

CLEAPSS
Design and
Technology

Future minds

Tomorrow's world explored today



Summer 2016

CLEAPSS D&T e-newsletter

Introduction

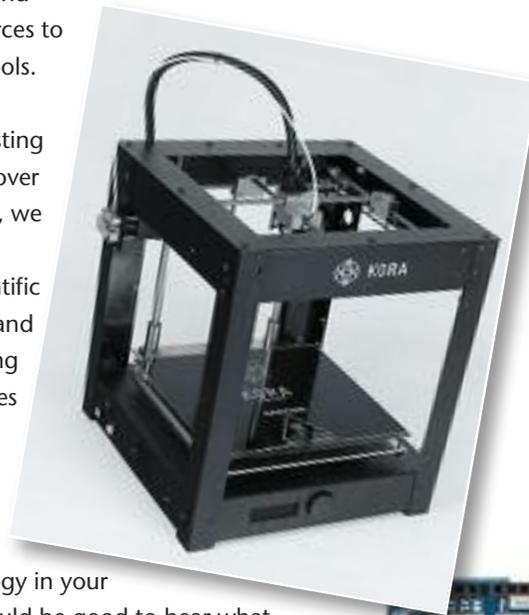
Welcome to the second edition of our D&T e-newsletter. The spring term has been a busy one. The first edition of *Futureminds* was downloaded over 10,000 times in its first month, which is fantastic. We have had lots of positive comments and plan to build on our success with this, and future editions.

As schools are starting to get to grips with the new GCSE in Food Preparation and Nutrition, we have been working with the Food Teachers Centre and individual schools to support the development of new curriculum models. We took part in an interesting SOS (Support on Sunday) via Facebook, where teachers asked loads of relevant and interesting questions regarding H&S in food teaching. You can find out more about the Food Teachers Centre elsewhere in this newsletter.

CLEAPSS is closely following the development of the new D&T GCSE specification's and we are in discussions with all of the Awarding Organisations in order to offer relevant and accurate support to schools. There are, and will continue to be, queries about materials and processes needed to fulfil the requirements of the new qualification.

For example, for the new GCSEs and Technical Awards, some schools are investigating the use of 3D printers and other modern manufacturing processes. We have been bench testing a number of 3D printers and have produced an appropriate new Model Risk Assessment (1.088 *Additive manufacturing: 3D printing*, available from the website). CLEAPSS has also been working with the HSE and the Health and Safety Laboratory (HSL) to pull together the latest thinking about hazards and risks involved in 3D printing. The outcome will be a range of best practice documents and online resources to support schools.

As well as testing 3D printing over the last term, we have been making scientific equipment, and experimenting with processes and techniques. If you are developing this technology in your school, it would be good to hear what you are doing.



 The 3rd Annual **STEMtech** Conference & Showcase
The International Centre, Telford
13 & 14 June 2016 [Click Now to Book Tickets](#)

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We have also continued to run training courses and carry out D&T safety audits around the country, if you would like to know more or host a CLEAPSS course, please get in touch via the website.

CLEAPSS will have an information stand at the STEMtech conference in Telford on the 14th of June. If you are attending, do come and say hello!

Don't forget the CLEAPSS Microcontroller competition, encouraging schools and colleges to develop innovative projects using microcontroller devices. The submission of projects deadline is Friday July 26th. Prizes include a 3D printer to the winning school and e-textiles kits and software for the runners up.



Draft GCSE specifications

In the last weeks of May the draft GCSE specifications for Design and Technology which will be taught from September 2017, were posted on the Awarding Bodies' websites:

AQA:

<http://filestore.aqa.org.uk/resources/design-and-technology/specifications/AQA-8552-SP-2017-VO-1.PDF>

Edexcel:

<http://qualifications.pearson.com/content/dam/pdf/GCSE/design-and-technology/2017/specification-and-sample-assessments/Specification-GCSE-L1-L2-in-Design-and-Technology.pdf>

OCR:

<http://www.ocr.org.uk/Images/304658-specification-draft-gcse-design-and-technology-j310.pdf>

WJEC:

<http://www.educas.co.uk/qualifications/design-and-technology/gcse/GCSE-Design-and-Technology-Specification.pdf>

Schools are invited to comment on the draft specifications, although the reason for releasing them at this stage is to give schools a clearer idea of the general structure and broad content in the final versions. The Awarding Bodies expect that OFQUAL will require some minor changes to all of the specifications, but the basic elements will remain:

- Examination component = 50%
- Non Examinable Assessment (NEA) = 50%
- Students will be expected to be able to answer questions in the examination about a variety of materials and processes, but their NEA will come, predominately, from a single material area.

