sure to run it under the belt sander until there was no residue left.

When removing the finished cheese board from the rest of the pine I had to gently break the tabs that were holding it in place. I was careful to make sure that tabs broke in half and not off my cheese board so that there would be a chip in it.

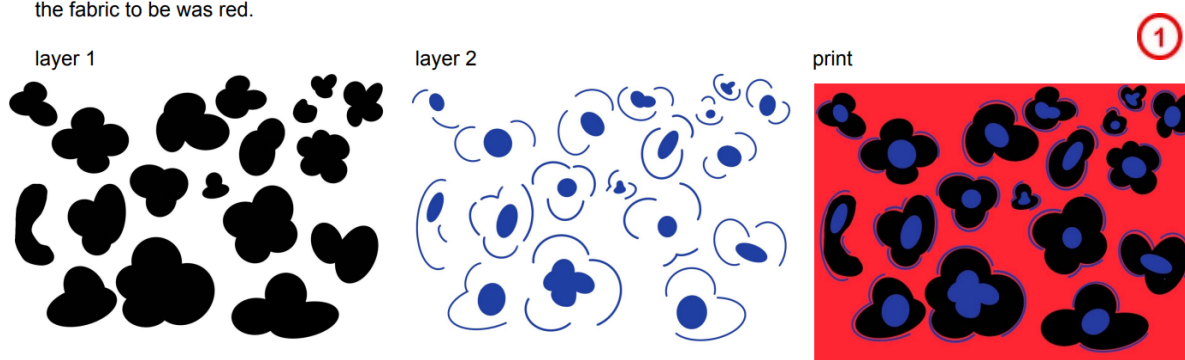
The kiwi road sign inlay in the centre is the correct size and I think it looks great on my circle cheese board. To improve the design in the future I would make the square sign part of the kiwi design into a circle to fit better with the circle cheese board, but the final design is still very good





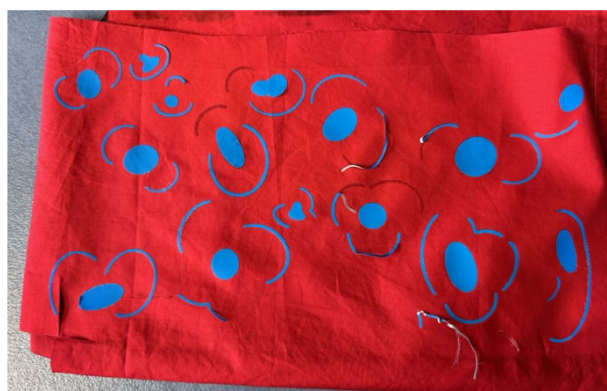
	Grade Boundary: High Not Achieved
6.	<p>For Achieved, the student needs to implement complex procedures to create an applied design for a specified product.</p> <p>This involves:</p> <ul style="list-style-type: none"> <li>• interpreting a complex design to determine an applied design medium suited to the product</li> <li>• trialling to determine the equipment, materials and complex techniques required to create the design</li> <li>• undertaking appropriate tests to demonstrate that the applied design enhances the product as specified</li> <li>• applying complex techniques that comply with relevant health and safety regulations.</li> </ul> <p>This student has interpreted a complex design of a cherry blossom flower (1) to determine an applied design medium suited to a fashion top.</p> <p>They have undertaken appropriate trialling of a Cricut cutting machine, digital printing (outsourced) and screen printing to determine the most suitable medium for their product (2). The student has tested to establish that the design enhances the product (3) and applied the chosen medium to fabric to create an applied design (4).</p> <p>For Achieved, evidence is needed of further trialling to determine the equipment, materials and techniques required that will enhance the product. For example, alignment, viscosity and colour of the ink.</p> <p>Attestation of how the applied design enhances the product aesthetically and meets specifications requires either a conceptual design to be communicated or the actual garment to be manufactured from the fabric.</p>

my design have 2 layers and the first layer was black and the second layer was blue and the background that i have design the fabric to be was red.



## Applying the design - cricut ②

Based on the outcome of the pattern I looked to try different ways of how I can produce the pattern. I have used cricut to try to do the pattern that i have design but it did not come out that way that i want it to be come out, because the kind of fabric that i want is a flat fabric but the pattern that i did on cricut i can feel every flower when i was touching it, and also i need to put the pattern together by myself and i;m really worried that i can't do it very good to let each pattern connect to the way that i want them to be. also after the fabric has been washed for several times the pattern might come off, so if i'm wanting to wear this to the beach is a very bad choice for using cricut to make my digital patterns.



## Applying the design - AUT ②

I have used procreate to design my patterns that I would like to make. The benefit of using procreate rather than hand drawing is that it's easy to print and easy to make a digital design, and when I do something that I don't want I can remove or redo it easily. And the time spent doing design on procreate is faster than doing hand drawing. by using the work that i have done on procreate my teacher has sand the digital design print to AUT and they have helped me print out the pattern that i have designed on to cotton fabric. After I got the fabric that they print, I felt the colour of the fabric is too light, the fabric that I was wanting to get is a bright red fabric with that pattern that I have designed. But the one that I got is a light red. As you can see in the picture the colour digital pattern that I design is bright, powerful and bold but the colour on the fabric that I got is pale and duller.



## Applying the design - screen print

2

I have tried another way of making the patterns which is using the screen print, and it has went out better than the circuit because the pattern can stay more longer than the circuit but when i was making the pattern using the screen print i need to be really careful because of the ink, if i put on to many ink the pattern won't look like the way that i want it to be looks like(below in the picture). Also using the screen print to make the pattern on the fabric it will need to take a long time to do the pattern for the whole top that i'm making.but while i was doing screen printing testing i find out the pattern that i design went pretty good on denim fabric if the ink was less than it will be even better.



## Digital print testing

3

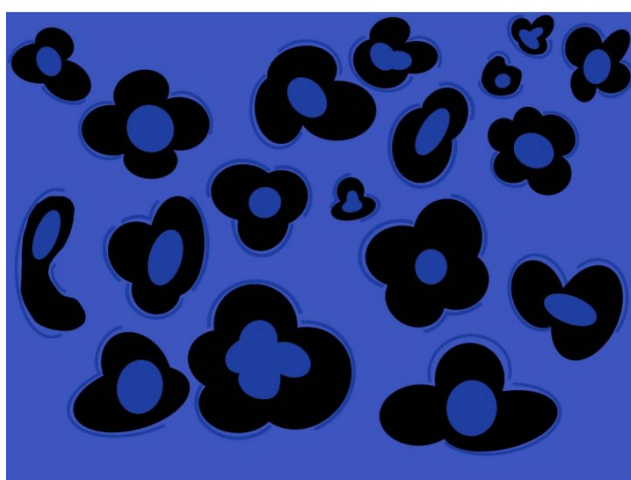
picture 1 was the first sample that I have print after having the smooth side on the bottom the ink is still a bit to much but the thing got much better than before.

picture 2 was the second print that i have print adding both layer of the print and it went out quite well but if i wait to let leyer one to dry and than printing out layer 2 it will come much better, but because the first layer was black so when i was printing the second layer it was very hard to match the first layer

I have chosen screening print to make my final digital print.



## Final design and print



4

During the process of the digital print that i'm doing, the thing i loved the most is the first layer of print that i have done because each of them was in the right spot and there is ink on each print.

While i was doing my print the biggest problem that i was focusing on is how can the second layer match with the first layer uniquely, at last i have found out that i should clean the ink on the screen print every time i was printing the print, there for i can see the first layer under so that they can match perfectly.