



TSN News

It's not just teacher-scientist partnerships...

Our Network's core activity is work done by partnerships in schools all over the county and beyond, and one of the purposes of this newsletter is to broadcast this activity as widely as possible. But there have also been quite a few other events organised by the TSN or in which the TSN has been associated. Often these have been in collaboration or partnership with other institutions. This time the newsletter focuses on this aspect of our activity by describing some of these events.

Learning about learning

Last term we held an afternoon education workshop for TSN scientists who wanted to know more about educational issues. Topics included the National Curriculum, school and LEA organisation, and some aspects of the way children learn. The session also gave scientists the chance to discuss ideas with two practising teachers; one from a high school and one from a primary school. Scientists attending were drawn from both the Research Park and from local Industry.



Children at Beetly Primary School learning to use their scientist's microscope.

Master classes

TSN Master Classes are for science teachers who would like to bring themselves up to date in particular scientific fields. Each master class day is in two parts—the morning is to hear from leading scientists on the latest developments and understanding in their field, with the afternoon spent in related hands-on workshops.

To maximise the benefit of these sessions we have drawn upon the experience of our American colleagues who found that delivering to *teams* of teachers from a few schools is more effective than to single teachers from many separate schools; teams of teachers offer mutual support when fresh approaches are tried back at school. It is for this reason that we only accept two or more teachers from any one school.

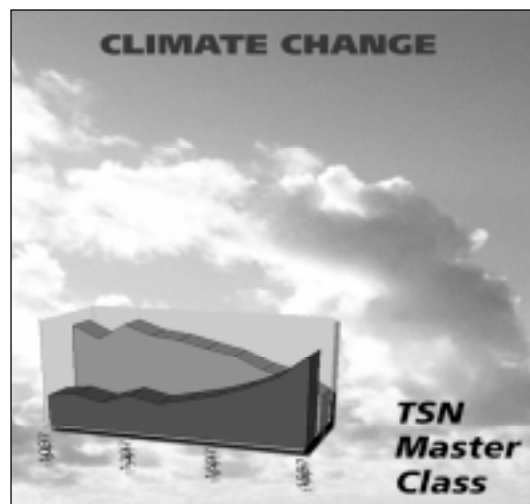
The first of these classes (for teachers in the secondary phase) will take place on May 17 and is about Global Climate Change. It will be hosted and delivered by the Climatic Research Unit at the University of East Anglia. For this particular master class, not every teacher in a school's team need be a science teacher; for example, a team might consist of a science teacher and a geography or social science teacher who has a close interest in scientific issues.

Apart from a registration fee of £20, there is no cost to schools and supply cover will be paid for by the TSN.

Details at:
<http://www.uea.ac.uk/~e490/tsn/cc.htm>

Annual Meeting 1997

Diaries out please: this year's Annual Meeting will be on **June 17** at the John Innes Centre, from 5.00 to ~6.00PM. Please come. Details sent later.



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Cell City

TSN members were actively involved in this multimedia extravaganza on the parallel between the inner workings of a city (Norwich) and those of a living cell. It was produced by scientists at the



Cell City presenters Keith Roberts, Kim Findlay(left) and Caroline Gooding

Past Times Science

One of our TSN teachers – John Hobden at Clackclose Primary School – spent some time with his pupils working in The Town House Museum, Kings Lynn, to produce a science teaching package for use in the museum. The package is for visiting children, with their teachers, to use



museum artefacts in science tasks and related hands-on activity. John's costs were paid for by the TSN, and the costs of editing and publishing were borne by Amoco Oil Co. and Norfolk LEA. Anyone interested in using the materials should contact Faye Kalloniatis at the Museum (Telephone 01553 773450).

John Hobden is now working at Homerton College, Cambridge as Project Officer for the Primary Teacher as Scientist project.

Institute of Food Research and John Innes Centre and presented live over several days when nearly 2000 key stage 4 & sixth form pupils, and 600 members of the general public attended. It was performed again at the Edinburgh Science Festival in March 1997 and will be repeated at the BA meeting at Leeds in September.



Preparing to look at plant cells



Demonstrating the properties of a cell membrane

Quick Response Talks

Quick response talks and discussion are given by local scientists for our TSN teachers who would like to know more about a science issue currently in the news. The talks take place after school at the John Innes Centre. So far we have held two: one on BSE issues and human consumption of beef, and another on genetically modified food. The next will be held on May 13 at 5.00pm and will be about the science of animal cloning and the associated ethical issues.



We may offer these talks to other teachers in the future, sometimes at different locations.

11_teachers@TSN.get.email&www.free/OK/

In an attempt to find out how useful (or not) electronic communication and information access is for teachers of science, we have set up with SAPS (Science and Plants in Schools), Cambridge, a two year experiment.

11 TSN schools – 5 primary schools, 5 high schools and 1 middle school – have been supplied with a new computer, fast modem and access to the Internet with Email. All hardware and installation costs have been met by SAPS who will also pay for the running costs for two years, after which the hardware becomes the school's property.

The teacher's commitment over the two years is to attend a training session, to monitor the system's use and each term to tell us honestly how useful it is for science teaching, learning and communication.



