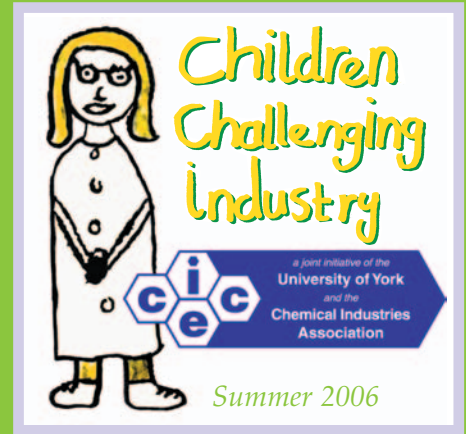


2006 sees the expansion of **Children Challenging Industry** further across the north of England, thanks to funding from member companies of the North East Process Industries Cluster (NEPIC). We are recruiting two advisory teachers to begin running **CCI** from September across the Tyne & Wear region, and I look forward to introducing them to you in the Autumn newsletter.

Meanwhile, our current team of four advisory teachers have been busier than ever, carrying out a whole range of activities with children, teachers, and companies in their regions. Look out in this newsletter for Willa Wonka's chocolate river, Cadbury's crème eggs, our infamous heat exchanger, and Nicky and Michele spreading the **CCI** word far and wide via the National Science Learning Centre.

– Joy Parvin, *Primary Projects Manager*



Summer 2006

## WEST YORKSHIRE

### Charlie and the Chocolate Factory.... And CCI



Children from Bolton Royd Primary School watch in fascination as part of Charlie's 'chocolate' river is produced for them

On the 29th of March two groups of excited children visited Vickers Laboratories in Pudsey, the home of Charlie and the Chocolate Factory's chocolate river. The children from Pudsey Bolton Royd Primary School had just completed work from the Water for Industry project when they visited Vickers. They learned how everyone on site works together to produce different products and how new products are tried and tested.

Julian Driver, the chief executive of the company spoke to the children before they went round the site and each visitor was given a quiz to complete. Julian gave clues needed for the quiz during the tour and answered many questions about science and Charlie! Other members of staff were brought in to explain their jobs and to help the children understand what happened on the site. The children saw how Vickers developed the 'chocolate' in the laboratory for the film and Julian explained how members of his staff made the river on the set.

All the children who took part in the quiz went home with a t-shirt whilst two lucky winners also went home with a cuddly toy.

At the end of the visit the children were asked if they enjoyed science and would like to be a scientist when they left school. Hands shot up throughout the room with the children saying they wanted to work at Vickers - what better way to end a visit?

### CCI impact on SATs results

**"Since being involved in the Children Challenging Industry project, the children at Our Lady's Catholic Primary School, Latchford, Warrington have improved their performance in the KS2 SATs, most notably in the questions relating to Science Investigations. The practical 'hands-on' approach enriches their science learning and creates a positive attitude to science."**

Pauline O'Hara - Y6 Teacher  
Julie Johnson - Headteacher

For more information about how schools involved in **CCI** are seeing an improvement in their KS2 SATs results see [www.ciec.org.uk/](http://www.ciec.org.uk/)



Michele (Advisory Teacher for the West Yorkshire Region), pupils and teachers from Bolton Royd Primary School and Vickers employees at the end of their 'chocolate' site visit



Yorkshire & Humber Regional Development Agency

## THE TEES VALLEY

### Children Challenging Industry – my site visit experience

by Nicky Waller, Tees Valley Region Advisory Teacher



Nicky enjoying every minute of her visit to Uniqema's Wilton Plant

I am lucky to have a wonderful job that allows me to tell young children all about science in the real world and the types of jobs they can aspire to when they are older. I was therefore delighted when an opportunity arose to spend two days on site, courtesy of Felix O'Hare, Site General Manager for Uniqema on the Wilton site at Redcar.

