

## Welcome to Pupil Power

### 'Let them eat cake'

In a bid to have their cake and eat it, pupils from Moresby Primary School rose to the challenge of feeding cake to twenty people for just £5.

The tasty challenge came after a request from governor, John Moffat, to develop a maths based workshop in the school.

Head teacher Trish Adams gave the subject areas to be covered and the team of STEM ambassadors (John, Manisha Mistry and Sharon Parker-Brannon) devised a party themed session to incorporate them.

During the first part of the visit the pupils were given a recipe card containing the ingredients required to make a chocolate cake to feed 5 people costing £5. Their challenge was to 'make' a cake big enough to feed 20 people costing £20.

Without realising it the students were calculating rates, proportions, adding, subtracting, dividing and multiplying.

The second task was designed to let the pupils have some fun whilst weighing, measuring, timing, preparing and 'cooking' a batch of Krispie cakes big enough to take home 8 cakes each (minus the odd sample or two).

On hand to melt chocolate, help out and lick bowls were a number of Sellafield SEAS.

The day was observed by John Wilkinson, maths teacher, Whitehaven School who was keen to see how one of their feeder schools was working in partnership with industry.

The visit was so successful that the team has been invited back to do further maths activities with the 37 pupils from years three to six.

Through a mouthful of cake, Pauline Farrell said: "I will now have guilt-free cake making sessions safe in the knowledge I'm just improving my maths skills".

Welcome to Pupil Power. After a much welcome summer break the Education team and all Science Technology Engineering and Maths (STEM) ambassadors returned raring to get stuck into another packed term of events and school visits.

Some of the activities have been based around my favourite topic – food! Read on to find out more about maths in the kitchen, making your own sherbet and how to get a complete hard-boiled egg into a bottle.

I know many of our schools were affected by the terrible floods in our area and unfortunately the damage to property and our infrastructure will bring long term problems to overcome. Apologies to those schools affected by the cancellation of a couple of our events, sadly unavoidable because of travel problems.

As always we are here to help and support teachers and pupils, please contact me with any ideas, requests and suggestions you may have.

Pauline



### Physics Lectures

A team of enthusiastic Sellafield STEM Ambassadors have got together to form an Institute of Physics committee with the aim of bringing physics lectures to West Cumbria.

Lectures will be delivered by a number of experts in chosen fields. The first one, which was held at the Sellafield Centre on 22 September, was entitled 'Solar Sailing' and focused on how the sun is used to propel space crafts further.

Aimed at students from year 11 through to sixth form, the talks will demonstrate the application of physics. The intention is to hold the lectures on a monthly basis with an event for younger students planned for a later date.

## Arkwright Scholarship

St Benedicts pupil, Joe Raymond, has been awarded a student sponsorship by Sellafield Ltd after winning a prestigious Arkwright scholarship.

The scholarships are only awarded to high calibre students interested in a career in engineering. The rigorous selection process includes an aptitude test followed by an interview before matching students with sponsors.

Joe has spent his school holidays during years 10 and 11 working in the Thorp facility at Sellafield gathering evidence for his engineering qualification under the Young Apprentice programme.

Gaining A\*, A and B grades in his GCSE's Joe is now studying electronics, chemistry, physics and maths in sixth form.

Unable to attend the annual awards ceremony in London in October Joe was presented with his cheque and certificate during a school assembly alongside fellow student Thomas Brown who is being sponsored by Shepley Engineers.

Pauline Farrell said: "We are delighted to be able to sponsor Joe during his studies and I look forward to working with him and his teacher on future projects."

## Mentor Training

Twenty of our ambassadors achieved their Open College Network Level 2 qualifications in Mentoring for Volunteers, thanks to the help of local charity, Cumbria Mentor Point.

The group worked with Jackie Denny from Cumbria Mentor Point and completed a series of worksheets, participating in group exercises and practise mentoring. They produced an evidence folder which was both internally and externally verified.

Learning outcomes included understanding the role of a mentor, demonstrating an understanding of the politics and procedures and understanding the importance of good communication skills.

