Citilities between the state of the state of











Summer 2020

CLEAPSS D&T e-newsletter

Welcome to the Summer 2020 edition of *Futureminds* – an edition that has been put together in strange times.

Throughout the lockdown, CLEAPSS has remained working, albeit from home. New publications include:

- The new MRATs, which went live on the 31st of March, all 194 of them.
- A number of MRAT associated documents were rewritten and published online at the same time, including: Working with Food, Food Poisoning, and Food Tests.
- A number of existing documents were updated, and 6 new documents developed.
- A guide on the use of resin printers in schools and colleges (guide reference number GL011). This was developed after extensive testing of our Photon S machine and its associated cleaning station. These machines were prohibitively expensive a couple of years ago, but are now available for less than £200, making them affordable for schools.



We also recorded and launched our first CLEAPSS podcast, a 15-minute chat about the new MRATs. There is a link on the website:

http://dt.cleapss.org.uk/Resource/ CLEAPSS-podcast-episode-1.aspx

We also developed guidance for schools who were working through the Lockdown period and for schools re-opening. Details can be found in the **small print** later in this edition of *Futureminds*.







PPE production and guidance

CLEAPSS was approached in March by a D&T department that was investigating the manufacture of face shields using its 3D printer.

This looked like an interesting use of the technology, so we guickly got involved. We spent a few days investigating different designs and materials, and trying to work out a way of making the face shields in a repeatable and safe manner. After numerous attempts we had to give up. Our printers were not up to the job. We had various problems finding materials that would be robust enough for the specified use and it quickly became obvious that it would have been difficult to establish a sufficiently hygienic environment. With hindsight, we recognised that we had become involved before the designs had been developed to a stage where they could be manufactured effectively. At the time we realised that 3D printing was not the best solution. The use of a laser cutter would have been a much more efficient manufacturing process, but the laser cutter is in the makerspace at the office in Uxbridge, and we were working from home.

However, the exercise gave us a real insight into the problems facing schools with manufacturing such equipment. Working with our science colleagues, we developed some clear guidance that explained why we felt that schools would have difficulties manufacturing PPE, and that if they did want to get involved, they should use the Government portal for registering their interest.





In early April, Tony Ryan, CEO at DATA, got in touch to explain what it had been doing, and how it had secured a working relationship with *3Dcrowd* to put in place logistical support, QA measures, and material procurement. This meant that schools could now produce face shields in a controlled manner. CLEAPSS updated its guidance accordingly, to include this route for schools to get involved.

https://www.3dcrowd.uk/

We have read with considerable pleasure and admiration the inspiring examples of schools that have been able to get involved in the production of muchneeded PPE, and use their skills, expertise, equipment and materials to provide face shields and other items for use by NHS and care home staff across the country.

Online Support, the CLEAPSS experience

Over the lockdown period, the CLEAPSS websites have been live, and updated regularly.

Schools have been able to access materials from any Internetenabled device. We have also seen most schools producing online resources for pupils. And of course, there is all of the social aspects of online support, that has been available during this period.

How many of us had heard of Zoom before March 23rd? Other than as a teaching resource, how many had thought of using MS Teams to run a pub quiz? WhatsApp chats, skype and a whole host of other applications have enabled people to keep in touch with loved ones, and learn new skills.

One area that has benefitted from people exploring what they might be able to do, is online learning. In April, Dave, the D&T adviser, worked through the online training course offered by NCRQ (National Compliance and Risk Qualification). This is a free online training course that awards a L3 qualification in H&S management, similar to the NEBOSH qualification. https://www.ncrq.org.uk/

The course is meant to be take a couple of days. It includes 12 hours of study, with an assessment at the end. There are 7 modules, each based around a case study of an incident in a work situation, which led to some sort of settlement. Each module tackles an aspect of managing H&S, and the modules become progressively more complex. Every now and then are self-check tests that test your understanding. It doesn't matter if you get them right or not, but they are useful. At the end of



some modules there is a mini assessment. As with the self-check tests, you don't have to pass, but undertaking the assessment provides effective reinforcement of learning.

At the end of the course is a video summary, and the final assessment. This is to write a risk assessment, using a provided template, to cover an activity in a work setting. It took about an hour to do the assessment which needs to cover 3-5 hazards. When completed, the assignment is uploaded to the host site and brings an opportunity to book a 'phone call to confirm your details and check that you were the person who completed the assignment.

The course had many similarities to NEBOSH, in that it is not sector specific. One of the scenarios was of an incident in a school, but the rest were based across a range of industries. This means that the information is perhaps, not entirely relevant to a teacher in a school. It would be useful for safety officers, or those with responsibility for H&S across a school site, who may have to deal with carparking issues, working at height or other more general matters.

If you have ideas for online support, or other ways of working under the 'new normal', where you think CLEAPSS could help, please let us know via the helpline, or email <u>dt@cleapss.org.uk</u>



zoom





From the classroom to the front line:



UK design and technology teachers join forces with industry to produce more than 200,000 PPE by Tony Ryan, CEO, Design and Technology Association

Classrooms across the country may be empty right now. Still, for the last month, hundreds of design and technology teachers have returned to school to put their expertise, skill and problem-solving knowhow to best use to assist in the production of PPE for frontline clinical workers.

