



Chilled Education  
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# COOL SCHOOL UPDATE

Dear Colleague,

## RESOURCES FOR TEACHERS – WINTER 2015

As you are most probably aware from September 2016 GCSE Food Preparation and Nutrition will require a food science investigation to be carried out by students, accounting for 15% of total marks.

To help support you with this activity and also to engage more widely across the science curriculum we have created a series of lesson plans exploring the science of food using microbiology, chemistry, biochemistry and maths. They have been developed with science teachers and are being launched at the 2016 Association for Science Education conference in January. You'll also find them free to download now from the School Science website.

We always welcome your feedback and would love to hear your ideas for new teaching resources.

**Kaarin Goodburn MBE, Director**

## Teaching Science with Culture

Chilled Education's (CEd) partnership with the Association for Science Education (ASE) continues with the launch of 4 new free science lesson plans: Gram staining *Lactobacillus* in yoghurt, exploring atmospheric gases and their effects on lettuce pinking, microbial predictive modelling using ComBase and genetic adaptation in relation to *E. coli* and *C. botulinum*. These plans complement the existing lesson, which investigates the effect of pH on yeast growth in fruit juice.

All of the lesson plans enable science teachers to use food as a teaching material, creating clear links between scientific principles and food science and technology with the ultimate aim of stimulating

interest in careers in food science.

The resources have been developed by CEd with Science Teachers Sam Holyman from Bablake School in Coventry and Kat Stuart from Myton School near Warwick. Sam explains one of the plans: "Food offers an engaging way into science and allows us to cover a variety of teaching points. Microbes can be used to make food and drink and in this lesson students set up a microscope and look at bacteria from a yoghurt drink. They then use mathematical skills to record magnification and represent numbers in standard form."

The lessons can be downloaded from <http://www.schoolscience.co.uk/partners/chilled-food-association>

# Chilling in the Heat at the Big Bang Fair Derby

In the week of the hottest July day ever recorded in the UK Chilled Education set up stand at Big Bang Fair Derby.

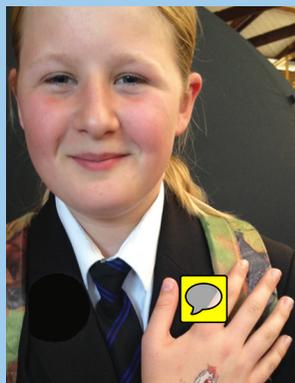
CED's third visit to the science-filled extravaganza attracted the attention of more than 1,000 students, and their science teachers signed up for their resources.

Colleagues from CFA members Florette, Greencore and Samworth spent the day demonstrating CED resources and sharing their experience of the industry. The team had the crowds enthralled – from testing and teaching hand washing techniques to explaining the sometimes deadly truth behind cute looking cartoon microbes.

It was Simon Knight's first time at a Big Bang Fair. He took a few hours away from his role as Business Unit Technical Director at Florette UK and Ireland to be on the stand: "I was delighted, by the enthusiasm of the students and the interest of the teachers" he said. "Showing the chilled food ranges we produce meant

we could explain and explore subjects such as temperature and hygiene. Putting our work into a scientific context in this way is both fascinating to the student and useful for the teacher. On a hot day I'm confident we set sparks alight in some food scientists of the future!"

Right: Alex pledges allegiance to Chilled Education!



Greencore's Loretta Hood gets a reaction demonstrating ATP swabbing.

## Degrees of separation

CED is enjoying the chance to name drop – with two very high profile women having connections with our 'Cool Schools'. Earlier this year Michelle Obama visited Mulberry School in Tower Hamlets London. The First Lady was talking about her 'Let Girls Learn' initiative inspiring young people worldwide.