My first day was spent in the capable hands of Geoff Screen, Continuous Development Manager, who planned my visit and ensured that I looked the part in full PPE and, of course, warned the guys on A shift that they had a visitor.

Geoff gave me an area induction and site tour. I noticed how many people came to Geoff to chat things through and seek reassurance or assistance, a role he obviously enjoys.

I learnt about surfactants, about the different plants at Uniqema and how SAP is different to SMP! I heard about the job from the Shift Manager's perspective (Mark Lines) and I was impressed by how many managers had originally come from shift teams.

Everyone I met mentioned that coming in to work and being faced with different challenges every shift was a real plus point to the job.

On day two I met with Sarah Leeming, in my eyes, a 'real scientist.' I wanted to hear about her job and how she improves recipes for customers and speeds up the process of production without changing the reactions taking place.

Finally, I met with Howard Dawson to discuss safety and safe systems. I was amazed to hear about Uniqema's non-reported accident record of nine years. The standards at this site are impressively high.

I would like to thank everyone involved for making me so welcome.

## HUMBER BANK

### Busy times in the Humber Region

CCI continues to expand and create links with more schools and industries in the Humber region. As the advisory teacher for the region, Tanya Shields has been delighted with the enthusiastic response from teachers, children and industry. During the spring term over 300 pupils and nearly 30 teachers have enjoyed taking part in the project.



Strand Juniors class session – Year 5 Pupils investigate sealants for the leaky pipe investigation

After taking part in the 'Water for Industry' topic, the children from Strand Junior School visited Ciba Specialty Chemicals. The entire morning was packed with fun and interesting activities, from the lab demonstrations to a guided tour of the production line where pupils could see the meticulous actions of the 'Renault Picasso' style robot stack bags of magnaflow.



Mask making at Woodmansey School was the culmination of a day learning about plastics with Julie Bolton from BP

Schools on the north bank have also been fortunate enough to learn about the chemical industry. Children from Woodmansey Primary School enjoyed learning about the different properties of plastics. As a final insight into the world of plastics, Julie Bolton from BP designed a classroom based session where pupils used plastazote to design and create fantasy party masks. Before creating their masterpieces, pupils explored the different applications of the thermoplastic.

During her first full term as an advisory teacher in the Humber, Tanya has enjoyed seeing teachers and pupils experience their first visit to a chemical site. Schools have benefited from industry and have an improved awareness that scientific research and applications are at the heart of many companies.

## PSEP REGIONAL NEWS

If you are interested in attending training which will expand your knowledge of **Children Challenging Industry** and its sister programme, please visit [www.sciencelearningcentres.org.uk](http://www.sciencelearningcentres.org.uk), or contact Gayle Pook or Joy Parvin at the CIEC on 01904 432523 or [ciec@york.ac.uk](mailto:ciec@york.ac.uk).

The dates for your region are listed below.

### PSEP Training for Summer Term 2006

North West • 11 July

Humber • 7 June - 21 June

West Yorkshire •  
18-19 May and 20 June

## CCI PROJECT NEWS

The **CCI** team are committed to delivering contextualised science training across their regions – here is a round-up of the events they have been involved in so far this year.

**PSEP training**  
ASE North West **conference workshop**  
Science Coordinators Conferences in Goole, Cheshire, Redcar and Cleveland  
North West Science Alliance Meeting  
**presentation**  
Society of Chemical Industries **presentation**  
Friends of Catalyst **presentation**  
Networking meeting at Catalyst **presentation**  
SMART **training, York**  
BASF **presentation**  
ASE **Regional Conference**  
DiPS **Training, Hull**  
National Science Learning Centre, **delivery of courses**

## Rising to the Challenge

**Leadership for Impact:** Rising to the Challenge is one of five courses the National Science Learning Centre is offering to support the role of primary science co-ordinators at all levels. This course had been designed for co-ordinators working in schools facing challenging circumstances, to enable them to motivate their colleagues to engage pupils in meaningful learning experiences. Michele and I were pleased to deliver part of this course, especially as we had been involved in its development.

