

## Science EXTRA! Teachers Notes

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### Why use newspapers in the Science Classroom?

On the face of it, newspapers do not appear a particularly attractive resource. Typically, they are in black and white. They have large blocks of text and small sizes of print. The most appropriate 'science interest' stories are surrounded by the most inappropriate 'human interest' stories. Sooner or later, they turn yellow and fall apart.

Why, then use newspapers in the science classroom? We believe there are a number of important and interrelated reasons:

- They can be used to illustrate the 'relevance' of science, particularly in relation to topical and local issues;
- They can be used to illustrate the 'nature' of science, particularly in relation to 'science-in-the-making';
- They can be used as a context for developing 'general literacy', particularly in relation to skills and ideas associated with reading, research and communication;
- They can be used as a context for developing 'scientific literacy', particularly in relation to skills and ideas associated with critical thinking about science, 'science for citizenship' and lifelong learning.

In addition, we find that many young people relish the opportunity to relate to, as they see it, 'adult material' (in the other sense of that phrase!) and are captivated by the 'real world' quality of newspapers.

### What parts of newspapers can be used in the science classroom?

Newspapers are made up of a number of components, for example

Advertisements	Cartoons	Classifieds
Feature articles	Graphics	Headlines
Horoscopes	Job adverts	Letters to the editor
News stories	Obituaries	Photographs
Problem pages	Reviews	Sports stories
Stock prices	Weather	Word puzzles

With a few exceptions we have seen all of these being used to support the teaching of science. Thus, the stock market prices were used in a lesson on metals and their extraction. The obituary, that of Melvin Calvin, was used in a lesson on photosynthesis. We haven't yet seen a science lesson based on newspaper horoscopes, but it would certainly be possible!

## **What approaches to the use of newspapers can be adopted in the science classroom?**

Newspapers can be used to introduce a lesson or topic. They can form the focus for the core activity of a lesson or topic. They can be used to conclude a lesson or topic. Newspapers may be the basis of a homework exercise or even add novelty to a revision session. They can also serve as a context for assessment in science.

The most straightforward approach is, of course, simply to read the newspaper with the pupils and engage them in a short question – answer session or more sustained discussion. There is merit in this alone and particularly so if the young people are invited to suggest what they would wish to ask the journalist or, indeed, the scientist in the news story, if they had the opportunity. This promotes the questioning approach that is so important when responding to science reports in the media.

However, greater value, in terms of learning outcomes, can be gained from designing teaching / learning activities around the newspaper. One of the first things young people need to know is that newspapers **are** an important source of science-related information. As a starting point, then, it is interesting to do a ‘scavenger hunt’ or ‘science search’. For the former, a particular paper (carefully selected!) is distributed and pupils look for science-related articles, advertisements etc. In the second, pupils can be invited to guess how many science-related news stories there will be in a particular paper over the period of a week. They then check it out! Thereafter, a number of ideas for using newspaper-related activities are shown in Figure 1.

Comprehension exercises  
Directed Activities Related to Text (DARTs)  
Structured discussion, debate, role-play or drama concerning a science-related news story  
Pupil presentation on a science-related news story  
Conducting a survey of a science issue in the news  
Arranging a visit from a journalist

Keeping a dairy of science-related news stories  
Maintaining a bulletin board on ‘science in the news’  
Constructing a timeline charting developments in a science-related news story  
Archiving articles on science-related themes  
Information searches and project work

Producing a graphic, poster, collage or display for a science-related news story  
Headline hunt – writing headlines and matching headlines  
Writing a critical review of a newspaper article  
Writing about a science-related issue in the form of a news story, feature article, problem page response, letter to the editor etc.

*Figure 1. Possible approaches to the use of newspapers in the science classroom*

## Section 2

Building on the experience of science teachers, we offer some practical guidance for using newspapers in the science classroom.

### A Practical Advice

- Enlist help from others in looking for articles
- Don't confine your search to one type of newspaper
- Some newspapers have online lesson plans and archive services
- Select articles to which you think pupils will relate
- Be culturally sensitive
- Use short articles, preferably with photographs or graphics, in colour if possible.
- If necessary, consider abridging the text – but keep the newspaper format
- Laminate the articles – but watch what is on the back!