Cumbria Mentor Point work with a number of organisations to provide support to ex-offenders, youth groups and schools to those needing a little extra guidance to achieve their potential.

Jackie said: "The ambassadors were a really interesting group to work with and they will all make excellent mentors. Each one of them will bring their own life experience and skills into their mentoring relationships and this will assist them in providing a much needed additional layer of support to the young people of West Cumbria."

Pauline Farrell added: "The ambassadors showed real enthusiasm taking part in the training and are all now eager to start helping in schools and the community as soon as possible. I will be working with Jackie and our local schools to place mentors where they are needed most".

## Food for thought

Members of our local Royal Society of Chemistry (RSC) branch held a chemistry of food event in November to mark National Chemistry Week.

Held at the Sellafield Centre on 12 November for pupils aged 11–13 years, the society members set up a number of quick and fun food-related experiments.

Pupils from St Benedicts, Stainburn, Whitehaven and St Bees schools made their own sherbet, discussed why normal fizzy drink cans sink but diet drink cans float, made underwater fireworks and encouraged a hard boiled egg to squeeze into a bottle.

Our ambassadors were on also on hand to demonstrate what happens when you burn a sugar cube, drop mento mints into coke and get messy with cornflour.

To ensure the students had understood the learning behind the fun they all had a quiz sheet to complete requiring answers from each of the experiments.

Commenting on the event, ambassador Sandie Fairclough, said: "The Chemistry of food event gave us an opportunity to carry out some fun, safe but above all messy experiments that have hopefully helped to inspire some of the next generation of chemists.

"It was great to see all 90 pupils enjoying the event, especially as the principles that they learnt from making cornflour slime, mentos geysers and psychedelic milk are principles that we apply everyday to operate plants and help decommission some of the facilities at Sellafield."

## Engineering Education Scheme

Sellafield Ltd Ltd was delighted to sponsor two teams from St Benedicts School and three projects in the Risley area as part of the Engineering Education Scheme.

Delivered by the Royal Academy of Engineers, the scheme matches teams of lower sixth form students with pairs of engineers from industry to work on real life engineering problems.

This year's programme kicked off with the launch day held at the Sellafield Centre in mid October. Over 70 lower sixth form students and teachers attended to register and meet their engineers to receive and discuss their project brief.

Engineers have been visiting schools on a weekly basis since the

launch and working with the students on ways to solve the problems.

The St Benedicts students have been looking at problems caused during the caustic scrubbing process with the second team addressing issues caused by clearing calcium carbonate.

Just before Christmas all Cumbrian teams, together with their engineers, travelled to Newcastle to join teams from the North East to work with lab technicians and staff from Northumbria University on their prototype designs.

The culmination of the six month project will be the Celebration and Assessment Day which is held at the university in March 2010.

Students will showcase and present their work to representatives from industry and academia, receiving feedback on their findings. The project deemed the best by the assessors will be awarded the Nissan Rose Bowl.

Speaking about this years programme, Pauline Farrell said: "The students put in a huge amount of effort and enthusiasm to come up with the best solutions to the challenges they have been set. Supporting the Engineering Education Scheme gives us the perfect opportunity to talent spot engineers of the future. Thanks must also go to our engineers who give up so much of their time to support the students".

## Speed dating – but not as you know it!

Variety is the spice of life - so they say - and with that in mind a team of our ambassadors recently volunteered to go 'speed-dating' with a difference.

Working with Tony Gill from Cumbria Stemcentre, the group visited St Benedicts school to meet the year 10 pupils taking part.

The aim of the session was for the student groups to spend ten minutes with each ambassador during which they had to find out as much career advice as possible.

After visiting all ambassadors the students combined information to complete individual profiles. Findings were then presented back to the group.

with the ambassador's permissions, the profiles, together with a photo will be uploaded onto the school website as well as the Stemnet site.

Mandy Pattinson, engineering administrative Assistant at St Benedicts, thanked all those who took part for providing a great day which was enjoyed by all pupils.

