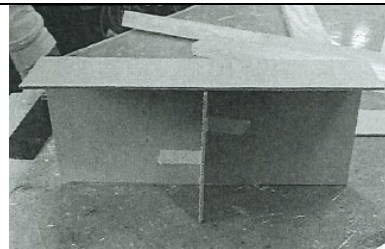


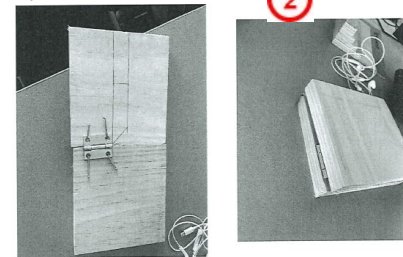
Student 3: Low Merit
Intended for teacher use only

Testing which method of holding up my foldable desk is the most stable and versatile.

I am investigating the method of using hinges to connect the legs to the table and allow it to fold up and down when necessary. This method does work very well and would be fit for purpose with no hidden problems. This method allows the legs of my table to be folded and let out whenever necessary without any complications, The only issue I could think of concerns is it a complex technique. It would suit both the intended environment and the identified issue as it would help provide a solution to my issue plus also fit in with my bedroom aesthetic



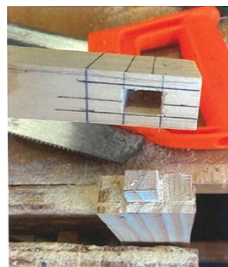
Testing another method to hold up my table. to ensure it is fit for purpose. Although this method does in fact work in terms of holding the desk up and folding back down it is too bulky. It would take up too much room under the desk, it would also take up too much wall space when folded out. The panels needed for this are too big and there is no way to make the panels smaller, as the smaller they are the less stable it becomes. This method does not suit the environment or the specifications as it would not allow the desk to be as small as possible and it would take up too much wall space. It would also be unappealing and not suit the user's aesthetic



Stakeholder feedback: When this technique is done to a high technical standard, I think it could be very good. This technique is also not so obvious and would allow the product to be more simplistic to suit the aesthetic you are after – minimalist.

Stakeholder feedback: This technique is also good but might mess with the seating of the desk as it looks like it will stick out too far into the space required for your legs. It might also not be best when looking at the design as it would not be accommodating for the back shelf and the legs that would also be needed, If the desk was going to be wall mounted it could look very good.

Here i am cutting the biscuit joint used for legs and frame using the biscuit joiner machine and clamps. I am using this joint to create a more seamless look. Throughout this process i have taken all safety precautions for using a machine including having my hair up, closed toe shoes, safety glasses and earmuffs. I have also made sure the extraction is on to help minimise the amount of dust in the air. I have also chosen to use pinewood for my product and this process as it is one of the most sustainable and environmentally friendly materials to use. The biscuit joint works well with the pinewood as pine is a strong that is more unlikely to crack when a biscuit joint is being pushed into it. Other woods such as plywood might crack or split as there are multiple layers to them held together with glue. As mentioned before, i decided to use this joint method for the legs and some of the frame to create a more aesthetic appearance for the product. My stakeholder also mentioned that they thought this type of joint was the most reliable and safest when trying to create a reliable and accurate product.

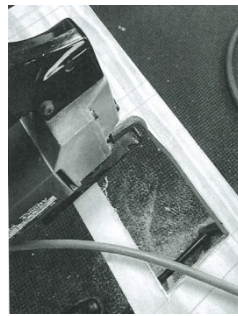


Here i am making my mortise and tenon joints for my back frame using the tenon machine, a hand saw a file and a chisel. When making this joint i have to consider the safety precautions when using machines including hair tied up, hard toed shoes, safety glasses, ear muffs and ensuring the extraction is on. In the process of making this joint i have strived to not waste any materials by making my joints accurate the first time around and making sure i don't need to make it again using more material. Again i have also used pinewood to make this joint which is considered a very environmentally friendly, sustainable wood. I chose to make this joint as it is a complex joint and was recommended to me by my stakeholder as it is a complex joint that can also be pulled off well while giving the product the same clean look as the biscuit joint. I was also recommended by my secondary stakeholder (Mr Allan) to use a hand saw for more accuracy for the tenon rather than using the scroll saw. I did use this advice and it turned out well. (much more accurate)