The NEA will be developed from a context area set by the Awarding Body in the summer preceding the examination (in June of Year 10, if students do the examination in Year 11).

We would encourage schools to take a look at each of the Awarding Bodies materials, to keep abreast of their proposals, over the summer the final specifications should be released and schools can then start to make decisions over which Awarding Body to adopt for the GCSE.

If you would like any advice regarding the practical innovation that setting up a new GCSE may entail, or have any ideas or comments regarding the new qualifications, please get in touch using the CLEAPSS helpline, or email dave.parry@cleapss.org.uk or phone 01895 251496.



GREENPOWER RACING

By Laura Horsfall

On Tuesday 22nd March the Greenpower Education Trust announced the award of a grant in the region of £150,000 for a special programme in the Humber region: Project Blyth. The funding, from the Careers & Enterprise Company, will enable the creation of 33 high school teams in the area over the next 18 months, culminating in a race in Hull in the summer of 2017. Each team will design, build and race an Electric single seat race car and will be twinned with a local company, providing over 600 participating students (50% female participation) with real-life workplace inspiration – the main focus of the Fund.

Dr Anthony Mann points out, “young adults who have four or more contacts with employers while at school are significantly less likely to become NEET (Not in Employment, Education or Training) and can expect to earn up to 18% more than peers who had no such exposure.” Yet young people today have this kind of meaningful encounter with an employer each year in only 40% of schools.

We’re so enthused that Project Blyth will provide such contact for the participants. A detailed research study from Sphere Insights will enable us to evaluate the real impact of the programme.

Students will benefit greatly from the project There’s the obvious hands-on and real-world experience, including regular contact with employer mentors, workplace visits, and work experience placements. They will also receive tuition in the use of Siemens’ industry-leading Solid Edge software, and certification

from AQA and Industrial Cadets, giving them an edge over non-participants when entering further education, training or employment.

We have ambitious targets for Project Blyth, and anticipate this being a game-changer for Greenpower, paving the way for similar large-scale projects throughout the UK. If you’d like to get involved, and be part of this exciting journey, please get in touch. info@greenpower.co.uk / 01243 552305



The two schools we are sponsoring; Presdales and Ashlyns, are starting to build their vehicles and get their teams together. At the time of writing both schools are in the midst of GCSE and A Level work so a more in depth report will be in the next edition.



AQA Update on reform - Design and Technology by Stephen Healy at AQA

Here at AQA development work is well underway for our new GCSE and A-levels in Design and Technology. We have recently undertaken market testing at various locations around the country where we showed our draft materials to over 250 teachers. The feedback has been really helpful in further informing the design of our qualifications before we submit them for accreditation.



The following specifications will be submitted to Ofqual on 19 May:

- GCSE Design and Technology
- A-level Design and Technology (Fashion & Textiles)
- A-level Design and Technology (Product Design)

On this date you will be able to download draft versions of the specifications and specimen assessment materials from our website.

The current situation with regard to each area is as follows:

GCSE Design and Technology

- The DfE subject content is now final and we are developing our specification based upon this. It can be downloaded in full at: <https://www.gov.uk/government/publications/gcse-design-and-technology>
- A single specification with no endorsed routes will replace the

existing range of titles.

- Being developed for first teaching in September 2017, with first assessments in the summer of 2019.
- 50/50 split between exam and Non-exam assessment (NEA).
- Students will study core designing and making principles and core technical principles, which will include a broad knowledge of design processes, materials, techniques and equipment.
- They will also have the opportunity to study specialist technical principles in greater depth through a chosen material area.
- As with all reformed GCSEs it will adopt the new 1-9 grading system.
- Contextual challenges for the NEA will be released annually on 1 June. These will be non-material specific and provide students with a starting point for their project. Within the given context students will be expected to identify a problem or opportunity and create their own design brief in response to this.
- There will be a strong focus on the iterative design process and we would expect to see this reflected in the work produced by students. Research, analysis and evaluation should be evident throughout and the different iterations of the prototype should reflect this.
- Relevant maths and science skills

will also be assessed, with the maths skills counting for 15% of the written exam. Examples of how these skills apply to Design and Technology include the calculation of quantities of materials, costs and sizes and the analysis and presentation of performance data and client survey responses.