## Yottenfews Planner

To help schools plan where Yottenfews could fit into the National Curriculum, the table below lists the main visits available:-

Year	Main themes
Rec	<b>First hand experience</b> , observation, sensory beds, listening, woodland trail, looking in pond trays.
KS1	<b>Comparing seasons, animals &amp; plants in the environment</b> , mini beast hunt and use of tally to record, looking in pond trays or short pond dip, woodland trail, work on Materials,
Y3	<b>Rocks &amp; soil</b> - permeability of soils, permeability test on rocks, look and collect various rock types, accurate timing & measuring water, fair testing. Runs from 15th November to 1st March
Y4	<b>Habitats including food chains</b> , detailed study of wood and pond dipping, keys available, various habitats large and small such as orchard, logs, grassland, hedge, wall, wild flowers, herb bed .
Y5/6	<b>Investigating rivers</b> - including mans influence and historical aspect, middle and lower course visited with meanders, river mouth, confluence, erosion and deposition etc

## News from Yottenfews

### Yottenfews Project rewarded for excellence

**The Sellafield Ltd Yottenfews Environmental Project has been rewarded for the excellent work it does with youngsters.**



QUALITY: From left to right: Liz Temple, Louise Nolan and Millie Clarke of the successful Yottenfews Project

The project has been handed a 'Learning Outside the Classroom' quality badge, which is aimed at organisations providing an outdoor learning experience for young people.

The badge, which is non-statutory at present, is a national benchmark for the provision of educational visits. It is available to all organisations providing experiences away from the classroom. This includes environmental projects like Yottenfews, but also museums, farms, outdoor centres.

In order to achieve the award, an organisation must be committed to providing high quality teaching and learning, be able to demonstrate that it values outdoor activities for children and maintains an effective partnership with schools and other groups, whilst managing risks effectively.

The award lasts for two years, after which time holders are reassessed. It was launched in January 2009 and has so far been awarded to ten organisations in Cumbria. The intention is to give teachers and others planning outdoor learning trips confidence in the quality of the provision and the safety of the site they are visiting.

Millie Clarke, Yottenfews manager, who entered the project for the award, said: "This is a nationally recognised award that is in its infancy but at its roots has the same ambitions as Sellafield Ltd: quality within a safe environment. It is right and proper that the project should have gained this on behalf of Sellafield Ltd. Yottenfews has been operating for over twelve years and this award recognises all the hard work the staff have put in to give local children a rich outdoor experience."

## Science Workshops

### Forces

Year	Main themes
Y 3/4	Looking at pushes and pulls, gravity, friction, magnetism, water resistance and air resistance

**FORCES - Available Mondays and Fridays from mid-November to the end of February. Approx 2 hours**

### Circuits

Year	Main themes
Yrs 2/3/ 4/5/6	Building circuits, changing the brightness of bulbs, testing conductors and insulators, using switches, buzzers and motors, building different types of circuits (series and parallel)

**Circuits - Available Mondays and Fridays March to mid-November, Approx 2 hours**

For bookings or more information: Contact Liz Temple Tel 019467 77554,  
Louise Nolan Tel 019467 73366

2009, a busy twelve months!



## Cumbrian Schools are Top of our Bench

Six Cumbrian schools battled it out on 14 December to win the local heat of the "Top of the Bench" chemistry competition, for a chance to represent the county at a national competition.

Top of the Bench is an annual competition run by the Royal Society of Chemistry (RSC) for 14-16 year olds, and awards a range of prizes. The competition begins with heats run by RSC Local Sections to select a team to represent the section in the UK final the following year. Teams must consist of two year nine, one year ten and one year eleven student.

This year, six Cumbrian schools competed, with entries from Cockermouth School, Millom School, Stainburn School, St. Bees School, Westlakes Academy and Whitehaven School. This year's heat took the form of a "pub-style" quiz, with different themed rounds. It was a very close competition, with St. Bees School just pipping Whitehaven School at the post to take victory.

The St. Bees team will now go on to represent Cumbria at the national final at Easter.

