

## Our logo

Our logo and name were designed to be concise and informative but to also look and sound good. We chose souped up because it shows how we are taking a product that is essentially going to be land fill and turning it into something better.



## Our Project + Aim

We are passionate about this project because it kills two birds with one stone. Reducing single use plastic, whilst also helping soup kitchens to be sustainable.



## Manufacturing

The design process has arguably been the most challenging yet rewarding parts of this project. As expected COVID 19 hindered our progress dramatically however, we believe we still made good use of the time we had. Over lockdown we held weekly meetings with the head of design at Bradfield to lend advice as we made progress through varying design ideas. While doing this we were also experimenting with how the plastic behaved when melted and what the optimum temperatures were. Due to previous experimentation James had knowledge that MDF would be a suitable material to use as a mould. From this we spent the final day before the breakup for Easter holidays in a pursuit to build 2 moulds we could make attempts at using at home. We heated the plastic in our kitchen ovens and promptly found crude ways of compressing it with planks of wood and screws. This was not ideal however, it forced us to improvise and make full use of anything we had. After making some small, relatively successful plastic sheets we formed a plan on how we were going to produce it in the single week we had back at school.

We used the same moulds and heated the plastic at 180 degrees Celsius. We then compressed the moulds using the small hydraulic press we were fortunate to have available to us in the workshops. This took a few attempts as we changed methods of doing this effectively. We soon decided to heat the plastic between 2 sheets of metal which got placed in the mould with the plastic allowing it to stay hot for longer, so it was more malleable when pressed. This was a success. We found a massive block of steel to spread the load of the press over a high surface area.

Once a usable sheet was made, we attempted to put it on the vacuum former. We lost a lot of hope in this due to the thickness of the polypropylene. Poly propylene has a high specific heat capacity meaning it takes a lot of energy to heat it up. We found the solution to this was heat guns initially then the heater in the vacuum former. The plastic seemed to 'caramelize' when heated too hot which is a big thing, we will keep in mind next model. The plastic had a small crack in which meant a vacuum was not able to be produced which prevented it from taking full shape of the mould.





## Reaching out

We reached out to Waitrose, Newbury Soup Kitchen, CIRDIC, and Honesty group.

**Waitrose** – we requested to collect their used, plastic bags so that we had a solid flow of plastic that we could use for our bowls whilst also limiting the plastic going to landfill.

**Newbury Soup Kitchen** – We wanted to donate our bowls to them, but we also used them to give us an idea of the numbers and type of people who use their kitchen to make the product as good as possible.

**CIRDIC** – This soup kitchen was the first company we reached out to. We wanted to supply our bowls to them, and they told us that the bowls had to be effective for take aways, so we used this information to develop our product further.

**Honesty Group** – This is a local food business, located around Newbury, Bradfield and Reading. We enquired about their used milk bottles given they are coffee shops and cafes. We wanted to partner with them as it would be supporting a small, local business.

We have also set up our own social media to increase our following and spread the word about what we are doing.

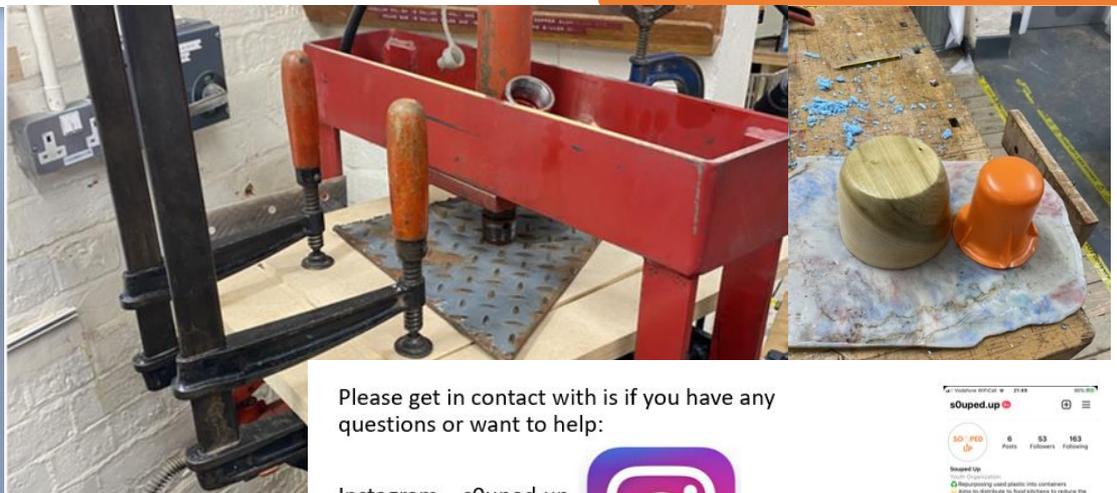
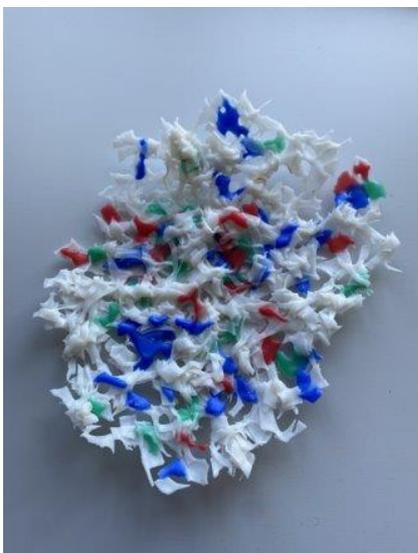
## What we learnt

Some key skills and knowledge gained through this would include resilience, information on the material property of plastics, general teamwork skills and general workshop skills. Due to the many challenges, we faced it almost felt like this project wouldn't even amount to a prototype at all. However, we battled the challenges and came out with a bowl. It really taught us how hard work and dedication does pay off when you want something enough. The prototype is far from the ideal bowl however, there have been many mistakes made and things learnt from them which will make the next prototypes much cleaner and more successful.



## Moving forward...

Our plans for the future as a team are to begin mass producing our bowls now that we have a proof of the concept. It is likely we will continue to adapt and evolve so that process is quicker. We are also aware of how great these could be in the kitchens of people with young children and we may plan to sell enough bowls so that we can continue to run and donate to soup kitchens. The first kitchen we plan to help is Newbury soup kitchen as they gave us some helpful feedback about what they are looking for.



Please get in contact with us if you have any questions or want to help:

Instagram – sOuped.up



Email – tcc22h@bradfieldcollege.org.uk