Teachers in design and technology have the tools and machinery available to them to produce high-quality PPE, from 3D Printers to laser cutters. With empty classrooms and evident demand coming from hospitals nationally, a few innovative teachers kicked off this movement some weeks ago.



Andrew Duffey Head of Design, Engineering and Technology at Merchant Taylors School is one of those innovators; his department started to design and make safety visors in response to a request made by his local hospital, Watford General. Working with his department team, he was producing over 400 per day but could not keep up with the demand from medics. At this point, Andrew put a shout out on social media for help. He was approached by Jonathan Duck, CEO of Amtico, a Coventry-based flooring manufacturer, who thought his machines might just be able to scale up production. Jonathan confirmed that 10,000 units a night was possible, a figure that was slightly beyond what Andrew had envisaged.

At this point, Andrew reached out to the Design and Technology Association to see if we could find other schools to assist with assembly of these units. A few tweets and phone calls later and we now have schools in Kent, Swansea, Birmingham, Norfolk and Devizes assembling and distributing face protection produced by *Amtico* at zero cost, and with the shield and assembly managed by the schools.

Many schools have worked alone, drawing on the design and technology community on social media for help and guidance when required. Nottingham-based company Kitronik has produced a design that has been adopted by a large number of schools working to produce shields for local use.

https://www.kitronik.co.uk/ blog/kitronik-make-nhsfrontline-ppe-visors It is estimated that over 40,000 guards emanating from this design have now been produced over the last month. The design is continuously evolving and improving following feedback provided by front line workers. Stamford School D&T department announced on Twitter that in April they had produced over 12,000!

Schools have also linked up with a social enterprise company set up only weeks ago to meet urgent PPE need. 3DCrowd has now crowdfunded over £120,000 and has produced and shipped over 200,000 items of PPE equipment to NHS and care workers nationally. The organisation has coordinating teachers in most major cities joining up design, production and logistics.

https://uk.gofundme.com/f/ 3dcrowd-emergency-3dprinted-face-shields

From the classroom to the front line:



UK design and technology teachers join forces with industry to produce more than 200,000 PPE by Tony Ryan, CEO, Design and Technology Association

Tim Weston head of design and technology at Oakham School, Rutland has gone one stage further and has developed a design that can be injection moulded working with local business partner Rutland Plastics, speeding up the production process and allowing his team to produce over 5,000 units per day, that are currently being shipped nationally again with the assistance of a GoFundMe appeal. Tim has 25,000 currently in production in addition to 4300 manufactured in school before Rutland Plastics joined the movement.





Industry has joined with education to make this happen, Sam Booth head of design and technology at Bradfield School, Sheffield, put a call out for polypropylene to manufacture the *Kitronik* design and was contacted a plastics production company based in Doncaster who switched production and provided the school with 15 x 50Kg rolls; enough to supply a large number of schools nationally (once another company had offered to cut the rolls).

More recently *Denford Ltd.* has donated 450 reels of 1.75 mm PLA filament, enough to 3D print thousands of face shields, much of this donation made its way from Brighouse to the 3DCrowd offices in Sheffield the rest is heading south to feed school 3D printers in schools across the country. To date, design and technology teachers have produced visors, goggles, ear relievers, scrubs, scrub bags, masks, headbands and scrub hats. With the need still high, teachers are somehow managing to combine PPE production with delivering online learning to their students.

I am truly in awe of the work that has taken place across our community over the last month. Our subject is all about designing solutions for human problems, and what bigger challenge has society faced in recent years? This entire process exemplifies just how important and relevant our subject is in a modern curriculum. Material knowledge, iterative design, problem-solving, resilience and innovation are at the very heart of what we teach. Teachers now have first-hand case-studies demonstrating the importance of design and technology in the world today. We have seen innovation and a sense of the difference that a community working to a common purpose can make, I think I speak for all design and technology teachers in stating that we are all pleased to be making a small difference in the best way we know how.

Textile teachers to the rescue

by Dawn Foxall, Textiles Skills Academy

The Covid-19 crisis has brought us together like nothing else has. The realisation early on, that the NHS was so short of PPE and not about to be restocked immediately, awakened an unlikely team of experts to support this situation. Our amazing textile teachers!



News stories from all corners of the country reported the amazing work teams and individuals have done in making scrubs, masks, scrubs bags and headbands for NHS staff. 'Scrub hubs' popped up across UK to help tackle a nationwide shortage, and a dedicated Facebook Group 'For the Love of Scrubs' was set up to support this merry band of stitchers.

Having identified the shortage of scrubs, Ashleigh Linsdell, an A&E nurse from Pilgrim Hospital in Boston, Lincolnshire, formed the group, which is now over 50,000 strong.

This situation has also highlighted the essential role textiles plays in our lives, and the need to ensure the subject is not overlooked in schools and by the Government. Not being an EBACC subject and there no longer being a dedicated GCSE, has meant textiles has been on the decline in schools. Yet here we are reaching out for skills and materials so desperately needed.

