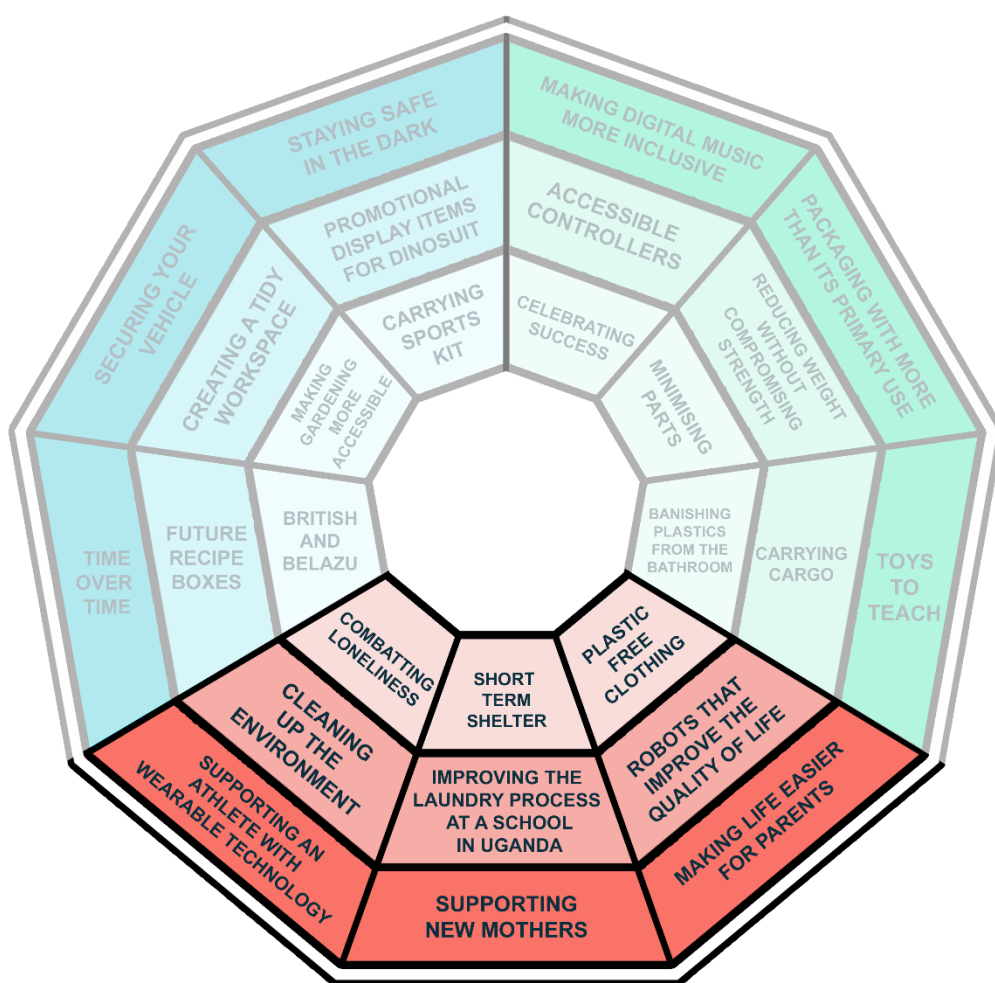


INSPIRED BY INDUSTRY

Plastic-free trainers

#InspiredbyCommunityClothing



**community
clothing^{co}**

Introduction

This context has been put together to allow students to discuss, debate, and design around issues of sustainability, fashion, textiles, and more. Whilst the brief set by Community Clothing focuses on plastic-free trainers, schools may wish to deviate or expand on this area as they see fit. The Community Clothing 'model' regarding manufacturing and local labour is also an interesting avenue for discussing and exploring cost, business, production, and more.

Materials

The nature of this context opens up the possibility of exploring a range of materials. There is an opportunity to try and collate different material samples from a number of organisations to handle and test, where applicable. In many ways, exploring a range of materials is key to meeting the brief. Unlike many other units in D&T, there may not be a final produced item (and certainly less likely a finished, usable item), instead, sample pieces, maybe an analogous solution whereby a card model is made or in the form of a presentation concept.

Potential outcomes

Potential outcomes are unlikely to be fully working plastic-free trainers (although not impossible). Outcomes may differ significantly from those of other units, with an emphasis on exploration, investigation, and testing rather than a finished outcome. Students' outcomes may instead be a presentation or a hypothesis. They may present a paper, animation, video, blog, vlog or something different to explain what they found to be current challenges and possible solutions to this large-scale problem. They may be able to present test findings, may work as a group or individually.

