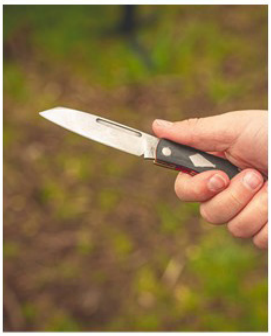
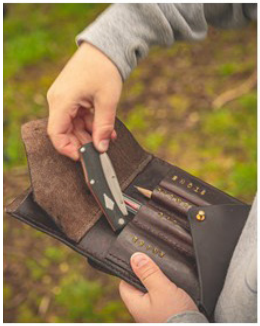
THE OUTDOOR CHALLENGE

Elliott Cansfield - Project Booklet





This Book Is Dedicated to
Louise Colville.

- To those that inspired it and will probably not read it.

“The mountains are calling and I must go

In every walk with nature one receives far more than he seeks

The clearest way into the Universe is through a forest wilderness…”

- John Muir

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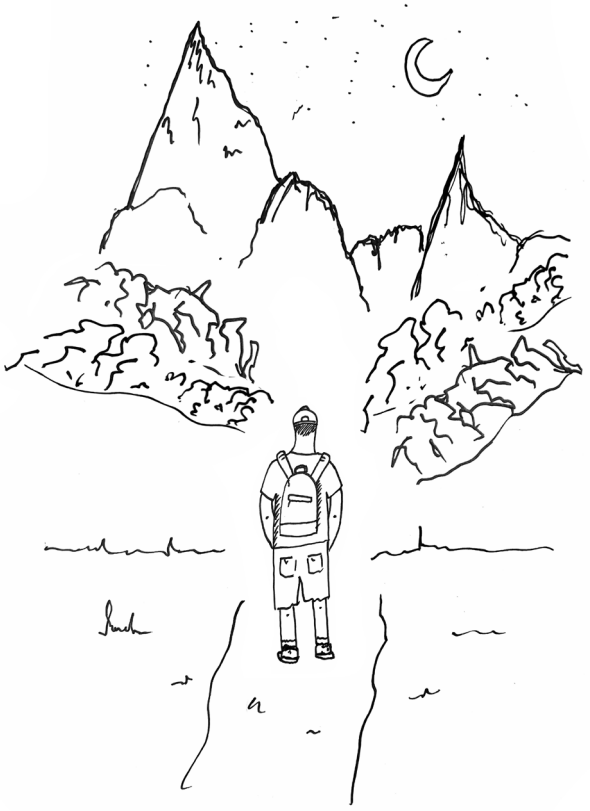
Introduction



Project Name:

The OutDoor Challenge

Who I am:

Elliott Cansfield

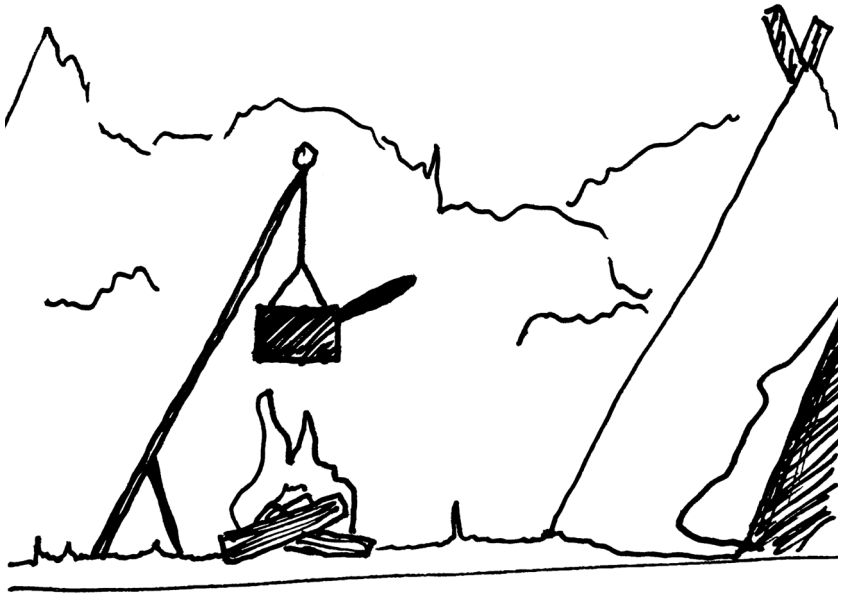
Date:

17/05/2021

Project Statement:

The UK government aims to tackle knife crime by scare mongering the public and banning certain types of knives. With the growing rate of knife crime throughout the UK, I wished to help find an alternative way of lowering the crime statistics. I feel that there are more efficient ways to lower the knife crime rates, such as, educating the youth of today that knives are to be used as tools. This can be done by using the Scottish Outdoor Curriculum for Excellence as a format to educate children about the use of tools and the environment, with the fundamental goal of making these young people be responsible citizens.
Growing up in the countryside has given me a passion for the Great Outdoors; I wish for everyone to experience the joys of growing up surrounded by nature. By introducing children from an early point in their lives to outdoor learning, you are not only allowing them to grow and learn in a healthy environment, but also allowing them to connect to nature in a sentimental way, which is important in the constant drive to achieve an environmentally stable future.

Post Card Brief



Task 1 - Post card Brief

The task of creating a double sided A6 Postcard Brief was to get our minds working. At this point the honours project title is rough, and the brief is not yet fully formed or concise.

This beginning stage is important, as one must not be too narrow minded on what their outcome is, but not to be too vague and have no clue as to what direction they are to go in. By having a working title, it allows you to start to walk down one path of concept. The information you already know almost forms the area of interest for your project, a known issue that you wish to resolve or respond to within the chosen area. The information you do not know, are things that will be needed to find out and what

information is needed to complete your project.
The following week we are to review our postcard and start thinking about what we shall research and contemplate how we will get from the start of the project to the end. The Following week we should have a better idea to as what our brief will be in full / how it will develop.

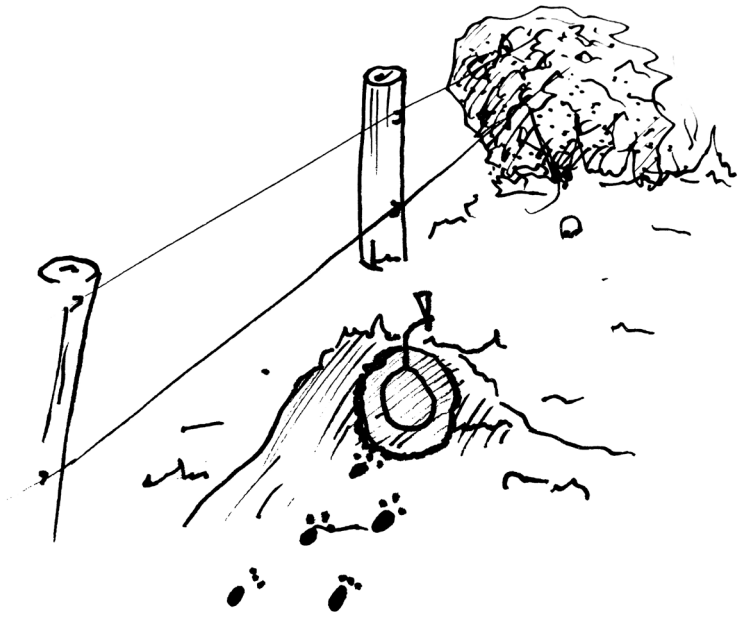
Task 2 - How to Write a Good Brief

According to https://www.webdesign-erdepot.com/ the 7 main factors that you should bring into consideration when writing a proper design brief is as follows:

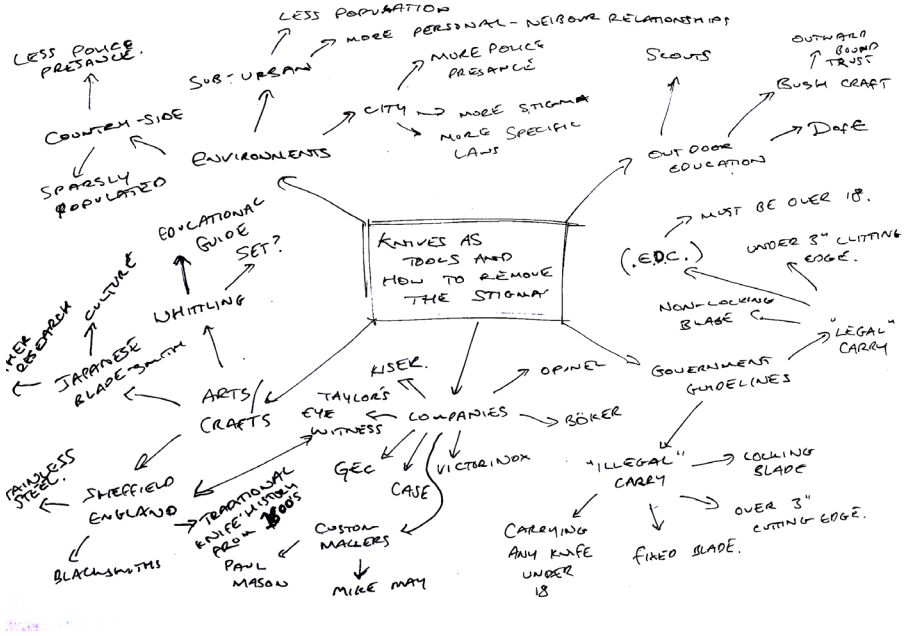
1. Objectives an goals of the new design
2. Budget and schedule
3. Target audience
4. Scope of the project
5. Available materials/required materials.
6. Overall style/look
7. Any definite "Do not's".

With the ongoing COVID-19 Pandemic, all our university lectures are taking place online in the form of Chats and Video Calls.
We discussed the post card briefs we had come up with. This was done with both our peers and our Lecturers - This allowed us to start thinking how we would expand our brief, and where our research would take us.

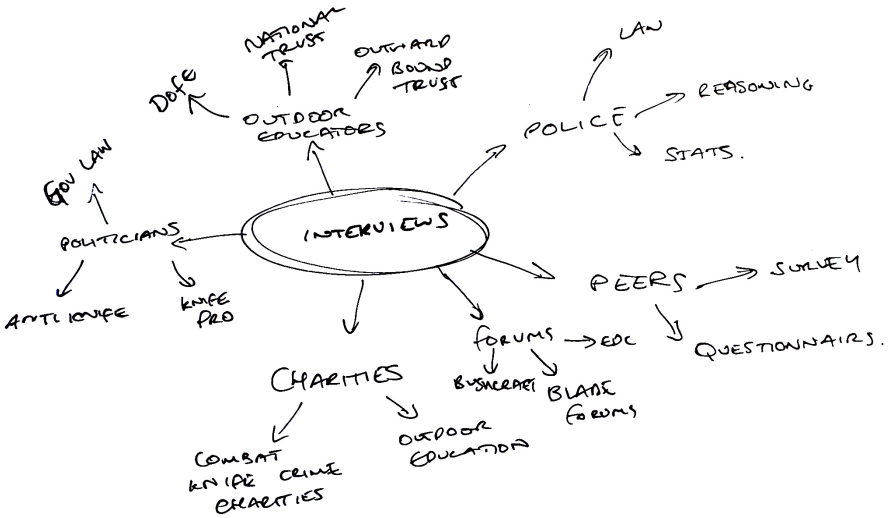
Idea Generation



Task 3 - Mind Mapping

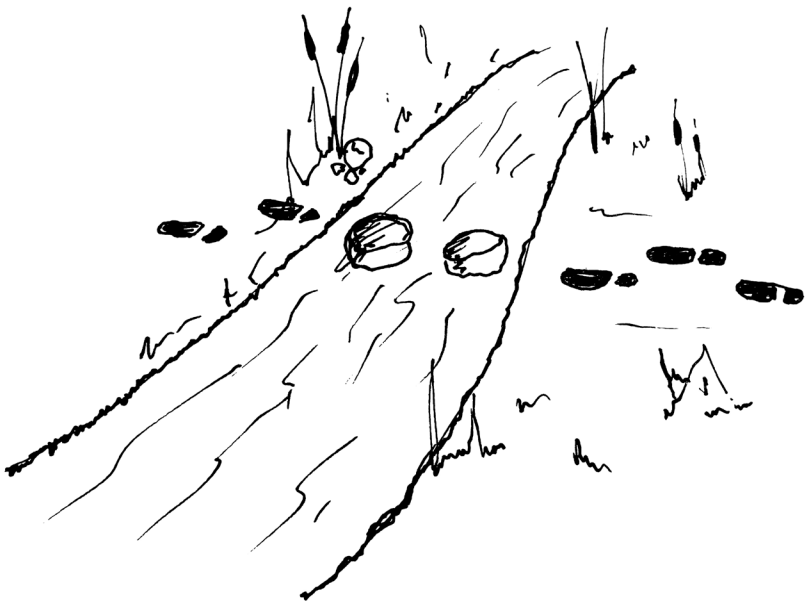


A quick way of getting ideas for a project flowing is a mind map. The first mind map allows you to get all your avenues of interest down onto paper. The first mind map will also allow you to plan where to next research and what else should be taken into consideration.



My second mind map is me starting to think about my research in a more ethnographic way. First starting out with interview-type research. Speaking to as many people as possible right away is a great way to channel your research and get as many opinions on the topic area as possible. This is important when first starting out as it makes sure that you do not form too many biases straight away when designing a product. It also means the product in the end will have taken a broader user base into consideration, and therefore will be better for the 'masses'.

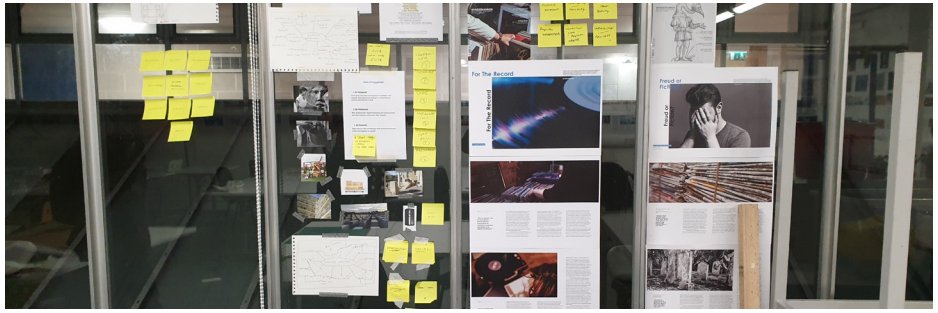
Research Methodology



Task 4 - Research Methodology

A quick way of linking ideas after your research is with affinity mapping. Quick quotes on post it notes, and images (taken from the research) are placed on a wall, or another large surface. Then you expand on your research notes and connections until you form insights that directly relate to your user base and your product.

Research from interviews, surveys, focus groups and in-person product testing are examples of information that can be placed on an affinity map.



Ethnography is the study of culture. Design Ethnography is the study of people and their 'habits' and knowledge to gather design insights.

According to www.userfocus.co.uk/articles/what-is-design-ethnography.html to fulfil the task of Design Ethnography you must 'enter the environment' of your consumer base and you must ask:

- What goals are users trying to achieve?
- How do they currently do it?
- What parts do they love or hate?
- What difficulties do they experience along the way?
- What workarounds do they use?

For a product to be successful to the masses, the 5 above points must be considered. Data must be interpreted accurately and allow you to make developments to your own product or concept. Visuals are effective ways of displaying your data are a quick way to interpret your data.

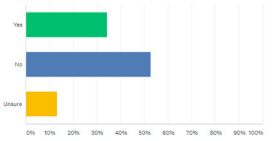
Task 5 - Initial First-hand Research

Sometimes 'making the first mark on the page' can be difficult. So, to get the 'research-ball rolling' I have made a short survey to start to gather insights to help me to start to channel my research into a more refined direction.

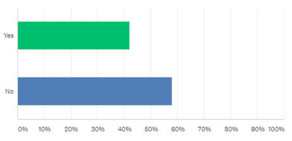
I shared my "Survey Monkey" questionnaire on social media and started to allow people to answer my initial questions.