A-level Design and Technology

- The DfE subject content is now final and we are developing our specifications based upon this. It can be downloaded in full at: <https://www.gov.uk/government/publications/gce-as-and-a-level-design-and-technology>
- We are developing specifications in Fashion & Textiles and Product Design
- AS and A-level are being decoupled and will be standalone qualifications, although co-teachable. This means that A-level is now a two year linear course with all assessments at the end. The content of the AS level is effectively the first year's content of the A-level but any AS assessments will not count towards the A-level.
- First teaching will be September 2017, with first AS assessments in summer 2018 and first A-level assessments in summer 2019.
- As with the current A-levels, there will be a 50/50 split between exam and Non-exam assessment (NEA). This applies to both the AS

and the A-level qualifications.

- Students will study core designing and making principles and core technical principles, as well as studying additional specialist knowledge relevant to their chosen area (either Fashion & Textiles or Product Design).
- As with GCSE, relevant maths and science skills will also be assessed, with the maths skills counting for 15% of the written exam.

Level 1/2 Technical Awards

In addition to the above, you may also be interested in the work we are doing to develop a suite of level 1/2 Technical Awards that will be offered alongside GCSE Design and Technology. The intention is that they will focus upon practical skills within a specific material area and will serve either to complement the new GCSE or as an alternative area of study.

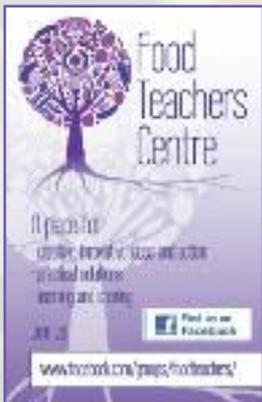
- We can now confirm that we will be developing the following Level 1/2 Technical Awards:
 - Materials Technology
 - Fashion & Textiles
 - Visual Communication
 - Food & Catering
- They are being developed for first teaching in 2017 alongside the new GCSE.
- Technical Awards are government backed qualifications that will count towards the progress 8

performance measures. They are practical qualifications that will give students the opportunity to demonstrate a range of skills within their chosen area. They will be graded on pass, merit, distinction.

- They will consist of three units with a 40% written exam and two Non-exam assessment (NEA) units worth 30% each. The first of these NEA units will be skills based, where students will produce a series of small made outcomes to demonstrate core skills outlined in the specification. The second NEA unit will be a larger making task, based upon a brief released by AQA and pulling together the skills developed in unit 2.
- There will be one re-sit opportunity allowed for each unit.
- Students will also be assessed on transferable skills such as communication and team work and learn about careers in related industries.
- We are working closely with stakeholders to ensure that these exciting new qualifications will meet the needs of both industry and FE. In the autumn term we will be running launch events where you will be able to look at all of these qualifications in more detail. To register your interest in these events, or to discuss any of the above further, please email dandi@aqa.org.uk

Food Teachers Centre

Food Teachers Centre is a UK based self-help group for secondary teachers founded by Louise T Davies in 2013 and supported by experienced associates. It provides a platform to exchange best practice, and give advice and support to less experienced teachers, answering practical concerns and keeping them abreast of the latest curriculum changes. It is a one-stop shop for like-minded professionals who seek help through authoritative and accurate information.



The Food Teachers Centre is a place of creative and innovative ideas for teaching food. 2016 has seen a busy start to the year for the Food Teacher's Centre Associates, with lots of new support initiatives for members being put into place. Our Facebook closed community now has over 3,500 active members all sharing fabulous resources, caring, helping and supporting each other, with regular features to help them deal with everyday teaching queries. We now have regular feature Q & A sessions open to our members where they can meet virtually and ask questions of the experts.

Events and training

A new very successful feature with the Facebook community has been the Sunday Online Sessions (SOS), where there have been valuable discussions offering support for issues around a variety of topics, including, raising the profile of Food in your school, revision techniques for GCSE, health and safety in food teaching and getting more budget for food teaching.

A major success last year was our Inspiring learning event, which we are running again in the university of East London in Stratford: Inspiring Learning (Food and Textiles) Friday 17th June (London), the day is packed with talks and workshops and plenty of opportunities to meet colleagues and discuss the future of food and textiles in school. Speakers include: Food Teachers Centre (Louise Davies) and Textiles Skills Academy (Dawn Foxall)

OFSTED – Diane Choulerton, HMI National Lead for D&T at Ofsted
Department for Education - Jennifer Allan and Alex Smith from DfE GCSE and A Level Reform Qualifications Division, Nicola Deacon (Curriculum Solutions Ltd) Exam Boards; AQA, OCR, WJEC/Eduqas, NCFE/VCERTS



We also run a wide range of courses all over the country, including:

- Training for non-specialist food teachers
- London Summer School
- GCSE Schemes of work made easy
- Regional events in all major cities (many have a free twilight masterclass and networking social event to finish off a great day!)
- GCSE Practical skills and masterclasses
- GCSE Food and Science Practical
- Get set for the new GCSE non exam assessment tasks
- Technician Training Regional events
- Investigate Food 2
- Outstanding Ofsted Lessons

Details of all of these events can be found on the Facebook page or on the website. You can also keep up to date by signing up for our newsletter.

www.foodteacherscentre.co.uk

<https://www.facebook.com/groups/foodteachers/>



Technical Awards

As the new GCSE in Food is about to start and the new specification in D&T are being finalised, some schools are starting to investigate the Technical Awards.