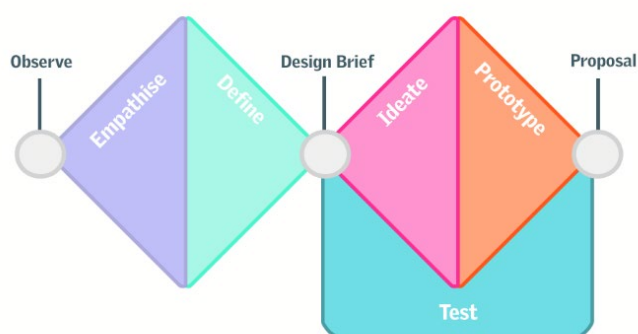
Any making may take the form of looking at patterns and 2D – 3D elements through card models, fabric mockups or other means. They may focus on a single element (e.g., the sole) and ideate, prototype, test, and iterate on it. 3D printing could be incorporated, whereby different filaments are explored. Scale models using a pre-printed sole with holes can be used – similar to Equally, outcomes may deviate from trainers and be another garment instead if more appropriate.

The unit may lend itself well to developing a range of skills, knowledge and develop understanding, rather than having the students produce a physical, made outcome. The emphasis may be more on designing and conceptualisation.

Consider sharing work on social media using the hashtag #InspiredbyCommunityClothing

Design cycle

The design cycle shown can be worked through in a range of orders. It's advised that the areas are revisited throughout the process depending on your time. We advise that a graphical representation of thinking convergent and then divergent may be shown to your students.



The following are some tips as to the type of activities you could do with your students.

Empathize stage

- Students should be introduced to this term if not already familiar.
- This stage, and the associated videos, could mean that this stage forms probably the largest part of the unit/project.
- Exploring and testing alternative materials is a great opportunity.
- Try to source a range of different materials – either through purchasing or taking from existing products.
- Materials handling packs such as [this](#) may be useful. You can obviously source your own.
- There are a number of companies doing a similar thing in this space. Take a look at; [Houdini Sportswear](#), [Hylo Athletics](#), [Lefrik](#), [Purified](#), [Lete Active](#), [Velor](#), [Freyzein](#), [Solk Trainers](#)
- [Bio-inspired textiles](#) have some resources that may be of interest.
- At the start of the context, students should be thinking widely with their thoughts, exploring the problem and not deciding too soon what they 'want to make', but observing what is happening and identifying problems.
- You are also likely, as a teacher, to need to set some clear parameters at the start regarding what the purpose of this (rather open-ended) brief is.
- Trying various aspects as a group can also be useful – using and analysing existing materials for example, then sharing thoughts and feedback.
- Materials such as Piñatex, Desserto, Appleskin, Mylo/Muskin, Grape leather, Cork leather and recycled fabrics are all good to try and source.
- Collaboration software such as Miro, or Google/Microsoft collaboration can be good to use to collate ideas from all.
- Students should get as much information to help them later in the challenge. They may present this in any way they wish.
- Take a look at some of the videos online from Norman Walsh Footwear. Community Clothing trainers are currently manufactured here, and show a fascinating method of manufacture, in the UK. [Reebok & Walsh video](#), [Britain's last remaining shoe manufacturer](#)
- Community Clothing has a website [here](#) that may help to show a range of their work.

Define stage

- This is where students try to get the real root of the problem and decide what they are going to do.
- There may be a whole range of problems identified, and a range of properties and requirements. Get students to consider each part of the trainer, and trainer as a whole to consider these. This may include issues of; odour, grip, sweat, support, comfort, hard-wearing...
- Students could design in the style of another company, or try to define their own unique style/brand DNA.
- There is an opportunity for students to dive into the running of a business here and all the financial and ethical conflicts.

- Presenter/journalist, Stacey Dooley, has previously recorded documentaries investigating fast fashion and other related issues in the fashion industry that may be worth viewing with students. Short clips of these can easily be found online.
- Whole-group exercises such as 'What's the cost?' can be used to explore the wide-reaching implications of running a business.
- A large part of 'Inspired by Industry' is to contextualise learning, and the related business elements could make for an interesting addition to the unit. Consider speaking with a business studies/enterprise teacher at school to see how elements can be incorporated into this. Maybe a business plan and rough cost projections could be put forward as a requirement of the final presentation? (a bit like a Dragon's Den pitch).

