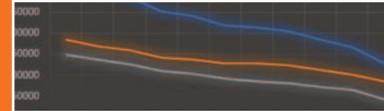


CLEAPSS
Design and
Technology

Future minds

Tomorrow's world explored today



Autumn 2019

CLEAPSS D&T e-newsletter

Welcome to the Autumn 2019 edition of Futureminds.

The last edition was a 'special' to explain why the planned summer *Futureminds Live* event did not take place. We are now investigating ways of making it work for you and us in the future.

We are still running a survey to gather thoughts about a what would make a successful live event. Please follow the link and have your say:

[https://www.surveymonkey.com/r/
2TMKNMP](https://www.surveymonkey.com/r/2TMKNMP)

This autumn edition has a very strong food bias. We have been pleased to receive a variety of interesting articles, reflecting the amount of work going on to support the teaching of food in schools.

Once again, it's been a busy few months. The summer term is often time for conferences and training.

In July we held the CLEAPSS annual Safety Conference. This is always well attended and full of interesting workshops and displays. As usual, we held it at the Royal Geological Society in London, next door to the Royal Academy, which was holding its Summer Exhibition, with a picture of 'Dave the biker' on



display. The artist, Martin Barrall, has managed to get his artwork into the Summer Exhibition two years running. Martin was an Art and D&T teacher, and illustrates the talent that teachers of these subjects have.

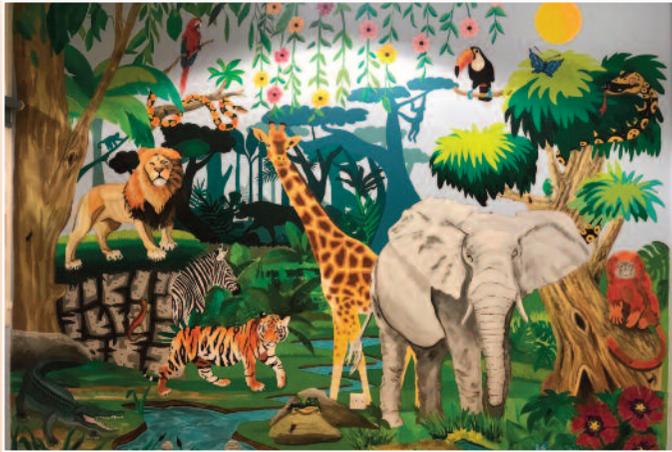
We delivered a number of training days around the country, including a particularly noteworthy day for art and design practitioners in Surrey. This day was slightly different to the usual D&T training as we were able to look at dark rooms and ceramics facilities, as well as

workshops and textiles rooms. The day was really enjoyable, and the evaluations showed how much this type of course can help to support teachers and technicians develop their good practice.



Continued on page 3...

You may have read in Futureminds 09 (autumn 2018), that Yvonne Smallwood had approached CLEAPSS for some advice for her and her colleagues on painting a mural at a local hospital. We suggested some things that they needed to think about, and were pleased to see the results. Well, Yvonne has been at it again. She has been working on a second wall, and it looks great. We are delighted to have been of help.



We attended the 3D Printing Expo at the Marshall Arena in Milton Keynes, where CLEAPSS gave a talk on the safe use of 3D printers, based on the document we produced last year. Over 30 delegates attended the talk, mostly from industry, rather than education, and there was a lot of interest in the latest guidance.

<http://dt.cleapss.org.uk/Resource-File/3D-printing-in-schools-and-colleges-managing-the-risks.pdf>



One of the best parts of working for CLEAPSS is the chance to test equipment and activities, and then develop guidance to help teachers to carry out practical work effectively and safely. In the summer we got hold of some welding equipment and a positive pressure welding hood and mask. One of the CLEAPSS advisers did some welding, so we could test the fume extraction effectiveness of the hood. This was one part of the work we have done on managing a welding facility in schools, which led to the writing of two new documents that are mentioned in the small print.



Continued on page 4...



Advisers at CLEAPSS, are working together to develop practical activities that support the teaching of science, as well as developing what could be real projects in D&T. For example, we have developed a soldering extraction unit, which can be made by pupils in D&T, using very simple and readily-available components. The extractor could be used in D&T, or science. We are also working on other scientific equipment, that could be adapted for use in NEA (non-examinable assessment) of the new D&T GCSE.



We had a very interesting meeting at the Design Museum, to find out how CLEAPSS can support the Design Ventura competition. The competition has been running for 10 years and hundreds of schools have taken part. The winning team gets its idea taken to manufacture and the final product is sold in the Design Museum shop. The competition involves students in year 9, 10 & 11, and, if you would like to get involved, take a look at the website. To help, the Design Museum offers both online and face to face support. The entry deadline for this year is November.

<https://ventura.designmuseum.org/>



Continued on page 5...



In September we started the term with a trip to the TCT show in the NEC, Birmingham. This is the largest additive manufacturing show in the UK, with hundreds of suppliers showing off the latest machines and materials. Displays included desktop FFF machines, DLP printers, and lots of metal additive manufacturing machines. It was great to meet up with some of the suppliers we have worked with over recent years, particularly Kora, who were displaying their Safety Cabinet, which controls the fumes and ultrafine particulates that FFF machines produce.

Seeing all the metal printing that was being promoted has made us think about how we can help to get this type of manufacturing into school-based D&T. We are developing a range of materials that will be available for download later in the year.

We will also be attending the UAV show in November, which is the largest drone show in the UK, this year they have an education section, due to the massive increase in career opportunities in the world of drone flying. There is an article by Caroline Dillon in this edition of *Futureminds* that gives a taste of what will be on show at this event

<https://tctshow.com/tctshow/en/page/home>

<https://www.terrapiinn.com/exhibition/the-commercial-uav-show/>



Continued on page 6...