The final list of Technical Award qualifications that have been approved by the Department for Education (DfE) for teaching to 14-16 year olds from September 2016 was published in November 2015.

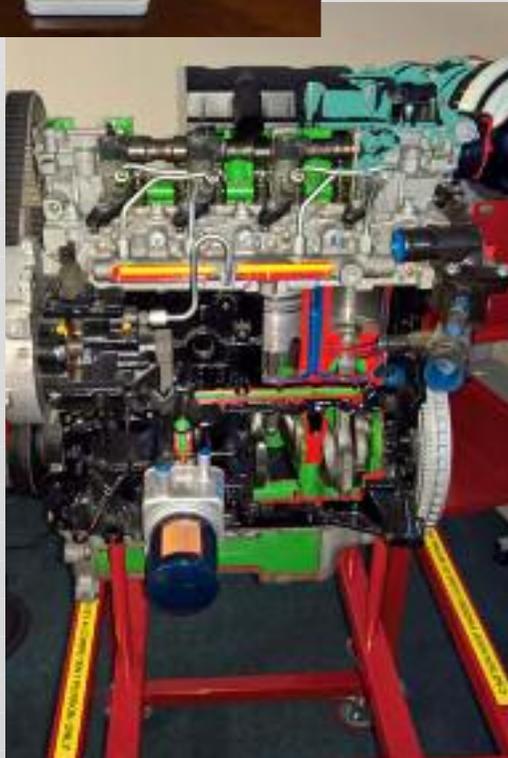
These qualifications will be reported in the technical award category of the 2018 key stage 4 performance tables. They will be reported alongside other qualifications such as full course GCSEs, some accredited IGCSE-style qualifications, AS levels and other Level 3 qualifications.

At level 2, qualifications can only be reported in the technical awards category if they have the same time demand or more than a GCSE (120 guided learning hours).

Technical awards are broad, high quality level 1 and level 2 qualifications that equip students with applied knowledge and associated practical skills not usually acquired through general education.

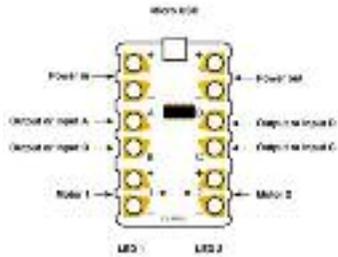
At key stage 4, students are encouraged to take up to three technical awards alongside a minimum of five academic GCSEs from the list of EBacc subjects. This means that schools that, have in the past, offered BTECs or OCR Nationals and may have been discouraged by changes in results reporting, may start to look upon these qualifications more favourably.

If you need advice about the implications of moving toward a more technical or vocational curriculum, CLEAPSS have a range of useful documents, including MRATs for construction and automotive engineering.



CRUMBLE: An Easy Introduction to Micro Controllers,

by Paul Boyd, Independent Consultant



With the introduction of the new KS3 curriculum, a section of the minimum requirements is 'apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, micro controllers]'. This can

be a very daunting statement for quite a few D&T teachers who may have limited or no experience with micro controllers or electronics.

We have seen the launch of several programmable boards over the last few years, including the recent launch of the *BBC micro:bit*. Many of these control boards can look very intimidating, as you may need some coding experience or basic knowledge of programmable flow charts. While many say it is easy to use programmable boards, which is true for some, this doesn't acknowledge just how alien it can be for some teachers to even get started and overcome the fear factor. This is where the Crumble micro controller comes in, as it is easy to get up and running very quickly even with no knowledge of programming or electronics.

Having run several courses up and down the country, I have found that after only an hour of instruction teachers walk away feeling confident that they can introduce the Crumble into the classroom to enable more creative projects with their students. The ability to add an electronic control to an aspect of a project can transform a student's interest, whether it is just the ability to use the sparkle LED to output an exact colour, linking to multiple LEDs, motors, or sound, or being able to use many types of input, such as light, movement sensors, micro switches, or just a good old fashioned toggle switch. The contacts have been designed to allow students to quickly model a project idea using crocodile clips and it is also possible to use them with conductive thread.