Task 5.1 - Initial First-hand Research - Analysis

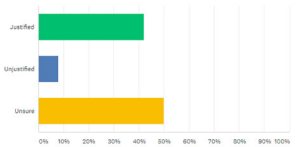
Are you allowed to carry a knife in public in the UK?



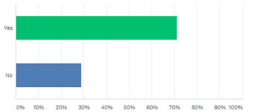
Do you know what knife laws there are in the UK?



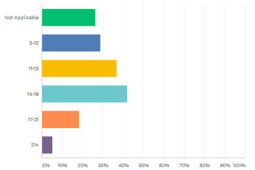
Are the Knife laws fair or unjustified in the UK?



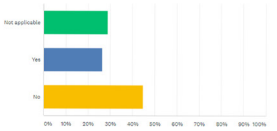
Have you ever being involved in outdoor education programmes, such as Scouts, DofE or others?



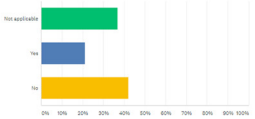
How old were you when you were involved with outdoor education? (select all that apply to you)



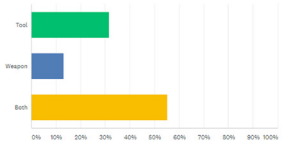
In this outdoor education group were you allowed to use and carry a knife?



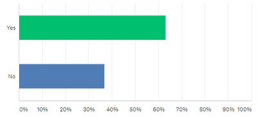
Did the outdoor education leaders teach you anything about knife carry law and safety tips?



Do you consider a Knife a tool or a weapon?



Should there be more educational tools made to allow knives to be introduced safely to younger people?

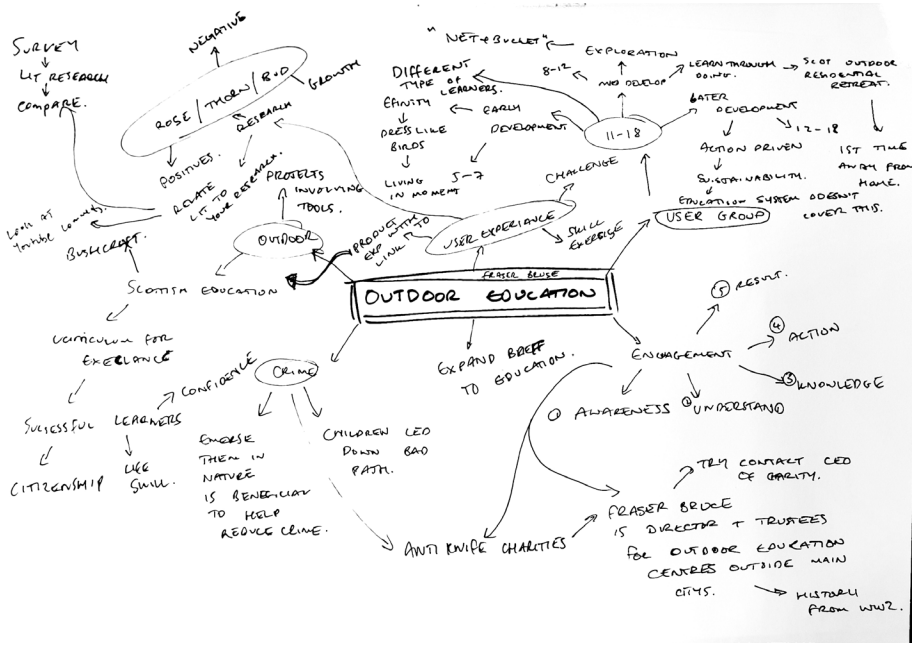


Task 5.2 - Interviewing

The next stage of my research will be refining the questions above and to then use them as basic pointers for my secondary research, where I will look at existing products on the market and analyse their successes and failures. I will also conduct a few interviews to try and gain further insights.

I conducted a Conversational Interview with Fraser Bruce a MSc Product Design Lecturer at the University of Dundee. The topic was outdoor education, as he is a Trustee/director for the Outdoor Education Trust in Scotland.

As we spoke, I made a mind map of all our thoughts and interactions. I gained many useful insights into how to analyse my research so far and what to look at next:



Task 5.3 - Child Learning Development

After my survey and interview I wanted to look more into child learning development stages. This was after seeing a correlation between the data from my survey and the information that Fraser Bruce gave me in the interview. Fraser said that there are three fundamental stages of child learning development: Early stage (Birth to eight), Middle stage (eight to twelve) and then adolescence (twelve to eighteen).

- Early-stage development is categorized by emotional and social development, where parents and others around the child are caregivers.

- Middle stage is about integration and understanding more complex social constructs, such as time and money.

- Adolescence is an important period for cognitive development, marking a transition in ways of thinking and reasoning about problems and ideas.

Further Information was taken from these childcare and development websites:

https://www.chcmass.com/2018/10/05/the-stages-of-child-development/#:~:text=There%20are%20three%20broad%20stages,of%20development%20in%20each%20stage

https://www.healthline.com/health/childrens-health/stages-of-child-development

https://www.learningrx.com/4-cognitive-stages-for-child-development/

So where does my survey fit in? My survey showed that most people experienced outdoor education between the ages of 11-16 which is within the Adolescence stage of development. This age rage is known as:

- Formal Operational Stage: Ages 11 and older. During this stage, children can use logic to solve problems, view the world around them, and plan. This fits into what Fraser was saying about actioning a plan and fitting it into adventure.

The question is now how does this fit into my project? What about a knife kit with instructions on safety (fulfil the reasoning part of development), or a den building instruction to fulfil the adventure/discovery part of development)? More consideration will be given in my project development considering how children learn and how they learn at different ages.

My next stage of research into child learning, will be to look at the Scottish Education Curriculum - specifically the Curriculum for Excellence programme.

Task 5.4 - Curriculum for Excellence (Scotland, UK)

"Curriculum for Excellence places learners at the heart of education. At its centre are four fundamental capacities. These capacities reflect and recognise the lifelong nature of education and learning. The four capacities are aimed at helping children and young people to become:

- Successful learners
- Confident individuals
- Responsible citizens
- Effective contributors

There are eight curriculum areas:

- Expressive arts
- Health and wellbeing
- Languages (including English, Gaidhlig, Gaelic learners and modern languages)
- Maths
- Religious and moral education
- Sciences
- Social studies
- Technologies."

(Quote Taken from: https://education.gov.scot/education-scotland/scottish-education-system/policy-for-scottish-education/policy-drivers/cfe-building-from-the-statement-appendix-incl-btc1-5/what-is-curriculum-for-excellence)

It is clear to me that for my project and final product to be successful it needs to fulfil the above 'bullet pointed' information. Maybe there is a skill-set-challenge built into my product, something to get the children fully involved by setting tasks that make use of my final product.

Task 5.5 - Curriculum for Excellence (Scotland, UK) - OUTDOOR EDUCATION

I needed to specifically investigate the Scottish curriculum for outdoor education. After searching through the education.gov website I found a PDF document outlining the Outdoor education segment of the Curriculum for Excellence programme:

https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf

Covered in this PDF is:

- Benefits to outdoor learning
- Health information
- Equality and Inclusion
- Partnership learning and Guidance.
- Actioning and Progression exercises
- Planning activities
- Recognition of achievement and attainment
- Self-Evaluation
- Health and Safety
- And overall, how to Implement the curriculum effectively and efficiently.

Task 5.6 - Existing product research - market-place research - Design Ethnography 1

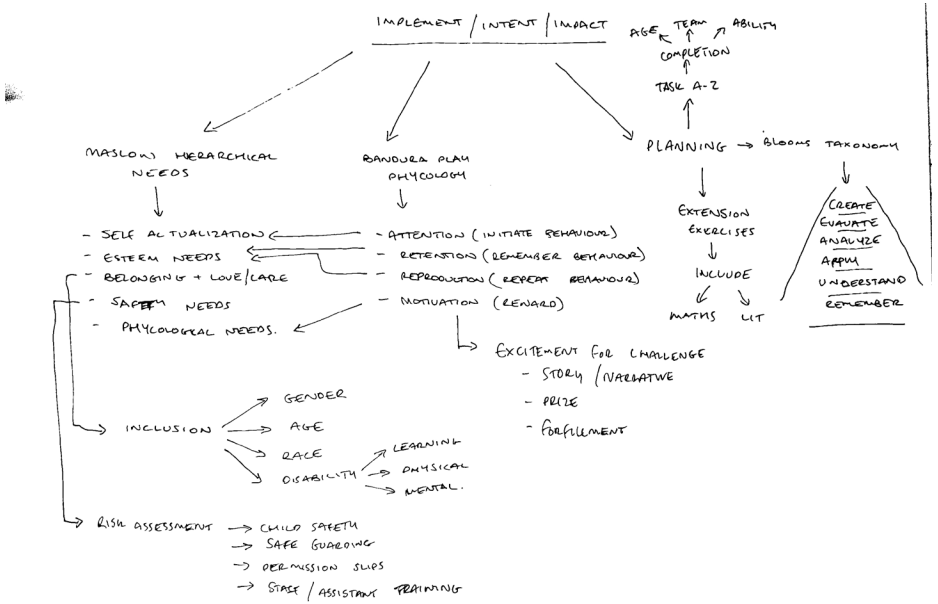
To get some first hand research I decided that it would be best to interview people with experience within the use case of knives and tools, as well as people with experience in outdoor education.

This research task was guided by my module leader, where we took our basic research notes and bullet point and wrote them down on post it notes and put them onto a wall, over time with a few others we grouped our notes into 4 different categories and then expanded our notes out with further thoughts and plans, The final outcome was then put onto pink notes, where we had various routes of where our project can go. Overall this exercise was almost like a dynamic mind map, where we could see our points larger and move them about after writing them, finding new links and other avenues of research exploration.

The main takeaways I got from this process were:

- I need to research more into child learning
- Children like to be treated as adults, with responsibili ties given to them
- Find out more about outdoor projects
- Do material research - thinking about price to perfor mance ratio
- Find out about market trends within the 'Knife design World'

Task 5.7 - Further Child Learning Research

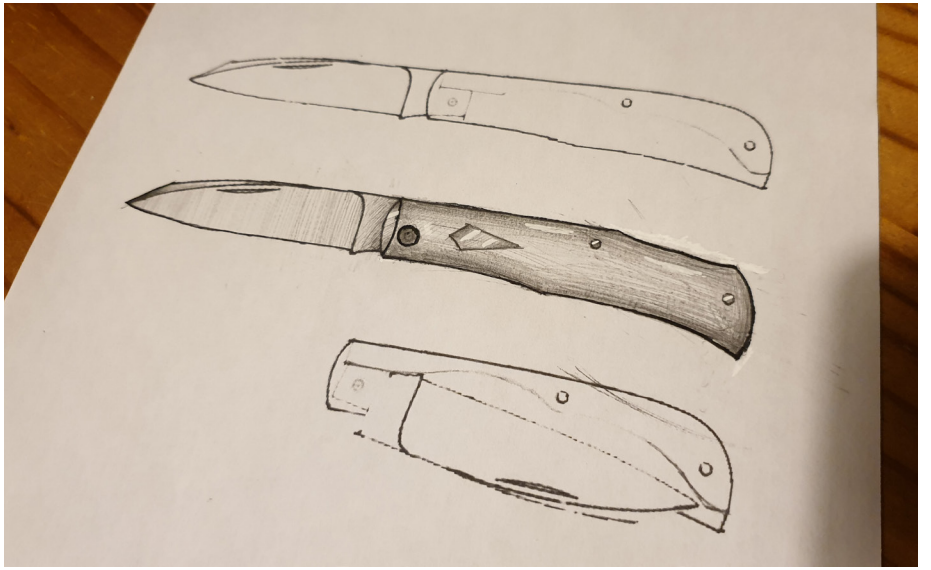


How will my project fit into education?

- Risk Assessment and child safeguarding
- Special needs
- Inclusion for all
- Time points this would be initiated in the child's 'school life'.
- Permission slips
- Staff training
- Extension exercises - how to fit maths and English into the educational challenge.
- "Implement, Intent, Impact"
- Removing disruption
- Bloom's taxonomy - how to plan a task - https://www.teach thought.com/learning/what-is-blooms-taxonomy
- Bandura, Play phycology - https://www.simplypsychology.org/ bandura.html
- Maslow Hierarchical needs
- Anji Play
- Montessori Education

Material Testing

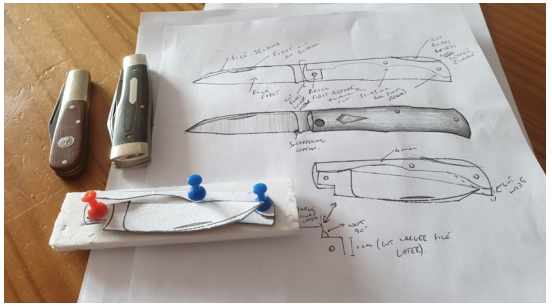
Task 6 - Initial Materials testing



After looking at a few custom-made slip joint knives online I noticed the main materials used for the products were as follows: Brass, High Carbon Tool Steel and Micarta (material that is usually fibre based that is suspended in resin). After buying the basic materials I thought the best way to experiment with the materials was to have a go at making my own folding knife.

I started out by sketching out a basic knife design with a slip joint mechanism (like what is found in a Swiss Army Knife). The way the knife folds is by a pivot point at the handle end of the blade, around the pivot is a squared off cam-based tang, which is held in place by a leaf spring down the back of the knife. This will become clearer as the production continues below.

To test the function and the movement of the parts I made tracings of the drawings and put them onto cardstock, then pinned them onto some foam-core poster board.



After confirming the parts functioned well on card, I made parts from 2mm thick wood and some transparent acrylic sheet.

I started laying out my parts onto the O1 tool steel (2mm thick for the blade and back-spring) and laid out the scales on to the brown canvas micarta I had chosen for the build.

The micarta is very hard to work with initially, it is very fibrous and dulls saw blades very quickly. The act of cutting also softens the resin within the material, 'gumming' up the saw blade, making it even more difficult to cut. The saw dust is also toxic as it is essentially tiny particles of resin, so a respirator MUST be worn when cutting or sanding.

3mm diameter pins made from 303 stainless steel was chosen for its high wear resistance and corrosion resistance. This is due to its high nickel and chromium content. It was also chosen as it is malleable when cold under a hammer to allow me to peen the pins down to fully assemble the knife later. 303 is typically used for prop shafts in aircraft, so if it is good in those, much more, strenuous conditions it would be more than adequate for the application here.

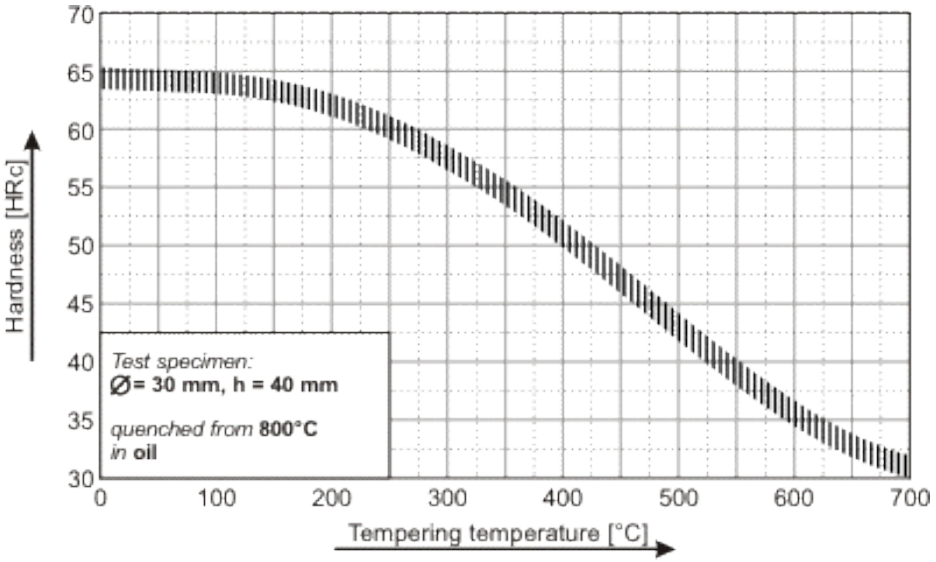
The back spring was cut out from the 2mm thick O1 tool steel, to my surprise the steel was very easy to work with as the supplier I had purchased it from had completely annealed it, making the process of drilling and cutting very straightforward and did not dull my tools particularly quickly.