PABELLÓN

VENEZUELAN FOOD

And finally, a relaxing day was spent at the British Street Food finals in Southwark. This is an annual competition to find the best street food vendor in Britain, with heats all around the country and the final, this year, in London.

The venue for the final was an old warehouse, Hawker House, with 16 vendors and a number of bars. The food was fantastic, but so were the stands, vans and presentation materials – a real D&T, Art and Food overload!

We were able to sample a number of the different dishes:

- Beef Arepa – from a Venezuelan food vendor, Pabellon, which became the overall champion and will be competing in Europe later in the year.
- Korean Fried Chicken from Kokodoo.
- Chicken Shawarma from MorMor (my personal favourite).
- Apple and cinnamon flat doughnut from Flats Doughnuts.
- And a variety of potato gnocchi, any vegetable frittata and potato and cheese croquettes, all made from food waste by the sponsors of the event, Hellmans.

A fantastic day out, and great inspiration for food specialists or anyone with a design and technology or art interest.

<https://britishstreetfood.co.uk/>

Pabellon (London)

Beef arepa with sweet potatoes tempura fries: Hand-made grilled cornbread filled with shredded beef, slow-cooked in our own sauce, deep-fried sweet plantains, creamy avocado chunks, grated cheddar cheese and homemade garlic sauce. As a side, crispy tempura sweet potatoes with smoked paprika and sea salt.



GCSE results

Congratulations to everybody involved in delivering the new GCSE and other qualifications across D&T.

This summer provided the first set of results for the new D&T GCSE. Although entry numbers have continued to drop, the overall results show a slight improvement.

	2018			2019		
Design and Technology	All (%)	Girls (%)	Boys (%)	All (%)	Girls (%)	Boys (%)
C/4 or above	61.2	74.6	54.5	63.2	74.6	58.4
A/7 or above	17.9	28.6	12.6	19.4	28.3	15.6
Candidates	116,775			89,905		
Engineering						
C/4 or above	44.3	61.9	42.3	50.6	70.8	48.1
A/7 or above	7.7	18.3	6.5	11.3	24.4	9.7
Candidates	4,390			2,915		
Food P+N						
C/4 or above	62.3	70.8	48.1	64.4	73.5	49.4
A/7 or above	16.4	21.8	7.5	17.7	23.7	7.8
Candidates	47,550			44,925		
Art and Design						
C/4 or above	74.8	81.6	61.1	75.1	81.8	61.8
A/7 or above	22.5	27.7	12.1	22.7	27.9	12.5
Candidates	166,325			182,205		

The most obvious, and perhaps concerning trend is the entry numbers over time.

	2008	2019
Design and Technology	313,398	89,905
Engineering	1,430	2,915
Art and Design	189,075	182,205

NB, Food has no historical data, comparing the present GCSE to Home Economics presents a poor correlation as many pupils would have taken the Food option in D&T rather than followed the HE course.

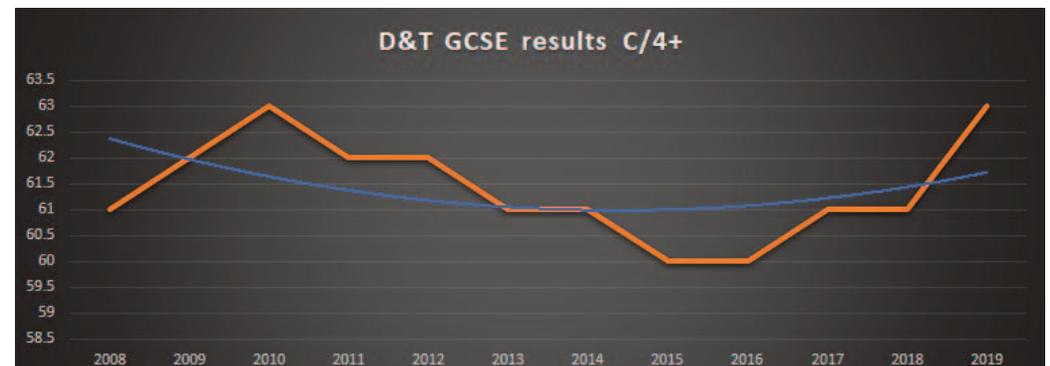
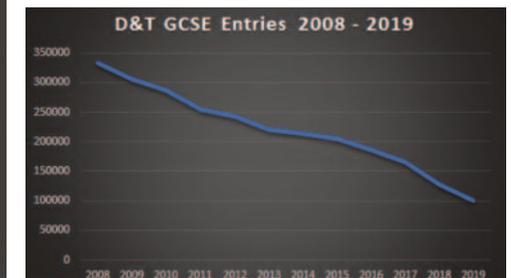
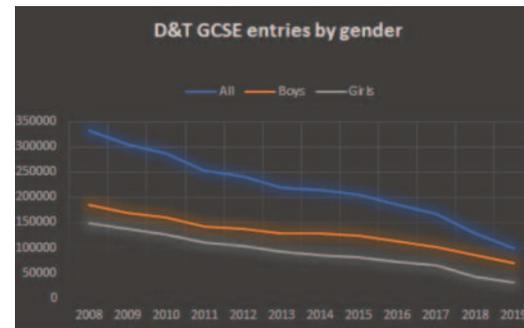
Engineering continues to have low entries, but also shows a slight improvement in results.

Food Preparation and Nutrition is now in its second year of the new GCSE. There are decreased entries, but an improvement in results.

Art and Design results also show a slight improvement and have increased the entry numbers for the second year in a row.

Of course, this is only GCSE data, there are also a whole range of different stories in the KS3 and primary sectors. Over the coming term we will be working with schools to build up a nationwide picture of where some real successes have been achieved. If you want to be involved, perhaps by putting together an article for the spring edition of Futureminds, please get in touch. We are after success stories and interesting images; interesting A Level work, great GCSE results, fantastic activities in KS3 or wonderful primary D&T/Food or Art.