Some of the big advantages of Crumble, especially for first time users are:

It's easy to install the free software onto either a Windows PC or a Mac

Many Y7 students, and possibly Y8, will feel familiar with the software, as it is based on a version of Scratch that many students have used in KS2 and KS3 during computing classes. It is very easy to use and the downloadable starter guide is an excellent place to start, and, in some situations, may be all you need.

No special drivers are needed to make the Crumble 'talk' to the computer

Often, micro controllers need to have a driver installed to allow connection between the computer and the micro controller, or the software is web-based only and needs a permanent connection to the internet. This can often be a problem in schools due to network issues, and technicians often need to install the software and drivers on each computer individually. The Crumble software, however, requires no specialist installation and it works on Windows and Mac operating systems.

It uses a standard USB lead similar to the ones used on mobile phones

If you have ever used a PICAXE micro controller you may be aware that you need a specialist lead to make the PICAXE talk to the computer. These leads are cost around £12 each on top of the cost of the control board. This is not required for Crumble.

The Crumble has a motor driver built onto the board



Many boards are available with the ability to run motors for projects such as robots, pulley systems or point of sales displays with movement. The advantage of the Crumble software is that the motor controller is integrated and is incredibly easy to use for controlling the speed of a motor with a simple % value. This can often mean that you can use a motor without a gearbox, which reduces costs. You can also use the motor output to run components that require larger voltages. The micro:bit may have other sensors built in but will not run a motor/s and you will either need to purchase an external motor drive (costing from around £8) or learn how to make one.

If you are looking for an alternative to Crumble there are some very good products available. These include Kitronik's Igloo PICAXE board which is designed for use with textiles, but which I also use regularly for non-textiles projects because of its small size. I also like the ICSAT Pixie Sprite PICAXE board which has an identical layout to the Crumble, and which is ideal if you already have the knowledge and skill to use more advanced micro controllers.

Students are growing up with programmable devices, whether it be a mobile phone, wearable technology or a fashion item. Design & Technology teachers from all material areas therefore need to embrace this technology and allow students the option to integrate micro controllers, such as the Crumble, into projects. The introduction of Crumble gives all D&T teachers and students, no matter what their experience, an easy entry point into this exciting world of computer control.

If you are interested in courses on Electronics, e-textiles, & programmable boards contact paulboyd@mac.com

For free D&T resources, information on other courses, as well as a weekly D&T newsletter visit www.julieboyd.co.uk or www.designhotline.co.uk

For more information on Crumble and other boards mentioned:

www.redfernelectronics.co.uk

www.mindsetonline.co.uk

www.kitronik.co.uk

www.icsat.co.uk



School Workshop Machinery and Equipment: Compliance with Safety Regulations, Standards, ACOPS and Guidelines by MSS

Machinery Safety Solutions Ltd (MSS) is a long-established provider of safety services for laboratories and D&T workshops in schools, colleges and commercial sites. For educational work, it liaises closely with CLEAPSS to ensure a consistent approach to all compliance issues. We carry out safety inspections to workshop machinery and extraction systems for dust and fumes, perform upgrade work to ensure a school's compliance with all the relevant machine and LEV regulations, recommendations and guidelines; provide machine training and can assist with production of H&S documentation such as Policy, Risk Assessments and Method Statements.

www.mssgroup.org.uk



We were recently contacted by a school, where there had been an incident with one of their D&T workshop machines. We had not visited the school before and were asked to carry out an independent assessment following the incident.

During conversation with our Safety Engineer, it became apparent that the school was unaware of the requirement for their machinery to be subject to regular (usually annual) inspection. Neither was it properly informed about the requirement for similarly regular inspection of the dust extraction (LEV) equipment and system. This is not an unusual situation; over a period, many schools – being highly focussed on teaching effectively – can lose sight of changes in regulations and guidance on providing a safe working environment for staff and students alike. This requirement to comply with regulations, recommendations and guidelines, represents a very real Duty of Care. As we all know, when something goes wrong, ignorance is not a valid defence.

So, in light of that information and knowledge, the school very soon made arrangements for us to return and carry out the appropriate inspections to their machinery and LEV system. The workshops were reasonably well-maintained and well-managed, but unfortunately much of the machinery was found not to comply with current requirements and recommendations. Consequently,

we had no option but to fail a number of machines, several of which were vital to students' course work, which was coming up for formal assessment. Similarly, the LEV system, which had an integrated unit, several stand-alone units, ductwork, and a fume cupboard was found to be non-compliant in some parts.