The 'shield' Inlay for the handle was made from Damascus steel, this will be used as it forms a pattern on the surface when etched by Ferric chloride (PCB Etchant).

The Back spring needs to have a certain amount of preload to form tension against the pivot tang of the knife blade. To form this, I bent the spring downwards slightly in the middle. It was then hardened by heating it until red hot with a propane torch then quenching into motor oil.

I then tested it had been hardened fully by running a file over it to see if it would skate across it rather than 'bite'. When the file skated, I then decided to polish the part so it would be easier to see the colouration of the steel when I applied heat to it to temper the steel, to make it both hard and flexible. the colour I aimed for was a light purple blue. This is known as a spring temper.

(guidance found at -https://www.practicalmachinist.com/vb/general-archive/spring-steel-tempered-annealed-76439/#:~:text=That%20is%20the%20hardening%20part,on%20heat%20treating%20spring%20steel.)

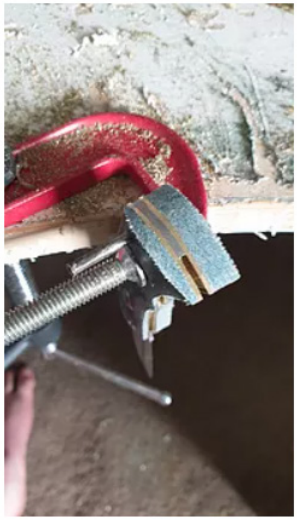


The blade was then hardened in a similar manor, but it was left in an oven at 200 degrees Celsius for 2 hours after quenching to get it to be the correct hardness to hold a sharp, useable edge.

(guide found here - https://www.azom.com/article.aspx?ArticleID=6229#:~:text=When%20repair%20welding%20of%20the,and%20soaked%20for%202%20hours.)

(Tempering Graph/Diagram image from - http://www.interlloy.com.au/our-products/tool-steel/o1-tool-steel-100mncrw4/)

When testing the backspring and blade interaction using the brown micarta handles, I made them crack, as I made the micarta too thin to be strong enough for the task. So, I had to make them again using a different colour micarta, then backing is with 1mm thick brass sheet, which both made the handle stronger, but heavier and it improved the folding action of the knife and the balance in hand.



The Damascus shield was inlaid using a Dremel tool as a small router to cut a channel for the inlay to sit in.

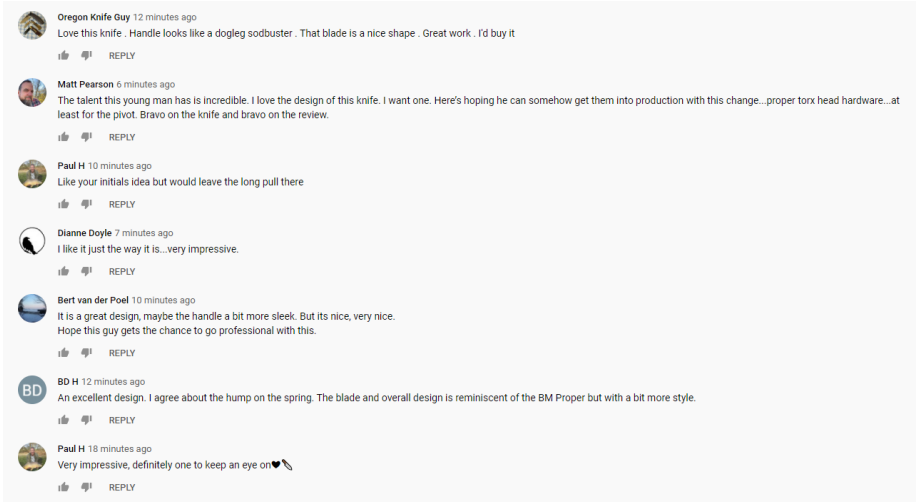
After the final assembly, the knife was polished with a buffing wheel on a Dremel and finished with a sharp edge, testing the blade was performed by cutting cardboard and rope, it held a sharp edge longer than a Victorinox Swiss Army Knife (paper cut test was used to see when the knives could no longer cut). This means that the steel has been properly heat treated and performs well.

When looking online at similar custom knives, I noticed the packaging they used was typically this velvet lined pouch and often came with a mini, business card sized note with information about the knife on it. I replicated this to experiment with how this could be used/sold as a real product.

The next stage in my material testing is how the product performs when using these materials. I want to properly test the knife with various tasks and give it to a YouTube reviewer, who deals with many knives and tools. For this I wanted a UK based knife reviewer with a large subscriber list to form validity of their performance as a reviewer. After searching with these criteria, I spoke to a channel by the name of "Paddy's Potato Peelers". After sending him an email he agreed to review it on his channel and carry and use the product for a few weeks to give me feedback on the item.

Scan the QR code to View the Knife Review Video

After viewing the video, I have noted the design changes that may need to be made to the product. I will also be viewing the comment section of the video to look out for any suggestions that people may have on my design.

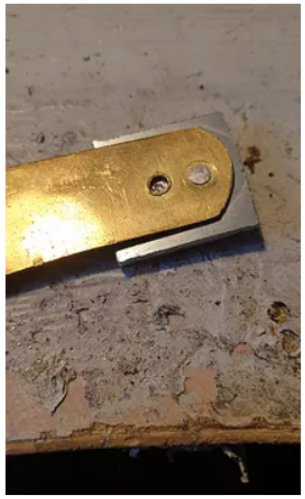


Task 6.1 - Secondary Materials testing and Skill Building

The above 'flat lay' Image shows further material testing work I completed over a few weeks - To summarise, I tried blade geometry grinding, riveting, and gluing flat surfaces together parallel with epoxy resin-based adhesive.

'scuff' marks found on the previous hand-made knife. By milling recesses the blade cannot rub on the liners causing the scuffing.

Process 1 - Riveting

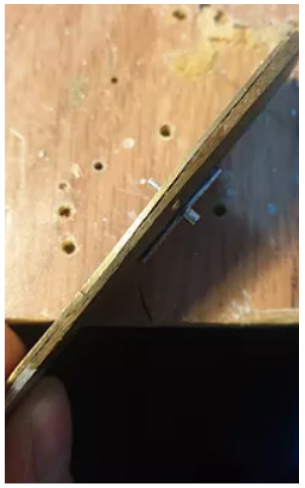


The riveting process began by drilling a 3mm hole through the aluminium and brass, then chamfering the two holes with a countersink drill bit. A 3mm thick rod of aluminium was then placed into the drilled hole. The aluminium rod is trimmed to sit approximately 1.5mm above each side of the aluminium and brass. This measurement was calculated as -->
rod = 3mm / 2 = 1.5mm

After trimming the rod to the right length, I peened the ends by holding the work piece over an anvil and hitting the end of the aluminium rod until both sides were flush with the rest of the piece on both sides.

Process 2 - Inlaying






A 3mm x 20mm aluminium bar was cut as the piece to be inlayed into the wood, Then the outside edge of the aluminium was traced onto the wood.

Using a small chisel, the cavity was cut into the wood to allow the aluminium piece to be inserted. Once inserted I used the same technique as found above to rivet the shield into place, meaning I would have very little possibility of coming out.

The aluminium inlay was then sanded flush with the rest of the wood surface.

The scales were unfortunately abandoned as they ended up not being completely flat along the back brass section - which is imperative for the knife to function properly.

Process 3 - Milling

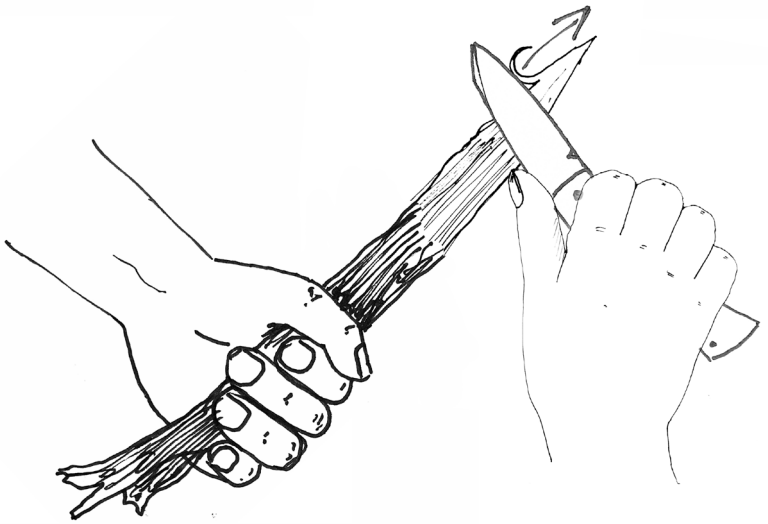
Using the milling machine was required in this material experimentation. After my feedback From Paddy's Potato Peelers I knew to get a better action to a folding knife, I needed tighter tolerances. To do this I layed out cad drawings of a knife design onto my 3mm thick 01 tools steel stock, then used the milling machine to cut the various slots and the square cham section of the folding mechanism. The milling machine created much better results than doing the process by hand with a file.

A 0.2mm deep recess was milled into the 1mm thick brass lining material used for the handles, this was done to help remove the 'scuff' marks found on the previous hand-made knife. By milling recesses the blade cannot rub on the liners causing the scuffing.

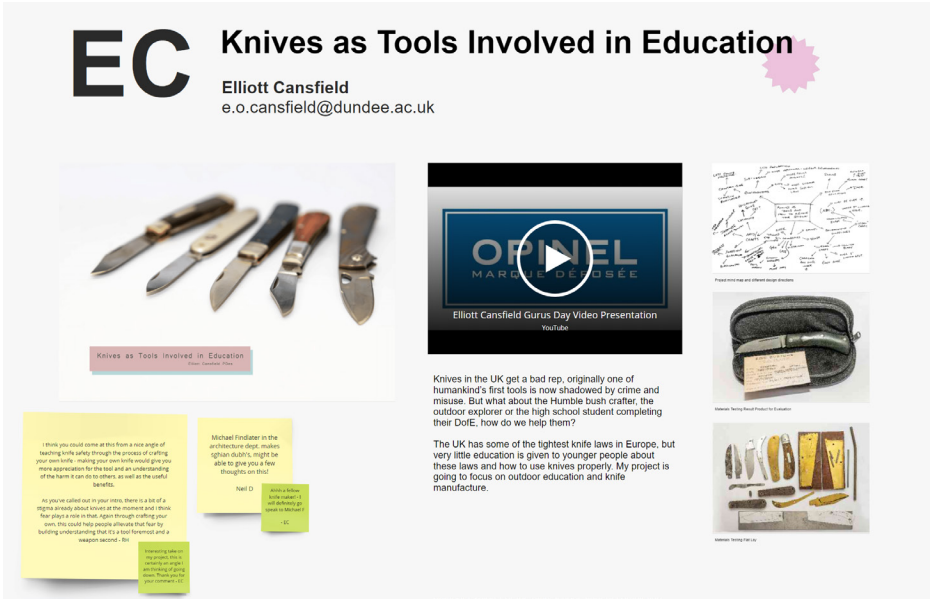
Process 4 - Materials Testing 1 vs 2 (outcomes and evaluation)

Scan the QR code to View the Comparisons of the two knife build processes

Gurus' Day



Task 7 - Gurus Day



Our Gurus Day boards were displayed on a large 'Miro.com' Board. Where the Gurus were able to leave Post-it note comments on the page. These notes contained other contacts we may wish to contact and other project directions we could go in. Gurus' day is an event held by the University for DJCAD students, where we have a chance to 'pitch' our ideas to designers in the industry. For the Event we were tasked with producing a 1:30min video to explain our project and where we were at with it, then 3 image boards to show off what you had achieved so far and to catch the eye of the 'Gurus'.

We also wrote a shot 100-word statement about our project:

Knives in the UK get a bad rep, originally one of humankind's first tools is now shadowed by crime and misuse. But what about the Humble bush-crafter, the outdoor explorer or the high school student completing their DofE, how do we help them? The UK has some of the tightest knife laws in Europe, but very little education is given to younger people about these laws and how to use knives properly. My project is going to focus on outdoor education and knife manufacture.

The event was held on the 23rd of November 2020, here was my feedback:

Martin Skelly

Positives - playing about with materials, learning new skills. Try to separate E.D.C (Everyday Carry) ideology from Outdoor Education.
Get views of "Anti-Knife" people as well. Make sure they project is not about getting children to carry knives, but to get children to have a sense of responsibility.
Look at cultural differences to do with using and carrying knives. Do not get lost in the making process of the knife, but the kit idea for both children and adults to bond over in an educational setting is good. Look at knife safety itself, look at most common injuries for example.
Look into how children respond to guidance, especially to do with safety.

Andy Ross

Think about your industrial outcome, what do you want to do after Uni? Are there any companies you can reach out to? How would you make the project you are developing 'appeal' to a company? Knife safety kit - blunted knife, synthetic materials and a guide. How to make a knife stand out amongst the crowd?

Scan the QR code to view the Gurus Day video

Interim Presentation

Task 8 - Interim Presentation - Telling a visual story

Interim presentations were made a week before the end of the first semester, they were presented to our collective groups and our two main lecturers. This was done as a 'checkpoint' for our work, to receive feedback to help us in the next stage of research and development for our concepts.

Scan the QR code to
View the Presentation
Vdeo

Task 8.1 - Feedback

The main point of feedback was that the booklet that I will have to design as part of the kit will be the focus point of the user experience of the project. To this I was advised to look at children-book-illustrators, signage and instruction booklets to gain insights into how those booklets convey their 'message' to the reader.

I will now start to look at educational children's books and instruction manuals on how to best convey the tasks for the educational groups to complete. I will also cross reference the Scottish Curriculum for Excellence to make sure that my tasks meet the required standards for the age range of the children involved in the projects.

Feedback by Andrew Cook and Polly Duplock:

Your focus on knives as tools in education for young people feels strong. Removing the stigma associated with knives and bringing in the dimension of the outdoors and the health and welling of young people seems very relevant. The project also feels like it is about accepting and
managing some element of risk.

It is good to bring your passion and understanding of knives into your project. Use this to your advantage but also make sure you stay objective as you make decisions. Good to see the results of your survey and how they informed some of the direction of your project, such as focusing on the age group if 11-16. Good to have spoken to Fraser, with his understanding of outdoor education and how this helped you to move onto looking at the Scottish Curriculum for Excellence and the psychological development of children through outdoor learning. I like the way you have started to bring your ideas together and the concept of the kit that is developing with the new knife design, the book, the sharpening stone, oiling kit and bits of wood to practice on. The idea of the expansion tasks in the book that relate to maths etc. also sounds good. Great to see that you have designed and built a knife from scratch in your home.
I am sure this gave you some interesting insights- well done.

Areas for improvement:

You mentioned having some discussions with Andrew about UX design. Follow this up in Semester 2. Your idea of developing some relationships with knife manufactures sounded really promising. If there is an opportunity to do a collaboration with a knife manufacturer that would be great. The book that comes with the knife feels like it is at the centre of the experience, make sure you also do a good job of this part of the project. Think carefully about how you are going to tackle the graphic illustration in the project. Mock-up a few different pages to try different directions before settling on the final graphic language.

Your blog/Instagram:

It is great to see how thorough your process is documented on your website. Is it possible to make it a bit easier to both scan (highlights of info) and navigate (click throughs from one page to the next)?

Advice to carry forward:

You have been working hard on your project Elliott, which is great to see. It is great to see how you have developed the people side as well as the more technical knife design/build.
As you move forward make sure you keep both aspects
firmly in your work.