Contact us at: DT@cleapss.org.uk



Plastic recycling in school



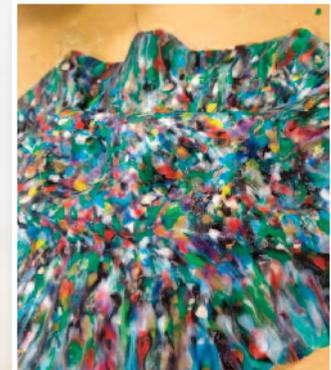
Following a *helpline* about where to recycle acrylic sheet and styrene off-cuts, we did some research into plastic recycling for schools.

Although we contacted a number of the major recycling companies and various bodies that oversee the recycling and waste produced through the use of plastics, we were unable to find a recycling solution to the problem of handling waste plastics from D&T lessons.



In general terms plastic that is generated as waste in D&T lessons is not on a scale that would warrant the services of an industrial waste management company. The advice from those we contacted was to deal with it as you would household waste. This would mean that most of the plastic waste would end up exported, or in landfill, or incinerated for EfW (Energy from Waste).

However, in our research, we came across a thread in a *Facebook* forum that was about the use of plastic recycling equipment in a school in Berkshire. Dave visited the school and met with the Head of Department, Claire Louise. She showed the equipment they have been able to purchase from Clarkes, and demonstrated how it shreds plastic waste materials and then the resultant chips are arranged on a flat plate that is then heated under pressure. After some time, the chips reform into a cohesive sheet.

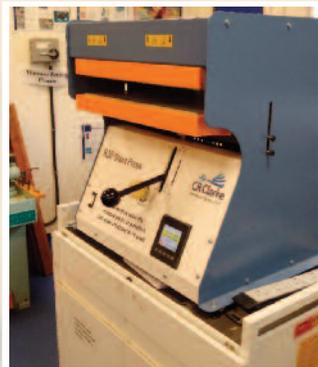


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Plastic recycling in school



After cooling, the reformed sheet can be worked in a similar way to the original sheet material. Claire Louise uses the recycled material for other practical work, such as vacuum forming or cutting and shaping with the laser cutter.



The process of chipping does not present any particular hazards, as long as the machine is used as specified by the manufacturer. However, the heating under pressure does create significant fumes, so must be carried out with extraction, or with good ventilation. The heated trays and equipment also present burn hazards, as does the heated plastic.



The equipment can also be used to produce other formats of the recycled materials, but at the time of the visit, Claire Louise only had the sheet forming equipment. There are ways of forming the chips into rods or blocks for machining, using specifically designed moulds.

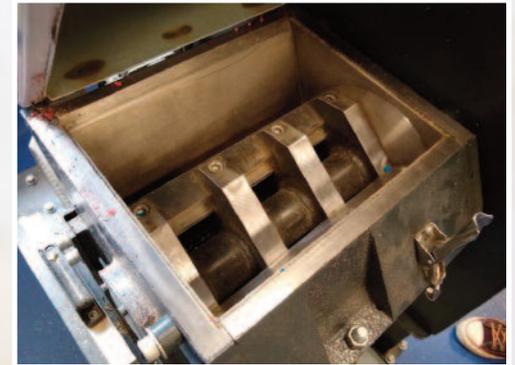
We are also aware that there is equipment that can heat and re-extrude materials to form 3D printing filament. However we would not condone using reclaimed filament unless there was adequate fume extraction in place when printing.

You can see in the images that the shredder includes a set of large rotating blades. These are sharp and, when rotating, present significant risk. However, the design of the machine prohibits access to the shredder mechanism when the machine is on. The hopper has a depth that is longer than normal reach, so when the hopper is being



filled, there is no chance that the operator can get caught in the rotating blades. When the machine is being cleaned the operator can rotate the blades by hand, which does present a significant risk, so cleaning must only be carried out by trained and competent persons.

We have seen plans on various websites for making shredder units. We strongly suggest schools do not attempt this, as these DIY machines are often seen being used without safety guards or other equipment to keep the operator away from the rotating blades.



This is a new guide to support trainee, new, non-specialist and more experienced secondary food teachers across the UK.

Why was the guide developed?

The curricula and qualifications around the UK set out what should be taught, and teacher trainers and professional development providers focus on themes such as pedagogy, class room management and resource provision. However, there is little in the way of specific guidance on teaching modern food and nutrition in UK secondary schools.

With low numbers of teachers being ‘food’ trained, fragmented support, and non-food specialist teachers regularly teaching in the classroom, BNF believed that there was a need to provide guidance and direction, and to highlight key characteristics of good practice. It was also important that this ‘guidance’ was UK wide. While there are curricula differences, there are similarities with regard to professional competence, classroom management, knowledge and skills.

The *Characteristics of good practice in teaching food and nutrition education guide*, sets out a series of characteristics of good practice. These have been determined via consensus-building exercises with the secondary school food teaching community from the UK. They can be adopted as part of a good practice approach by all those that teach food and nutrition.

Characteristics of good practice in teaching food and nutrition education in secondary schools -

Frances Meek, Senior Education Officer, BNF (British Nutrition Foundation)

The guide aims to:

- define the key characteristics of good practice that are specific to teaching food and nutrition
- exemplify these characteristics of good practice in UK secondary schools
- highlight the key features of achieving these characteristics, showing how these can be put into practice, with teacher insights and suggestions of how to develop these for the future
- support the food and nutrition teaching community, especially trainee, newly qualified and non-food specialist teachers
- enable practising teachers to audit their own practice to plan and implement personal and professional development goals

How can it be used?

