NEWSLETTER NO. 5 NORFOLK EDUCATION ADVISORY SERVICE JULY 2002

Maths Matrix

Continuing a Celebration of Mathematics in Norfolk

Magical Mathematical Moments
Norfolk Primary Mathematics Conference 2002

'Totally challenging and inspirational' is just one of the comments that summed up reaction to this year's Norfolk Primary Mathematics Conference. The two days certainly lived up to the title and produced a wealth of magical mathematical moments for teachers from Norfolk and further afield.

Keynote speakers, Sue Atkinson, Janet Rees, Ruth Merttens and Mike Askew challenged us to think about mathematics teaching and learning in the context of their own experience and research. Workshops covered a range of mathematical topics in a variety of interesting and unusual contexts, developing subject knowledge and providing practical ideas to develop in the classroom.

"The course has made me more enthusiastic .... And feel like a professional!!"

"An excellent two days. I feel that it gives all who attended a much-needed boost of enthusiasm and encouragement."

"Thoroughly enjoyed the whole experience, meeting new people and exchanging ideas."

Try these challenges from the conference

Use four pieces of drinking straw. Fix two into a right angle (using Pritt stick tabs).
Try to make shapes using the other two with properties, such as: a shape that has only one right angle; a shape where all the angles are different; a shape where only two sides are the same length; a shape with at least one obtuse angle; a shape with a pair of parallel sides.
Ann White

Using the 7 Tangram pieces, can you make the number 50?
Hint: Use one Tangram for the digit 5 and one for the 0.

Wallpaper boarders make useful resources for counting, positional language and shape work.
Janet Rees

Barnham Broom Conference Centre has already been booked for next year's conference on 30th and 31st January 2003, so put the dates in your diary now. Judging from the comments from this year's delegates it is a conference that is too good to miss!

"I wish all our staff could have the same opportunity."

Jean Johnson, Numeracy Adviser

Mathematics and Make Believe

I have been involved in the Role Play Work Shops organised by the Norfolk Education Advisory Team, in which nurseries and reception classes got together to set up Role Play Areas that they had tried and tested in their classrooms.

They were a great success for all involved. The children thoroughly enjoyed the days, the teachers gained lots of valuable ideas, and the parents were able to appreciate the value of role-play.

The main thing that struck me is that it doesn't need to be extravagant - all the ideas were simple and inexpensive, yet really effective and extremely valuable for the children. It just required a bit of imagination. Role Play can be based around almost anything, it provides opportunities for the development of mathematical learning in real contexts.

One of the most useful resources I have ever used as a Nursery teacher is a gazebo! A basic frame with a canopy over the top, £9.99 from Latham's. It has been invaluable to me and has really enhanced the quality of my role-play provision. This half term, to fit in with our topic on Fairy Tales it became Aladdin's Cave! It has also been a jungle, an underwater scene, the three bear's cottage, a health centre, and a café…the possibilities are endless. I find that having a separate area draped in relevant materials etc helps the children to get into role more easily.

Next year we are holding further workshops in Norwich and the Ecotec Centre, Swaffham - why not come along.

Ordering a Chinese takeaway, children experience handling money.

In the jungle children see different mathematical patterns.

Take a driving test to explore positional language.

Helen O'Neill, Nursery Teacher, St. George's First School, Great Yarmouth

Links between five schools

Transition will be an important strand for training and funding this autumn between primary and secondary phases. To date, there are high schools which have used bridging units with their feeder schools. These units were based on two units of work, one on percentages and the other on algebra. The work was started at Key Stage 2, and followed the pupils for completion at their High Schools at the start of Key Stage 3.

Some schools, as in the picture, have looked at working with gifted pupils to help enhance their work at Key Stage 2 and make links between the schools. Attleborough High School and its feeder schools are featured here. Sheringham High School has a similar project. It runs a school enrichment class on a Thursday with pupils from four of its feeder schools.

Pictured are Elizabeth Richard from Rocklands and Alexandra Manias, James Baldwin and Philip Starling from Hingham. Also, Grant Carey, Head of Mathematics at Attleborough High and Pauline Dixon, Head of Rocklands Primary.

If you are interested in doing a similar project and would like to know more, please contact your Key Stage 3 Adviser (or Brenda Emmott, Secondary Maths Adviser). If you already have a project going with your feeder schools we would be delighted to hear from you. Contact us to tell us what is going on in your cluster so we can let others know and share good practice.

Pauline McLean, KS3 Mathematics Adviser

Maths Week

Homefield V.C. First School and Nursery had a Magical Mathematical Week. All the challenges were cross-curricular, based on a mathematical theme. Every teacher taught every child in the school. The Friday evening saw the children selling many of the things they had made and a total of £1.200 was raised for the school funds. The activities during the week saw all areas of maths being covered. On Friday every child came to school wearing a number. What a variety of ideas!

The quote of the week came from 5 year old Liam, 'Mrs Nunn this is my kind of week. I love doing maths.'

We measured the ribbon. Priced the bowls, bulbs and peat. We set up a shop to pay for the bulbs. We learnt to give change.

We counted the beat of the music. We made high and low movements.

Pam Nunn, Headteacher, Homefield First School, Great Yarmouth

BETT Exhibition 2002

The BETT exhibition is the showcase for Educational ICT companies, held annually at Olympia. There are an almost infinite number of stands, from small 'one man bands' to the larger players in the ICT field, displaying hardware and software.

