

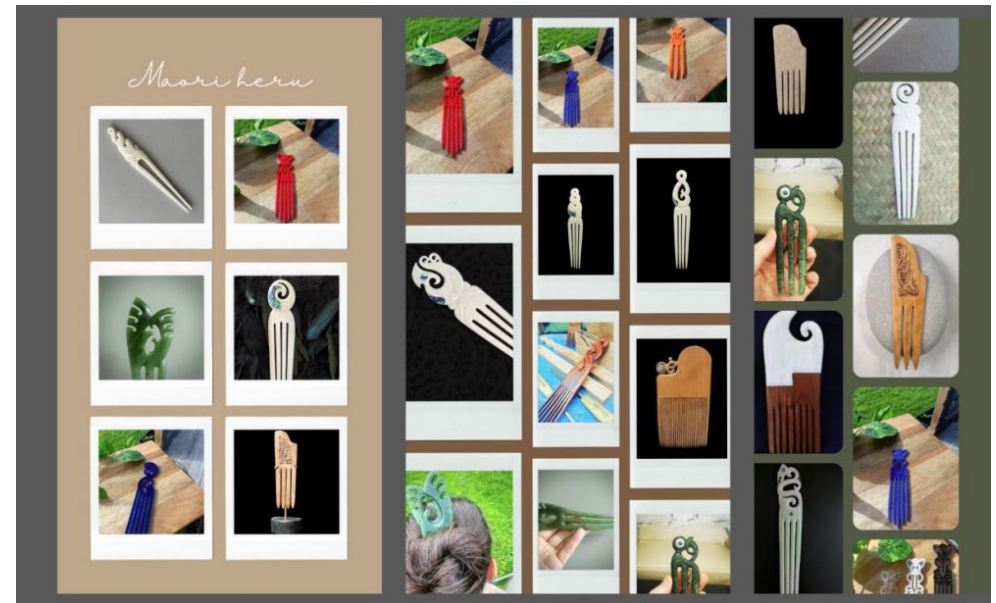
# Māori heru pieces

**My need / opportunity** - is to make a creative piece of work inspired by my culture and whanau.

**My stakeholder** will be my whānau since my work will be gifts for them. I will base my work on kotahitanga and my whānau whakapapa each heru will be personalised to their personality and their story.

**Brief / My outcome and expectations.**

My goal is to create a Māori head piece / heru for each member of my whānau that will be true to them and their story. Each piece will carry out a story using māori designs that I will create. I will have to research about carvings and designs to help me create a heru. I will need to bless the heru before use/when you bless a heru you say a quick karakia the appropriate karakia would be whakapapa te hau. This will be functional that means it needs to be able to stay in the hair long enough when used for special association such as Kapa haka.



## Concepts



The twist, or 'pikorua' as it is known in New Zealand, is a relatively new Māori symbol with design roots in nature. It's said to represent the path of life and symbolize the strong bond between two loved ones. It's a powerful expression of loyalty because the arms of the twist have no end point, just like lifelong relationships.

The reason I choose this design for my Mum is because she's always cared for my Dad her first love but another reason I choose this one for my Mum was because it was the design that I really felt had a connection to her because my Mum is very loyal to loved ones and I decided to take my own spin on the design. My mum is loyal and strong much like this design she has strength mentally and physically she was strong in sad times.



In pounamu carving the koru is said to represent new beginnings, growth and regeneration. We know it symbolizes the fern frond seen in New Zealand's native bush because of a Māori proverb that speaks of rebirth and growth:

There are two different designs here but I've decided to go with the one on the left because it really embodies my sister [redacted] she's young and every day is a challenge and different to the last. I've chosen the koru because it represents new beginnings and she has so many opportunity's which I know she will take and thrive.



The Manaia symbol is said to be a messenger between the living and the dead. They say this is because it's always carved in profile, with one half of its body in this realm, the other half in the realm of the dead. It was traditionally carved with the tail of a fish, body of a man, and head of a bird but nowadays there are many stylised versions of this symbol lending themselves to the artist's design capabilities. A lot of people wear the Manaia symbol as a personal guardian with some saying it can protect against evil.

I chose this design for my brother. The Manaia symbol I think really spoke to designing a heru for him. The bottom of the heru are challenge korus which represent difficult things my brother had to overcome.



Now with this design was very important to me because it's for my Dad. Me and my Dad are very close so I knew I needed to make this one very special. I did heaps of research and this is how the design came together. The two koru at the top of this design was inspired by new beginnings I decided to put two at the top for new beginnings for him but also new beginnings around him for the ones he loves. The koru facing down represent me and my siblings and how strong he always wanted us to be. The two koru in the middle are my parents and there love that is why they are in the shape of a heart (the sketch looks a little rough) the heart is also protected by a waka the symbol of always moving forward in life.