It is anticipated that the guide can be used in a variety of ways, such as:

- showcasing practice through defined characteristics
- encouraging consideration of other characteristics of good practice leading to further discussion and implementation
- promoting lifelong personal and professional development, helping individuals to audit their knowledge and skill-set
- developing the management of the subject
- acknowledging the role of the teacher in the whole school approach to health and wellbeing

How was it developed?

BNF worked with practising food and nutrition teachers from across the UK; representatives from Initial Teacher Training providers; Public Health England; Healthy Schools London, Ofsted, the Council for the Curriculum, Examinations and Assessment (NI) and Louise Davies from the Food Teachers Centre, to develop the content of the guide. Teachers were also invited to take part in a short online survey outlining what works well in their school. In total, 80 teachers responded to the survey providing insight into how food and nutrition education is managed, taught and supported in their schools.

The guide

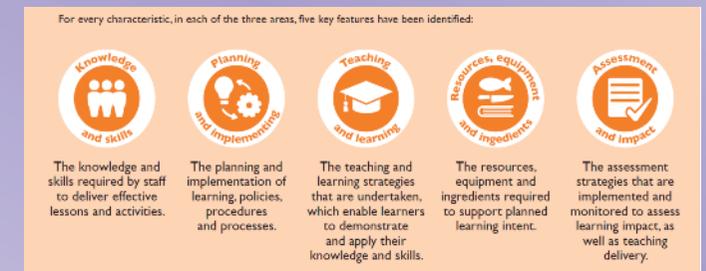
The guide is divided into three key areas (characteristics):

Section A - professional competence (teacher or staff member, e.g. Higher Level Teaching Assistant) and the wider school

Section B - teaching the curriculum and managing the subject

Section C - knowledge and skills, specifically good food hygiene and safety, food skill competency, food provenance know-how, nutrition proficiency, consumer awareness, and food science aptitude

For each characteristic, five key features, specific to teaching food and nutrition, have been identified:



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Case studies

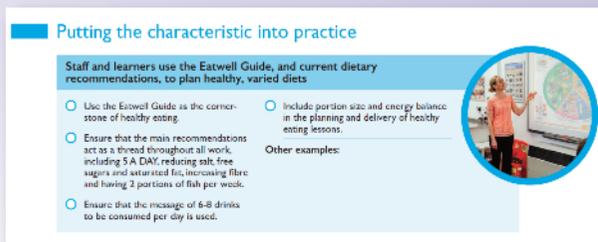
In order to ensure that the content of the guide is accessible, no matter what the experience or specialism of the staff member teaching food and nutrition, short case studies from practising teachers across the UK are featured. The case studies demonstrate how teachers can develop, implement and build upon the characteristics of good practice. Personal 'Top tips' are also included..



Putting the characteristics into practice

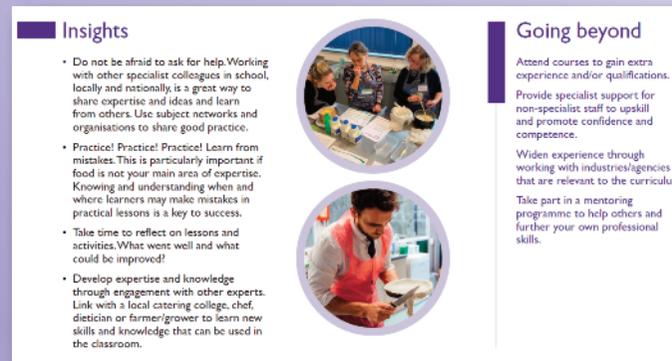
practical suggestions from the wider teaching community

BNF used feedback from the 'what works well' survey and input from the teaching community to collate examples of how each of the characteristics could be put into practice. Space has also been provided in the guide for staff to add other examples which reflect their own experiences, school and learners.



Insights and going beyond

Further ideas and top tips for putting each characteristic into practice be found in the Insights and Going beyond sections.



Further sources of information and support

Finally, a range of web links and sources of information to support each of the characteristics has been included.

BNF published the guide on the *Food – a fact of life* (FFL) website at the beginning of July 2019. The complete guide and each of the 11 separate sections are available so that teachers can use whichever is most relevant to their interest and needs. The *Characteristics of good practice in teaching food and nutrition education guide* can be found here: <https://www.foodafactoflife.org.uk/professional-development/ppd-toolkit/secondary/characteristics-of-good-practice/>



The British Nutrition Foundation would like to gratefully acknowledge the financial support provided by the All Saints Educational Trust for the production of this guide. BNF would also like to acknowledge the contribution of the Food Teachers Centre.



Food - a fact of life.

Frances Meek, Senior Education Officer, BNF (British Nutrition Foundation)

Feed your food curriculum!

Food – a fact of life, from the British Nutrition Foundation and the Agriculture Horticulture Development Board, comprises resources that are progressive, stimulate learning and support curricula throughout the UK. All resources are designed to ensure that consistent and up-to-date messages are delivered. Teachers across all stages and phases are supported through professional development and are kept up to date through monthly emails and via social media.

Food – a fact of life website (launched in 2004) has been totally refreshed with a new clean, modern design. Over 2,000 resources have been reviewed and updated and the website now includes updated resources previously found on the Meat and Education, Grain Chain, Grow Your Own, and Cook Your Own Potatoes websites. There is also an ever growing bank of tried and tested recipes (with complexity rating) and a Whole school area, highlighting the need for a whole school approach to food and nutrition.

Food - a fact of life - the food teaching website!

To support nursery, primary and secondary schools, the *Food – a fact of life* website features:

- resources, such as worksheets, cards, presentations, videos, posters, games and quizzes
- activity packs, including food journals, BNF Healthy Eating Week resources and a [nutritional analysis](#) tool
- recipes, tried, tested, complexity rated and designed for use with children
- a professional development area, support for personal and professional development, teaching and learning
- a whole school area, food and drink provision and parental engagement support
- training, opportunities to receive professional development support online and face-to-face

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My dashboard - a new feature for busy teachers

Frances Meek, Senior Education Officer, BNF (British Nutrition Foundation)



The *My dashboard* feature on the website gives the opportunity to save favourite resources and recipes in collections. Once logged in, collections can be managed by class, form, theme, topic, and resource type - helping to have resources ready for lessons.

