

Design Technology teachers at a Stamford School manufactured 200 protective face masks a day for the NHS, as part of the national effort to increase the availability of PPE for frontline NHS staff.

Teachers at the Stamford Endowed Schools originally trialled using the Schools' 3D printers to manufacture visors, but the process was too slow to meet demand. Staff worked to prototype and refine a design for creating the face masks using laser cutters. The first delivery of 100 masks, manufactured in just six hours, was sent to the ICU team at Peterborough City Hospital.

The Schools' solution involved laser cutting a polypropylene headband and attaching it to a PVC screen. With his team, Steve Newton, Head of Design Technology at the Stamford Endowed Schools, set up a

production line in their school workshop, with one team member laser cutting and assembling the headband, one person cutting, shaping and punching the screen, and a third on assembly, cleaning and quality control. This process allowed them to manufacture up to 200 masks per day.

Mr Newton said: "Alongside many other DT departments across the country we have approached the NHS PPE shortage as a design challenge. At SES we are extremely fortunate to have the equipment and skill set to make a real difference to members of our NHS. The design process

took approximately 14 hours from initial concept to final prototype and we are now able to manufacture 200 a day. We will keep manufacturing as long as we have materials and a demand for the product - we're just glad we are able to help our amazing NHS workers".



Design and Technology teachers at Suffolk's Royal Hospital School (RHS) joined the national effort to support the NHS staff by making protective face shields.

Beverly Maloney and her husband 3D printed elements of the shield from their home whilst Ollie Millington used a laser cutting a different design using polypropylene sheets and PVC. They intended to make over 200 by mid-April.

The shields were distributed within the Ipswich area to GP's surgeries, local pharmacies, care homes and community health care workers. Commenting on their production process, Beverly Maloney said: "We know that the NHS simply does not have access to the levels of PPE they need so some people are delighted to have additional protection. Some NHS and keyworker staff have been sharing or reusing equipment so any help is

appreciated, and our shields will be used in conjunction with paper masks. We shall carry on making them for as long as they are required. We have reiterated that these masks are not a replacement, nor medically tested but is something more than nothing in the interim"

The pair have also worn PPE themselves whilst making them, sanitised each shield once finished before boxing it up and letting it stand for three days.

Abingdon School, Oxfordshire, Design & Technology department have been busy producing much needed PPE visors for local GPs and healthcare workers.

Members of the department have joined D&T departments up and down the country using their design and manufacture knowledge and machinery to produce the visors, that local doctors, many of them parents, have been calling for.

The frames are laser cut from polypropylene and the replaceable visor is simply an acetate sheet, allowing the user to quickly

replace the screen as needed.

Michael Windsor, Headmaster, said: "In these challenging times, it has been uplifting for Abingdon School and Abingdon Prep staff to be able to help, even if only in a small way compared to the supreme effort from NHS staff and other key workers. We have supplied goggles from our science centre to the Haematology and Oncology Unit at the Cancer Centre at the Churchill Hospital, spare masks from the Health Centre have been sent to GPs running a fever clinic and our 3D printers in Design & Technology are being put to good use making face shields for NHS

workers. We have also offered our boarding accommodation for use by the NHS. Many of our staff who can offer their spare time have joined the hundreds of thousands

who have volunteered to help the NHS and we continued to keep Abingdon Prep open throughout the holidays for the children of key workers."