## Feedback from my Dad / stakeholder

Are the designs easy to follow and why ?

Yes it is easy to follow because of the symbols

Does it fulfill its intended purpose effectively? **Yup but how will it stay in your hair**

Is it practical for everyday use or special occasions?

Yes for special occasions

What do you think of the visual appeal of the designs?

I like them because a lot of thought went into them

Are there any elements that stand out positively or negatively

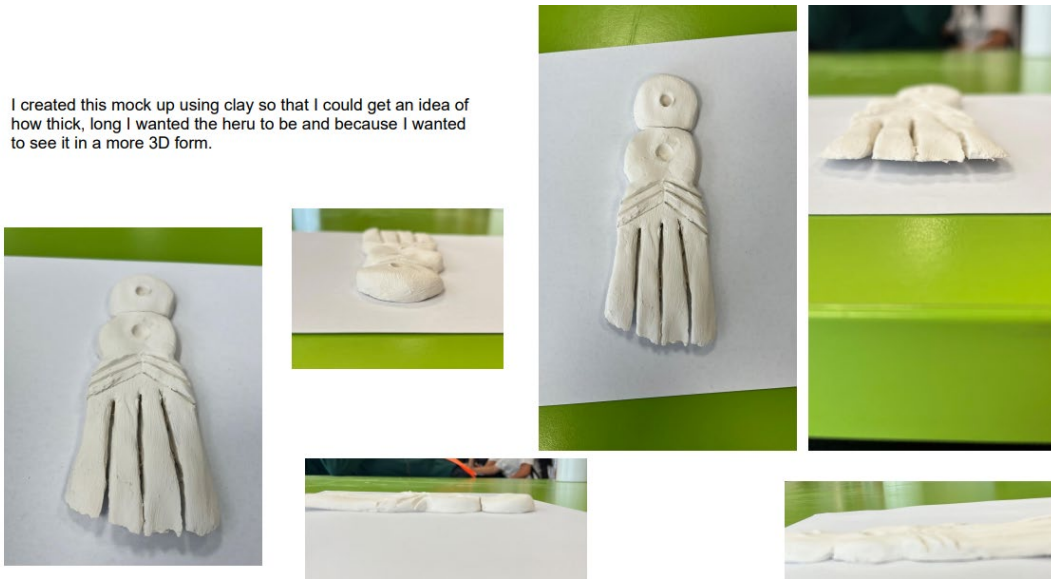
Some of the shapes looks a little bit weird and hard to make "will change in real thing"

How does the design resonate with cultural values or traditions?

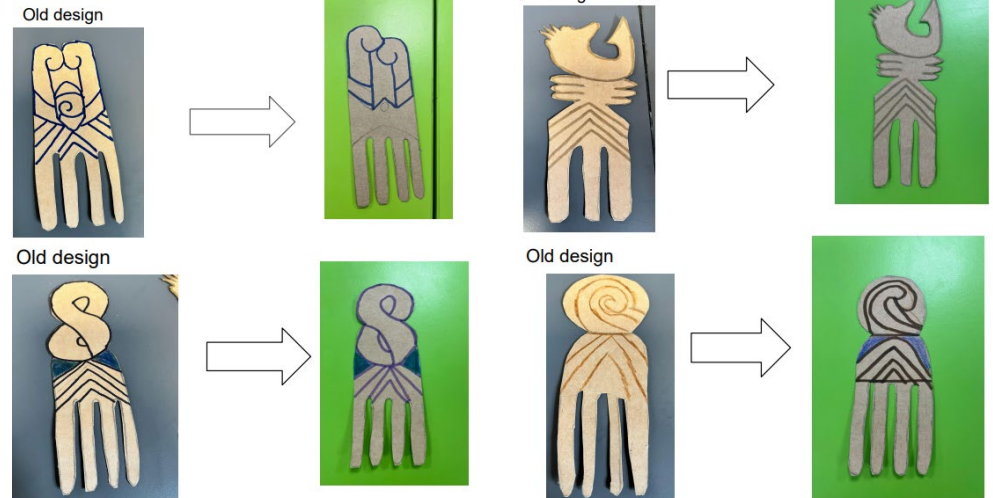
The koru pattern represents the forever circle and the top of the heru represent almost like a maunga Kinda like the maunga idea like our land and the koru could mean the river flowing to the sea or through the land

# Exemplar for Internal Achievement Standard 92012 Materials and Processing Technology Level 1

I created this mock up using clay so that I could get an idea of how thick, long I wanted the heru to be and because I wanted to see it in a more 3D form.



