

Dr. Pam Merrick

Diss High School

On one of his regular visits to the school, Dr. Andrew Hinsley (UEA) brought with him a new TSN school loan kit to use with some of the younger students: it demonstrates just how difficult it is to remove bacteria from your hands by washing them. Using small quantities of a special non-toxic hand cream to simulate bacteria, the children used an ultra-violet light box to see where some 'bacteria' were left on their hands after washing them. Traces of the cream fluoresce showing where their hand-washing had not been thorough enough, or how bacteria had been passed from person to person.

Andrew also worked with our Lower Sixth biology students showing them the essentials of *sterile technique* – a group of skills necessary for anyone working in a microbiology laboratory. He brought with him all the equipment to allow the students to try it for themselves and to see their results. The following day one of the students (Aaron Miller-Bourke) spent his time at UEA shadowing Andrew in his laboratory. Aaron, who would like a career in science, was able to use equipment that most A level students never see, and to experience some of the excitement of performing in a real research environment. He returned to school with a photographic record of the successful gel he had produced, separating fragments of DNA by electrophoresis.



UV shows up the 'germs' after washing



Andrew demonstrates sterile technique...



...before the students have a go

New Members - Welcome

Mr. David Fowlie, science coordinator, Taverham Middle School

Miss Hermione Stewart, science coordinator, North Walsham Middle School

Dr. Nicola Bishop, science teacher, Broadland High School

Mrs. Nutan Mulholland, science coordinator, Swanton Morley Primary School

Ms. Patricia Sang, lecturer in animal science, Easton College

Mr. Richard Draeger, PhD student, John Innes Centre

Mrs. Lynda Turner, research assistant, John Innes Centre

Dr. Chris Pickett, scientist, John Innes Centre

Ms. Micheline Pickett, science teacher, Acle High School

Miss Rachael Adlam, research assistant, John Innes Centre

Teacher Scientist Network

Coordinator: Frank Chennell,

Chairman: Prof. Keith Roberts

John Innes Centre, Norwich Research Park, Colney, Norwich, NR4 7UH

Telephone +44(0)1603 450000, Fax +44(0)1603 450015, Email ts.network@bbsrc.ac.uk, (www.tsn.org.uk)



Science Week 2000

There was a lot going on in Norfolk schools during science week, much of it TSN generated. Teachers and scientists worked together to produce special science activities for pupils of all ages. Parents were not forgotten and often members of the public were included.

Science Week

Carol Bennett

Lodge Lane First School

Pictures courtesy of Eastern Evening News

For Science Week this year we decided to throw open our classrooms so that our children's families could join in the activities. Our Science Open Day reflected the many aspects of science that are usually going on in our classrooms. It included experiments with magnets, comparing materials, floating, sinking, completing electrical circuits and investigating how far vehicles travel when sent down slopes. But the highlight of the day was a visit by our TSN science partner, Dr. Mark Leech, a cell biologist from the John Innes Centre.



Mark Leech Leitz up some plant cells

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Mark brought along pots of wheat, rice and pea plants as well as a high-powered microscope. The children and their families were fascinated by what they could see under such high magnification and Mark was on hand to show how to prepare plant material for viewing under the microscope.

Taking part in a national event like this raises the profile of science generally and within school. It also gives the children a chance to share what they have been learning with their parents and siblings. And just as importantly, it encourages and supports us, the teachers, making the work involved appreciated and well worth while.

(Carol Bennett will soon be leaving Norwich to take up a headship in Castleton. She is one of the founder members of the Network and has served on the Steering Group from its beginning. She will be missed.)

Jack Davison makes contact



Charlotte Skeggs eyes a lily



Make a note in the diary!

TSN
ANNUAL
MEETING
2 Oct. 2000

New Format
(details later)

Making Choices

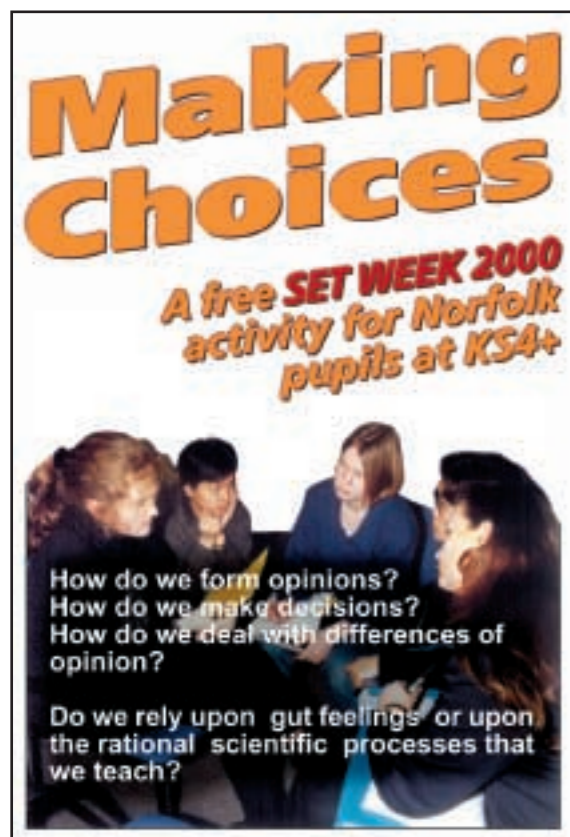
Science Week Activity
for 15 - 19 year olds