This crisis has also raised the need for manufacturing in the UK. Overseas manufacturing has proven unable to match the demand, the speed and standards required. The 'Scrub Hubs' are helping to fill the gap. 'Scrub hubs' have been set up in schools and homes across the UK. Among the fantastic achievements reported in local press is the Wakefield Girls' High School hub. Responding to demands from the Pinderfields Hospital, Wakefield, four teachers of DT, Textiles and Languages - Elizabeth Maher, Natalie Phillips, Emma Critch and Sandy George came together to put their skills to valuable use, making scrubs.

In Bromsgrove, Julie Pask, a retired textile teacher from Catshill Middle School and Liz Dane, from Bishop Challoner Catholic College became part of the national efforts to supply nurses with extra hospital scrubs. Their work described as 'touching' by a frontline nurse.



Textile teachers to the rescue

by Dawn Foxall, Textiles Skills Academy

Due to the highly infectious nature of the Covid-19 illness, nurses are changing their uniform up to seven times a shift, creating a high demand for more scrubs. The first lots of scrubs were delivered to the COVID wards of Worcestershire Royal Hospital and the Alexandra Hospital.

Cerys Gasson, textile teacher at Hayesfied Bassett school in Bath, set up a local Scrub Hub to support staff at Royal United Hospital and surrounding surgeries, care homes and carers. At the time of writing, the group has raised over £3000 for fabric and has already made 1500 laundry bags.



Claire Dempsey, textile teacher at Kingsley School, Leamington, has been busy as the Stratford coordinator of Warwickshire Scrubbers, supplying sewers with pre-cut sets, fabric and patterns to make scrubs, scrub caps, headbands and laundry bags, and distributing them to hospital teams across Warwickshire.

Tamsin Mitchell, head of D&T at Glebelands School in Cranleigh, Surrey, has been collating data from teachers making scrubs in their schools and communities. The data reveals that 95 schools across the UK were actively taking part, making to date:

Scrub Bags:	3776
Gowns:	53
Scrub Tops:	35
Scrub Sets:	667
Ear protectors/Headbands	2023
Hats:	247
Facemasks	1097

Tamsin has also done more than her bit by setting up NHS Sewing Cranleigh and Dorking group to mobilise sewing enthusiasts. The group's 65 members have been producing items for St Joseph's Specialist School and College and more than half a dozen other organisations, including care homes and medical practices.

Textile teachers across the UK should be proud of their achievement. We need to remind schools and the Government of their contribution and the absolute vital role their subject has in the life learning of the young. The Government need to be advised to rethink its strategy with EBACC and elevate our useful and necessary subject to its rightful position in the curriculum.





Classroom: Food – a fact of life's new remote learning hub

> Portfolio By Frances Meek at the **British Nutrition Foundation**



On 30th March 2020, in light school s being basically closed, Food - a fact of life (FFL), the **British Nutrition** Foundation's education programme for schools, launched FFL Classroom, a new remote learning hub.

To support primary and secondary pupils with their learning at home during this time, FFL Classroom has provided fortnightly waves of resources and activity ideas around where food comes from, cooking and healthy eating. FFL Classroom also provides tips and best practice advice for parents and carers.

All the resources and activity ideas are free to access, and those created for FFL Classroom have covered different themes, e.g. cooking and healthy eating, and a variety of learning approaches, such as:

- everyday learning;
- finding out and exploring;
- being active;
- worksheets;
- interactive activities and quizzes;
- being creative (through writing, arts and crafts);

The colourful present

activities.

and cooking.

Eggless jam sponge n, vegetable knife, chopping board, grabe Created for the 75th Anniversary of VE Day The resources and activity and grate the car four and baking powde k and water and mix well. ideas also offer a range of the of jam over the botton i golden. Ind agreed over the remaining 2 x 15ml agoons opportunities for crossnti galden curricular learning, including numeracy, literacy, humanities, science, Mix and a PHSE/health and wellbeing, design and technology, religious education, and art. Waste not, want not The activity ideas, on the whole, and where appropriate, can be completed by children and young people without adult support and are classified into less time/less complex and more time/more complex





Classroom: Food – a fact of life's new remote learning hub

> Portfolio By Frances Meek at the British Nutrition Foundation



rilliant bread	
b view the billieff thread recipe, click here.	
Drag the words into the correct boxes.	
Proheat the to 220°C or gas mark 7	bako
Line freibaking tray with greaseproof paper	Kne
Sift together the flour and salt into the mixing bowl	
Stor in the yearst	
Make a well in the mobile of the floor moture and add the warm	
Sprinkle a little flour onto a clean work surface and place the dough on the surface	950
the dough for 10 minutes	
Divide the dough into 4 pieces and shape into rolls	
Place the role on the tray	
Cover the dough and leave to prove for 30 minutes in a warm place, until they double in size	
Date for 10 - 15 moutes until brown	

As a flavour of what is available, some of the activities include:

- Counting different foods in the kitchen to practice numeracy.
- Learning about the science of natural food colourings.Calculating how many
 - times you'd have to walk around a room in your house to reach 10,000 steps.
- Finding out why toast goes brown or why an egg sets when heat is applied.
- Doing a matching activity, matching foods with the vitamins and minerals they provide.
- Setting up activity stations where you skip, hula and jump.
- Describing the life, growth and death of a food poisoning bacteria by writing a story or poem, or drawing a cartoon, or storyboard.
- Practising food skills through making dishes and other practical activities.

