TSNews

Support for Teachers of Science

...in Primary Schools

Delivering science in primary schools has always been problematic. For example; the relatively high cost of equipment, the paucity of readily available good schemes of work and exemplar material, and, apart from a period of extra funding from Central Government some years ago, InSET opportunities for primary teachers has been sparse.

There has been some belated relief; last year the DfEE and QCA (Qualifications and Curriculum Authority) jointly produced an excellent guide for primary schools which illustrates how the National Curriculum can be translated into practical delivery[1]. Many primary schools are now using this document.

However, alongside this we have the Government's well resourced and high profile programmes for increasing standards of literacy and numeracy in primary schools. These come complete with guides, books etc., and training programmes for the teachers. As 'core' curriculum subjects, it is right that Maths and English should be given this emphasis. However, science is also a core curriculum subject[2], and compared with the huge resource now allocated to Maths and English, the QCA document, welcome though it is, does seem rather meagre. Many people are concerned that the profile of primary science is being lowered, with the danger that primary science, once again, becomes marginalised.

After approaching the Norfolk LEA about these concerns, the TSN has proposed that we and the LEA work together in an effort to redress this present imbalance of support for primary school teachers, and this is what we have agreed for the coming year:

- The TSN and IATS[3] work together to produce a pilot package of support for teachers of science at KS 1 and 2. The TSN will provide meeting venues, science expertise and some funding. IATS will provide education advice and the necessary advisory personnel.
- A development group composed of around 10 primary school teachers, the TSN Coordinator, and the LEA science Adviser will shape and help develop the package.
- The package will be designed to support the QCA document, and, as well as written material is likely to include access to kits and equipment, and to training sessions.
- The input of scientists as well as science educators is likely to be an important feature.

[1] *Science, A scheme of Work for Key Stages 1 and 2* 1998, QCA Publications, ISBN 1 85838 333 1, £12

[2] English, Maths and Science are the three core subjects.

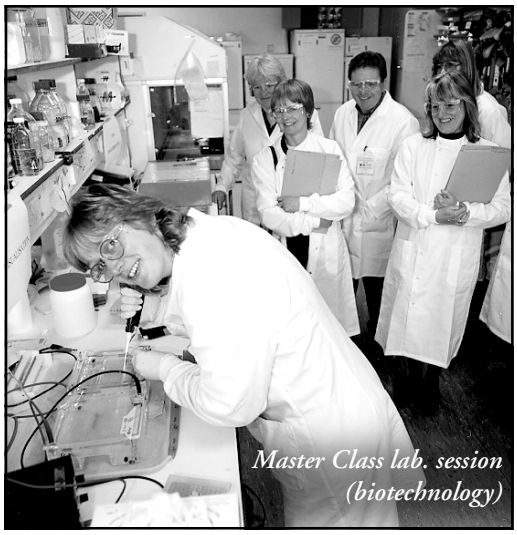
[3] The LEA's Inspection, Advice and Training Services

...in High Schools

For teams of teachers in high schools we continue to hold our Master Classes in science topics–topics that teachers themselves have asked for.

In November we held the *Biotechnology and Food* Master Class at the Institute of Food Research with practical sessions in the John Innes Centre's laboratories. The topics covered were: the EPIC study into the relationships between diet and disease; the genetic modification to food; a comparison of traditional genetic modification methods with modern biotechnological techniques, and food safety and regulation in genetic technology. Support funding from BBSRC enabled us to accept more teachers than usual.

Our next Master Class–*Future Energy*–took place at the EcoTech Centre in Swaffham in March. Generous support funding from EPSRC allowed us to double the number of teachers attending to 40 (more than 50 applied). Topics covered included: the finite resource base for energy; new energy-efficient building design, and the technology and economics of renewable energy sources.



Master Class lab. session (biotechnology)

CONTENTS

The Secrets and Science of Survival

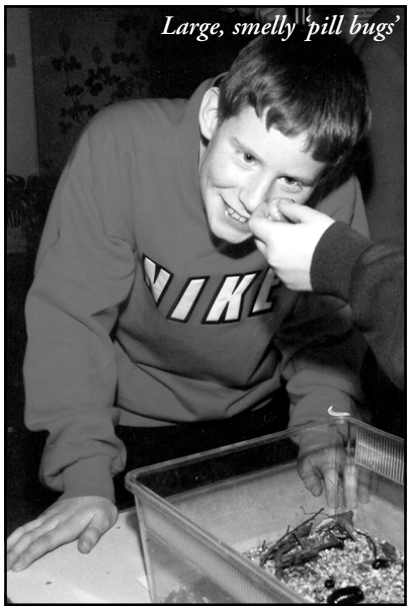
Nature's Niffs, Nice or Nasty? (The role of smell in nature)

To celebrate SET week, a joint event involving Anglia Survival (the award-winning TV series), the John Innes Centre and the TSN took place 10 -19 March 1997. There were live animals and plants, computer graphics, special equipment, many displays and an interactive talk by Mike Linley–Survival's scientific adviser–with a live video link to Banham Zoo. Over 3,000 children attended *Nature's Niffs* over the five days it ran. Just a few of Nature's Niffs activities are illustrated.