TSN, John Innes Centre and Y Touring Theatre Company, launched the 'Making Choices' project during Science Week this year. The joint project provided the opportunity, using a drama-and-debate format, for young people to think about the processes involved in making decisions of their own.

It involved:

- a commissioned play, 'Sweet as you are', that through the actions and relationships of its three characters, addressed the science and social issues surrounding GM food;
- an audience debate, with actors remaining in character, and
- an information pack for teachers.

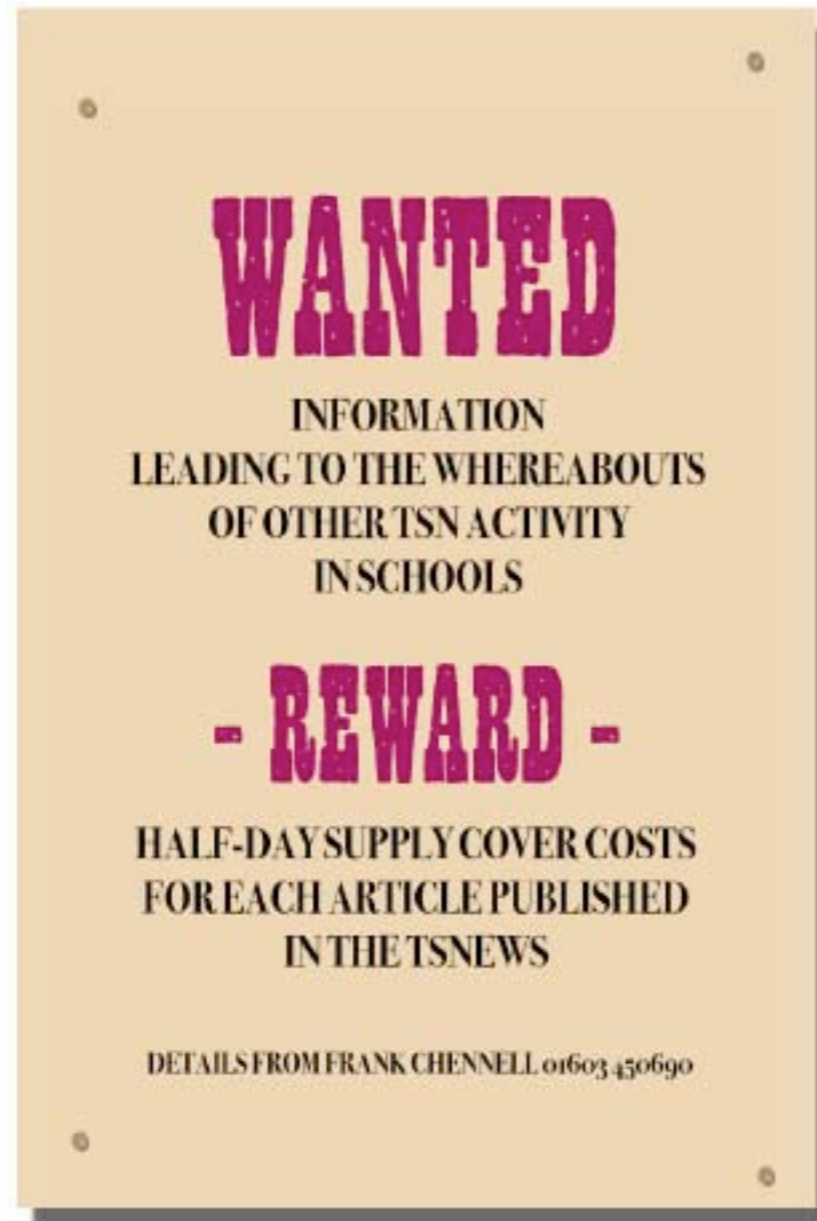
To make sure the play was unbiased and covered a representative range of issues, an expert advisory panel



representing all viewpoints was consulted during the project's preparation. The aim was not to convert the youngsters to hold a particular view on GM, but to encourage them to consider what affects our attitudes, to assess information more objectively, and to recognise that decision making often involves trying to reconcile conflicting views.