There are also new interactive activities and recipe videos with embedded questions to extend teaching and learning.

The response from teachers, and parents, to FFL Classroom has been extremely positive. From 30th March until the 6th May 2020 (the time of writing), there were 111,105 views of the remote learning hub website page and 220,469 downloads of resources.

Food – a fact of life will be providing resources and activity ideas to support remote learning until 1 September 2020. For more information, go to https://www.foodafactoflife .org.uk/remote-learning/

Image sequencing - where food comes from

oropolete the following image sequencing games learning the journey from faum to fork of different food commodities. Get a pen and poper and write down the journeys - can you think far other food not listed and write down the journey from faum to fork?
Drag the images into the correct order:

Teachers have told FFL that the activity ideas and resources have saved them a great deal of time and have made the job of teaching remotely so much easier. Comments from teachers and teacher trainers include:

"If the Food – a fact of life website wasn't good enough already, they have now produced invaluable resources to help home educators deliver numeracy and literacy in a context all children can understand." Zoe Laurence, Petersfield School, Hampshire "I always encourage our student teachers to use BNF's excellent materials in their classrooms. It is fantastic that BNF have been able to adapt, modify and develop their resources for this period of "remote learning", with a plethora of activities that can be easily accessed by learners, parents/carers and teachers." Elaine Gardiner, PGDE Coordinator for Home Economics, University of Strathclyde, Glasgow

FFL has also had feedback from parents, including "These are really testing times for everyone, and parents with young children are facing particular challenges. Juggling childcare and work is difficult at the best of times. With the extra home-schooling demands thrown into the mix I'm sure many parents like me are struggling to cope. That's why I'm looking forward to trying out these new resources from BNF. I think they will help teach the children important information about healthy eating, but as importantly for parents like me, keep them occupied!"

Recipe sequencing



BNF Healthy Eating Week, 28 September to 4 October 2020. What it's all about and why you should get involved!



By Claire Theobald, Education Services Manager, BNF

The British Nutrition Foundation (BNF) has been running its annual BNF Healthy Eating Week for the last seven years. The aim of the Week is to bring the UK together to focus on a set of key messages to promote healthier lifestyles.

The Week is designed to:

- raise the profile and importance of nutrition and health;
- encourage children and adults to adopt healthier lifestyles, through a series of health challenges;
- support healthy schools and workplace initiatives throughout the UK, where resources have become scarce.

What happens?

UK nurseries, schools, universities and workplaces register for free to receive information, activity ideas and resources to plan their BNF Healthy Eating Week from 28 September to 4 October 2020.

Each day of BNF Healthy Eating Week is structured around a 'challenge', which provides a focal health promoting theme for the day. The challenges for the 2020 are:

- Monday Eat more wholegrains;
- Tuesday Vary your veg;
- Wednesday Drink plenty;
- Thursday Move more;
- Friday Be mind kind;
- Saturday Get active together;*
- Sunday Eat together.*



Continued on page 12...

BNF Healthy Eating Week, 28 September to 4 October 2020.







By Claire Theobald, Education Services Manager, BNF

What do people do?

Do you have 6-8

Over the years, those registered have used the BNF Healthy Eating Week resources to plan exciting activities for their pupils and colleagues. These have included:

- creating classroom or office fruit and vegetable snack bowls - with everyone bringing in fruit and vegetables to 'build' the bowl;
- inviting in guests such as nutritionists, health practitioners and instructors (e.g. yoga, tag rugby) to provide talks or run activity sessions;
- working with catering staff to provide themed lunchtime menus;
- setting up 'hydration stations' comprising jugs of water with a selection of infusion options such as mint leaves and slices of cucumber and orange.

Last year, BNF Healthy Eating Week received just under 7,000 registrations. Over 4,770 from nurseries and schools, and over 2,173 workplaces and universities. Feedback about the Week was very positive, with 9 in 10 saying that it had a positive impact and activities undertaken during the Week would continue in the longer term.

This year, BNF is aiming to have its most successful year to date. The Week has been expanded from five days to seven, and includes a new challenge based around mental health, and weekend challenges based around enjoying activity and food with others at the weekend*. The first 8,000 to register will receive a printed set of seven, colourful posters to support the challenges. (BNF has received already received over 3,000 registrations!)

Registration

Registrations is free and open to all nurseries, schools, universities and workplaces across the UK. The Week is a great opportunity to promote healthy lifestyles in an exciting and engaging way.

Why not register your organisation now? Go to: www.healthyeatingweek.org.uk

*The Be active together and Eat together challenges are intended to highlight the importance of undertaking activities together. During and after lockdown, social distancing rules will need to be applied depending on personal and local circumstances.