Typical reasons for the failure of the machines were:

- Incorrect (or absent) electrical overload protection
- Protection against machinery self-starting, in the event that power was restored subsequent to disconnection
- Inadequate (or absent) guarding



- Secure and stable fixing of machinery to the floor or bench
- Absence of (or inappropriately positioned) Emergency Stop switches

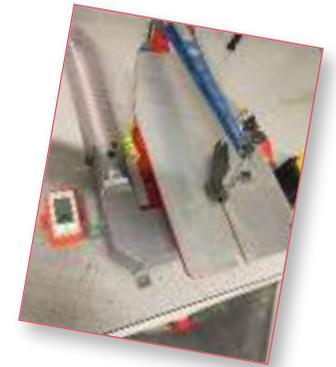
Regarding the LEV arrangements, some machinery was not included in the extraction system, some extraction units were insufficiently powerful to control the contaminant, and a bandsaw only had extraction below the table, which was also required above. In addition, filters were blocked as a result of there not being a regular maintenance plan in place.

The D&T department managed to secure additional budget to enable the upgrade work to be carried out quickly, so the department's machinery and LEV is now compliant. The only thing left to do in the workshop itself, is to get their new machine ordered for them. We'll then install that, doing a final inspection when completed, so that we can issue a certificate of compliance.

We are also working with the school to provide certificated staff training, as no training records currently exist. We will also be helping the school ensure that overall H&S documentation is in place and fully up-to-date, such as risk assessments and policy statements, using CLEAPSS materials.

In this case, the school was able to raise sufficient funds to cover the cost of upgrade works and thereby become compliant quickly. Had such funds not been available so quickly, the impact upon students' work and assessments/exams would have been substantial and far-reaching. Clearly, it is far better to

ensure compliance at a less critical time of the year, and before any incidents, by getting a budget in place, an inspection done and the necessary work carried out in good time.



Many schools are confident that they take their Duty of Care to staff and students seriously, yet continue to expose staff and pupils to the risk of serious injury, or ill-health by putting machinery and LEV safety requirements and recommendations to one side. The time may be now to look again at the position in your department.



As a teacher I regularly encouraged students to enter local and national competitions, either through the department or as individuals. We had a number of winners and runners up over the years, which was a huge boost to students and staff alike, as well as being a great way to raise the department profile.

for themselves or a family member.

Although I wanted the students to be rewarded for their hard work I was also keen for the school to benefit. The main prize therefore goes to the school the winning student attends with the winning student getting lots of goodies to encourage them to continue their interest in textiles.

My competitions target any secondary age student and, unlike many competitions, students actually make something as part of their competition entry rather than just sending in the design work. Each year the brief is considered carefully in order to ensure the size and type of item is suitable for posting as well as being cheap to make and post.



changing D&T curriculum. There is no stated outcome, meaning students can solve the problem in any way they want. The importance of the product's user and its function are also stressed,

socks sold, a pair of hardy hiking socks are donated to a homeless charity local to each customer's own community. At www.julieboyd.co.uk there are a number of other examples of other products that inspired the theme.

In the case of the competition, the tin aims to act as a size restriction, because the product

research the theme, develop ideas, produce prototypes, as well as making the final product. Many schools also run their own mini competitions with only the winning entries being posted off. This enables each school to have a winner, the competitive element being particularly popular with boys, and reducing the overall costs of postage. Other schools use the

You've got to be in it to win it!

by Julie Boyd, Independent Consultant

As a D&T consultant I was keen to run competitions for schools although I discovered there was a lot more to organising one than I had realised! For this reason, so far, I have concentrated my competitions on textiles, which is my specialist material area in D&T. The longer-term aim is, though, to offer a variety of competitions.



The prize for 2016 is a Husqvarna Viking sewing machine that retails at over £300 (with thanks to Husqvarna Viking and Coles Sewing Centre for sponsoring the competition). There are also lots of runner-up prizes, as well as commendations and merits. It's incredibly rewarding to get letters and cards from students for whom winning something, even the smaller prizes or certificates, has been exciting and motivating. The winner of the 2015 competition, Phoebe Aldrich from Cornwallis Academy in Maidstone, said she hardly slept the night she found out she had won she was so excited.

Students are encouraged to think about the brief carefully by focusing on creative outcomes rather than literal interpretations. The winner of the 2015 competition, for example, used layers of coloured buttons to represent the theme of 'earth, air, fire and water'. The use of traditional techniques and materials is encouraged alongside modern and smart materials and components, and it was pleasing to see a number of the 2015 entries included e-textiles.

So far all competitions have focused on students making a similar outcome. For 2015 this was a triangle for a piece of bunting, and for 2014 the outcome was a textiles postcard. For 2016, however, there has been a change in focus to 'real products for real people in real situations' in line with the

with students having to identify what these are, as part of their entry.