The play won a Fringe First Award at its trial run in the Edinburgh Festival last year.

Four performances took place in the JIC Lecture Theatre (three for schools and one for the general public). The company also performed in three high schools in the outlying areas of Norfolk before going on to perform in some London schools.



Awaydays to Southend-on-Sea

Phil Smith and Maxine Woods

It is always difficult to find partners for teachers who work in the outlying areas of the county. Until Dr. Phil Smith (JIC) agreed to travel the 100+ miles round trip, arranging a partner for Mrs. Maxine Woods, a teacher at Heacham Middle School, was no exception. Maxine had been waiting for over two years.

The partnership began in December 1998. Phil, rather bemused at the partnering process, compared the way TSN selected his teacher partner with the way a contestant on Blind Date makes his/her decision. Nevertheless, it has proved to be an inspired choice; when Maxine and Phil's first meeting took place, to quote both of them, "we just hit it off immediately". The instant rapport helped cement the partnership.

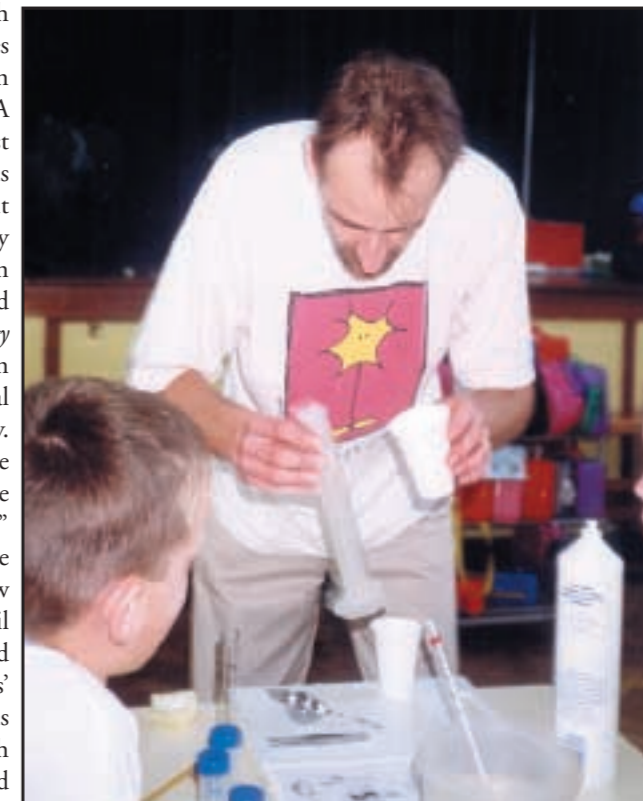
In that first term they worked together with Year 6 pupils on *planning and implementing investigations, separating techniques and working with microscopes* using the TSN kit. But their situation was about to change; Maxine had accepted a new job in Southend-on-Sea (Essex). With both of them keen to keep the partnership going the only problem was to find financial help to cover travel costs. "Thankfully TSN continued to support us contributing 50% of my expenses," said Phil "and an approach to the Biotechnology & Biological Science Research Council – my funding body – yielded the other 50% via their Schools' Liaison Service."

With the help of Maxine's head teacher,

Jan Watson, the long drive to Southend has been made more effective by putting aside a whole day for each visit. "There are tremendous benefits from being able to work with the same set of pupils for a whole day." Maxine explained, "A full science day with the children inevitably becomes cross-curricular as you touch on so many different themes during the session. We began with a Cells and DNA Discovery day on Phil's first visit. We both thought this might have been a bit ambitious for Year 5 but they grasped the basic ideas via an interactive slide show based on the JIC/IFR *Cell City* production. They built on these with a range of practical activities through-out the day. It was a big success and we hope to develop the slide show into another TSN kit."

With fewer visits to the school, Phil and Maxine now exchange new ideas via e-mail and telephone, and spend more time planning the days' science programme in this way. "It's amazing how much time the planning takes," said Phil, "but 'Southend Cell City' showed me that all the

effort can be worthwhile." Summing up her feelings, Maxine said, "I hadn't thought I would put so much time into TSN or get so much pleasure out of it. It shows that science can be fun — and if we feel that then the children will too."



Phil extracting DNA from onion cells



Mashed up onions go in the bin—the end of a DNA discovery day