The Secrets and Science of Survival

Filming Wildlife

A joint three-day event involving Anglia Survival (the award-winning TV series) the John Innes Centre and the TSN took place in March 1997. With live animals from around the world, computer graphics, TV cameras and equipment, many displays and a one-hour interactive talk by Mike Linley – Survival's scientific adviser – 2000 children aged between 8 and 14 came with their teachers to see how animals and cameramen use camouflage to hide themselves. All this took place in a jungle atmosphere created in the John Innes Centre's new Conference Building with hundreds of plants and sounds of the forest from hidden loudspeakers.

Places filled for this event very quickly and many schools (over 2500 children) were disappointed not to get in. We hope that we can run this again another year.

An accompanying 'Wildlife on your Doorstep' competition for KS2 and KS3 school children has been launched, with prizes of cameras, wildlife videos and CD ROMS. All Norfolk Schools have been sent details.



New TSN Members

WELCOME

Ms Krystyn Pomeroy, Teacher, Pupil Referral Unit, King's Lynn.

Dr Josa-Marie Wehrfritz, Post Doc., John Innes Centre.

Dr Pam Merrick, Head of Biology, Diss High School.

Mrs Elizabeth Rollin, Deputy Head, All Saints School, Winfarthing, Diss.

Mr Michael Masters, Head of Biology, Benjamin Britten High School, Lowestoft..

Mrs Alison Allan, Science Coordinator, Edinburgh Road School, Holt.

Ms Emma Southern, PhD Student, John Innes Centre.

Miss Racel Holford, PhD Student, John Innes Centre..

Mr Ian Bedford, Research Entomologist, John Innes Centre.

Mini-grants

Using funds originally allocated for teacher fellowships, all TSN partners may apply for 'mini-grants' of up to £200 to develop a school science package for their school.

£200

The cash may be used to buy equipment and to pay for printing and other costs. It is a condition that these packages might be duplicated by TSN for use in other schools.

Tomatoes, Carrots and Leaky Paper

No, this picture is not of a market stall; this was part of a two-day presentation for SET Week in the Town House Museum at King's Lynn for key stage 2 children.

Cell Biology scientists equipped with microscopes, models and other materials, ran a nonstop series of activities to show why carrots go limp, tomatoes go 'squishy' and how leeks can be made into paper. A TSN schools' kit will be developed from this project on the science behind paper making.

Juliet Ambler, beginning her 'squishy tomatoes' session



Andrew Marry preparing onion cells

Botany for Beginners.

For teachers in the primary phase.



Can you identify these wild flowers? Would you like to? Do you fancy an evening walk to look at and identify wild flowers and other plants? Would you like to find out about flower forms and families; their history and their uses? Could you use some fresh ideas for the classroom, and some cross-curricular themes from your school's wild life area?

If you do, then...

Wednesday 21st May from 6pm (weather permitting) is the time, and the place— well, the exact location will be arranged according to demand.

A hand lens or magnifying glass will be useful but it's not essential, and if you can bring along your own wild flower key or field guide so much the better. Walking boots are recommended.

For details contact Carol Bennett at Lodge Lane First School:
Tel. 01603 413946,
Email: lodgeln@rmplc.co.uk

By the way, the flowers in the picture are *ramsons* (*Allium ursinum*), they live in damp woods and smell like garlic; but Carol can tell you a lot more.

1997 Dow Environmental Award for Schools.

The Dow Environmental Award for Schools has been launched for 1997. Letters have been sent inviting High Schools and Middle schools throughout the county to take part. The deadline for entries is the end May 1997.

Four questions are set, each requiring a *storyboard* answer. The questions take the form of projects, which can be answered either as a whole class, by a small team or even by an individual student.

This competition is targeted at Yr 7-9 students, and is tailored to fit current national curriculum requirements for Key Stage 3. By taking part in this award, teams will cover one of the following subjects: Water Pollution; Countryside Management; Packaging and Recycling; Energy Conservation.

If you are interested in receiving more information about the environmental award, please call Carol Allen at Dow Chemical Company Limited, King's Lynn, Telephone 01553 692100.



Watt a Challenge

A three-way partnership has been established between Eastern Electricity, the LEA and TSN for another schools competition — *Watt a Challenge*, a one-day 'design and build' science and technology project for primary and middle schools.

Eastern Electricity will supply all materials and components, the LEA will supply appropriate science in-service training for the teachers involved, and TSN will host the challenge day at the John Innes Centre. All schools attending will be given the new primary science resource packs: the Rainbow Kit, the Energy Chest and the Electric Box Workcards. All primary and middle schools have been sent details.



REMINDER

Annual Meeting
June 17
5.00pm
John Innes Centre

Equipment to give away

- 2 Analogue analytical balances (1mg)
- 1 Dessicator (w. vacuum attachment)
- Plastic ware:
 - 50 ml tubes with screw caps,
 - some others with snap caps
- Boxes of microscope stains (3-step Gram)
- Boxes of 100 sheets DuPont Radiography Film (10 x 8)

Contact Frank Chennell

Teacher Scientist Network

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