The context for the 2016 competition is a 'Product in a Tin' which was inspired by socks sold in a tin by Jollie Goods. The socks are, however, more than just a pair of socks sold in a tin for novelty value. For every pair of



must fit into it. The tin itself is not entered into the competition although teachers could develop the module of work to include packaging if they wish. The tin in question is a Pringles 40g snack tin or, if you want to be a bit posher, a 60g Nescafe Azera coffee tin.

There is support on the website on how teachers might approach the project, including a focus on users, what function the product might have, where to get design inspiration from and much more. Gail Rawlins, the teacher of the 2015 winner, set the competition as a homework, and the competition has the flexibility to be used as a quick activity or one done over a longer period of time. It is clear from past entries that many schools develop a full module of work around the competition, getting students to

competition as part of a G&T extension activity or club, or as a revision activity for exam groups. There is also the flexibility for additional learning points to be considered e.g. the design of the tin, how the item might be manufactured and sold, along with social, moral and environmental issues similar to the ones linked to the Jollie Socks.

Find out more about the winners of competitions from previous years, as well as about the current competition at <http://www.julieboyd.co.uk/my-competitions-events-/JB.html> (closing date August 1st 2016)

For free D&T resources, information on courses as well as a weekly D&T newsletter visit www.julieboyd.co.uk

TEXTILES



The Textiles Skills Academy was founded in January 2015 by Dawn Foxall after many conversations with educationalists, D&T teachers and industry leaders who saw the desperate need to support the teaching of textiles in schools.



Jamie Oliver and his campaign to raise awareness in Food education has been a great success, but there is very little being done for textiles in education, or making the links between the textiles industry and what is being taught in schools. There is growing need for young people with skills in all areas of the textiles industry in the UK and no discernable plan to manage this.

The Textiles Skills Academy aims to bring together experienced education presenters and industry experts to deliver relevant events, industrial visits, seminars and practical workshops for Art, Textiles and D&T teachers, to aid the delivery of the curriculum and to raise awareness of the recruitment issues faced by the industry.

Events are delivered by skilled teachers, trainers and industry practitioners and give an opportunity to develop classroom resources, update on curriculum developments and industry practices, improve on existing skills, learn new skills and network with fellow teachers.



The Textiles Skills Academy is now lead by Dawn Foxall and Heidi Ambrose-Brown both with many years of industry and education experience.

For more information and a diary of events visit:

www.textileskillsacademy.co.uk

www.textileskillsacademy.eventbrite.com

Facebook: facebook.com/textileteachersskillsacademy

Facebook Group: Textiles Teachers Centre

Twitter: @TextileSAcademy



KORA 3D

printers

by Dale Charnock, Technical Director Kora

KORA was established in 2013 with the vision of becoming a world leading maker of advanced yet affordable 3D PRINTERS for creative people and businesses.



Our latest product, The Midi (the machine used at CLEAPSS) - is a professional desktop 3D Printer, designed and made in Great Britain for a world of workspaces.

Kora 3D Printers and Consumables has recognised the need within the Educational Sector to provide the highest quality, affordable but most importantly, safe 3D printers and accessories.

Working closely with Government agencies and alongside CLEAPSS, Kora can now offer a range of British manufactured 3D printers, these have been designed, built and tested in the UK to provide safe utilisation of most standard available 3D Printer filament types within the classroom, laboratory and business environments.



To encourage teachers and students to develop high level skills in this exciting new industry we have built

a training centre at our premises in Leeds (opening in June 2016). It will provide teachers and students with the opportunity to gain a basic overview of 3D printing, learn a range of software applications and make items on KORA printers. We also plan to run more advanced training and offer an ongoing 'full hand-holding program' to improve confidence and knowledge of 3D printing. We will, at all times, impress upon users the importance of safe 3D printing in public environments.

The training facility will have access to 3D printers, IT facilities and a 'dirty' area for finishing prints.

Please email enquiries@kora.co.uk if you require further information.



sort should be regarded as potentially harmful and be controlled. For example, the fumes from tensor cement are an irritant, although it is unlikely that in normal circumstances the Work Exposure Limit will be reached, ensure that the work area is well ventilated; opening a window may be sufficient. Handling PCB etchant should always be done with gloves, or tongs, to avoid skin contact, and ensure ventilation is adequate, eye protection should also be worn.