## Refined designs based on feedback from my Dad



## Production methods

### Wood carvings

**How to carve wood?** You'll need tools carving tools such as carving knives chisels, veiner, Skew Chisel or Corner Chisel. <http://www.woodcarving.com.au/>

### Resin

**What is resin?** Resins are viscous, liquid polymers derived from organic or synthetic sources. Their benefit centers on their ability to transition from a liquid into a customisable solid, homogeneous structure.

### How to use resin?

Get your supplies ready and put on your personal protective equipment if you're using it.

Mix a 1:1 ratio of Resin (1) and Hardener (2). ...

Mix slowly for 3 minutes. ...

Let your mixture rest for 2 minutes.

Remove any air bubbles with a torch. <https://www.youtube.com/watch?v=3u0j0000000>

### Bone carvings

**What do you need to carve bone?** The best tools for delicate bone carving are small handheld chisels. Chip carvers, micro carvers, block cutters etc are all good examples. The hard nature of the material means that for best results (and least wear on the tools) good quality tools are essential and pre-softening of the material is recommended.

### 3d printing

How do you 3d print? <https://www.youtube.com/watch?v=3u0j0000000>

Create a CAD (Computer-Aided Design) file. The first step to creating a 3D printed object is creating a virtual design with computer software or a 3D scanner.

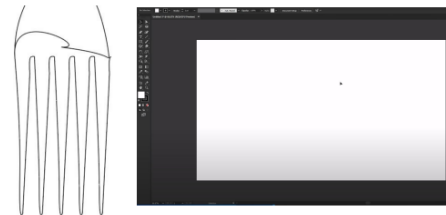
Convert the CAD file. Manipulate the STL file. ...Prepare the 3D printer. ...Build the object. ...Process the final piece.

**How does laser cutting work?** Laser cutting is a type of thermal separation process. The laser beam hits the surface of the material and heats it so strongly that it melts or completely vaporises. Once the laser beam has completely penetrated the material at one point, the actual cutting process begins.

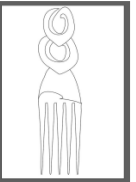
**What do you need to laser cut?** a laser cutter, computer with a laser cutting software on it, Materials to cut and design <https://www.youtube.com/watch?v=3u0j0000000>

## Adobe illustrator

I started with a blank A4 digital paper and started to design the comb, I created the first tooth of the comb and copied that one tooth and then placed them side by side until I had a comb with 5 teeth.



I then designed my first heru shape the pikorua design I created this design by drawing a koru pattern the copying it and placing it onto the bottom one and making the one on top smaller so that they did not overlap each other and fit perfectly into each other.



I created all my heru with the same process adjusting it slightly for each of my heru as they had different designs. I made sure that all the heru had to same comb so in order to keep the heru easy to use.

## Stakeholder feedback

My first go of cutting out my heru was unsuccessful although I did get some good feedback from Dad. The comb size was a little too thick but it did fit in the hair but it felt a little to thick it was also too big and wide. It also didn't cut through the wood properly.



### Improvement

Based on my stakeholders feedback I'm going to take in the heru so they fit better in the hair and also make the comb thinner so they stay put into the hair. I will also go around the heru with a red line so the laser cutter cuts out what I want cut.

## My second attempt

As I tried my second attempt at my heru I tested out different sizes of plywood.

- 1.5mm ply
- 3mm ply
- 6mm ply

I preferred the 3mm ply over the 6mm and 1.5mm because the 3mm fit well in the hair and wasn't too thin like it was gonna snap in my hair but sat way more comfortable in my hair unlike my 1.5mm ply.

The 1.5mm was way too thin and felt like it was gonna snap in my hair opposed to the 6mm ply that was way too thick and looked massive in my hair as well as not sliding in my hair properly.



## Final evaluation.

At the end of my project I had met my brief and made four heru pieces as gifts for each of my whānau members. Each of my heru had a specific story true to my family and their story. I created a different special design that meant something to each person. Throughout the project I got feedback which really helped me along the way I definitely needed to change my designs after hearing different opinions. My need/opportunity was to create heru pieces inspired by my culture which I portrayed very well with my research behind each heru. I used 3mm plywood, each comb was 30cm long and 9cm wide with 5 teeth.