| Part | Material | Social context Environmental factor | Physical context (what are the properties) | Advantages and disadvantages | Will I use it? Why? |
|--------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legs, supports and shelf | Radiata Pine | This wood matched my environment as well as being suitable for NZ's environment as it is sustainable | Radiata pine is a plain wood without any additional layering or stacking to hold it together. It is 18mm wide and comes in many different sizes and lengths. Radiata pine is very strong and durable wood that is relatively easy to work with and cuts well. | Radiata pine is sustainable and produced in an environmentally friendly way. When producing the product, Radiata pine is easy to work with in terms of cutting, sanding and moulding. The only disadvantage of using Radiata pine is the fact that it is easy to dent and scratch and can be easily damaged. | I will be using this wood as it is very malleable and easy to work with. Radiata pine works well in the school workshop with the available tools. It also creates a nice finish to the product with its grain. It suits the environment, other furniture. It will reside in. 2 |
| Tabletop | Plywood 1 | In terms of the surrounding environment, plywood would have the constraint of not matching the physical environment to how I would like it. The multi colour aspect of the wood would throw off the colour scheme I am trying to create. I am trying to create a product that is one colour and authentic in appearance. | Plywood can come in any size in terms of length and width but in terms of thickness in 18mm. Plywood has been designed with the crossover technique of layering thinner pieces to create The larger wood. This technology allows for added strength while remaining relatively thin. Plywood is also very easy to cut and sand to needed size while also being easy to work with as it is lightweight. | The edges of the wood give off a sort of messy feel and can be more difficult to cut than other wood I have used. It comes in many different sizes that would match the sort of product I'm making. It also claims to be sustainable and have a low impact on the environment. | I will be using plywood for my tabletop as it contains a grain that allows for big quantities of parts to not to warp. It is also very easy to work with in the workshop. It finishes cleanly and is very strong. 2 |

4 In this photo i am testing the technique of using the saw blade to cut out the cut outs in my desk holder to find out if it is the most efficient and suitable way of doing it. From this test i was able to conclude that it was the easiest and most efficient way of cutting the rectangles out of the wood. I have chosen to do this technique as no other technique would have left the cut outs looking smoother and more efficient. There are also no problems that come along with it the machine is fairly easy and straight forward to use.

1 This technique will also work with the environment the desk will eventually be in as it will as to the clean aesthetic i am striving for. Although this technique is not complex i will still be using it.



Stakeholder Feedback
This technique looks good! I like the look of the cut outs and think this would be perfect for the final product. I also like the shape and size of the cutouts as it allows for a range of objects to be held. It also looks like this machine is the best choice for this process as it would be very hard to do it without it. 5

Fitness for Purpose
Once my product has been unfolded, it works as a desk and plant/ stationary holder.

7 The desktop section of my product has been specifically designed to hold an object the size of a laptop or book with arm space along the side for arms to rest when working. It also holds objects like books, plants and stationary. The plants sit on top of the small shelf with room for small to medium plant pots. Stationary can be held in the cut out i made specifically to hold a small to medium pencil/ pen holder. The pen holder slots into the hole. The next hole in the shelf is designed to hold books in it sideways. The hole can hold up to 4-5 books at one time.

Yes, it think my product holds the right amount as anymore and it would look cluttered and get in the way of the use of the product. The product holds enough to help with studying at the desk, like the right amount of pens and books for studying.

1 My product is easy to use as it sturdy and provides a good space for study or hobbies like drawing or reading.

The size of my product has been purposefully designed to be as small as possible to not get in the way of the other furniture in my room, but being big enough that it is comfortable to work at. My product has just the right amount of room for me to have both arms on the desk when studying but not too big that its bulky and gets in the way when walking around or into my room.

The function of my product is to allow for me to study when needed to, but be foldable enough so i can put it away when its not in use without taking up too much space.

How and why
Explain how/why it meets your specification (or not, it can be no, just explain why). You may need to state the obvious a bit.

My product can be used safely as a desk without any issues. I have tested my product to make sure that it is sturdy enough to work on and it is. It does not shake when writing on a computer or paper on any surface in my house. 7

My product is aesthetically pleasing as it has been designed to match the surrounding aesthetic of my house. It has been designed to not be bulky or too big as to not interfere with the surroundings. My product has also been sanded and varnished to give it a good finish.

My product was purposely built to be smaller in size and fit where needed. My product fits perfectly into the area in my room that i designated for my product. I can also make my product fit in smaller areas when folded down to be out of the way.

My product does not take up much room when it is in use or when it is folded down. The design of my product allows for me to have enough room for everything else in my room that was already there.

My product fits in my room without any issues and has a small enough width that anyone can fit around it at any time. My product also fits in well with my other furniture and doesn't get in the way of anything else already in the room.

Before taking my product home, i made sure to sand away any sharp edges that could cause damage to people or the surrounding environment. If you were to brush past my product it is very likely that you will not get caught or hurt on it.

I specifically used plywood and radiata pine for my product as they are very strong and sturdy woods that do not break easily. I tested the strength of the woods i used before i used them to make sure that they would hold the weight of someone leaning on them before i used them. 8