## Money, Money, Money

In addition to the one-off legacy fund donated by BNFL, Sellafield Ltd has a small pot of money used to fund school projects/purchase equipment for STEM related/environmental themed subjects.

Requests for donations are considered by a committee at the monthly community and education support fund meetings. Please send any requests to Pauline Farrell at the address on the back page.

## Whitehaven School pupils become a STAR for the Day

By Roy E Lewis, SEAS Ambassador

Over a six week period, a group of year 9 pupils from Whitehaven School have been given the STAR treatment - a careers programme set up by the Windmills project from Liverpool University.

STAR (Skills, Treasures, Ambitions and Roles) champions from Sellafield Ltd, Whitehaven School and Connexions helped the pupils find out what they enjoyed doing and were good at (Skills), what they were passionate about (Treasures) and what they wanted in life (Ambitions) to help direct them to a career they'll enjoy (Roles).

STEM ambassadors from Sellafield Ltd, NNL and a local church priest were interviewed about their own skills and treasures during one session, giving the pupils some working examples.

The final piece of the jigsaw was to generate a golden ticket, a plan of what they would like to be doing in 10 years time and how they intend to get there.

Speaking about the STAR programme, Roy Lewis said: "I've seen strong positive changes in the pupils, the realisation of what they can potentially achieve in their careers and the boost of confidence, clearly shown in the last day when they presented their findings in front of their parents, teachers and dignitaries.

"It was a joy to see the impact the STAR programme has made to the group, I sincerely hope other schools will follow suit and that local industry will support the scheme. Special thanks go to Fiona Brown from Whitehaven School who spearheaded the pilot scheme".

## Bonjour mes amis

On 26 September, Whitehaven school celebrated European Day of Languages by organising a series of activities intended to help pupils familiarise themselves with various aspects of European languages and culture.

Mrs Lepretre contacted us to invite a member of staff into school to talk to the students about how useful languages are and how knowledge of a foreign language can be advantageous in your career. Having lived and taught in France, Shirley Williams, head of stakeholder relations, Sellafield Ltd, was the perfect choice and kicked off the days activities by talking to two hundred 13 year old students during their assembly.

## Fame and fortune beckons

Two of our STEM ambassadors, Charlotte Bailey, trainee plant analyst, and Sean Tapodi, quality manager, are media stars in the making after taking part in TeachersTV and Leading Lights projects.

Charlotte recently completed filming for a TeachersTV DVD learning resource. She was filmed at work, leisure and helping out in a science lesson at St Benedicts school.

She debuted recently on the TeachersTV channel, click on [www.teacherstv](http://www.teacherstv) to view Charlotte in

action – you may never eat a Jelly baby ever again!

Sean meanwhile was photographed looking mean and moody on our site as part of a Leading Lights project commissioned by Stemnet.

Photographer Richard Cannon has taken a number of unusual shots of STEM ambassadors from all over the country. The Leading Lights portrait gallery is currently on tour but you can view the photos by logging onto [www.stemnet.org.uk](http://www.stemnet.org.uk) and clicking on the Leading Lights link.

## BNFL bows out

For many years BNFL played a significant role in our community in a variety of ways.

Before the company wound up in 2009, they left a considerable pot of money to be distributed among worthy local causes.

Every single school in our catchment area was invited to bid for a sum of money to be used to make a long-term difference in the delivery of STEM related subjects.

Your bids have been both innovative and imaginative and some of you have already started to reap the benefits of the donations.

I'll be visiting schools throughout next year to see the newly created classroom areas/projects and will

hopefully include some pictures in the next issue of Pupil Power.

### Contact numbers:

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Liz Temple	019467 77554
Louise Nolan	019467 73366
Pauline Deans	01925 832826

## Feedback form

To make sure that Pupil POWER provides relevant and useful information please take the time to provide us with the following feedback -

### 1. Have you found Pupil POWER Newsletter:

Very Useful       Useful       Not useful

### 2. What did you like or dislike about it?

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### 3. What else would you like to receive information about on a regular basis?

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please return completed forms to Pauline Farrell - pauline.j.farrell@sellafieldsites.com



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