If I was to create this product again something I would do differently would be using a different material and trying new ways of making my heru for example carving bone, wood, or even plastic. Another thing I would do differently is try out colours and more designs enough for a whole rūpu.



## Interview: why is this person important to me and The Authentic purpose

My mum is important to me because she takes care of me and is always there when I need her she is so strong and she does everything she can to take care of me and my sisters. She is also working so hard at her new job so I want to make a hoodie for her to keep her warm at work on cold days.

### Problem

She doesn't have much hoodies to keep her warm for work

### Authentic purpose

I wish to create a hoodie for my mum to keep her warm on cold days when she is at work. My mum loves bees and the colours green and yellow. Her birthday was on Anzac day so I might give it to her as a Christmas present.

### specifications

- Yellow and green colours
- Bees, flowers
- A zip (easy to remove at work)
- Fluffy fabric inside (to keep her warm)
- Hood (to keep her head warm)
- Cord for the hood
- A little over sized
- Ribbing
- Big warm Pockets

## Measurements and special features

bust	66.5cm
Hips	46.5cm
waist	40cm
Shoulder and arm	64cm
Center back	64cm

### Special features

- String in hood
- Big hood
- Small bee (screen printed)
- Ribbing
- Fluffy inside
- yellow

### Testing

- Test the fabric (warmth)
- Different zips (if adding)
- Stretch and how long it can last
- Shrinkage
- Colour fastness

### Ideate

- An oversized hoodie to keep her warm/Fluffy fabric to keep her warm
- A zip up hoodie so it's easy to take off
- Pockets for stuff she needs to carry around with her
- A big hood for her head to keep it warm

I will be using an XL or L but make it a little bigger for comfort wearing this and adjust the pattern if needed hoodie because my mum wants an oversized hoodie.

## The design process

### Empathy

My Mum is working at XXXXX now so I want to make a hoodie for her to keep warm on cold days

### Problem

She doesn't have much hoodies to keep her warm for work

### Ideate

- An oversized hoodie to keep her warm/Fluffy fabric to keep her warm
- A zip up hoodie so it's easy to take off
- Pockets for stuff she needs to carry around with her
- A big hood for her head to keep it warm

### Testing

- Test the fabric (warmth)
- Different zips (if adding)
- Stretch and how long it can last
- Shrinkage
- Colour fastness

## Mood board 1: my clients identity



## Mood board 2: types of hoodies



## About my mood board 1 & 2

My mum grew up in a family of 4 kids (including her) She is 45 and a mum of 3 kids, me and my two sisters. We live in XXXX. She loves bees and watching the sunset at the beach with me and my younger sisters. She grew up with a family of three sisters. I'm not fully sure if she is half Samoan because my dad is Samoan.

Mood board 2 is full of different types of hoodies like

- Cropped
- knitted
- normal
- Zip ups
- Extra long hoodies

And those combined to e.g. cropped zip up

There are lots of different hoodies to fit everyone and their personality. I personally like wearing cropped hoodies for my dancing so it's not too hot and I wear them to look nice but mostly I like wearing oversized hoodies. There are negatives and positives to all hoodies as well.

## Hoodie fabrics



**Jersey knit** 100% cotton

The jersey fabric is very thin and would be very cold in the situation we are making the hoodie for. But it would make a perfect summer hoodie.

**Sweat shirting** 65% polyester 35% cotton

The sweat shirting fabric is soft and warm on one side and smooth on the other. You have more options of what applied design to do because you can do screen printing on the smooth side. The polyester gives strength and the cotton gives warmth and softness.



**Polar fleece** 100% polyester

Polar fleece is a thick fabric that's fluffy on both sides. It is very warm and soft great for a hoodie but you have less choices of applied designs because you won't be able to do a screen print on the fluffy fleece but it would be suitable for embroidery or applique.



## Fabric choice

The sweat shirting fabric is soft and warm on one side and smooth on the other. You have more options of what applied design to do because you can do screen printing on the smooth side. The polyester gives strength and the cotton gives warmth and softness. I chose to use the sweat shirting fabric because it's warm because of the fibre. and And I think the smooth side will give a nice finished look when its done. I also chose this fabric because the polar fleece is really thick and would be hard to work with at times. And there is a bigger variation of applied design ideas I can look forward to do on the hoodie. My client chose this fabric because its light weight and feels super comfy.