For more information on how to use the dashboard, view our videos

<https://www.youtube.com/watch?v=KR7QZZ6OQyw>

or to create a My dashboard account,

[https://www.foodfactoflife.org.uk/sign-in/.](https://www.foodfactoflife.org.uk/sign-in/)

Recipes

There are over 190 recipes available on Food – a fact of life and more will be added over time. Recipes can be searched through a number of filters: recipe name; age group, food commodity, recipe complexity, recipe time, food skills and cooking method.

The complexity rating on each recipe is based on a set of criteria that have been devised to provide an objective rating for the complexity of our recipes. The criteria are

based on the number of ingredients, the number of actions, the complexity of processing an ingredient (such as it being a high risk food or a term that describes multiple actions), the complexity of these actions (often linked to accuracy), and the duration of preparation. The analysis of each recipe, using these criteria, results in a score which is then translated into a useful descriptor: low, low-medium, medium, medium-high and high.

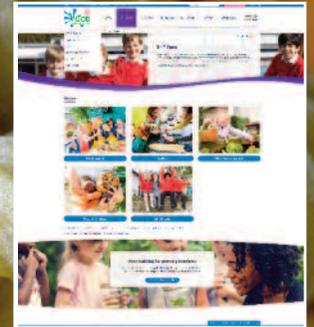
The recipes also provide top tips and identify the food skills used.

Recipes are available to download, some with images of each recipe stage, and a number are also available as presentations.

To view the wide range of recipes available on *Food – a fact of life*, [click here](#)

To keep up-to-date with the latest resources and events, sign up for our monthly newsletter

www.foodfactoflife.org.uk and why not follow us on Twitter? [@Foodfactoflife](https://twitter.com/Foodfactoflife)



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FOOD

- bigger than the plate

Victoria and Albert Museum August 2019

One of the great pleasures of working for CLEAPSS is the need to keep abreast of developments across the subject areas. One way of doing this is to visit some of the great exhibitions and conferences that take place each year.

This summer Dave was able to attend the **FOOD – Bigger Than The Plate** exhibition at the V&A. Although this may seem to be a food-based exhibition, it had relevance for all aspects of D&T, Art and Food.

The first item in the exhibition was a toilet! All food ends up as waste and it is critical that waste is well managed. This truly is the 'circular economy'!

Waste re-use or recycling is nothing new. In 1875 the Bethnal Green museum held an exhibition: the 'Collection illustrating the utilisation of waste products'. At the same time, Joseph Bazalgette had developed the mains sewage system for London and the approach to human waste became 'flush and forget'. Something that has also influenced the throw-away society and other societal moves, leading to the term consumables, which is applied to manufactured items as well as food. However, this exhibition raised issues over whether this was the right way to consider our waste.

"The role of advertising and design was to act as a laxative, easing the flow of goods through the economy" Barbara Penner



The toilet design would make a great discussion point in any D&T lesson.

Instead of using water to flush the waste away, the toilet bowl was lined with a biodegradable plastic liner. When the 'flush' is depressed the liner is closed at the top and the waste is sealed inside. The liner is cut and the waste is ejected to a receptacle, where the bags can be collected later. The liner is then reset for the next user. The sealed bags of waste are taken to be used as compost of farm fields, replacing the nutrients used in the growing cycle. This procedure uses a fraction of the water we presently use to remove our waste, and puts goodness back into the soil.

The exhibition was a tour through composting, farming, trading, cooking and eating.

'From edible insects and lab-grown meat to urban farming and local sourcing, the future of our food concerns us all. How should we change our food systems to secure a more sustainable, healthy and fair future?'

If you were unable to get to the exhibition, there is a great book to accompany it. The book includes lots of information about the cycle of products, and alternative strategies to living in the modern world, with sections looking at sustainability, biodiversity and it even has some recipes:

FOOD – Bigger Than The Plate. Catherine Flood and May Rosenthal Sloan, ISBN 978-1-85177-976-5



The negative impact of the leather industry on the environment and workers' health inspired Carmen Hijosa to develop a sustainable alternative product, called Pinatex, and made from pineapple leaves. This gives Filipino farmers an additional income and has created a vibrant new industry for pineapple growing countries.

Orange Fiber partner with juice manufacturers in Sicily to repurpose the countless tons of 'waste' citrus rinds, which would otherwise be discarded after the fruit is juiced. Their innovative process involves extracting cellulose, which is then transformed into high quality sustainable fabrics for use in the fashion industry.

The last generation's problem was we need more food and we need it cheap. In response we built a huge analogue farm. But what if we built a global digital farm? Welcome to the new tractor. Today, we're asking for better, environmentally-friendly food. The future of food is about networking the next one billion farmers, and empowering them with a platform to ask and answer the question: "What if?"



This project takes farming out of the fields and encourages the 'digital native' generation to experiment with growing food. The computer uses robotic systems to adjust and monitor climate, energy and plant growth inside a specialised growing chamber. Growers can create different climatic conditions and experiment with how environmental factors like water, temperature and soil nutrients influence the characteristics of plants. The aim is to open up agricultural research and shift the goals in achieving flavour, nutrition and sustainability.

The Food Teachers Centre

Barbara Rathmill



In 2014, having set up the Food Teachers Centre and held our first event, our mission has always been 'Better Food Teaching' through:

- Creative and innovative ideas and action
- Practical solutions
- Learning and sharing



Our Achievements

- Professional community of good practice.
- Member of Power admins are 'community leaders running the most active, engaging and influential groups on the Facebook platform'.
- Mentorship programme, Topics for FAQs, files, polls, Spotlight in-group events, training
- Resource Bank – free, award winning
- Partnerships
 - 'Love Food Love Science' IFST
 - Taste of Game

But any group is only as good as the people in it.