We presented two workshops as part of the first three day residential period. Our practical session enabled teachers to develop ICT skills through science. The following evening we led a fun, hands-on carousel of activities which showed teachers how they could use real-life contexts and problem-solving approaches to teach exciting and motivating science.

All the teachers involved were very dedicated to improving science in their schools and felt they had learned a lot. They also had great fun!

Find out more information about NSLC and the courses they offer at: [www.science-learningcentres.org.uk](http://www.science-learningcentres.org.uk)

**Nicky Waller**, Advisory Teacher, Tees Valley region



Nicky and Michele during their time spent at the National Science Learning Centre

## Ciba's long term commitment to the CCI Project

*Ciba Specialty Chemicals has been involved with hosting a site visit as part of the **Children Challenging Industry** project for almost 6 years and we have a growing team of willing volunteers who are now involved.*

*We host seven visits as part of the project and this has given us an opportunity to strengthen our relationships with the schools and enhance the reputation of Ciba and the chemical industry as a whole. But the visit is only part of the story; we also hold competitions, where the children can win money for their schools. These competitions generally involve designing a poster and we have had some amazing and positive designs about their visits and science. The **CCI** visits also inspired Ciba to host 'bring your child to work' events, which have been a huge success.*

*Everyone involved in the events find it thoroughly rewarding to show the children around the site and give them hands-on demonstrations related to the science they have been learning at school.*

*The reaction from children and teachers - and Ciba employees - has been very favourable and the perception of Ciba has certainly changed over the years.*

**Joanne Love**, Site Communicator, Bradford and Grimsby



A happy pupil on one of the many Ciba site visits

Figures for all regions Sept 05-March 06

	Humber*	North West	Tees Valley	West Yorkshire
Number of schools taking part	15	23	29	22
Number of children taking part	409	682	842	658
Number of teachers	59	218	290	147
Number of site visits	6	15	28	17
Company training sessions	0	0	2	2

\*Humber figures are Nov-March

## Easter Eggs: Saturday Club at Catalyst Science Discovery Centre

Easter was very much in mind when crème eggs inspired young scientists to discover the best conditions for producing sugar crystals from fondant! They had great fun exploring the filling in the crème eggs, made their own fondant from glucose and sucrose and then used digi-microscopes to search for crystals within their mixtures. The activity 'Sweet Success', taken from one of CIEC's resources for teachers, is one of many exciting topics offered at the regular science clubs held on the second Saturday each month at Catalyst.

"It's wonderful to see the enthusiasm for discovery shown by these young people", says Sue Andrews, NW CCI Advisory teacher.

## Participation in CCI influences SATs results

*"At Headfield Junior School we have now been working with CCI for 2 years. During this time Michele Smale has worked with almost half our staff and children. We have seen a big increase in our science SATs results which raised 17% last year and we are predicting a further raise of 12% this year. Michele has had a big influence on these results particularly through her work with staff.*

*Staff have been able to work first hand with an expert and have gained some invaluable experience and techniques which they have then taken into their own teaching. We now have a much more practical approach to science as staff are much more confident in their abilities to teach the subject.*

*We have also found that the children are becoming much more independent in their learning due to the approaches CCI have in their teaching. They are enjoying science more as they feel they are more involved."*

Staff at Headfield Junior School,  
West Yorkshire

## NORTH WEST

### Life of an advisory teacher in the North West

A typical week might begin in Cheshire working with a class of eager nine year olds on practical science investigations. Staff INSET for all the teachers ends the day.

The Primary Science Enhancement Project (PSEP) is an extension to **CCI** which involves training science coordinators to make their own links with industries and to enhance the practical science within their own schools. I deliver PSEP training courses and we now have several regional trainers and clusters of schools across the region.

Last year, I became a trustee of Catalyst Science Discovery Centre, Widnes. I work with the education team helping to plan ideas for workshops and Saturday clubs.