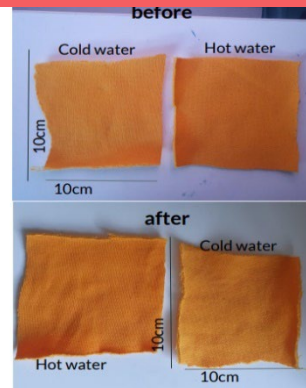


65% polyester 35% cotton

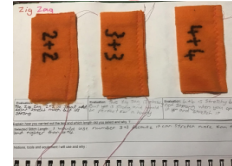
## Shrinkage test

The shrinkage test is to wash the chosen fabric and see if it shrinks. I did one hot and one cold to see if they would shrink and made sure to cut them accurately 10 x10 so it would be easy to see if they shrink.

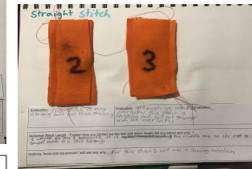
After hot and cold results they are the same they are still 10 by 10. So it is a non-shrinking hoodie fabric perfect to be washed.



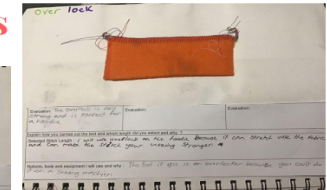
## Testing the different stitches



**Evaluation:** 2+2 is small and strong doesn't stretch well though. 3+3 is the perfect stitch for a hoodie because its strong and stretchy. 4+4 is stretchy but could break after a few washes.  
**Selected stitch:** The selected stitch is 3+3 because its strong and stretchy



**Evaluation:** 2+2 is very strong and a great stitch and will be very stable. 3+3 is stable and also strong when you pull on it and has a bit more stretch than 2+2



**Evaluation:** The overlock is very strong and is perfect to make any stitch stronger

**Selected stitch:** is the over lock on the hoodie because it can stretch with the fabric and can make the stitch your making stronger

## design ideas (screenprint) and applied designs

These were design ideas I show my client and she wanted to see them on the 4 concepts to see what they would look like to make her chose but she loved the bee and the idea of flowers on the hoodie. She did think the flowers were a little boring. I think I'm going to do screen printing cause I think it would be easier if she chooses the bee and she also wanted it. The other applied designs to choose from was embroidery and Applique. Embroidery is hand sewing in lots of different ways. My client disliked the look of the embroidery but did like how creative you can be with the design and colors. Applique is when you cut out a piece of fabric and hand or machine sew it to a garment. My client loved this idea and she chose it before the screen print.



## Screen printing

For the Applied design I decided to go with screen printing because it would have a nice effect with the fabric and it is fast and easy and cute.

The results from the screen printing were great we did testing on white woven fabric and then made little changes for the testing on hoodie fabric then fixing some little things like another line you can see in the photos onto the real hoodie and it turned out great.



## 4 Concepts

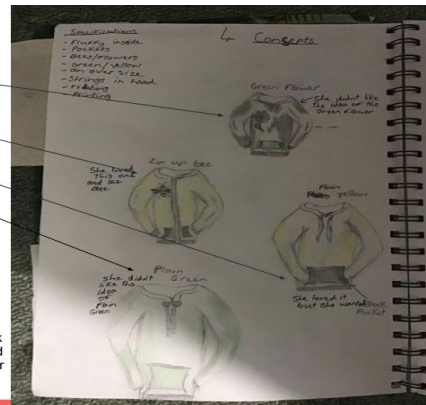
- Black hoodie with green flower
- Yellow with bee
- Plain yellow
- Plain green

### specifications

- Yellow, green
- Bees, flowers
- A zip (easy to remove at work)
- Fluffy fabric inside (to keep her warm)
- Hood (to keep her head warm)
- Cord for the hood
- A little over size
- Ribbing
- Big warm Pockets

### Feedback

My client loved them all but she thought the plain yellow and green were a bit to plain. She also didn't like the idea of the black with a green flower although she loved the flower idea. She loved the yellow with the bee because she said it brings out her love for bees and the colour yellow



This is the finished product of the hoodie. We did decide not to go with a zip but it still works perfectly. This photo was taken at XXXXX garden which is where my mum works. This product is suitable for my client it has warmth, it's a little oversized and has a bee that she loved. I chose this bee design to represent my clients love of bees and the garden. This chosen fabric was the type of fabric that I could do a screen printing on.

- A zip (easy to remove at work)
- Fluffy fabric inside (to keep her warm)
- Hood (to keep her head warm)
- Cord for the hood
- A little over size
- Ribbing
- Big warm Pockets

Except for the zip to make a fast and easy to put on hoodie, I would say it meets the specifications very well. The big hood, yellow, bee print, warmth, drawstring in hood and ribbing are all a success.



**Finished product**