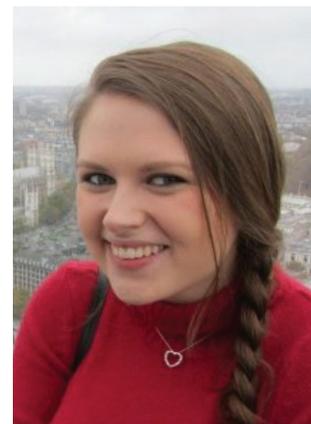
Challney High School for Girls in Luton is another 'Cool School' with an inspirational story to tell. It boasts Great British Bake Off winner Nadiya Hussain as a former pupil, and she cites her cookery teacher as the reason she started baking. Teachers such as Nadiya's are key elements of CED's 'Cool Schools' and it's a pleasure to see them recognised and highly prized.



"It's bizarre but it's fantastic. It was you that planted that seed," Nadiya told former teacher Jean Marshall.

## Starting their Cool Careers

CED is celebrating another success story with news that Microbiology Graduate Molly Carpenter joined CFA member company Greencore as a Technical Graduate in July.



Molly was Communications Officer for the University of Nottingham's MicroSoc which in 2013 invited CFA's Kaarin Goodburn to present on 'Chilled Out Microbes'. Molly also participated in a UoN careers workshop involving Kaarin where her interest in

a potential chilled career was further piqued.

Molly joins Reading University Nutrition and Food Science graduate

**Sian Ingram** who is a Group Technical Graduate at Greencore. Sian is also a Chilled STEM Ambassador, meaning she is already planning ways to inspire others to follow her into chilled.

Meanwhile, **Fiona Briggs** graduated from Reading this summer and is enjoying working at Greencore as Senior Materials Initiative Team Technologist. She joined the company in 2015 after a successful undergraduate placement that was inspired by a talk by CED's Kaarin Goodburn.

Fiona, Molly and Sian are taking their first steps on career paths in the



chilled food industry. There's a wide variety of opportunities for enthusiastic science graduates in the sector, with more than 200 science degree requiring vacancies currently. The CED website, [chillededucation.org](http://chillededucation.org) has real job descriptions and insights into the career paths of industry professionals.



## Resources Boost Curriculum Launch



In October the Food Teacher's (sic) Centre launched the new Food Preparation and Nutrition GCSE to more than 300 food teachers. CED is a long term partner of the group and supplied resources for the launch events. Attending teachers were given a set of Nanobugs temporary tattoos and fridge thermometers as well as a pack of MicroTrumps to use in the classroom. The CED website has free downloadable lesson plans and the resources are available from <http://tinyurl.com/CedShop>



# Fridge Thermometers in Action in the Classroom

Students at Robert Owen Academy in Hereford have been getting to grips with thermochromic pigments, thanks to CED's colour change fridge thermometers.

The lesson investigated the properties and uses of SMART pigments and gave students the chance to look at real life examples, and their uses in the food and catering industries as well as health applications.

"We often use the thermometer strips that can be used by parents to take children's temperatures, so it was nice to get them thinking about how this technology is useful in making sure food is safe to eat as well" said Amy Mulhern, Lead Teacher, Science.

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## An Insight into the Site

Our CED website is an important component of the initiative. Since launching in autumn 2011 it has attracted 45,000 page views, with careers information being particularly popular.

Earlier this year students from Nottingham Trent University reviewed the site as an MSc case study. Using a small sample, the group evaluated the site for criteria such as content and readability. They concluded that while the content was useful and informative potential improvements could be made to design and presentation. Their key recommendations will help inform a planned refresh of the site.

**'Food Bug Club'  
with Manchester  
University**

CED is now a partner of the University of Manchester's 'Safer Eating Through Research: Testing and Improving Children's Understanding of Food Pathogen Risks'. One of the aims of the project is to create a hub of digitised food safety teaching resources.

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**For information contact:** The Chilled Food Association, PO Box 6434, Kettering NN15 5XT, United Kingdom  
Tel: +44 (0)1536 514365 Email: [cfa@chilledfood.org](mailto:cfa@chilledfood.org) Web: [www.chilledfood.org](http://www.chilledfood.org) Twitter: [@chilledfood](https://twitter.com/chilledfood)

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Registered Office: c/o Hawes Strickland, 36-38 Rockingham Road, Kettering NN16 8JS. VAT No: GB 523 3524 73