I also regularly deliver workshops on investigative science at the National Science Learning Centre, York. Speaking and presenting at the Association for Science Education, the North West Science Alliance and, more recently, at Cheshire's Primary Science Conference all help spread the **CCI** message.



Sue (Advisory Teacher for the North West) demonstrating a heat exchanger to children at Acresfield Primary School



The class making their own heat exchanger

New ventures will find me working closely with Careers Wales, offering training for teachers, developing links with the School Friends Partnership in Darwen and Blackburn, and promoting the project in Cumbria.

Being an advisory teacher entails lots of travelling and I often spend hours on the road, but would I swap it? Not likely! Just give me a wave should you catch a glimpse of me on the M56!

**Sue Andrews**, Advisory Teacher,  
North West Region

## HUMBER BANK

### Discussions in Primary Science (DiPS)



Teachers dressed for their site tour at a recent DiPS day hosted by Unilever

This exciting new project funded by the AstraZeneca Science Teaching Trust has been promoting the value of 'talk' in science. Twelve schools from Kingston upon Hull have been working with tutors and advisory teachers from the University of York and the local authority to develop the use of small group discussions in science.

There have been 3 training days hosted at various locations throughout the region. Unilever sponsored the second day, where the participating teachers were able to familiarise themselves with **Children Challenging Industry** projects. After trialling a selection of the **CCI** investigations, attendees were able to explore the contextual links with industry through a guided tour of the site.

Each school has also received state-of-the-art recording equipment to help analyse group discussions. Teachers have been able to identify actions that result in a better quality of pupil discussions, debates and arguments about evidence, ideas and issues in science. The summer term sees the completion of the project and the opportunity to share outcomes and experiences with schools throughout the region.

For more information about the DiPS project visit the AstraZeneca Science Teaching Trust website [www.azteachscience.co.uk](http://www.azteachscience.co.uk)

### Contacts

If you would like to know more about Children Challenging Industry, contact:

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University of York, Heslington, York, YO10 5DD • 01904 432523  
[ciec@york.ac.uk](mailto:ciec@york.ac.uk) [www.ciec.org.uk](http://www.ciec.org.uk)



## A Pinch of Salt

Can you find all the words written below in the word search? This one is more challenging and you will find the words written across, backwards, vertically and diagonally

J	X	F	A	W	A	T	E	R	R	C	X	K	Y	O
I	N	V	E	S	T	I	G	A	T	I	O	N	N	E
Y	I	D	Z	G	L	C	T	C	W	W	J	O	U	I
S	H	T	C	I	D	R	B	Y	H	R	G	R	J	G
O	R	P	V	E	O	E	Y	G	E	P	Q	U	N	G
X	M	T	K	M	N	R	N	C	W	A	G	I	V	R
L	J	F	J	I	T	I	I	L	S	N	T	D	E	O
A	D	S	I	S	T	E	G	L	I	A	Y	L	F	C
H	I	K	U	L	D	G	A	V	R	S	T	H	U	K
W	O	D	E	M	T	T	R	O	G	S	Q	M	N	S
H	N	M	O	T	S	E	P	K	E	K	T	E	N	A
I	X	L	W	Y	S	A	R	P	C	L	J	A	E	L
J	C	E	R	B	V	R	L	I	A	J	G	Q	L	T
O	Z	C	O	E	K	X	A	S	N	Y	E	F	N	X
D	I	S	S	O	L	V	I	N	G	G	Y	D	I	F

There are 15 words to find- good luck!

CRYSTALS  
WATER  
INDUSTRY

OBSERVING  
INVESTIGATION  
MORTAR

ROCK SALT  
DISSOLVING  
FILTERING

DEICER  
EVAPORATING  
MELTING

SALT  
PESTLE  
FUNNEL

Here's the solution.