Booklets and Manuals Research

Task 9 - Illustrators Research

To gauge what the current available illustration styles are around now within the child-education market, I will be looking at the most popular books used within schools for children between 11 to 18. I will also be looking at the most popular illustrated educational books on the market as of 2020-2021. From this I can establish a design style and work out how best to communicate all the required information for outdoor education (containing the required information for the Scottish Curriculum for Excellence).

Task 9 - Illustrators Research

It is easy to view the best sellers of Children's outdoor guide booklets with a simple google search and see what is first advertised, using googles most searched algorithm makes this process very simple.

After viewing https://theculturetrip.com/north-america/usa/articles/top-9-children-s-books-illustrators/ I managed to start to find a list of Illustrators with varying art styles, the following names are deemed as the top 9 children's book illustrators of modern era.

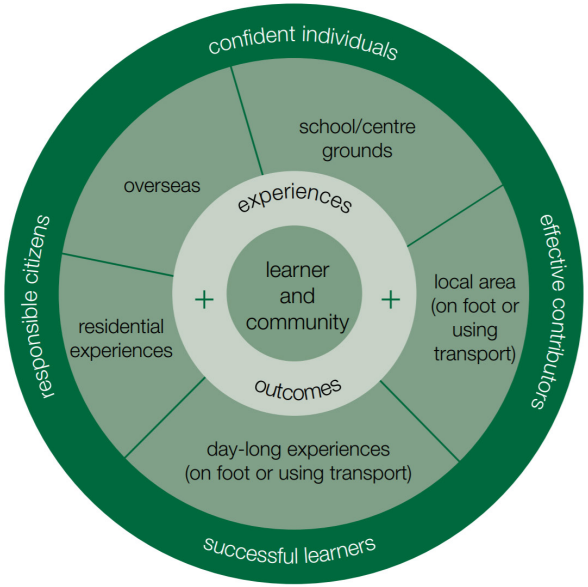
1. Maurice Sendak - famous for "Where the Wild Things Are".
2. Barbara McClintock - famous for "Adèle & Simon" and the Jim Henderson's Television Series "Fraggle Rock".
3. Laura Carlin - famous for "A world of Your Own" as well as winning the 2011 V&A illustration award.
4. Sophie Blackall - famous for "Meet Wild Boars".
5. Dan Santat - famous for "The Adventures of Beekle: The Unimaginary Friend" which got Dan awarded the 2015 Caldecott Medal for his work.
6. Brian Floca - famous for the 2014 Caldecott Medal winner "Locomotive". Bold style with exaggerated proportions.
7. Laura Vaccaro Seeger - famous for "First the Egg" and "Lemons Are Not Red" a book that educates children on colours.
8. Jo Empson - famous for "Rabbityness" a book featuring bold design and colours and plays tribute to Jo's Graphic Design background.
9. Theodor Seuss Geisel - Famous for "The Cat in The Hat" Dr. Seuss uses basic colour palettes and a sketchy

Children specific Outdoor Education and Play books:

- Play the Forest School Way: Woodland Games and Crafts for Adventurous Kids Paperback - Illustrated, 27 May 2016 (Jane Worroll (Author), Peter Houghton (Author)) - Age Range 8-12
- How to Raise a Wild Child: The Art and Science of Falling in Love with Nature - Book by Scott D. Sampson 2015

Task 9.1 - What Content Should be In the Work Booklet?

Figure 1: Planning for outdoor learning



All the methodology I will follow will be based upon the information found in the following document https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf (the Scottish Curriculum for Excellence Through Outdoor Learning)

The image in Green was taken from the PDF listed in the link above. This is a fundamental planning methodology used to form an outdoor activity.

The diagram works from the inside out, where each task done from the inside out forms the outcome for the children involved (confident individuals, responsible citizens, successful learners and effective contributors). This diagram is said to be effective for learners from age 3 to 18.

There should be a focus on working as a team, to help aid in life after 18, working within a higher education setting or within an employment setting.

Actioning a Plan - Staged Approached

Stage 1 - Task and Objective(s)

Much like in design the task or 'breif' should be made clear to the participants of the process.

The objective(s) must be made clear to the participants, as they need to be aware of what they must achieve and within a set time frame.

The task can be spread out over a few days, with being in the outdoors there can be a great distance travelled outside within a campsite or forest, and thus more time to complete an activity.

Always bring back into context how the task will make the participants confident, successful learners, responsible and effective at contributing.

Must be suitable for a full class of approx. 20-30 participants (including leaders and tutors).

Stage 2 - Suggested questions to reflect on when planning.

Which experiences will have more impact on learning if done outdoors?

How can learning outdoors enhance and deepen learning within curriculum areas?

Which experiences are best suited to a combination of indoor and outdoor learning?

How can learning indoors best be consolidated, progressed or enhanced using the outdoors?

What opportunities exist for linking learning across the curriculum?

(Source - document https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf (the Scottish Curriculum for Excellence Through Outdoor Learning)

Stage 3 - Risk Assessment / Health and Safety

In planning and considering risks and benefits it is important to consider:

Is the level of challenge appropriate to the learner group?

How will risks be assessed and balanced against the benefits that can be expected?

Can the rationale for this experience be justified even if events do not go according to plan?

Are the management arrangements appropriate for the location selected?

Are the leadership and supervisory staff appropriately skilled, qualified and experienced?

How do we communicate with parents and carers?

Could we benefit from enrolling partners?

Are there any relevant examples of good practice that we can draw on?

A Risk Assessment does not mean eliminating all risk, it means balancing risk vs reward. The law requires leaders to manage significant risk as reasonably practical and learners and participants should be at the centre of the risk assessment from the start of the process.

(Source - document https://education.gov.scot/Documents/cfe-through-outdoor-learning.pdf (the Scottish Curriculum)

Stage 4 - Working with Partners

Can the Young participants be involved in planning the task - such as route planning in a map?

Can the task be done as a group?

Professional partners from outside organisations with experience in the field can help aid in the process of learning and provide new routes of learning to the participants.

Stage 5 - Task evaluation, participant satisfaction, assessment of attained skills:

Recognise achievement and attainment.

Build up a 'learning portfolio' of the participants work, look for personal development and skill development.

Has the participant completed the task, and how well has the task been performed?

How can the participant improve, can they learn from other participants?

Can the activities be linked to a reward scheme? Look at DOfE, The John Muir Award and Millenium Volunteer Award. Nationally recognised awards can add value to a child's education for applications in 'the real world'.

Stage 6 - Evaluation / Self-evaluation

This helps to evaluate the school's impact on the education of a child when educating them in the outdoors, how well has the outdoor education benefitted the child and how well have the tasks been received by the participants involved?

What do I need to know?

How can I find out more?

How can I integrate new learning into my practice?

How can I share my learning?

After speaking to Fraser Bruce about child progress and assessment, He spoke about the design evaluation process, called Rose-Thorn-Bud.

The Rose is what went well.

The Thorn is a negative.

And Bud is a chance for growth, or improvements to be made.

They fill the self assessment criteria for The Scottish Curriculum, and also give 'nature-inspired' words to Positive-Negative-Improvement.

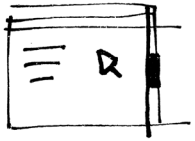
Task 9.2 - Layout and Page Design

This website helped gain insights into how to layout and organise information on a book page in a manageable and logical manner: https://visme.co/blog/layout-design/

The following information is from the above link - it mainly focuses on how to lay out text, however the information here could be applied to imagery.

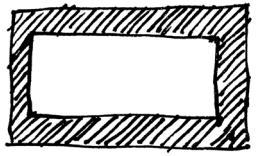
Format:

The format is the full area where the final design will be laid out. In print design, the format is the page and in web design the format is the browser window.



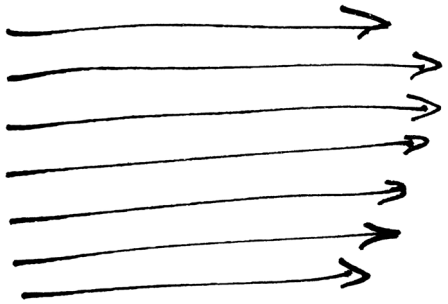
Margin:

Margins are the empty spaces between the edges of the format and the content. The size of the margins is what gives the content a general shape, usually a rectangle.



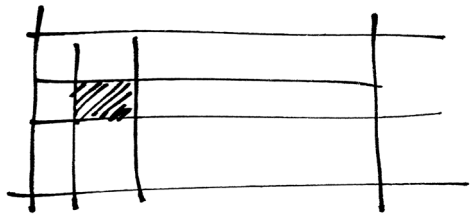
Flowlines:

Flowlines are horizontal lines that separate the different sections of a grid into parallel bands. They help the reader follow the content of the layout. Flowlines also create stopping points, or edges for the elements to be placed on. Some flowlines are called hang lines and others are called baselines.



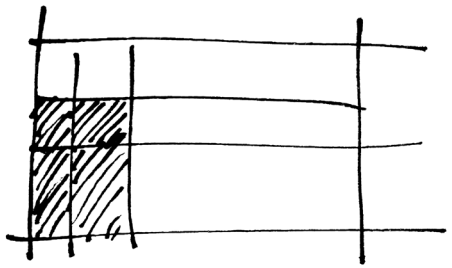
Modules:

Modules are the building blocks of any grid. They are the spaces created between the flowlines and vertical lines. Vertical groups of modules together create columns. Horizontal groups create rows.



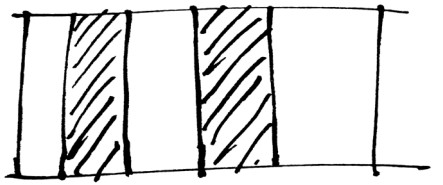
Spatial Zones or Regions:

Groups of adjacent modules in vertical and horizontal areas create spatial zones or regions. A vertical region can hold a block of text, a horizontal region can hold a video. Regions can be organized proportionally or used to create overlapping zones.



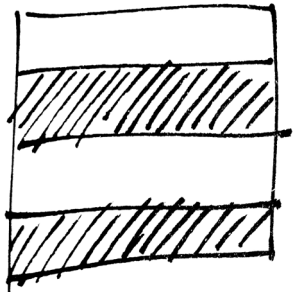
Columns:

Columns are vertical spatial zones or regions that fit fully from the top to the bottom margin.



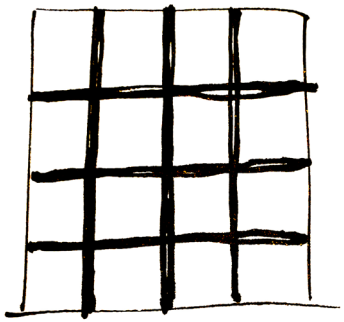
Rows:

Rows are horizontal spatial zones that fit fully from the left to right margin.



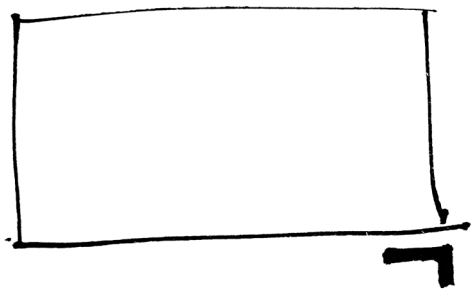
Gutters:

The spaces between rows and columns are called gutters. These should always be equal between columns or rows, in order to maintain a visual balance.

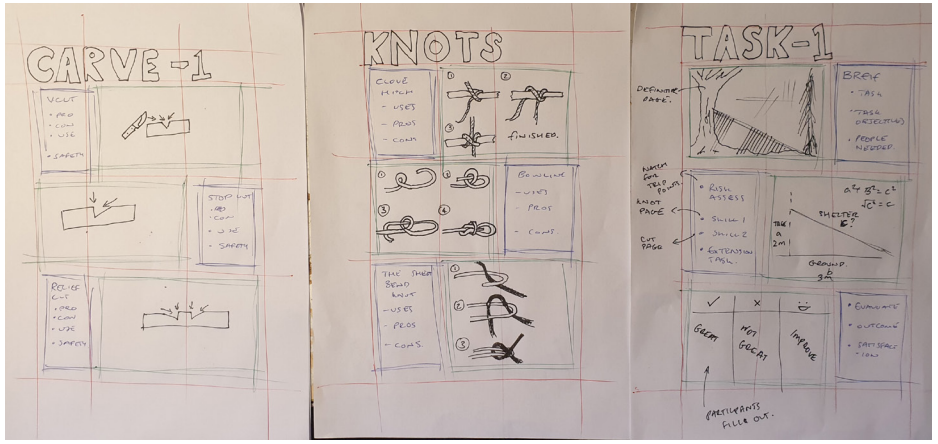


Markers:

Markers are areas inside the running header or footer that mark the exact place where repeating information is placed from page to page.



Task 9.3 - Layout and Page Design - Drafting

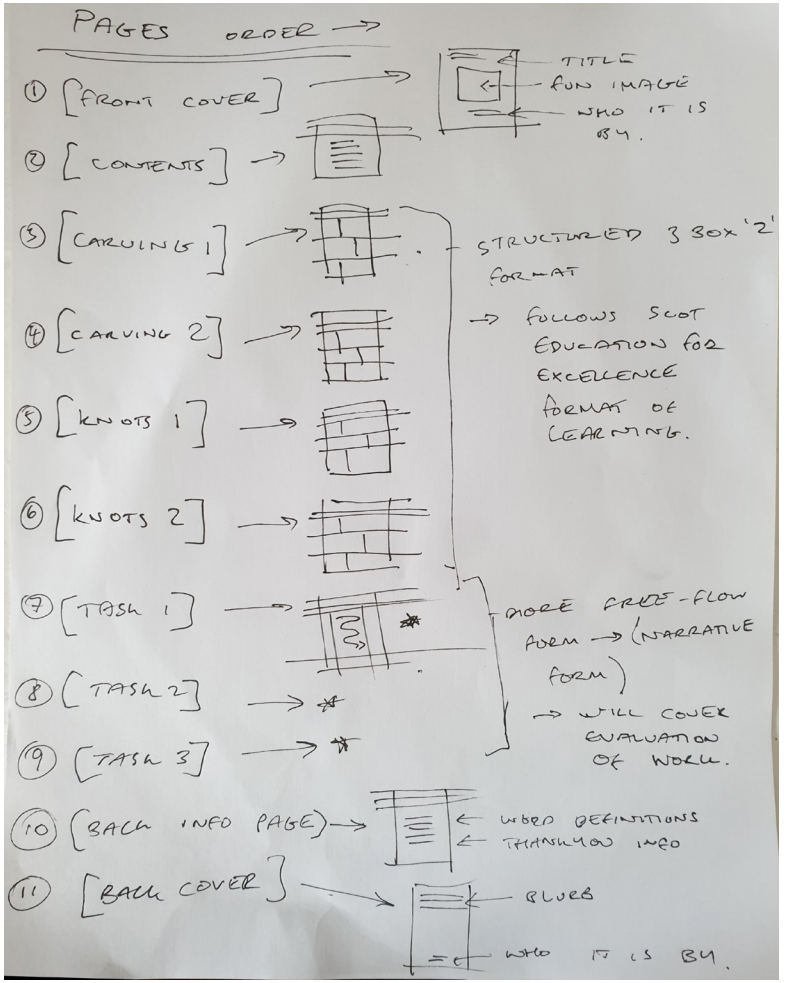


The pages have been sectioned out in to 9 basic blocks, with a title block situated at the top of the page, there will be a margin evenly spaced around the border of the page and a reasonable gutter between elements on the page.

Keeping to the rule of thirds, I will use three image blocks and three text boxes, images will have larger blocks on the page to emphasise the importance of them on the page to the viewer.

The tasks will run in order of the stages listed in task 9.1 above, this will ensure that each process of the book is backed by the formalities of the outdoor learning guide in the Scottish curriculum for excellence.

After feedback I received from Andrew Cook on the user interface and layout of the booklet, I went back to the drawing board and considered the following structure
- see following sketch.



Feedback included:

1. Task sections of the booklet should be more 'free flowing' and use the order of imagery and text to tell a story, make there be a background context to the tasks, such as a survival game.