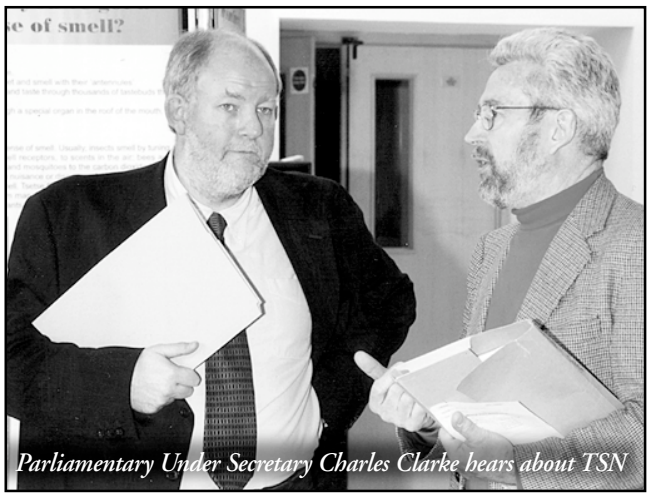
An accompanying competition for KS2 and KS3 school children has been launched, with prizes of digital and emulsion cameras, wildlife videos, CD ROMS and books. It is similar to the very successful 'Wildlife on your Doorstep' competition of 1997. (See *www.tsn.org.uk* under 'news' for more information)

The 'Jelly Stall' by IFR: can you taste whilst holding your nose?


Large, <u>very</u> smelly fruit (durian)


Large, smelly 'pill bugs'


Large, smelly flower (Titan Lily)


Parliamentary Under Secretary Charles Clarke hears about TSN


Survival's Mike Linley explains...

What it's like inside a nose

'Pick your Nose' competition

set99*

'Sniffer' dogs after finding hidden plastic explosives

New Members

Welcome

Mr. Stuart Went Head of Science, Benjamin Britten High School
Ms. Julie Harris Fakenham High School
Ms. Sandra Maddison Lynn Grove GM High School
Ms Caroline Still Head of Biology, Norwich High School for Girls
Miss Cherri Mosely Class Teacher, Bignold First School
Mrs. Anne Brown Science Coordinator, Barford County Primary School
Ms. Micheline Pickett Teacher, Acle High School
Mr. Paul Spencer Head of Science, Thorpe St Andrew High School
Mrs. Judith Tree Science Coordinator, Colby County Primary School
Mr. Stuart Odell Science Coordinator, Catton Grove High School
Miss Gillian Weston Visiting Research Worker John Innes Centre
Dr. Phil Smith Research Assistant, John Innes Centre
Dr. Caroline Dean Group Leader, John Innes Centre
Dr. Gregory Watson Post Doctoral Fellow Istitute of Food Research
Dr. Mark Crowe Post Doctoral Fellow, John Innes Centre
Dr. Chris Pickett Research Scientist, John Innes Centre
Miss Clare Jones PhD Student, UEA

New look Website

Our website has changed. Pages that no-one seemed to use have been removed (e.g. the 'any questions' pages), and others that seem more useful have been added to (e.g. examples of partnership work in schools)

It should be easier to access now, too; it is leaner and faster.

The sections are:

- About TSN (for newcomers to the site)
- News (of past and upcoming TSN events)
- Support (e.g. information about loan kits)
- Documents (Downloadable documents such as the newsletter, annual reports, etc.)
- Links (to sites concerned with science education)
- Contacts (How to contact Steering Group Members etc.)

(www.tsn.org.uk)

TSN Certificates for children

Available now

These certificates are for teachers and scientist to give children who have done good work in TSN related science—i.e. in a science activity planned by a teacher-scientist partnership. They might be given for particularly good results, or particularly good effort, or for particularly imaginative ideas

for investigations. Anything, in fact, that the partnership agrees is worthy, and that will not trivialise the award. They are probably most suitable for children at Key Stges 2 and 3.

The A5 sized certificates are in full colour and printed on good quality card.

If you would like a supply of these, please contact Frank Chennell.

Mars Challenge

The Planetary Society is looking for a student-created experiment to send on the JPL/NASA Mars Surveyor 2001 Lander mission.

This is a really exciting opportunity for young people 18 or younger to create an experiment that may be incorporated in the mission's Mars Environmental Compatibility Assessment (MECA) experiment package.

All the information about this project, called the NanoExperiment Challenge, is available through the Society's Web site at http://planetary.org/learn/nanoexp.html. Application forms can be printed from the website and need to be returned by July 31, 1999.

For more information about the NanoExperiment Challenge contact Jeffrey Oslick at (626) 739-5100 or by email at tps.nanoexp@mars.planetary.org.

The Planetary Society, founded by Carl Sagan, Bruce Murray and Louis Friedman in 1979, is the largest non-profit, non-governmental space organization in the world, with over 100,000 members worldwide.

Can anyone help?

Ross Morley

Head of Chemistry, Thorpe St.Andrew School

Our sixth-form chemistry research group has been finding out about the production and properties of polypyrrole. They were inspired by a recent article in New Scientist about the possible use of polypyrrole/gel composites in electromechanical devices or 'synthetic muscle'. The theory is that when an electrical potential is applied to a sandwich of polypyrrole and suitably conductive electrolyte gel differential absorption of cations and anions results in the device bending (akin to the bimetallic strip)

So far they have produced reasonable amounts of good conductive polypyrrole and have assembled various arrangements of sandwiches. Some of them have shown a slight tendency to bend but nowhere near that quoted in the literature.

We are looking for anyone that might have expertise in this type of area and might be able to advise us on where to go from here.

We can be contacted at:
Chemistry Dept.,
Tel.: 01603 497731 or email: chem7731@aol.com

Annual Meeting with a difference!

13 July 1999
Pensthorpe

This year we will hold our annual meeting at **Pensthorpe Waterfowl Park and Nature Reserve** near Fakenham.

This meeting will start at 5.00 PM with some light refreshments during which we will hold a short business meeting. Then, for those who would like to see what Pensthorpe has to offer, we have the run of the area (over 200 acres of lakes, meadowland and woodland, plus indoor exhibitions etc.) entirely to ourselves.

TSN has ensured fine weather, good scenery, good food and good company for this meeting, so why not make that diary entry now?

Please send or fax the form accompanying this newletter if you intend coming.