Ideate stage

- For the ideation stage, you may be drawing on existing ideas (e.g., improving an existing product) rather than starting from scratch.
- Maybe a part can be changed, e.g. the toe cap, sole, fastenings etc.
- Consider giving students the initial freedom of how to approach their ideas. For example, it may be CAD, a card model or a sketch. Giving students autonomy of how to approach their designs will prevent them feeling restricted. Working in groups can help generate creative ideas.
- Programs such as Affinity Photo or Photoshop may be useful.
- AI programs can also be used. These are being developed and improved all the time. NewArc is currently very good for textiles/fashion.
- Equally, this stage can also lend itself well to more traditional methods of hand drawing/sketching and the opportunity to develop techniques/skills. AI can look impressive, but students need to have an understanding of materials, manufacturing and other constraints that affect a product being developed.
- Developing a range of techniques such as 2D, 3D, exploded and cross sections is good. Use of underlays can also be useful to help generate ideas and ensure they remain realistic and sensible, whilst also speeding up the process.
- Consider purchasing the book '[Shoe Design](#)' for the department. Their other book, [Textilepedia](#) is also beneficial.
- Founder, Patrick Grant is a judge on BBC's The Great British Sewing Bee. In one episode, contestants had to make a pair of hi-top sneakers. See the episode [here](#).
- [This video](#) is a case study from NewArc on how to design a trail-running shoe, which may be of use.

Prototype stage

- You may wish to carry out some trials on different fabrics/materials to see how they perform. This may be abrasion tests, tensile tests or other. Speak with the science department to learn how students typically set up and record experiments, and ensure a consistent approach and terminology where applicable.
- Exploring pattern shapes and 2D to 3D is a good opportunity to develop spatial awareness and iterative designing. This could be through something as simple as a shoebox design. Could a basic shoebox be designed to not include any glue and only consist of one part?

- Students could make a scale version using a laser cutter, vinyl cutter or knife/scissors.
- [The Shoemakers Academy](#) is a fantastic site that offers a range of resources, advice, articles and more that will be invaluable.
- Try getting hold of some shoe lasts, or print one using a file [here](#). You could make plaster casts from this to produce a number for the class to use.
- Using these lasts, consider laying up paper, then fabric, to create a trainer design in 3D.
- An approach similar to <https://www.sneakerkit.eu/> could be possible.
- Could they disassemble a trainer visually? Drawing out all the pattern pieces and recreating them in card/paper?

Test stage

- Although this is the final stage of the design cycle, encourage students to evaluate throughout and act on their feedback (and consider the feedback of others too). It is not a final thing, but a step to improve further.
- Testing is likely to occur during the empathize stage where alternative materials are being explored.
- Testing could also be visual. By exploring existing (used) trainers, where are the areas that are normally subjected to wear? What can be done to prevent this?
- <https://runrepeat.com/uk> reviews 1000's of trainers (and also cuts them in half to see the makeup of the shoe).
- Whilst physical testing is not possible, there is a lot of work and investigation going into footwear that you/students can explore. [Graphene trainers](#), [MIT-designed trainers](#), even [neuroscience-based trainers](#)!

Focused Tasks

'Make a last'	'Cardboard shoe'	'Design around a last'	'Adding eyelets'
A 'last' is 3D form, shaped like a human foot, used by designers and manufacturers to mould, shape and structure footwear. Get students to make their own – full sized or to scale. This could be 3D printed or stacked slices of cardboard.	Get students to create a full-sized or scale trainer. This could be a copy of their favourite pair. What pattern pieces are there? What order do they join in? This could be paper, corrugated card or a combination of the two.	Using a shoe last, or model of a shoe last, students can cut and stick pattern pieces over the top, creating a 3D sculpture of a trainer. You may wish to consider using paper first, and then fabric.	A simple task, show students how to add eyelets in fabric. This can be done using a hammer and punch, or an eyelet tool. What fabrics work well, which don't, and why? What different eyelets can you get? Which are best? What alternatives are there to traditional eyelets?

Investigative and Evaluative Activities

'Shoe disassemble'	'After-life'	'B-Corp'
Using an old trainer, try to disassemble it, to discover all the different pattern pieces and materials. A teacher may even be able to saw one in half to give a cross-sectional view of the layers.	There are different things you can do with your trainers when you no longer want them. Try to find the different methods of 'recycling' and what actually happens to them when you hand them over.	Many companies proudly show the B-Corp logo on their site and products. What is it? How do you get it? What are the pros and cons of it? 