2. The Three box 'Zigzag' layout for the skills pages work well and allow the skill instructions to be very clear.

3. Bold lines and basic colour palette should be the way forward when designing the illustrations for the booklet.

After feedback, I received from Fraser Bruce about the context and user/curriculum advice I will follow up my design choices with further information.

1. Could the booklet link to an online community?

2. Do a basic illustrator/InDesign template.

3. Do not make it feel like a homework book.

4. Do not over-simplify how to incorporate the Maths and English extension tasks.

5. Think about "Eco-Literature".

6. Experiential learning.

7. What can the participants take home with them?

8. Series of booklets?

9. Add on packages?

Task 9.4 - Layout and Page Design - INDESIGN

Using the feedback above, I made an InDesign template to form the basic structure and layout for the booklet. The structure is as follows:

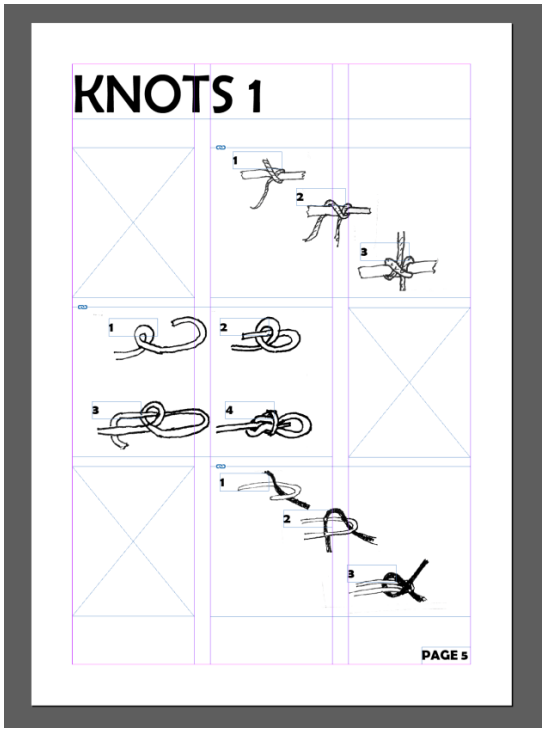
- Three evenly spaced columns form the basic net for the text and the images boxes.

- Informational pages and the front and back cover follow a basic two Large text box rows on the top and bottom of the page to form a framework for a large Image box centred in the page.

- Carving and Knots - pages follow the 'Zigzag' three box structure as discussed above.

- The Task pages are yet to be fully formed. However, I feel as though the task pages format will be dictated by the task itself.

Draft InDesign Layout to form the basic structure of the booklet



Colour Palette:

All the outdoor learning books with illustrations follow a simple nature inspired colour palette - with use of browns, greens, blues and what would be considered as earthy tones. I will follow a similar colour scheme within my own booklet.

Here is a sample colour palette made on Photoshop:

Earth Tone Palette. V1

Task 9.5 - Task Narrative Development

To make an effective booklet for 15-18-year-olds to complete, it needs to fit within the educational development of that group-set of people. One of the most important development features of a 15-18-year-olds learning is the ability to action projects and give response in their own way. This can be done by giving the 15-18-year-olds a situation, such as they are stuck in the woods and they must survive a night before being rescued - this is what allows them to respond and action tasks. This in turn will help them become confident learners and responsible citizens.

How do you build tasks to do within a narrative?

1. Start with a situation.

2. What do you need to do to succeed in the situation?

3. Build the steps for success into broken down tasks.

4. Build each task by breaking it down into more basic steps that allows the guide to explain to the participants how to do something.

5. Allow for self-assessment and self-evaluation, so that the participants can improve their skills as they go.

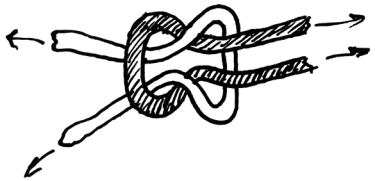
6. Allow for imagination and picturing the situation in the heads of the participants, allowing them to fully immerse themselves in the tasks.

After speaking to Paula Cowie (an outdoor educator that works with Scottish pupils that age from 11-17), I will add a few more necessary instructional guides on Fire-making and basic first aid. She also guided me to look at the Coyote Mentoring guide for outdoor learning and education to help form my task booklet. She said My booklet would be most appropriate for the ages of 15-17.

Acknowledging this information, I decided to use a very basic and uniform colour palette, with only two fonts used throughout to make the booklet look less patronizing and make it easy to use and read.

The next stage is to plan how to build a narrative for the Task pages, where the narrative is broken down into 4 parts.

Mark 1 Prototype

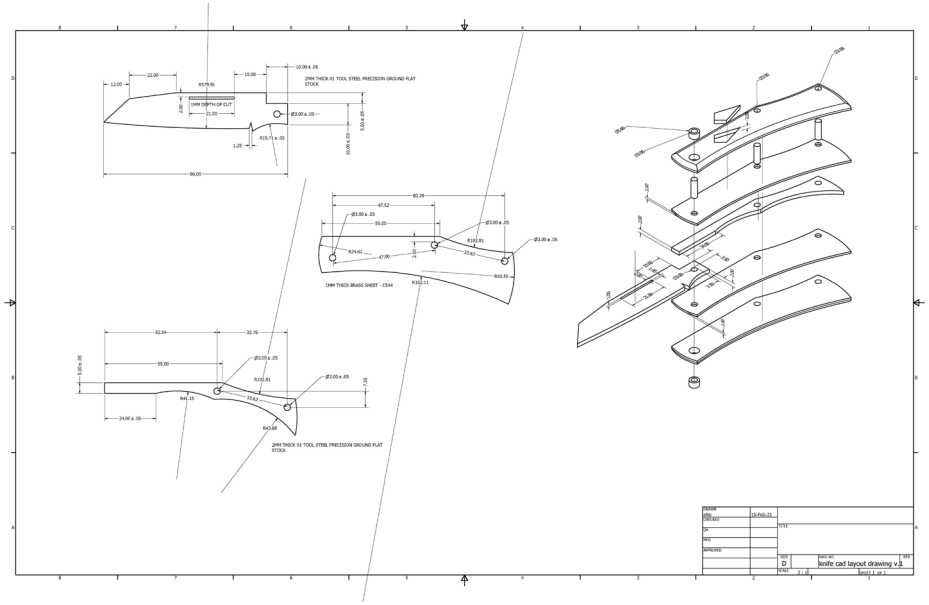


Task 10 - Knife Prototype Version 2 - Designing After Feedback

The Improvements to be made were:

1. Backspring and spine of the knife hafting (making all the materials meet and sit flush)
2. 'Walk and Talk' of the folding mechanism - namely how it 'clicks into position'.
3. Ergonomics - allowing for larger hands to use the knife.
4. How the knife fits into a pocket (take up less space)

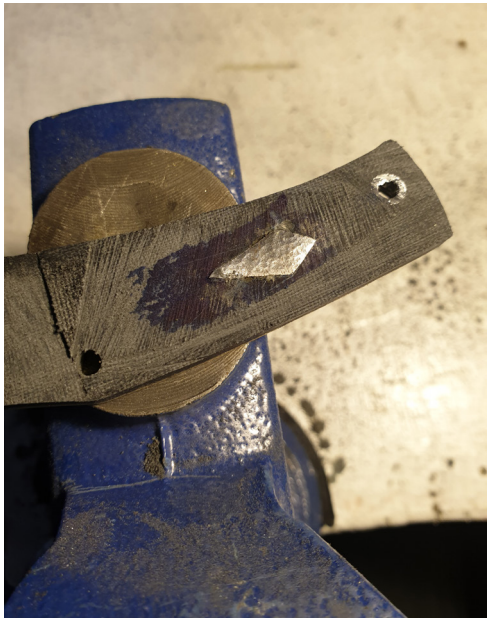
In light of the improvements listed above and feedback from Paddy's Potato Peelers video review, I went back to the drawing board and drew up CAD Drawing Plans on Autodesk Inventor. This file was printed off 1:1 scale onto A4 paper and used as a template for the build.



Task 10.1 - Knife Prototype Version 2 - Build

Using the CAD 2D layout drawings as a template, I cut out the 1mm brass sheets and the Black Linen Micarta for the handle. the 3mm 303 stainless steel pins were cut to length and the ends of the pins brought to a point, to help when inserting them into the handles when the backspring is applying pressure to the square end tang of the knife blade. The 'kite shaped' shield is 2mm thick 01 tool steel.

The brass liner material was epoxy glued to the back of the micarta, the surfaces were roughed up with coarse sandpaper, and then cleaned with paint thinner. The micarta scales were thinned to the correct specifications (3mm thickness). By using the Dremel with a router adapter I cut a recess for the shield inlay to be completed, the shield was then inserted with epoxy glue and then pressed in with a vice.



Using the blade template from the 2D CAD drawing, I mounted it to the 2mm 01 Tool steel flat ground stock using small magnets, then using a metal dye pen, I replicated the blade shape onto the blade stock. The blade pivot hole was then drilled with a 3mm drill bit, and then cut out.

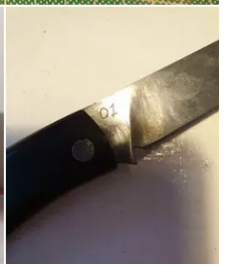
Using a reference between the handle and the CAD drawings, I made the back spring. It was then spring tempered.

To Grind the bevels more consistently, I made a simple filing jig and hot glued it to my desk. The filing jig makes it much easier to grind the blade bevels than trying to angle the file by hand consistently and take off material evenly across the surface of the knife blade.

The blade was then heat treated and then given a good sanding to make all the surfaces smooth and consistent to allow it to fold properly within the knife mechanism.

The parts were then all put together and the action tested to check that all parts were functioning properly.

Once I was happy with the function of the knife, I peened the metal pins down to the correct tolerances to keep the back of the knife tightly against the back spring, but also allowing the blade to move freely, and smoothly. Small adjustments to the pivot pin will make big differences to how the blade sits centred in the handle, so great care was taken when peening this part of the knife.



To put the Steel information and my makers mark on the knife blade, I used black nail polish on the blade, allowed it to dry, then scribed in the letters into the varnish. I then applied Ferric Chloride (PCB Etchant) to the varnished area, and left it for 40 minutes, this gave the etchant plenty of time to cleanly and deeply etch the scribed design onto the blade.

The knife was then sanded all over, going from 120 grit to 2000 grit wet and dry sandpaper. The whole Knife was then polished using a cotton polishing wheel for the Dremel and some Dialux Blue polishing compound.

Task 10.1 - Knife Prototype Version 2 Detail Photography and Prototype comparison video

Scan the QR code to View the Knife Protype Video

Task 10.2 - Leather Tool holders

After some research on the Slip joint Knives Collectors Page on Facebook I found that most people carry their slip joint knives in a leather slip. Those that carry multiple items on them, such as a pen, knife, torch or a notebook may use what is called a pocket organizer.

Below are two examples of such leather slips and organizers, these are made by the https://shiresupply.com/.

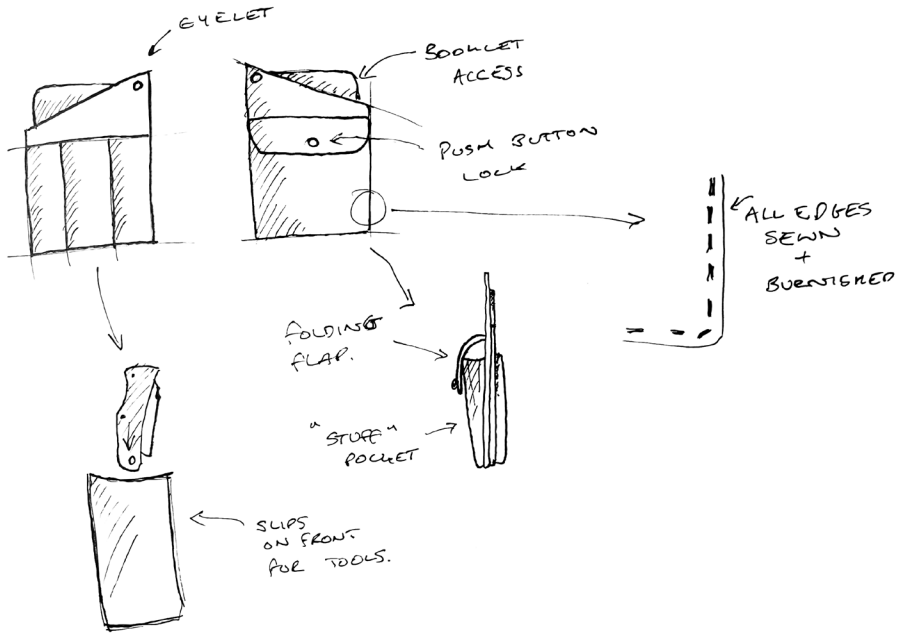
The most common types of leather used are Chromexcel Oil Tanned leather and Veg Tanned Cowhide. The reasoning behind this is the cow hides are readily available as a by-product of the meat industry, thus making it affordable for tanneries to produce the leather and supply it at a reasonable price.
The Chromexcel leather is much more expensive as oil tanning is a longer process with more complex processes involved, however it does have a nicer surface finish than veg tan leather and feels much sturdier.

I tried making a few leather slips and organizers using both Chromexcel leather and veg tanned leather:
This is a prototype knife slip made from Veg tanned leather. The leather is very smooth and feels strong, however it creases much more readily than the Chromexcel leather, it also feels lighter and not as sturdy as the Chromexcel leather.

This knife slip prototype is made from Chromexcel leather and it feels much better quality than the slip from above. The Leather is oily and feels soft to the touch, however it has a robust feel and when scuffed the surface can be brushed off and the scuff marking will disappear to 99% of its original finish.

This Organizer is made using the same leather as the slip made above, it features three slots for various tools and a brass eyelet that can be used to attach a keyring to or attach it to the outside of a bag.

Task 10.3 - Designing leather tool and booklet holder

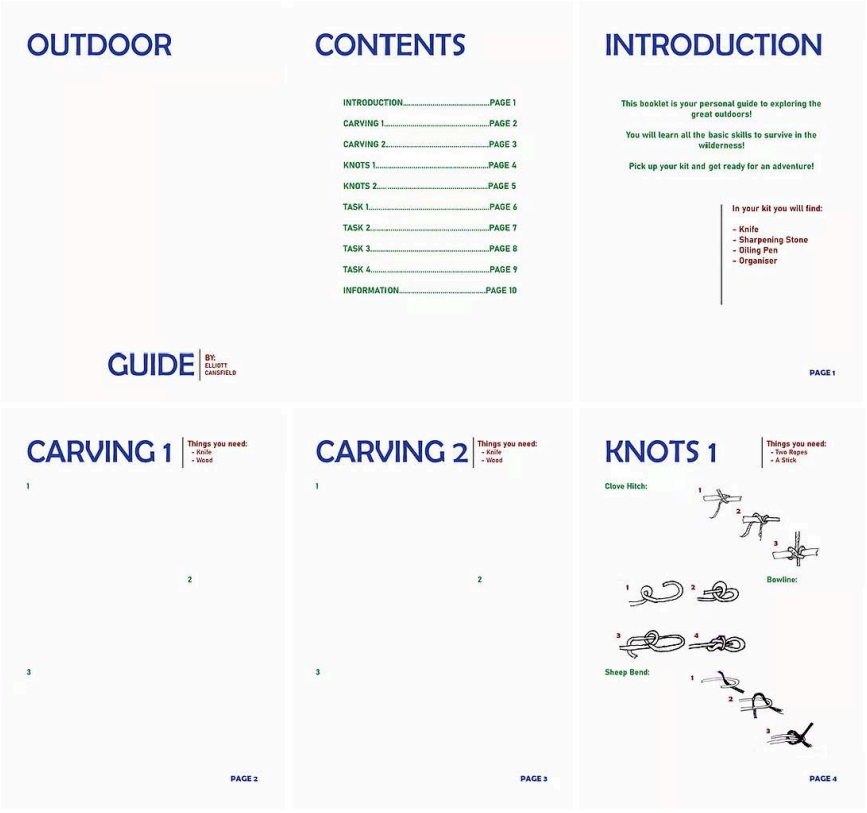


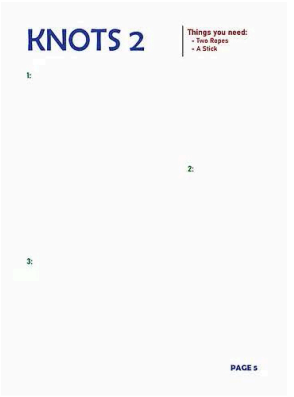
The leather construction methods learnt prior will be used to make the tool holder. It will feature multiple slots for the knife and tools needed to maintain the knife. The back of the organizer will contain the task booklet and a latching pocket for the task participants to collect items from their 'adventures'.