### B Pedagogical Advice

- With younger pupils, it may be necessary to read the articles with them first
- Identify in advance and focus on the learning outcomes you hope to achieve
- Share your aims with the pupils – they tend to associate such activities with 'English' lessons
- Structure the learning experiences carefully, if necessary modelling the processes involved
- Take account of the sensitivities associated with some science-related news items
- Don't overuse newspapers – the pupils will lose interest
- Consider awarding certificates for a 'Science in the News' Challenge

### C Professional Advice

- Develop your own awareness of 'science in the news' and understanding of the nature of the science-media-reader interaction
- Collaborate with teachers of, for example, English and media studies.

## **Science EXTRA! The CD-ROM Activities**

There is already some support available to science teachers who wish to use newspapers in their classrooms. The work of Jerry Wellington is particularly valuable in this respect. This is most recently discussed in *Language and Literacy in Science Education* written by Jerry Wellington and Jonathan Osborne and published by the Open University Press (2001). It is well worth reading.

However, for this CD-ROM, we have assembled four rather different approaches to the use of newspapers.

Before we introduce these, a word of explanation. One of the advantages of 'newspaper science' is its topicality and, on occasion, its 'regionality'. For this reason it is not really possible to prepare 'off the shelf' resources to support the use of the medium in the classroom. Rather, we have presented some material which could act

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as ‘templates’ for planning science lessons using newspapers. All the lessons presented are designed for use with Key Stage 3 pupils.

### EXAMPLE 1. Footprints on the Moon.

Newspapers are particularly interesting because of their topicality. This example, however, uses **a newspaper from the archives** as a context for pupils to apply their science knowledge.

### EXAMPLE 2. Something to chew on

Newspapers are usually used as a context for pupils to apply their knowledge of what is often termed ‘science content’. This example, however, uses newspaper reports as a context for pupils to apply their knowledge of ‘**scientific enquiry**’, that is of Sc1 in the National Curriculum or AT1 in the Northern Ireland Curriculum.

### EXAMPLE 3. In the news room of ISPY World

From September 2002 citizenship education becomes part of the National Curriculum. Since science-related issues play such an important part in contemporary life, it has been argued that science teachers and science teaching have an important contribution to make to this regard. For those who wish to develop their role in respect of **citizenship education**, one possible approach, illustrated in this example, is through the use of newspaper reports.

Finally a more ambitious project ...

### EXAMPLE 4. Pupils in Print

In science, for the most part, pupils write for themselves or their teacher. Frequently we are exhorted to encourage them to compose for other audiences. Often, however, when we do so, we do so in a rather contrived way. Thus our pupils write for younger kids, older folks, members of the family, members of parliament, Martians ... none of whom of course ever see their work. This example describes the process by which young people write a science news story for an **authentic audience** – readers of their local community newspaper!

## Other resources and references

A few other resources are available which are relevant to ‘newspaper science’. *SATIS 8 – 14*, Box 2 Unit 8 has ‘Reporting Science’ as its focus. The CD-ROM ‘*Ideas and Evidence*’ published by the Pupil Researcher Initiative and Collins Education has a unit ‘Getting into the Media’.

At Queen’s University we are planning to continue our work on newspapers in science education by, for example, exploring the issue of progression, devising criteria for selecting appropriate articles, preparing resources to support the use of print media in science teaching and encouraging cross-curricular and cross-professional collaboration. So, if you are interested, please keep in contact!

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McClune, B and Jarman, R. (2000) Have I got news for you: Using newspapers in the secondary science classroom. *Media Education Journal*. 28, 10 – 16.

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McClune, B. and Jarman R. (2001) Making a place for Newspapers in Secondary Science Education in de Jong, O., Savelsbergh, E.R. and Alblas, A. (Eds) *Teaching for Scientific Literacy: Context, Competency and Curriculum*. Utrecht: CD-B Press.

Jarman, R. and McClune, B. (in press) Bringing Newspaper Reports into the Classroom: Citizenship and Science Education. *School Science Review*.

Jarman, R. and McClune, B. (in press) A survey of the use of newspapers in science instruction by secondary teachers in Northern Ireland. *International Journal of Science Education*.