J	X	F	A	W	A	T	E	R	R	C	X	K	Y	O
I	N	V	E	S	T	I	G	A	T	I	O	N	N	E
Y	I	D	Z	G	L	C	T	C	W	W	J	O	U	I
S	H	T	C	I	D	R	B	Y	H	R	G	R	J	G
O	R	P	V	E	O	E	Y	G	E	P	Q	U	N	G
X	M	T	K	M	N	R	N	C	W	A	G	I	V	R
L	J	F	J	I	T	I	I	L	S	N	T	D	E	O
A	D	S	I	S	T	E	G	L	I	A	Y	L	F	C
H	I	K	U	L	D	G	A	V	R	S	T	H	U	K
W	O	D	E	M	T	T	R	O	G	S	Q	M	N	S
H	N	M	O	T	S	E	P	K	E	K	T	E	N	A
I	X	L	W	Y	S	A	R	P	C	L	J	A	E	L
J	C	E	R	B	V	R	L	I	A	J	G	Q	L	T
O	Z	C	O	E	K	X	A	S	N	Y	E	F	N	X
D	I	S	S	O	L	V	I	N	G	G	Y	D	I	F



## Water for Industry

Can you find all the words written below in the word search?  
 You will find the words written across, backwards and vertically

R	C	R	I	V	E	R	U	G	Y	D	G	E	K	I
E	Y	S	T	E	H	E	J	V	L	N	A	F	G	N
P	L	A	T	I	E	Y	B	L	P	K	S	A	N	D
A	I	X	H	X	A	P	X	S	S	M	E	O	I	U
P	N	S	E	H	T	I	U	E	V	E	A	X	R	S
R	D	Y	R	U	E	P	H	A	L	A	L	R	R	T
E	E	D	M	A	X	E	V	L	A	S	A	E	I	R
T	R	W	O	K	C	L	C	A	Z	U	N	S	T	Y
L	Z	S	M	A	H	I	M	N	K	R	T	E	S	R
I	Y	P	E	E	A	N	X	T	S	I	F	R	R	Z
F	Y	V	T	L	N	E	E	D	O	N	Z	V	E	L
O	M	S	E	U	G	B	M	N	R	G	W	O	T	U
I	Q	A	R	K	E	T	Q	L	B	F	G	I	L	F
H	A	W	A	P	R	W	V	D	F	H	C	R	I	P
W	T	L	C	D	N	B	R	E	T	A	W	R	F	E

There are 16 words to find- good luck!

LEAK  
 SEALANT  
 FAN  
 INDUSTRY

RESERVOIR  
 WATER  
 STIRRING  
 MEASURING

PIPELINE  
 HEAT  
 FILTER  
 THERMOMETER

RIVER  
 EXCHANGER  
 FILTER PAPER  
 CYLINDER

Here's the Solution

R	C	R	I	V	E	R	U	G	Y	D	G	E	K	I
E	Y	S	T	E	H	E	J	V	L	N	A	F	G	N
P	L	A	T	I	E	Y	B	L	P	K	S	A	N	D
A	I	X	H	X	A	P	X	S	S	M	E	O	I	U
P	N	S	E	H	T	I	U	E	V	E	A	X	R	S
R	D	Y	R	U	E	P	H	A	L	A	L	R	R	T
E	E	D	M	A	X	E	V	L	A	S	A	E	I	R
T	R	W	O	K	C	L	C	A	Z	U	N	S	T	Y
L	Z	S	M	A	H	I	M	N	K	R	T	E	S	R
I	Y	P	E	E	A	N	X	T	S	I	F	R	R	Z
F	Y	V	T	L	N	E	E	D	O	N	Z	V	E	L
O	M	S	E	U	G	B	M	N	R	G	W	O	T	U
I	Q	A	R	K	E	T	Q	L	B	F	G	I	L	F
H	A	W	A	P	R	W	V	D	F	H	C	R	I	P
W	T	L	C	D	N	B	R	E	T	A	W	R	F	E