Task 10.4 - Outdoor Guide Booklet Mark 1

This was the Booklet update for the Mark 1 Presentations. The booklet contains most of the pages that I wished to go with for the final project submission. After feedback, I decided to add a few more pages, dedicated to first aid and further narrative explanations for the survival tasks.

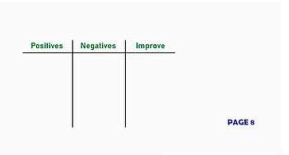
Further advice was given for the colour palette of the task booklet, I needed to mute the colours and think how they would interact with each other on the page better.

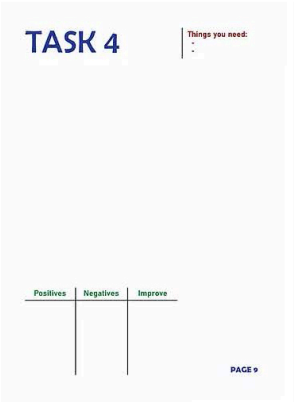


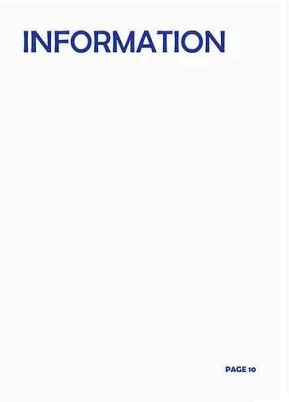


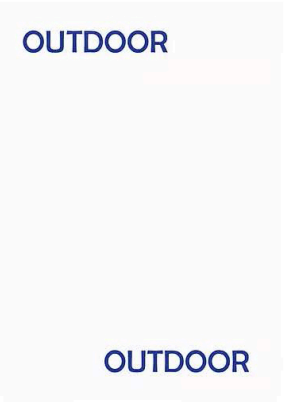
Two pages to add - Fire starting and First aid

Might be worth adding a page for explaining the 'survival situation'

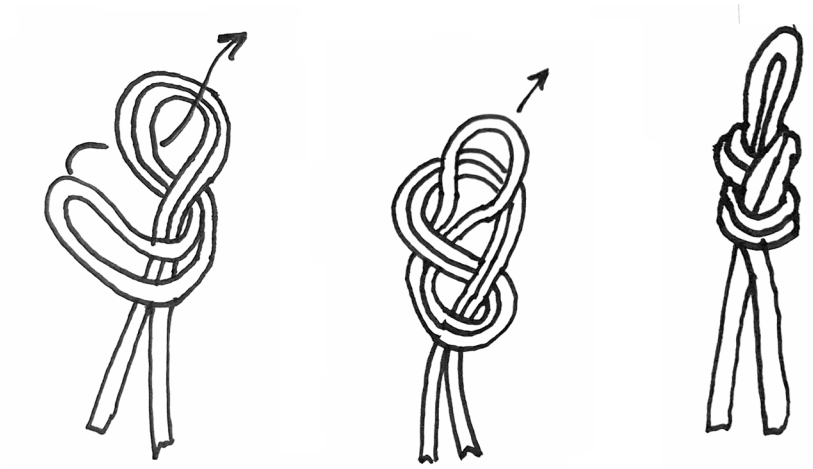








Mark 2 Prototype

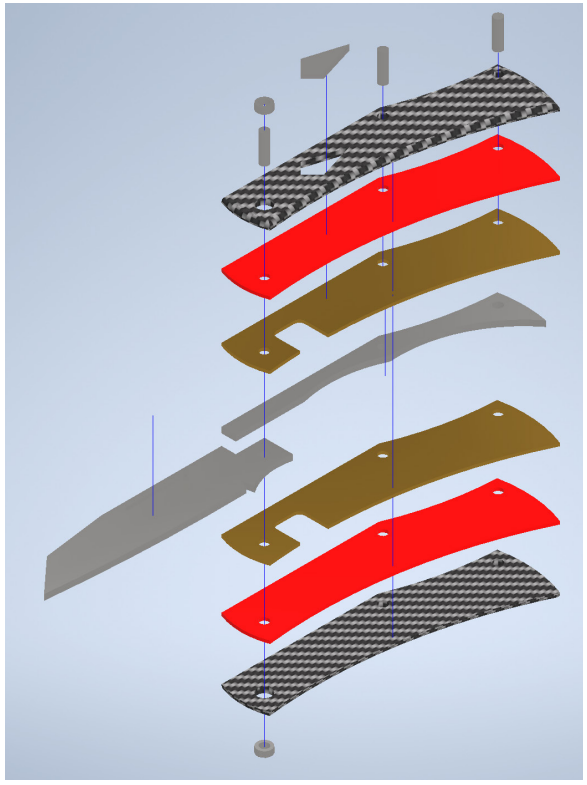


Task 11 - Mark 2 Knife build - Updated CAD file

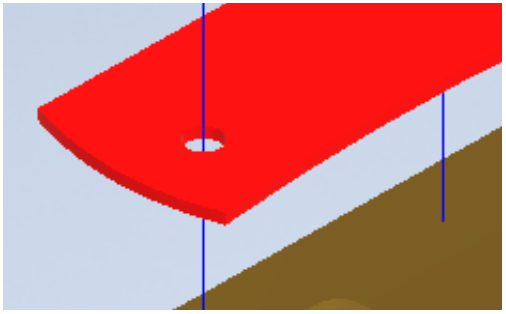
After Making a knife to sell to build up material funds for the continuation of my project and to better my building skills (see image to the right).

I tested the knife outside to carve some wood to see how the knife holds an edge. When doing this I dropped the knife in the long grass and it took me some time to find it... this made me think about my choice of materials again, I needed something that would be highercontrast to natural colours.

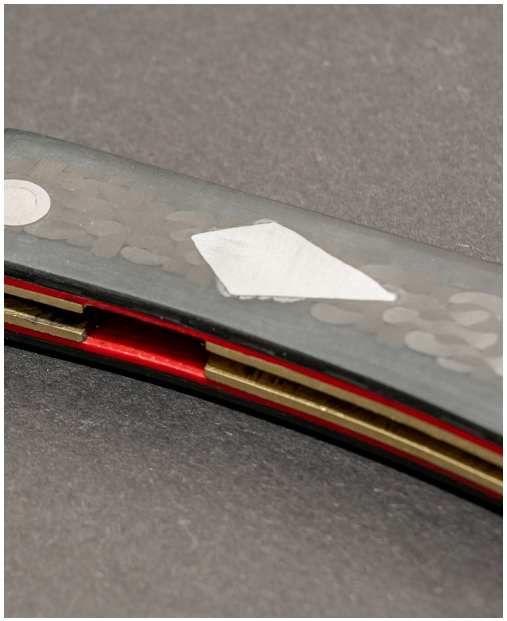
Given this information I updated my CAD design.



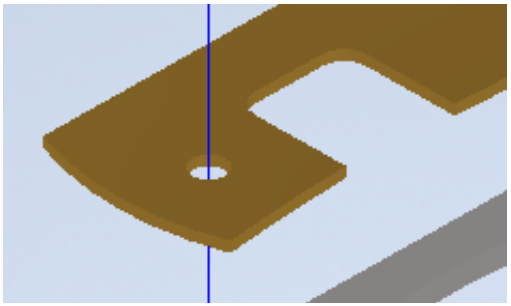
As can be seen by the exploded CAD model of the knife build, I have added bright red layers of G10 (Dyed fiberglass and resin board) this will add to the contrast of the build when looking at the relatively slim profile from above.



Carbon fibre was also used as it was recommended by Rob in the CNC department that I should find a handle material that comes in standard thicknesses, this would make it much easier and faster to CNC cut. The Carbon fibre also contrasts much better with natural materials as it can be polished to a semi-gloss shine, and the regular pattern of the carbon fibre on the handle will also allow it to stand out against natural material found of a forest floor for example.

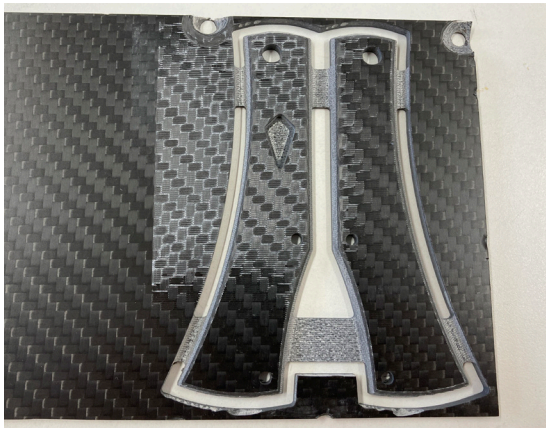


I also relieved the Brass material with two square cuts, this allows the action when closing the knife to be much smoother and stops scratch marks from building on the thicker portion of the blade.



Task 11.1 - Mark 2 Knife build - CNC Parts

Using the cad files, I had made for the 2D engineering drawings, I turned the files into STEP files and sent them to be CNC cut. This means that the parts for the handles - both brass and carbon fibre will be cut very precisely.



Due to the woven nature of carbon fibre, there were a few issues with CNC machining, where the back section was slightly chipped out when the tool was chamfering the edge, this is most likely due to the tool speed being set too high, causing the strands of carbon fibre to 'grab' the end mill and allow the CNC to pull out the chips.

Luckily, the back section of the knife is not a critical dimension for the function of the knife, this means that the chipped-out areas can be sanded past and resolved in the final build.

The reason for switching to carbon fibre was as follows - the linen micarta I was originally using only came in thicknesses of 8-10mm, the scales on the cad model were 3mm thick, this was a large amount of material that would be wasted and therefore would not be cost effective nor environmentally friendly to use in this instance. The material also contained slight irregularities in the bonding of layers of fabric, this caused large chip-outs of material when milling, these chips were large enough to render the structural integrity of the scales un-sound.

The Brass liner material was also cut on the CNC machine, there were no issues with milling these parts accurately and well with very minimal finishing needed on the edges.

Task 11.2 - Hand Milled Parts

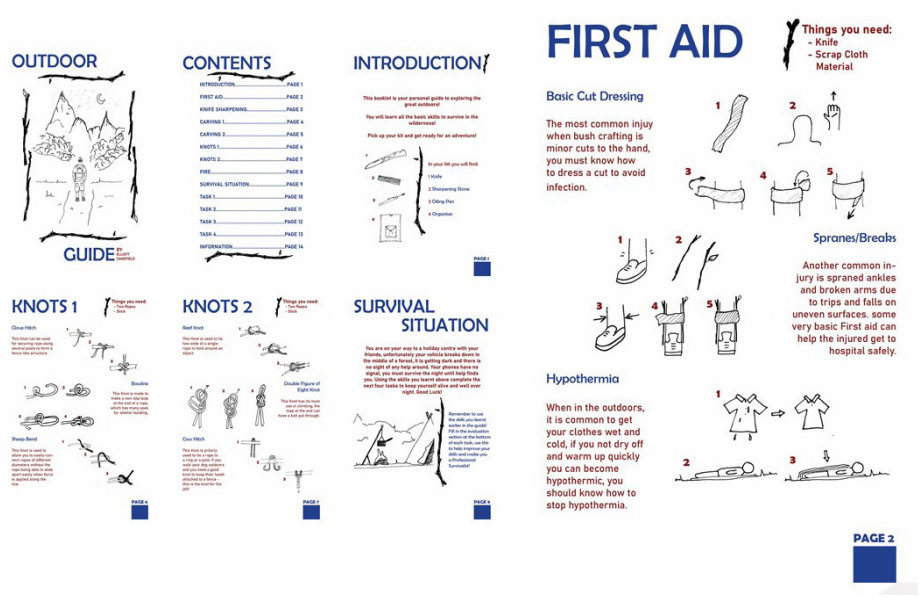
The University CNC machine in the Design department is not able to cut ferrous metals due to it not having any form of liquid cooling that can be applied to the end mill, and the Engineering department CNC machine is currently undergoing maintenance, this means I will have to do the knife blade and back spring using the manual milling machine.

Task 11.3 - Mark 2 Knife Final assembly - Detail Photography and prototype comparison video

Here is the finally assembled knife, this is the final version I am going with as I am very happy with the outcome of this product. ALthough I think I will Contour the Carbon Fibre handles more to aid with the ergonomics of the knife.

Scan the QR code to View the Knife Protype Comparisons Video

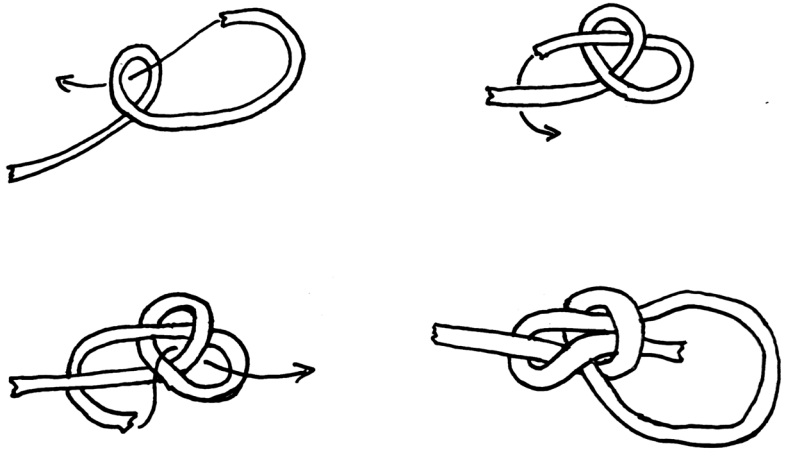
Detail Photography of the final Knife Build



This is the working prototype of the booklet that will be made to accompany the kit that I am making for the Children to experience outdoor learning. This prototype features some of the graphic elements and second prototype colour pallet of the final concept, the page content and order are 99% in completion. The 'zig-zag' layout used for the informational pages worked ok when hand drawn, however when on the pages on InDesign, it became difficult to see what text was to go with each image, this will be rectified on the final itteration.

The booklet will be around A5 paper size and will be printed on some type of waterproof paper.

Final Manufacture

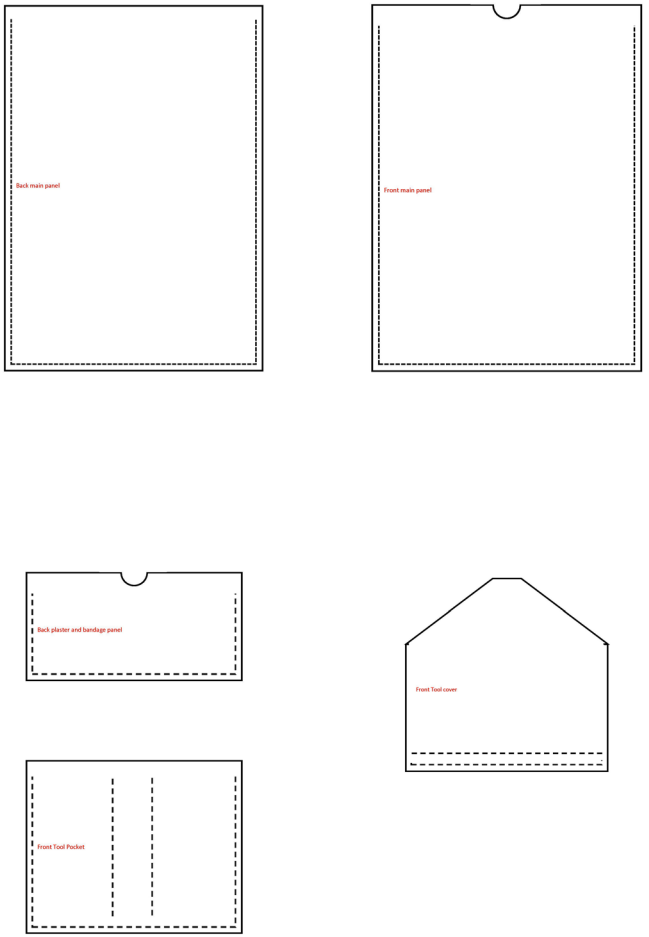


Task 11.5 - Leather Kit Organizer

The above miniature leather organiser was made to test the process of sewing multiple layers of leather together. It was also done to see how the leather would react to different sized objects into the slots.