As well as the Volunteer Associates, who are the administrators and moderators of the group, we personally recognise some of the people that 'group insights' tell us are very supportive of others. This includes Conversation starters and Outstanding Contributors. And, those Ambassadors who help us put on events by hosting them around the country. It meant that last year thousands of teachers were supported.



Our next 5 years?

1. Address recruitment issues
 - Without good quality teacher supply our subject is at threat
 - Raise awareness of the issues around recruitment and retention
 - Make it easy to find out how to become a teacher
2. Grow the subject curriculum
 - Safeguarding curriculum time/support, ingredients, budgets, a growing not diminishing subject in schools,
 - Improve SLT understanding and recognition,
 - Include all pupils including SEND,
 - Align with compulsory PSHE, National Food Strategy
3. Improve progression and careers links
 - Improve the status of the subject, progression in exam pathways, best qualifications and how that leads to careers in the food industry
 - Promote careers to the industry, government and wider community to gain support and traction.
4. Promote the value of subject
 - shout about great things happening in our schools everyday through achievements and competitions
5. Support high level practical skills and technical knowledge
 - training (on-line and face to face), upskill non specialists,
 - Gain sponsors
 - Provide quality advice using proven recipes, ingredients, technicians, safety

The Food Teachers Centre offers a wide range of support and training for teachers. For more information <http://foodteacherscentre.co.uk/about/>

Fresh Enterprise

Georgie Branch, School Food Matters

Fresh Enterprise is an innovative food education programme devised by the charity School Food Matters together with the Belazu Ingredient Company.

School Food Matters (SFM) is on a mission to ensure that every child enjoys fresh sustainable food at school and understands where their food comes from. This aligns perfectly with Belazu's principles, focusing on the importance of ingredients, provenance, people, environment, and bringing the very best of everything together.

Belazu was keen to work with schools in its local community, the London Borough of Ealing. The Fresh Enterprise programme introduces students from secondary schools to careers in the food industry by studying a thriving ingredient company. The programme helps them understand the journey of food they see on the supermarket shelf and is designed to educate and inspire them about food sourcing, product development and marketing.

SFM and Belazu launched the programme in 2017 and it has run successfully for three consecutive years. Seeing the lessons learned in design and food technology sessions being put into context helps students

understand why they are studying and how skills can lead to real job opportunities in the future.

The four-month programme starts with a production tour of Belazu's premises in Greenford, during which students learn about creating a product, from development to packaging, quality control to marketing and sales. This segment of the programme offers invaluable experience for the students, who are amazed by the production line and the careers that are available. One student commented, *"I loved learning about all the different jobs in making a product because it helps me choose what I want to do in the future."*

The feedback from teachers was equally positive. One teacher stated, *"This has been a really great experience for the students. It gave a better understanding of the different career opportunities and by developing their own product students were inspired in a way I haven't seen before."*

Inspired by their visit to Belazu, each of the participating schools then hosts a visit from a chef, who delivers an interactive cooking session. Students focus on elements such as taste and flavour, and get to sample ingredients before they are

challenged to create a new product, which will be sold alongside the Belazu range. These sessions are really popular amongst the students, with one remarking, *"I loved this project. The fact that there is so much freedom, creativity and activities was really fun."*

The next element is a marketing workshop, which encourages students to think about how food is sold to them. The aim is to stimulate students' thinking about creative ways to design an eye-catching label for their product and to focus on understanding why elements such as colour, artwork, and copy are used on packaging.

Finally, a group of students from each school travel to Belazu to present their finished products to the Tasting Panel. The panel make final decisions and the winning pastes are put into production.

A teacher from one of the participating schools observed, *"I am so impressed by the people skills that the students have learned throughout this project. By designing their own product and label and then pitching it to real professionals they have experienced something that is difficult to replicate in the school environment."*



Are you passionate about drones? Do you wish to find out the latest this technology has to offer and network with leading and global companies? Or maybe you wish to find a platform to help educate and inspire others to join this amazing industry?

With thousands of attendees and hundreds of speakers and exhibitors from all over the globe, the Commercial UAV (Unmanned Aerial Vehicle) Show is the show for you.

In addition to a giant expo floor and a multi-stream agenda showcasing the best the industry has to offer, this year's edition will be featuring a brand-new Careers' Zone.

Across both event days attendees will be able to:

- meet and network with key industry experts, academic bodies and associations such as DJI, Airbus, Women Who Drone, Southampton University, IMECHE, the Royal Aeronautical Society, the Survey Association, the CAA, NATS, etc.
- learn about the latest trends
- receive hands-on advice on how best to make it in the UAV world thanks to our market-leading speaker line-up

The Commercial UAV Show will be taking place November 12th-13th at the ExCel, London and is completely free to attend.

Download the show's agenda here.

Register for your free pass here.

For further information about the show, speaking and partnership opportunities, please contact caroline.dillon@terrapinn.com.