Those working with food need to consider the guidance from the NHS: <http://www.nhs.uk/conditions/pregnancy-and-baby/pages/foods-to-avoid-pregnant.aspx>

HSE has a lot of information regarding the H&S issues for mothers - <http://www.hse.gov.uk/mothers/>

CLEAPSS advice and guidance is written so as to protect children and young people, who are likely to be more vulnerable than adults. We have found that this level of protection also generally serves well the needs of pregnant adults. If activities are carried out according to CLEAPSS guidance, there should not be any significant risk to pregnant, new & breastfeeding mothers.

In addition, as labelling of chemicals is becoming more detailed and specific, anything that is considered to be potentially harmful to pregnant women should be labelled accordingly.

HSE Campaign – Helping Great Britain work well

The HSE has launched a campaign to develop the ‘system’ that supports safe working practices. This ‘system’ is the network of organisations and individuals, including, among others, employers, employees, industry and trade bodies, professional institutions and government. Put another way, this means all those who undertake, or influence, workplace activities and attitudes to safe working practices. The aim of the campaign is to improve upon Britain’s already enviable H&S record.

The principles of the UK system are sound and have stood the test of time:

- Those who create risks have a responsibility to manage those risks – placing the ownership of risk in the right place

- Action should be proportionate to the risks that need to be managed – which means we need well thought-out measures that are tailored to each business, to the nature of the work undertaken and the people who work there.

This new campaign will encourage organisations to develop safe working practices that are simpler and less bureaucratic, something that CLEAPSS advocates.

There is a dedicated website with lots of information from which you can learn more, and download resources: <http://www.hse.gov.uk/strategy/index.htm>



Primary D&T support

We are reviewing our guidance for D&T in primary schools, in time for the launch of the new CLEAPSS primary website. We would be pleased to receive suggestions for relevant new primary D&T, food and art and design guidance. Either send us an email or use the helpline.

We are also running a primary science and technology competition which is aimed at encouraging wildlife. More information can be found in the spring edition of the Primary Science and Technology newsletter, which is sent to all primary schools and available on the website www.cleapss.org.uk



and D are better because the other two sizes, AA and AAA, probably have insufficient capacity (i.e. they become 'flat' too quickly).

Zinc-chloride batteries are often labelled Heavy Duty, Extra Heavy duty and similar. These terms are largely meaningless in this context - they are a comparison to zinc-carbon battery capacity several decades ago. In our tests, any of these batteries proved satisfactory for use in practical circuit work. Note that some manufacturers use the terms zinc-carbon and zinc-chloride interchangeably. Some

manufacturers do not make zinc-carbon or zinc-chloride batteries, eg Duracell. We advise against using alkaline batteries, lithium batteries and rechargeable batteries because they are more likely to vent violently under short-circuit, or cause wires to become very hot. For more detailed information, see our guide GL225 available from the website.

Note:- This advice does not relate to the use of rechargeable batteries in items such as cordless drills and other equipment.

The use of batteries for general practical circuit work in school

We recently received a query regarding our advice over the use of batteries in circuit work with pupils.

Following tests we have carried out, we recommend zinc-carbon or zinc-chloride batteries. The reason is that these are more tolerant of short-circuits than other types. Any of the sizes, D, C, AA or AAA is OK. but, where you have a choice, sizes C



From the Tweetdeck:

CLEAPSS D&T @CLEAPSS_DT

#3dprinting buildings, the google way.
3dprintingindustry.com/2016/05/03/goo...

working on 3D finishing processes, interesting read:
makezine.com/projects/make-...

Coming up in the autumn edition:

News about the GCSEs in Food and Nutrition and Design and Technology

An update on the technical or vocational certificates

Articles from some of the major service and supply companies

Information on the results from 3D printing tests

An update on the Greenpower racing projects

Stories from teachers developing interesting and innovative projects

Don't forget you will need the login and password for the CLEAPSS website to be able to access the materials, you should already have this in school, but if you are having difficulties, contact us

01895 251496, or via the website:
www.cleapss.org.uk

You can also follow us on twitter
[@CLEAPSS_DT](https://twitter.com/CLEAPSS_DT)

#DT is this the future for teaching engineering? HP Jet fusion printing.
pcworld.com/article/307123...



Clothes that connect! great video on #e-textiles for #DT
wired.co.uk/promotions/sie...

Product design of a new thermometer - excellent KS3 #DT project
withings.com/us/zh/products...

great 2 days at #HSL Buxton, finding out about #COSHH
hsl.gov.uk



glass that can capture energy from sunlight, great #DT discussion
futurism.com?



Excellent #food discussion article, is home cooked better than ready meals?
theday.co.uk/health/celebri...



template maker - fantastic aid for #DT graphics
templatemaker.nl/Pkpy752mVp



That's not supposed to happen!
 #3dprinting failure!