Below I have rendered drawings of the final organiser design in Photoshop, this is to help plan the pattern sizes needed for all the leather components.

Task 11.6 - Final Leather Organizer Build



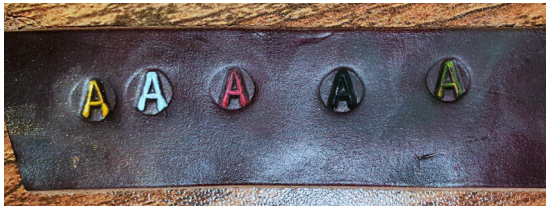
This is a pattern layout template made for the production of the leather organiser. As will be seen in the final production images, the patterns were changed slightly to accommodate for better access of the tools.

The pieces of Chromexcel leather were cut from the pattern templates (to the left) and then sewn together using a sadle stitching method. This is where a single thread line has two needles on each end, and they are sewn simultaneously through the same holes going in opposite directions to create a strong double-sided stitch.

The pouches for the tools on the front were measured by adding the width and the thickness of the item. The pouch leather diameter was calculated by:

(width)+
2x(thickness)+ 2mm for thread line. I measured all the tools this was, added the values of the leather diameter size adn then produced the one peice of leather that would fit to the front of the organizer.

The names of all of the pouches and tools were stamped into the leather then filled with gold paint to highlight each word.



Task 11.7 - Task Booklet Final Content and its relevance to the Scottish Curriculum

Stage 1 - Task and Objective(s)


SURVIVAL SITUATION

You are on your way to a holiday centre with your friends, unfortunately, your vehicle breaks down in the middle of a forest, it is getting dark and there is no sight of any help around. Your phones have no signal, you must survive the night until help finds you. Using the skills you learnt above complete the next five tasks to keep yourself alive and well over night. Good Luck!

Remember to use the skills you learnt earlier in the guide!
Fill in the evaluation section at the bottom of each task, use this to help improve your skills and make you a Professional Survivalist!

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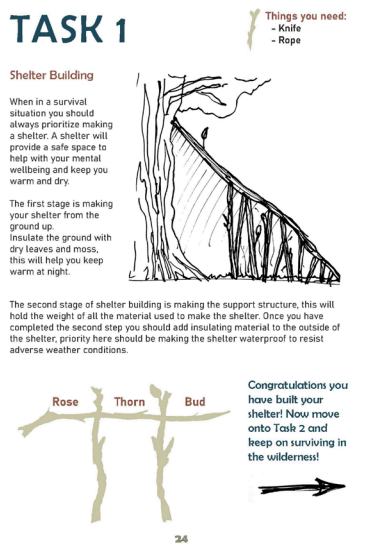
TASK 1

Things you need:
- Knife
- Rope

Shelter Building

When in a survival situation you should always prioritize making a shelter. A shelter will provide a safe space to help with your mental wellbeing and keep you warm and dry.

The first stage is making your shelter from the ground up.
Insulate the ground with dry leaves and moss, this will help you keep warm at night.

The second stage of shelter building is making the support structure, this will hold the weight of all the material used to make the shelter. Once you have completed the second step you should add insulating material to the outside of the shelter, priority here should be making the shelter waterproof to resist adverse weather conditions.

Rose Thorn Bud

Congratulations you have built your shelter! Now move onto Task 2 and keep on surviving in the wilderness!

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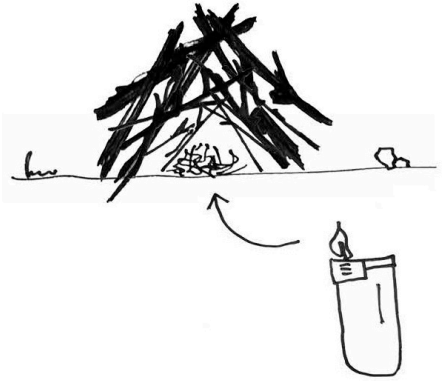
All stages of the booklet are broken down into tasks and instructions. The objectives of the tasks to be completed by the children are clearly shown. The reasons for completing the tasks are also given, this helps the children gain an understanding of the process.

Stage 2 - Suggested questions to reflect on when planning.

Once the tasks have being solidified and planned out fully, it is then the responsibility of the educators and outdoor leaders to reflect on the plan, to make sure that each task can be linked back to the Scottish curriculum.

Stage 3 - Risk Assessment / Health and Safety

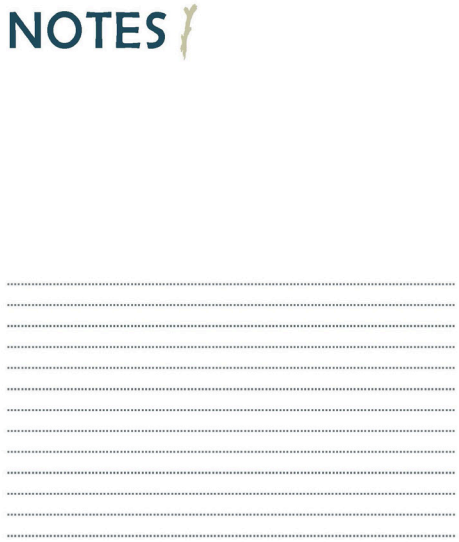
Any risks are clearly shown in the booklet and steps taken to avoid injury are explained. However, it will always be the responsibility of the educator to way up the risks and the reward of the task.



Be cautious when using a lighter - keep flames away from clothes and hair.

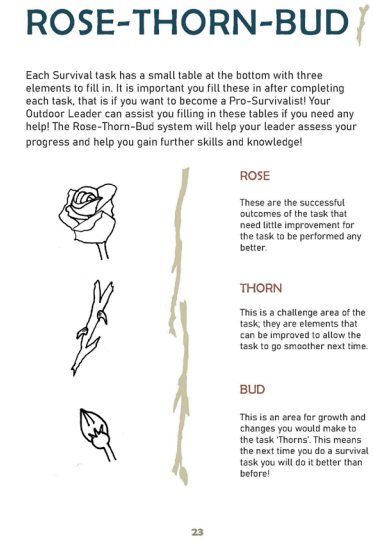
Stage 4 - Working with Partners

After every instructional guide (for example Carving) there are note taking sections, at the bottom of the note taking page the children are encouraged to allow their outdoor leaders to make notes for them, thus allowing for partnership learning and to form part of the assessment of the child's progression.



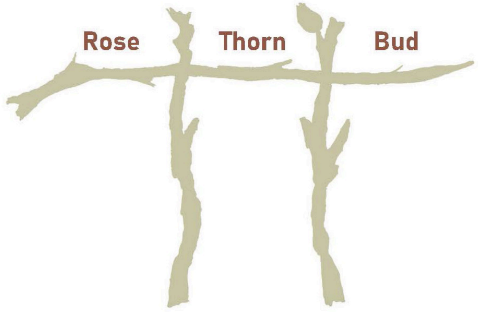
Stage 5 - Task evaluation, participant satisfaction, assessment of attained skills

The assessment and progress of the children must come in the form of self assessment aswell as teacher-pupil assessment. Fraser Bruce introduced to me the Rose-Thorn-Bud system of self evaluation. The system is effectively, positives, negatives and areas for improvements, but using 'Eco-language' to make it more relevant to The Outdoor Challenge.



Stage 6 - Evaluation / Self-evaluation

At the end of each task there is a table (pictured to the right), that contains the Rose-Thorn-Bud system to allow the children to write down their own notes on their achievements. This means the children and the educators can cross-reference their notes on the education process and make improvements to the childs learning and skill development.



Task 11.8 - Task Booklet Print and Binding

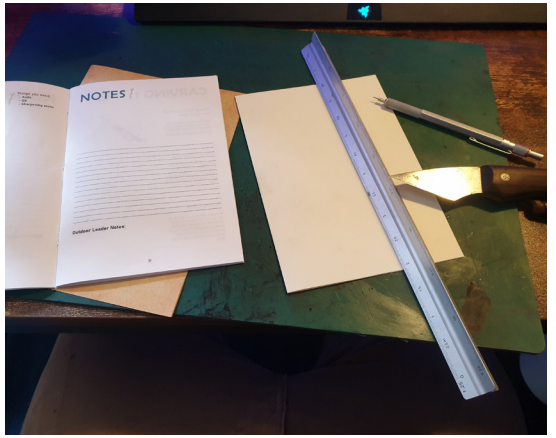
After Many iterations of the booklet this was the colour pallete I settled on, it is provided by bloomingdesign.co, and it bares some resemblance to my origional palette above, however with a more cohesive selection of tones.

Scan the QR code to View the Full Task Booklet as a PDF Document

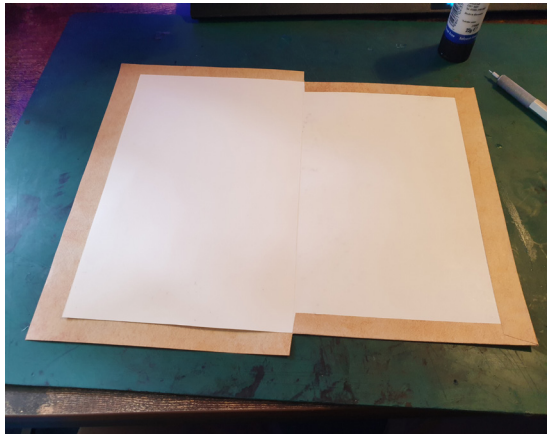
The final Booklet uses the colour palette shown above. The Final booklet now contains a page for the child to write their name into it. There are also pages with a drawing section, note writing lines and outdoor leader notes, this will allow the educators to keep track of their pupils' progress.

At the end of each 'Survival Task' there is a small table with 'Rose, Thorn and Bud' written. This is an assessment format to allow the teachers and pupils to assess progress, using a simple, positives, negatives and improvements process.

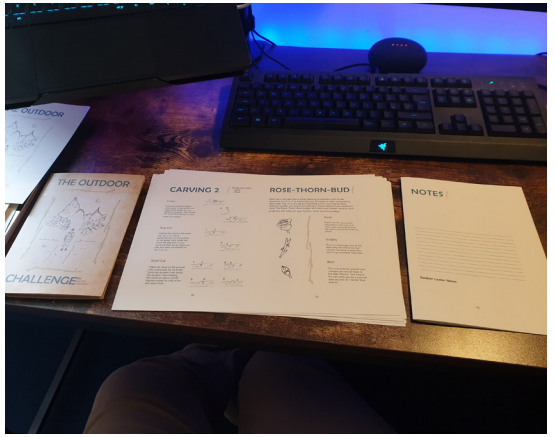
After printing the booklet out onto waterproof paper, the and trimmed, the centre fold made on each page and then the pages were stacked. The order of the pages and the quality of printing was checked on each page, to make sure there were no page print errors or smudging.



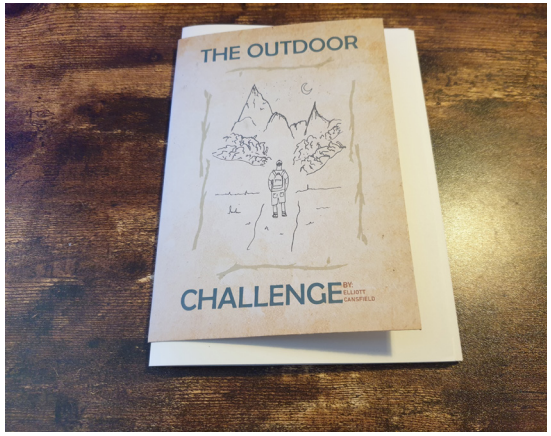
The front cover was printed on a vintage effect waterproof paper. To make the front cover ridged I used a 140gsm paper stock to strengthen the 70gsm vintage paper. To make it look like one piece, I folded over the edges of the Vintage paper onto the correctly trimmed 140gsm paper.



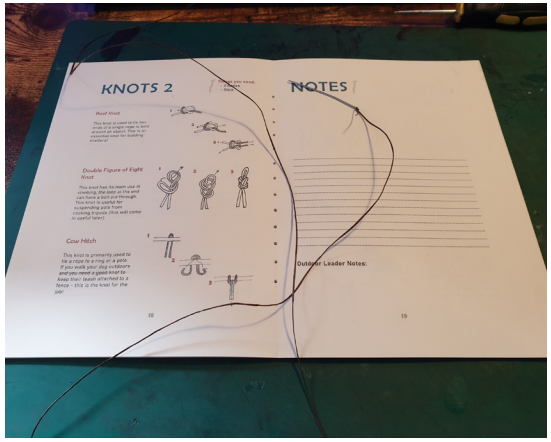
To allow the glue on the front cover to dry properly and not wrinkle, I pressed the cover under a block of wood with some weights on it over night. I also kept the content pages folded under the wooden block too, this made the folds much more crisp.



I tested the Folds of the cover over a piece of foam to check that it would allow for the thickness of the content pages.



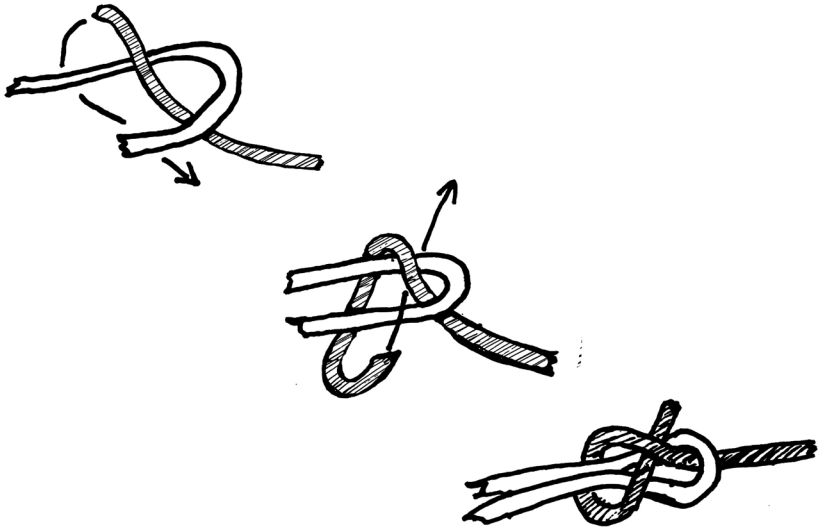
To bind the booklet, I punched 1mm holes 10mm appart down the centre fold of the booklet. Then using the same saddle stitch method to sew the leather together, I bound the the content pages and the cover together.



Then finally after a LONG Covid 19 filled year, my physical product has been produced. On the next few pages you will find the final product images and the 'hero' images, showing off the product in the user environment!

Final Product Images

‘Hero’ Images



Alfie loves his Outdoor Challenge Kit!

Checking out the Outdoor Challenge Booklet!