Only two months to go before the kick-off of Europe's biggest UAV Show

Caroline Dillon



Dave's Allotment

Rather than having a long-winded article about work on the allotment, we thought you might like to see some interesting images instead. If you want to know more about setting up an area in your school to grow produce that can be used in food lessons, please get in touch: DT@cleapss.org.uk



CLEAPSS small print

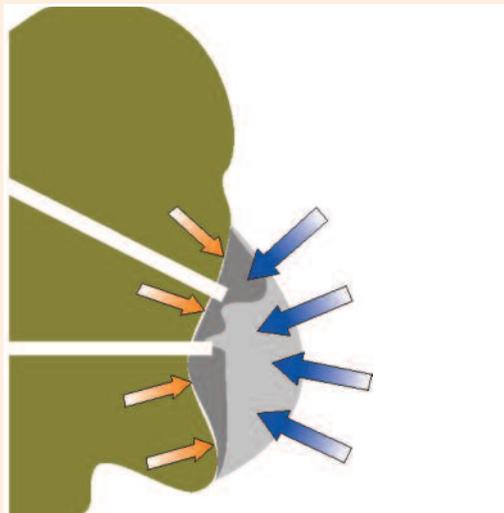
In January 2019 the HSE raised concerns over the fumes from welding. We immediately updated our guidance and put together two new documents:

- GL325 - Using a welding facility
- GL326 - Managing welding fumes in schools and colleges

We also carried out a lot of research into the use of Respiratory Protective Equipment (RPE). In turn, this led to another new document:

- GL310 - A guide to the use of Respiratory Protective Equipment (RPE) in school D&T and science

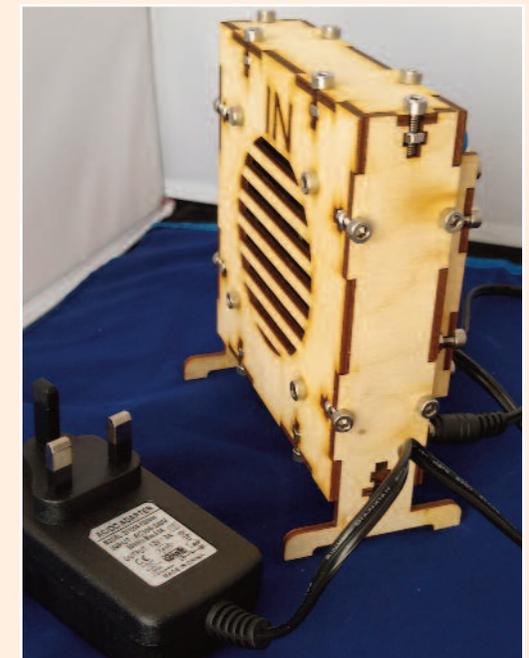
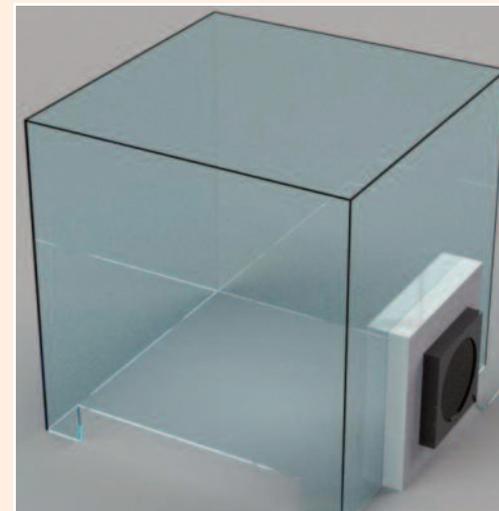
If you are presently using, or plan to use any form of RPE, please make sure that you have had a look at GL310. This describes the different types of RPE. It also explains why, in most cases, RPE should be avoided.



We have also completed building and testing two pieces of equipment for fume control:

- GL327 - Making a 3D printer fume extraction cabinet. Along with this is another folder containing files for making the 3D emission hood components
- GL333 - soldering fume extraction. As with GL327, this has a folder of files for making GL333 components

The guides explain how to make the equipment, and, the associated component files should enable a standard D&T department to manufacture the equipment, using a laser cutter and 3D printer.



Blood spills

Earlier in the year we had an interesting helpline from a food teacher. It concerned guidance on blood spills in a food room. A pupil had a relatively minor cut from a kitchen knife, and some spots of blood had fallen on the work surface.

Our existing guidance was based on guidance in science, where blood is be used in some biology practicals. Not always human blood!

We got our heads together and wrote some guidance for use in all rooms. It deals with small spills such as that in the original helpline, and larger spills, where a more serious incident may have occurred:

- GL324 - Dealing with a blood spill in DT and Art



New MRATs

Over the summer we have been working on updating all the MRATs, incorporating the content into a new, more immediately useable, format, and updating where necessary. This term they are being checked and finalised, and we are hoping to launch a new set in the spring term.

Although much of the content is the same as the previous set, the way we intend schools to use them has changed.

The MRATs will be numbered in a single sequence, duplicates from different material areas will be removed, this will also make it easier to add new MRATs.

We have found that, with the new website, it is easier for users to access documents, such as

MRATs via the search function, rather than scrolling through hundreds of pages. This should mean that schools will no longer feel the need to print out all 200+ MRATs but will search and download only those which apply to the activity they have planned.

We will also be updating the 'projects' part of the website, to reflect the newer approaches to the subject we are observing in schools.

These changes and how to use the website will be included as an element on our training events. So if you are contemplating updating your training in D&T, Food, or Art in the next year, and are looking at accessing CLEAPSS training, you will also get the opportunity to look, in detail, at the new MRAT system.

CLEAPSS
Education Technology

Exciting and safe practical work
in schools and colleges

FutureMinds | Projects | Administration | MRATs | Services | Search

Futureminds 11

The latest edition of Futureminds is now live. It contains information about the planned live event, with the usual range of articles:

- The Food teachers Centre, technician support
- HPC laser cutter safety
- The Unmanned Aerial Vehicle Show
- D&T and climate change
- Textiles Skills Academy support
- Daves Allotment

and the small print, with information on updating MRATs, polyurethane wood glue, sewing machine guarding, Briwax, welding, and the use of routers.