Developments on show this year included interactive whiteboards, which are a very effective way of utilising the power of ICT to model and demonstrate mathematics, and 'integrated learning' packages that many of you will be familiar with, such as 'Successmaker'.

My main purpose in visiting, however, was to try and find suitable maths software for use in classrooms, in particular for pupils with Special Educational Needs. A useful source of software is R-E-M, selling 'Basic skills and Special Needs' software. Their website is **www.r-e-m.co.uk**. Semerc **www.semerc.com** have produced an interesting program for older SEN pupils called 'Accessibility'. This puts life skills into a variety of contexts and is easy to use. AVP **www.avp.co.uk** sell software in a variety of formats, including Acorn, so their catalogue is also worth looking at.

Naturetrek Educational were able to show me some books called 'Making Sense of Mathematics', which are aimed at upper primary age pupils who still need materials from Years 2, 3 and 4. The illustrations and examples were age appropriate, and I did suggest that for older SEN pupils the books could be further adapted so as not to patronise. Their books are available from **www.teachertrading.co.uk**.

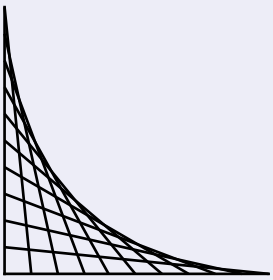
Unfortunately, with the exception of Semerc's program mentioned above, nothing really stood out as an answer to the problem of age appropriate SEN software, so there is still a gap in the market waiting to be filled.

Nick Asker, Key Stage 3 Mathematics Adviser

Resource of the Term

One of the pleasures of my job as a KS3 Numeracy Adviser is the amount of good ideas I pick up as I go between schools. With the kind permission of Robin Corrigan the Head of Department at Litcham High School, I would like to pass this on to you as a resource which could be used for a variety of lessons and set as a challenge. It requires the use of ICT and you will need access to either Clarisworks or Microsoft 2000.

Using a grid, you need to set up the following curve with the draw facility. From this one design set up on the computer screen and saved, it is possible to produce the following.



This could be used as a basis for a Shape, Space and Measures lesson on transformations. Use the ICT software to rotate, reflect and translate. The work allows discussion beforehand and a ready visual image of what these transformations will produce. The pupils can experiment and produce a very pleasing end product to decorate the classroom!

Pauline McLean, KS3 Mathematics Adviser

Maths poems

Here is the start of a poem about 4- sided shapes:

The Quadrilateral felt quite unnatural
Beside his friend the square.
The regular state
Of his best mate
Was really most unfair.
Her equal sides and angles square
Always attracted the other shapes' stare.
He had no symmetry – what a bore,
Not a single line – yet she had four

So far two shapes, the quadrilateral and the square, and some of their properties have been introduced. Could you continue this idea and introduce other 4-sided shapes and their properties?

Here are some thoughts about different shapes and their properties that may help:

A rhombus also has 4 equal sides. Its angles are not right angles but opposite angles are equal. It has 2 pairs of parallel sides but no line of symmetry.

A kite has 2 pairs of equal sides and a line of symmetry.

A trapezium has one pair of parallel sides, no equal angles or equal sides.

A parallelogram has 2 pairs of equal sides and opposite angles are equal.

Jot down ideas of words or any rhyming pairs you may want to use.

How many different rectangular boxes can be made with:
1 Cube?
2 Cubes?
3 Cubes?
4 Cubes? And so on?
How can you be sure you have found them all?

Pauline McLean, KS3 Mathematics Adviser

WHO IS WHO IN THE MATHS TEAM

Senior Adviser Literacy & Numeracy
Chris Snudden

"Advisers" Secondary/KS3 Team
Brenda Emmott
Nick Asker
Pauline McLean
Mike Newton

" Advisers" Primary team
Robin Ings
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Alison Borthwick
Sue Condie
Sandy Francis
Jenny Godson
Jean Johnson
Constance Tyce
Mickey Wilson
Pete Young

"Admin Team"
Diana Duhig
Michelle Bush
Pat Cuthbert
Louise Flynn
Claire Hayes-Bradley
Becky Ward
Jenni Woodrow

You can contact us on:
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more challenges

Use packaging as a resource for 3D work.
Tip: always collect 2 boxes so that one can be opened up to show the net.
Carole Bean

Use exactly four 4s and any mathematical symbol to make all of the numbers from 0 to 20.
Example: $6 = 4 + \frac{4 + 4}{4}$

Noel Graham

Which ice cream can you eat upside down?

STRAWBERRY	VANILLA
RASPBERRY RIPPLE	NEAPOLITAN
CHOC ICE	TOFFEE

solution: CHOC ICE (all letters have a horizontal line of symmetry – illustrate on OHT).
Rob Eastaway

Web links

Adaptable medium term and weekly plans with some accompanying resources presented as word-95 documents. References to 'Abacus' scheme included: **www.hamilton-trust.org.uk**

Games and some supporting worksheets covering a variety of topics. Some of which can be played on-line.
http://www.primarygames.co.uk/

STOP PRESS! We now have our own website - Norfolk Maths Net
www.norfolk.paradigm-ict.co.uk/maths/index.html