BNF Healthy Eating Week 2020 is developed by the British Nutrition Foundation and supported by the Agriculture & Horticulture Development Board (AHDB), Quorn Foods, Nestlé Cereals, Innocent drinks and Waitrose & Partners.





ALLERGENS AND ONLINE TRAINING, by Barbara Rathmill FTC THE FOOD TEACHERS CENTRE

Over the last few terms we have been delivering training in schools and via our online platform, but with the recent events we have further developed out online provision. We have focused our work on providing online training 'rooms', which enable learners to work with tutors or mentors to work through a training activity.

One such room is focused on allergens.

It is intended to provide up-to-date information about allergens and intolerance, and the steps we need to take in the food room as well the health and safety documentation we should be developing.

It is for anyone who works in a food room and complies with EU Food Information

The training room is designed for you to work at your own pace, there are 8 units, each taking about 30 minutes.

Each unit has a video presentation and some activities.

All the resources are available for delegates via the online training room, through Facebook and include:

- An introduction to Allergens outlines what information is available in the training units to help you develop your allergen section of your health and safety folder.
- The Identified Allergens look at the allergenic foods that have been identified by the EU Food Information for Consumers Regulations.
- Food Allergies provides Information about food allergies, symptoms, what to do in an emergency.
- Food Intolerance explains how an intolerance differs from an allergy and coeliac disease.
- Food Preparation explains the importance of providing allergen information when preparing food products, and the control of cross contamination, with examples of good practice.
- The Written Allergen Information required describes how to communicate allergen information and adapting and adopting information and guidance for your departmental documentation.

Benefits of the training room include:

- Develop awareness of current allergen information.
- Provide useful and up-to-date information to enable that the correct procedures are followed.
- Provide an opportunity for updating and developing departmental health and safety guidance.







Other Food Teachers Centre Online Training Rooms

- NEA Together and Revision, which is great for getting teacher assessment ready
- GCSE Boost, which supports GCSE Grades 1-4 with strategies and activities.
- Food Futures, which includes GCSE, Hospitality and Catering Level 1 and 2 and Level 3, PLUS Ofsted and Ofqual.
- Food Science, which covers proteins, carbohydrates, fats and lots more, and supports food activities at KS3 and KS4
- Food safety in Classrooms, covers all the standards in Teaching Food in Secondary Schools guidance, health and safety departmental documentation and Level 2 Award in Food Safety.
- Technician Toolkit is written specifically for food technician to help them support teachers in order to enhance teaching and learning. https://foodteacherscentre.co.uk/events/

3D printing and code Bridgin

Bridging the gap between Computing and Design?

By Phil Cotton, teacher and creator of Learnbylayers



Coding is a vital skill that all children learn in the course of their education. Most of the time it is taught as part of computing. More recently, it has made small steps into design and technology with integrated circuits such as crumble controller and microbit.



mble controller a bit. The new GCSE specification has parachuted coding into some classrooms but is there scope to build on this further?

CAD is an essential part of design, especially for 3D printing, but can the same outcomes be achieved without learning CAD and drawing upon prior knowledge of code? If a student in your class is struggling with CAD but is a competent coder, could these computing skills be harnessed within design and technology? The ability to code promotes problem-solving and mathematics skills, which are key qualities that should be developed during the design and making process. With 3D printers becoming ever more popular in classrooms, using code to design models can build upon students' existing knowledge and can allow for more inter-subject collaboration.

Imagine a situation where children already turned up to lesson knowing the basics of block coding from computing lessons, thus allowing them to quickly create 3D models in a design class. By collaboration with other Ebacc subjects will this increase the profile of design and technology in your school? Bill Gates once said, *"learning* to write programs stretches your mind, and helps you think better, creates a way of thinking about things that I think is helpful in all domains." Teaching the coding alongside 3D printing embeds this philosophy as it blends problem-solving and creativity, encouraging highlevel thinking and developing independent, inquisitive learners.

Combine this with 3D printing, which is in the process of revolutionizing manufacturing. Teaching coding to alongside 3D printing can deliver a learning experience that is preparing children for future employment.



"Learning to write programs stretches your mind, and helps you think better, creates a way of thinking almut things that J think is helpful in all domains."

BLADATE















3D printing and code Bridge

Bridging the gap between Computing and Design?

By Phil Cotton, teacher and creator of Learnbylayers

New 3D printing design curriculum based on code blocks.

Learnbylayers has created a new curriculum to blend code with 3D printing. The lesson content is focused on *TinkerCAD* code blocks, built using Scratch 3.0. Scratch is the world-renown programming language created by MIT (Massachusetts Institute of Technology) and used in pretty much every school in developed nations. TinkerCAD code blocks use drag and drop blocks of editable code to build 3D models that can then be exported to a 3D printer. As part of the curriculum, students will learn the basics of a 3D printer, where they are used, and how they work.