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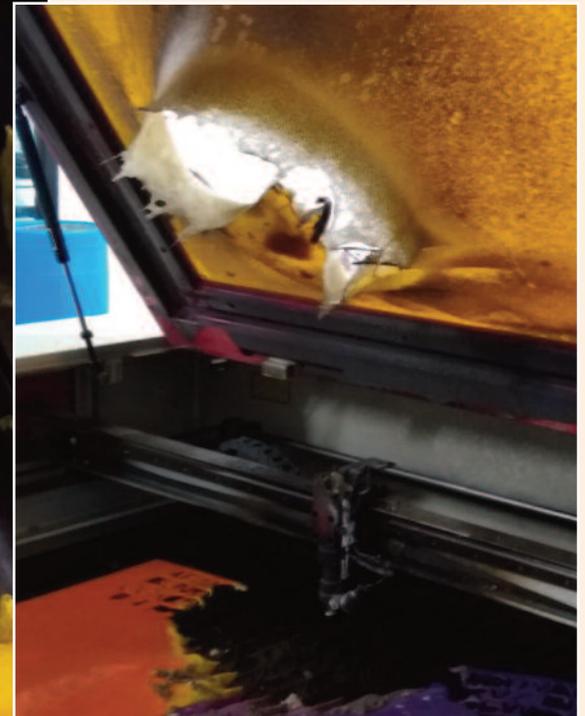


Laser Guidance

Over the summer we had the opportunity to look, in detail, at an incident where a laser cutter fire had occurred. In this case, it seems that the machine had been set up to do a job, then the laser head was moved to a new start location and the same job run again. However, the material was not cleared from the bed between each job.

The distance between each cut was very small, in some cases less than 1mm. Where cuts are this close together there is an increased risk of heat building up and not being able to dissipate, which can lead to ignition. Where possible, the gaps between cuts should be at least the same as the thickness of the material being cut. This allows the heat to dissipate from the cut into the air and surrounding material.

The repeated jobs, and close proximity of adjacent cuts, led to the plastic igniting and causing a fire which destroyed the machine and could have caused much more damage if the room had not been fitted with a sprinkler system.



Our guidance is clear on the use of laser cutters; they must never be left unattended in use. We are making small changes to the relevant MRAT to make this, and other related points, completely clear: When using a laser cutter, at the end of each job, all waste material should be cleaned from the work bed. Where possible, the space between cuts should be kept to at least the thickness of the material being cut.

Some recent tweets



Those MRATs won't rewrite themselves... 211 to do, over half way through, so on schedule for a new set released in the autumn...

New D&T technician job on the #CLEAPSS DT site: dt.cleapss.org.uk/Job-Service/Jo...

DT/Art Technician (Term Time Only) £17,403-17,403
HERTSWOOD ACADEMY, Borehamwood, Hertfordshire
Start date: Immediate
Closing date for applications: 22 Oct 2018
Other benefits: CPD, induction programme and pension provided.
Hours: Full time.
Main Duties:
• An exciting opportunity to join the Faculty of Art and DT of a thriving school. A suitable candidate will be able to support students and teachers with problem solving, ICT and have practical skills.
• Full details and job description can be found on Hertswood Academy website.
Person Specification:
• See website below for details.
For more information about the organisation click [here](#)
For more information on the job and how to apply click [here](#)

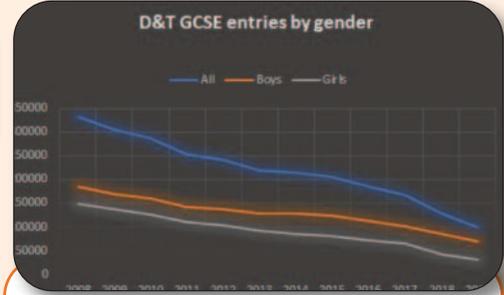
Interesting morning looking at plastic recycling in school, thanks to @DTcyoung for giving up her time.



Great day yesterday, meeting with Poppy to discuss the #designmuseum #designventura project. See the Autumn term #futureminds for more details. ventura.designmuseum.org



It works! Final, working, version of the soldering extraction unit done, just got to complete the guide then it will go on the @CLEAPSS_DT site.



Evidence of the decline in D&T GCSE entries by gender. More of the breakdown will be in the next #futureminds due out mid-October. dt.cleapss.org.uk/Resources/Futu...

The spring edition of *Futureminds* will be based on a number of case studies following the first set of results from the new GCSE in D&T and the second year of Food Preparation and Nutrition. If you would like your school to be included in the publication, please get in touch, and we can help you to put together an article.

There will also be news on the publication of the new MRATs, and possible venue and details of the 2020 *Futureminds Live* event.

We will also have articles on a range of interesting design and technology-based themes.

You can also follow us on twitter @CLEAPSS_DT

You can also follow Daves allotment progress on Instagram @parrys_plot

CLEAPSS Technology Helpline
In order to help us deal with your query as quickly as possible, please complete all relevant data below.

About You:
Email, Surname, First name, Family name, Telephone No - Ext, Your Role, Please Select...

Your Organisation:
School / Organisation, UK Postcode, or I'm overseas (L)

Your Enquiry:
Nature of Enquiry, Please Select, Enquiry

Off to Cheshire today to run audit training for D&T HoDs. If you need training, contact CLEAPSS via the helpline: dt.cleapss.org.uk/helpline/helpl...



In case you missed it, Outstanding read from #amandaspelman #ofsted all about the importance of #design and #technology gov.uk/government/spe...



Visited #loughborough uni last week to take a look at their facilities. fantastic workshops and lecture facilities. Great to see mills and lathes, as well as lots of 3D printers and new tech.

Off to the @TCTShow next week, looking forward to looking at the latest tech, and meeting up with some suppliers. We will have a write up in #futureminds. <https://tctshow.com/tctshow/en/page/home>



We will be attending the #UAV show at Excel in November, there will be a schools area, looking at careers in drones - a massive growth area. <https://www.terrapinn.com/exhibition/the-commercial-uav-show/index.stm>