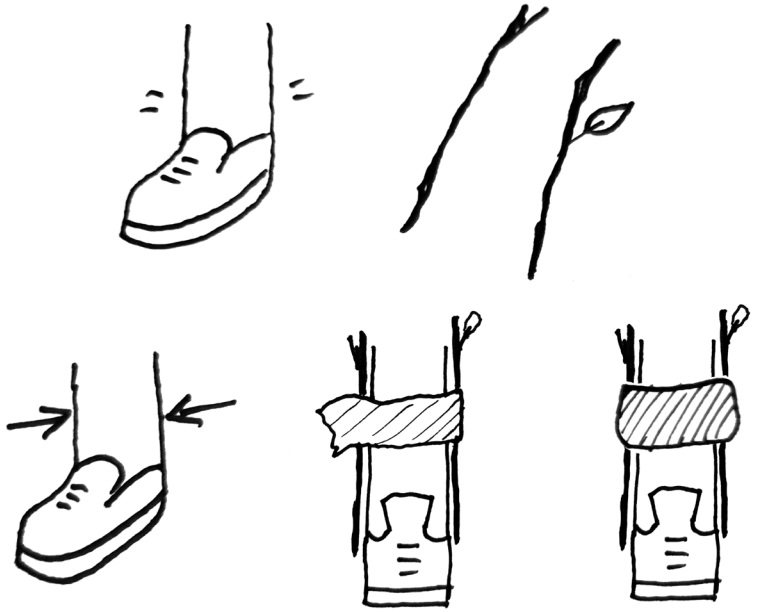
The leather organizer is a great way to keep all of your tools together in one place!

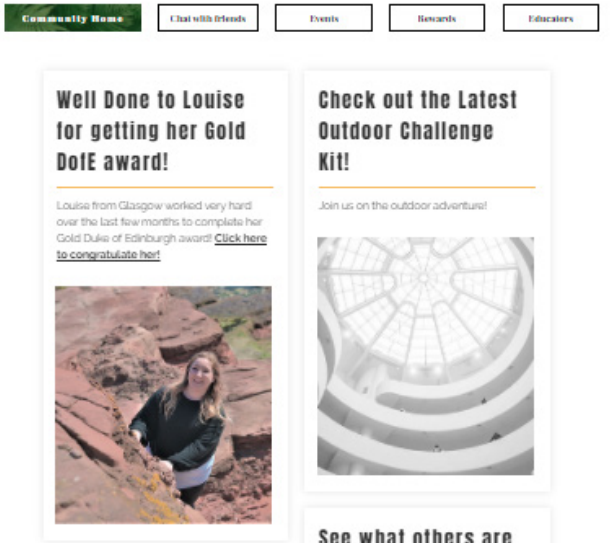
Alfie loves ergonimics of the Knife!

The Outdoor Challenge Kit is robust and you can take it anywhere!

Time to Draw and write what Alfie sees in nature!

Outdoor Community Website



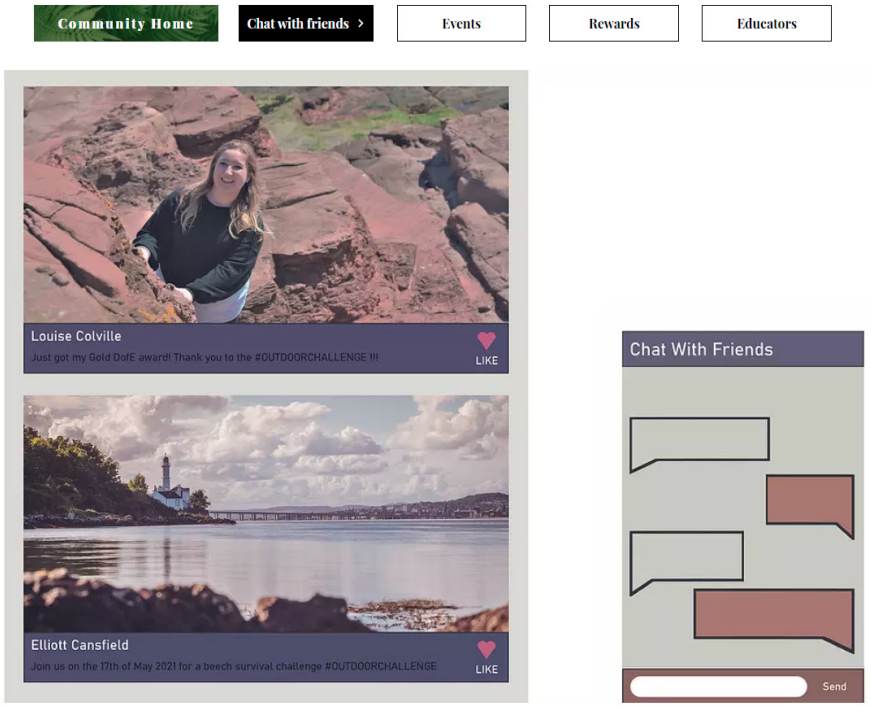


This is the 'Home' Page of the Outdoor Challenge. This website home page will show off the children's achievements, aswell as new challenge ideas, projects and new products related to the Outdoor Challenge community.

There is a navigation bar at the top of the webpage - this includes the Home, Chat with friends, Events, Rewards and the Educators pages.

Further information about these webpage navigations can be found on the following pages in this booklet.

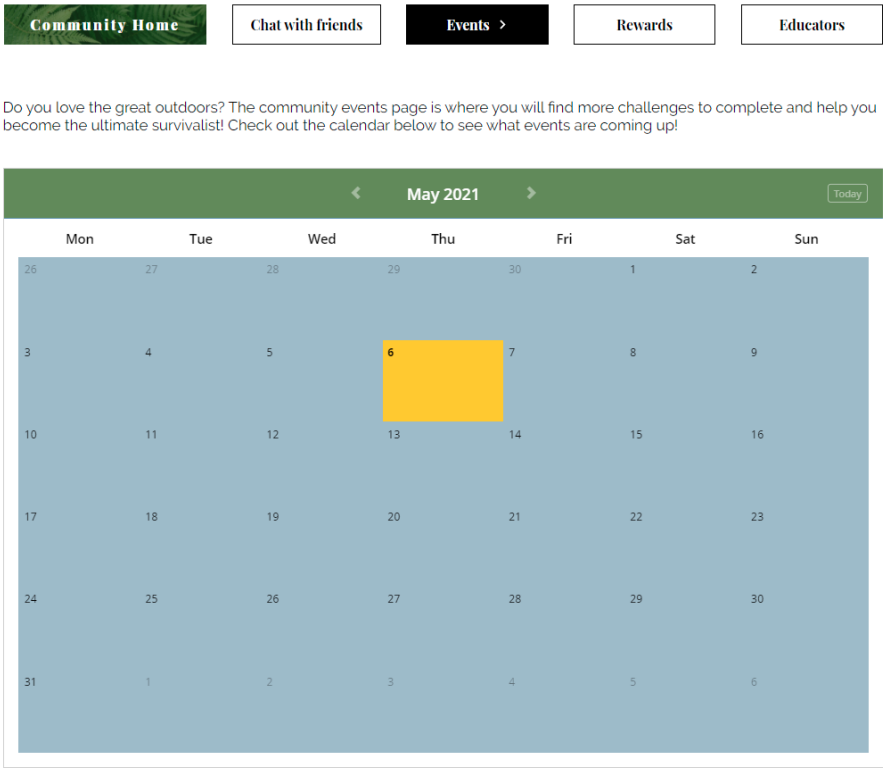
Chat With Friends Page



The 'Chat with friends' page is designed to allow the children within the same school groups to chat to each other about their own outdoor projects outside of the school Outdoor Challenge experiences. The schools and teachers will have control over the chat features and posting found on the site, thus allowing for a safe environment for the children to keep in contact with eachother and share their knowledge.

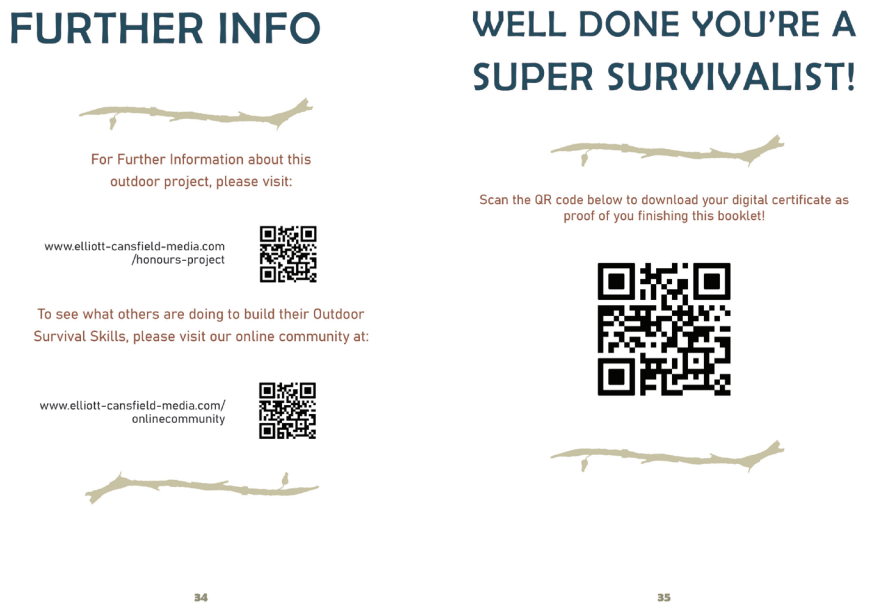
There will be a posting panel found on the left of the page, this will show off the acheivements of the class, where other children within the class can congradulate them, adding to the community spirit of the Outdoor Challenge.

Events Page



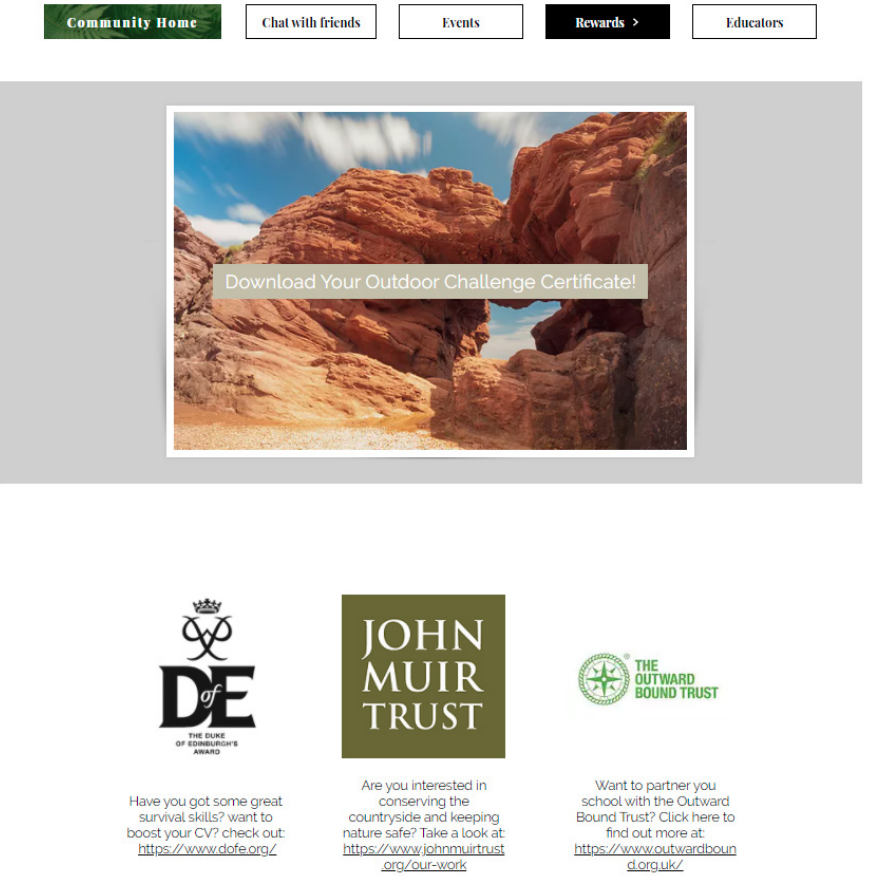
The 'Events' page will allow the class to plan events, between the educators and the children. The parents/guardians of the children can have access to this calendar, thus allowing for an all in one, and accessible-to-all system that should allow the children to get involved in more events through
The Outdoor Challenge.

Final pages of the Task Booklet that link to the Outdoor Challenge Community Page



The final two pages of the Outdoor Challenge booklet contain QR codes that link the user to the Outdoor Challenge community website. The final QR code links the user to the Outdoor Challenge certificate of completion.

Rewards Page

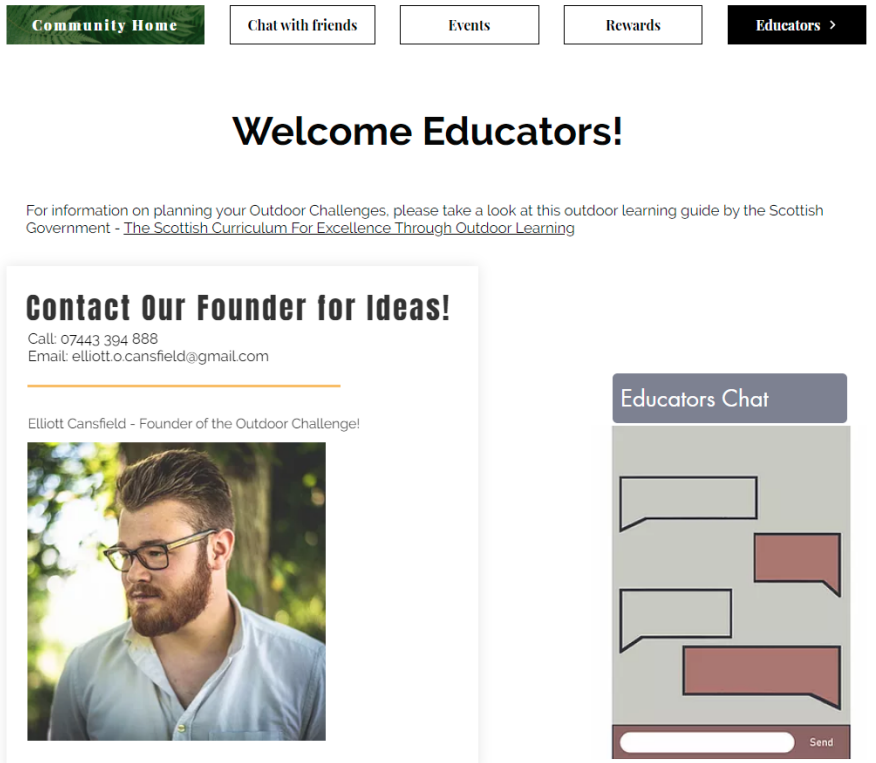


The 'Rewards' page is primarly to show what qualifications can be linked to The Outdoor challenge, such as the Duke of Edinburgh award, the John Muir award and the Outward Bound Trust. The aim with The Outdoor Challenge is that the children will be able to get multiple awards and CV builders for them to gain multiple life experiences, leading them to become good citizens, confident learners and allow them to blend well from a school environment to an employed job role.

Downloadable Completion Certificate - Linked from the Booklet QR code

This is the final physical 'reward' for the children to receive after completing the challenge. On the next page you will see the certificate. The QR code links to a downloadable PDF of the certificate, that should allow the child to insert their name and the date they finished the challenge. The cerificate can then be downloaded and printed off.

Educators Page



The 'Educators' page will be specifically for the teachers, outdoor leaders and schools to contact the founder of The Outdoor Challenge and the team running the foundation. Much like the 'Chat with Friends' page, there will be a chat window, allowing teachers to get into contact with eachother and outdoor leaders. This page is to be used to get ideas for lesson planning from each other and share their experiences.

Future Development

It is always important to think of a development route for your product prototype. Often a good product will evolve over its 'life span' where the company of the product will take on board feedback from its users.

That been said, a product that is in a prototype/pre-production stage, how do we consider how it will be developed?

I like to use the 5 W's:

What?

What improvements can be made to the design? What material choices can be change to make it more efficient to manufacture?

Why?

Why should this product be developed? Should the development reflect on the ever changing knife laws?

When?

When should future developments be made to the product? Should the product be refreshed regularly, or should it be linked to the development of education?

Who?

Who is the product best for? Can the product be opened up to a wider audience?

Where?

Is the product just for schools in outdoor learning environments or could this be used privately at home with family and friends?

THE OUTDOOR CHALLENGE

For Further Information about this outdoor project, please visit:

www.elliott-cansfield-media.com/honours-project

Elliott Cansfield - Project Booklet