W (1) L (1) H (2) edge (1) Edge Tages (1)

COL COL CO ales CO Case Sales CO

The curriculum includes a
suite of lessons which are
structured and easy to follow.Finally, is teaching coor
kids so important? The
is simple, we are helping
them up for jobs over
next decade. With the
automation and the er
focused on building design
skills through coding to create
models to 3D print.Finally, is teaching coor
kids so important? The
is simple, we are helping
them up for jobs over
next decade. With the
digital world we live im
learning to code is as
important as ever. Acce

Resources include;

- Detailed lesson plans Teaching PowerPoint presentations
- Video tutorials on how to code
- Step-by-step instructions of coding challenges
- Example 3D model files to print
- Homework with answer sheets
- Assessments with answers
- Coding for Kids Preparation for future jobs and study

Finally, is teaching code to kids so important? The answer is simple, we are helping set them up for jobs over the next decade. With the rise of automation and the everdigital world we live in, important as ever. According to an article in Tech Republic, 'a universal programming language will arise' over the next decade and 'programs will be built upon code blocks and learning code will become the core of the education system'.

Further evidence of why coding should be essential for learning as outlined by Forbes Technology council which stated how 'coding in the classroom can close the technology gap and that knowing a little can help get you ahead a lot'.



To learn more and review the sample lesson visit

ittps://www.learnbylayers.com/codingessons/

Links:

https://www.techrepublic.com/article/ho w-programming-will-change-over-thenext-10-years-5-predictions/

https://www.forbes.com/sites/forbestech council/2020/03/20/should-everyonelearn-to-code-15-tech-pros-weigh-in-onwhy-or-why-not/#67fcd423693e

Support from the STEM centre by Gemma Taylor @STEMlearningUK

In response to the changes to education due to COVID-**19, STEM Learning has created a new home learning** page, bringing together free resources to help teachers and families continue to support young people's learning from home.

For design and technology, we have put together collections of resources around topics such as computer-aided design and 3D printing, electronics and programming, curriculum revision and learning more about careers linked to design and technology. There are also links to creative design challenges, supporting students to showcase what they've learned and getting them thinking about future contextual challenges.

https://www.stem.org.uk/home-learning/secondarydesign-technology

Education specialists are also available weekday from 8.30am -4.30pm via the STEM Learning Live Chat facility This can be accessed at www.stem.org.uk.

For the wider STEM community, we have created subjectspecific, home -earning support for science, maths and computing, alongside collections of recommended family



activities to try at home. To help parents plan activities, we provide daily updates to the site with many blogs to further their understanding and to inspire them with STEM stories. We have also created activity calendars and provide daily activity suggestions to help parents provide structured learning for their children.

https://www.stem.org.uk/home-learning

To help your students continue learning about careers linked to design and technology, STEM Ambassadors have made their support to schools available remotely. Video calls, online presentations, Q&A's, careers talk and support for curriculum development are all potential activities that you can request from the 30,000 registered STEM Ambassadors. To find out more, head to our website, create an account and publish an activity on the STEM Ambassador platform.

https://www.stem.org.uk/stem-ambassadors/find-a-stemambassador

Finally, for parents, we have produced home learning guidance which includes a home learning survival guide and a free online course with content from Paul Howard-Jones, explaining how parents can support learning during this time.









Boyd Education Updates

More than 325 free TechDoodle and #ThinkDo resources to download

To support schools creating home learning resources and in-school activities during the challenges of the COVID-19 outbreak, Boyd Education have released all of their TechDoodle and #ThinkDo resources in PowerPoint format, categorised into learning areas. The resources cover a range of learning across all material areas and are particularly useful for key stages 3, 4 and post-16. Individual slides can be used as standalone activities or they can be combined with a teacher's own other resources (many TechDoodles and #ThinkDo resources also complement eachother, and can be used together). The resources are a work in progress which will eventually cover the whole curriculum, so some PowerPoint presentations have only limited resources, but with more than 325 individual activities we hope they will provide support at this challenging time.

Download the resources http://www.julieboyd.co.uk /free-resources/specialoffers/



Let's Learn resources on the website

The Let's Learn section on the Boyd Education website also has lots of resources that might be useful when planning work. Like the TechDoodle and #ThinkDo resources, this is a long term project so not all curriculum areas are covered but the website is constantly being added to and developed.

Visit the Let's Learn resources http://www.iuliebovd.co.uk /lets-learn/

Product in a Tin competition

www.julieboyd.co.uk

Boyd Education's Product in a Tin competition might be suitable to develop as a home learning or in school activity. Unlike many other competitions, students submit a made product rather than just design work. However, under the present circumstances, many students might be working from home without access to materials and equipment, therefore we have tweaked the entry categories so that design work can be submitted as evidence in the 'photo' category.

Boyd Education Updates

More than 325 free TechDoodle and #ThinkDo resources to download by Paul and Julie Boyd

Currently this category can't win a prize, apart from being showcased on the website, but if we get sufficient, high quality entries we will add a prize for this section. The closing date is 1st August 2020, but this may be extended depending on what happens with school closures.

The competition brief focuses on designing and making a functional product that meets a specific user need, and which is made from at least two D&T materials. The product must fit into a snack sized *Pringles* tin, either as it is, or by being folded, rolled or taken apart (the tin is a design restriction and isn't part of the competition unless students integrate it into their design). Students justify their material choices and outline user needs on their application form.



The winning school gets prizes worth over £1200, including 15 Crumble starter packs sponsored by Mindsets (plus training), and a sewing machine sponsored by Husqvarna Viking and Coles Sewing Centre. The winning student also wins prizes worth £75 and there are runners-up prizes, plus 20 small prizes for other interesting entries.

For competition details, including resources that might be a useful starting point for teachers looking for activity ideas even if they don't enter the competition visit

http://www.julieboyd.co.uk /my-competitionsevents-/ (note the change of address for

entries as we recently moved from Nottingham to the Wirral)

Curriculum planning support

Boyd Education runs an extensive CPD programme and will be guided by government recommendations on when these can go ahead. Up to date information is posted in the CPD section of the website. In the meantime, as well as the Let's Learn section, anyone doing curriculum planning might find the curriculum section of our website useful as this includes planning documents referenced in our courses.

Visit the curriculum planning resources <u>http://www.julieboyd.co.uk</u> /dt/dt-curriculum-planning/



Reintroducing ceramics into the school curriculum

by Ged Gast, NSEAD

It might seem counter intuitive in the context of FutureMinds, but the reintroduction of kilns and ceramics activities in the curriculum is gaining popularity. Travel back 25 years and you would find a kiln in every primary school and a couple in each secondary. The current interest is being sparked, partly by the growing interest in craft activities and TV shows such as The Great British Throwdown. It is also counterpoint to an increasingly academic curriculum, lacking in practical and tactile skills-based learning. Many teachers believe children have too few opportunities to engage in making and forming products, using creative and functional design-based approaches.





Clay is not an expensive material and is surprisingly flexible. It can be used creatively or technically and can be formed by hand, mould or cast. Kiln firing can result in individual expressive works, or products for massproduction with a high degree of vitreous finish, and weather- and chemicalresistance properties. Ceramic materials can also be made as a composite, or as a product assembled in combination with any other material.

There are some basic principles when introducing clay into the curriculum. Keep it simple and cheap. Select only one clay at first, to streamline the recycling process and help achieve success with consistent, predictable outcomes. I would suggest a white earthenware clay with which you can produce fine, delicate products, or to which you can add grog*, to build thicker or

coarser forms. Earthenware, in preference to stoneware clay, reduces wear on your kiln, because it fires to a lower temperature and offers a wider range of brighter glaze colours. You can start with just a white and a transparent dipping/pouring glaze, adding perhaps some onglaze/under-glaze stains, or paint on coloured glazes and maybe one other coloured blue or brown glaze for purely functional ware.

When replacing or updating old ceramics equipment, or ordering equipment to create a new ceramics facility, it is vital to seek experienced advice on choice of kiln, position and what is needed. A kiln should be installed in a separate lockable, tidy room, with 500mm clear space between walls on the back and sides, and the room should be kept clear of flammable materials. An electric kiln needs a suitable



interlinked LEV in the isolator circuit so the LEV is on when the kiln is running or cooling. The door should be fitted with a vent to allow air in. Kilns must be fitted with a suitable controller to enable programmable control of the heating or cooling ramps and stages of the firing. Lastly, an indicator such as a bulkhead light (with two red bulbs) should be fitted over the kiln room door to alert staff when the kiln is on. Where kilns have to be installed in a classroom, they must be inside a suitable cage.

I would recommend school consider a front-loading kiln, in preference to a top-loader, as they are more robustly built and less likely to cause the user to develop back problems when packing kiln



shelves and work. Teachers should ensure they receive suitable CPD to develop their ceramic curriculum practice, along with the safe and effective management of their new kiln and clay facilities. Teachers should keep a firing log, to monitor quality and the link to firing settings.

*Grog: pre-fired and ground clay, like sand that can be added to clay to open the body to change refractory and textural characteristics.

https://www.nsead.org/

Further information can be found on the CLEAPSS site, search for ceramics.



CLEAPSS small print

HSE guidance on the wearing of face masks as PPE

As we are putting Futureminds together there is a lot of talk about the wearing of face coverings in public, with some people already wearing them.

There is very little evidence that a loose, cloth or homemade mask will provide the wearer with much protection. It is more use to protect others from droplets if the wearer were to cough or sneeze, much the same as using a handkerchief or tissue.

However, the wearing of masks as PPE is a different matter. We have a guide on the use of face masks as PPE on the website (GL310) and new guide on Eye and Face Protection (GL342) on the website.

HSE have also produced a handy guide illustrating how to don a tight-fitting face mask:

https://www.hse.gov.uk/news/face-maskppe-rpe-coronavirus.htm

Putting the disposable respirator on and checking it fits





dispesale respirator should not loosen. If it does, you should ready and repeat. Check your disposable respirator before you put it Then do a pre-use seal check or fit check - for

Visit hse.gov.uk/respiratory-protective-equipment for more information

Schools re-opening

We have had a number of requests for guidance for when schools reopen, CLEAPSS worked on a number of new guide(s), which were made available on the website on the 10th May. This was developed in close liaison with the Department for Education. We have a number of relevant documents on the website:

GL347 returning to school after an extended period of closure

GL344 Guidance on practical work in a partially reopened school in DT GL346 School Extended Closure Arrangements



BS4163:2014 Health and safety for design and technology in educational and similar establishments – Code of practice

The British Standard has been around for a number of years, the last edition was published in 2014.

Over the past few months members of the committee have held a number of informal meetings and on May 12th, had our first meeting, via Webex, to start the review and updating of the Standard. The process of updating the Standard will take a while, and will be a very different process this time, as we are holding virtual meetings, rather than meeting face to face at the BSi offices.

The new Standard will probably be published sometime in 2021/2022.



bsi.

ger



Government advice on the production of PPE

In May the Government published new guidance for small businesses and individuals who were, or were intending to, manufacture PPE for use by others. This states that all PPE must F Safety & Standarda

Government ew guidance sinesses and who were, or ing to, e PPE for rs. This II PPE must n standards and that, if the

meet certain standards and that, if the manufacturer cannot assure that their work meets those standards, they must not offer the PPE for use by others.

From the guide:

"PPE must be effective in guarding against specific risks, for example from contact with anything the virus is on or from infected breath, coughs or sneezes. It is your legal responsibility to ensure that any PPE you supply is effective in guarding against the risks it is designed for. This is known as meeting "essential health and safety requirements".

If you do not think you can make PPE to the safety levels required, then your PPE will not be suitable for protecting against COVID-19. Please do not offer any PPE for sale or donation to the NHS that does not meet essential health and safety requirements as it will not be able to be used and may put healthcare workers at risk."

https://assets.publishing.service.gov.uk/gov ernment/uploads/system/uploads/attachme nt_data/file/883462/Guidance-forbusinesses-and-individuals-small-scalemanufacture-of-ppe-version-1.pdf

Some recent tweets 🔰



New document providing guidance on the servicing and maintenance schools should consider in D&T, food and art during this period of extended closure. <u>http://dt.cleapss.org.uk/Resource/GL346-School-</u> <u>Extended-Closure-Arrangements.aspx</u>





<u>http://dt.cleapss.org.uk/Resourc</u> <u>e/CLEAPSS-podcast-episode-</u> 1.aspx

New guidance for SEND pupils in D&T, food and art: <u>http://dt.cleapss.org.uk/Resource/G077A-</u> <u>SEND-in-D-T-food-and-art.aspx</u>

For those schools developing #PPEforTheNHS we have put together a new 'project' that lists the H&S resources you should consider: http://dt.cleapss.org.uk/Resource/Face-ShieldsasPPE.aspx



with the new te lf you farticle

New guidance for D&T in short stay schools: <u>http://dt.cleapss.org.uk/Resource/GL007-</u> <u>Safe-practical-D-T-food-and-art-in-short-</u> <u>stay-schools.aspx</u>

Your date and rights	
The identity of the data controller and con the Mercela products The Office of Guillations are Data Francisc Laws Venish the provest of Protopholoc conduct and	Nact details of our Data Protection Officer indice Regulate Mask. We are a conclerior to puscess of the Ceneral Dea Protector constant reported interactor about our second op of constraints responses and your rights.
How to contact us I subset an assistantical thir "fract folio, for where and you be investigation of our all descented of unitory is	te sonal cale, er ver i lo ese das any of your fonts, olisse contect.
Why we are collecting your personal data is addition or delivery or an extension is well your	l none as any angles of it benefices but will deally your because you can write that your expected

Forefore (Fingstander)



#ofqual consultation online regarding the summer 2020 qualification awarding, please take part: smartsurvey.co.uk/s/JVVHL3/



We have just published a new guide on eye and face protection in D&T, food and art: <u>http://dt.cleapss.org.uk/Resource/GL342-Eye-</u> <u>and-Face-protection-in-D-T-Food-and-</u> Art.aspx

We have updated our guidance on making face shields and other PPE for the NHS and others following the work done by #DTassoc http://dt.cleapss.org.uk/Resource/GL340-Guidanceon-support-from-schools-during-the-Coronavirusperiod.aspx_



One for DT teachers. We are pleased to see this new tool on the market, an adjustable spanner with imperial and metric ends. Also available in a left-handed format as well.



The autumn edition

In the next edition of Futureminds: Further advice about working in schools during and after the pandemic.

There will also be articles from a range of contributors with lots of interesting things to consider in delivering D&T, food, textiles and Art. We will also be able to show you some further examples of our work with the 3D resin printer and other new technologies.

If you feel that you could provide an article about something you are doing, or want to do, in school or college, please get in touch and we will help you to develop your article.

You can also follow us on twitter @CLEAPSS_DT

You can also follow Daves allotment progress on Instagram @parrys_plot



And finally, amidst all these difficulties, don't forget, May the 4th was Star Wars day, so May the 4th be with you...