

Free Resources

As the renewal date for your membership comes up, you will be contacted about renewing your subscription. This year we are giving members who renew a library of samples of different materials. They will all be a uniform size, and they are aimed at allowing your pupils to handle some of the materials that they will have heard about but maybe never seen. Some samples are fairly common place and are there for comparison purposes.

In addition to these samples we have arranged for you to receive a copy of a double video covering various materials topics such as polymers/elastomers and composites.

However, now that these resources are all arranged we are beginning to think of resources for next year. We have some ideas of our own about the things that we think would be useful but you are on the front line. What would you like to receive? What do you find difficult to communicate or get hold of that, maybe we with our contacts, can provide? Do you need literature on specific subjects? Samples you can test? Or maybe access to particular equipment? Let us know and depending on the nature of the suggestion and the number of schools interested we will take your suggestions forward.

MATter on the Web

You will all be familiar with the **MATter** project having received the CD-ROM when you first joined this scheme. However you can now gain access to it via the web on their new address at:

<http://www.matter.org.uk>

Contact details

The very observant amongst you will notice that my contact details have changed. If you want to write, the new address is

72, Juniper Way,
Bradley Stoke,
Bristol.
BS32 0BR

As a result of a series of problems I have also changed my email address, although the old one on virgin.net still works, should you need to contact me.

The Institute of Materials

1 Carlton House
Terrace, London
SW1Y 5DB

Tel 0171 451 7300
Fax 0171 839 1702

Website:

[http://www.
materials.org.uk](http://www.materials.org.uk)

Ruth Withey
Scheme
Co-ordinator

01454 202741
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Materials Science and Engineering at the University of Liverpool

We believe the right academic environment is pivotal to undergraduate studies and so in addition to the more traditional methods of teaching and learning by lectures, tutorials, and practical work, staff within Materials Science and Engineering at Liverpool are leading the development of innovative teaching methods such as the MATTER computer-assisted learning programme. You can sample these pioneering teaching methods on-line by visiting the MATTER initiative for schools at: <http://www.matter.org.uk>, where you can experience how these teaching methods have been adapted for teaching materials science. These innovative methods won the department an excellent rating for curriculum development and organisation in the last Teaching Quality Assessment.



The MATTER computer-assisted learning programme for materials science at The University of Liverpool.

Our courses are designed to provide a thorough scientific training, a wide knowledge of the properties of materials, and an understanding of their engineering applications. The key subject area of materials science can be studied alone or with a range of options including clinical engineering, design and manufacturing, with management or with a European language. The undergraduate courses are intended to help students develop a range of professional and personal skills which are recognised by employers across the UK and internationally. One example of this is Tom Hutchinson, one of our 4 year MEng Materials Engineering students, who recently completed a final year project with the Raychem company. He went on to win the 1999 SET Student of the Year Presentation in Materials Science.



Tom Hutchinson received the 1999 SET Student of the Year Presentation in Materials Science, from Phil Ruffles, Director of Engineering Technology, Rolls-Royce plc.

The University of Liverpool is a research led university which means that its undergraduates learn in an environment where materials science is addressing the current needs of industry. Within the Faculty of Engineering, Materials Science and Engineering has the highest research rating attainable 5* and overall the Faculty of Engineering is rated highest in the North West and among the top five engineering faculties in the UK. The cross fertilisation of materials related research between Materials Science and Engineering and other groups within the faculties of Engineering and Science is strategic in promoting a vibrant teaching environment within a single department with world-class research.

Liverpool is one of the liveliest and most exciting places in the country. With two universities and several other institutions of higher education, it is a popular student city, especially as the cost of living is lower than in many other major cities.

For more details of our courses please contact the Admissions Tutor Dr Paul Chalker, Materials Science & Engineering, Department of Tel 0151 794 4313. Alternatively visit our website at

Engineering, The University of Liverpool.
<http://www.liv.ac.uk/Prospectus/UG/mscieng/htm>

Corus Group Education Service.

Partnerships in Learning

About Corus Group

Corus, a new force in metals, is the name of the group formed by the merger of British Steel and Koninklijke Hoogovens. With its corporate headquarters in London, Corus employs 66,000 people worldwide and is one of the largest and most efficient metals producers in the world. It makes steel for a wide range of products from paperclips, tin cans and cars to oil platforms, sports stadia, high rise buildings and bridges. It supplies industries and services as diverse as transportation, construction, engineering, packaging, agriculture, health and leisure. An international Group, it has operating plants in the UK, mainland Europe and the USA and distribution networks worldwide.



Its Education Service aims to work with the education system to the mutual benefit of the Group, educational institutions, teachers and students. It does this by understanding one another better, recognising each other's differences, similarities and common interests and working together in partnership. It achieves this by maintaining quality links with education that are an integral part of the Group's day to day activities and are targeted to meet mutual needs.

Its Education Programme is broad based and diverse combining centrally managed and locally organised activities involving the Group's plants, offices, laboratories, technology centres and distribution and service centres. The programme includes the sponsorship of curriculum developments, work experience for teachers and students, student sponsorship, management training for educationalists, close links with target universities, support for the national literacy and numeracy strategies and the production of curriculum support material.

Its Curriculum Support Material includes an extensive portfolio of teaching resources relevant to Key stages 1 to 4 of the National Curriculum, with some materials covering GCSE, A level, GNVQ and BTEC courses.

The main focus is on Science, Mathematics, Design and Technology and the Environment. The subjects are covered in imaginative and innovative ways and include references to other materials in addition to steel. All have been developed by educationalists in a true partnership with Corus and designed to enhance the work related curriculum and enrich classroom activity.

The materials are in many forms, including booklets, resource packs (including teachers' notes and pupil activities) colour posters, video packs, case studies and reference guides to the National Curriculum, GNVQs and the curriculum in Scotland. A new electronic resource on the chemistry of iron and steelmaking is being developed with Industry Supports Education and will be available in early 2000 on the schoolscience.co.uk website.

For a FREE catalogue phone, fax, e mail or write to:

British Steel Education Service
P O Box 10
Wetherby
West Yorkshire LS23 7EL

Direct line: 01937 840 243

Fax: 01937 845 381

e-mail: bsteel@twoten.press.net

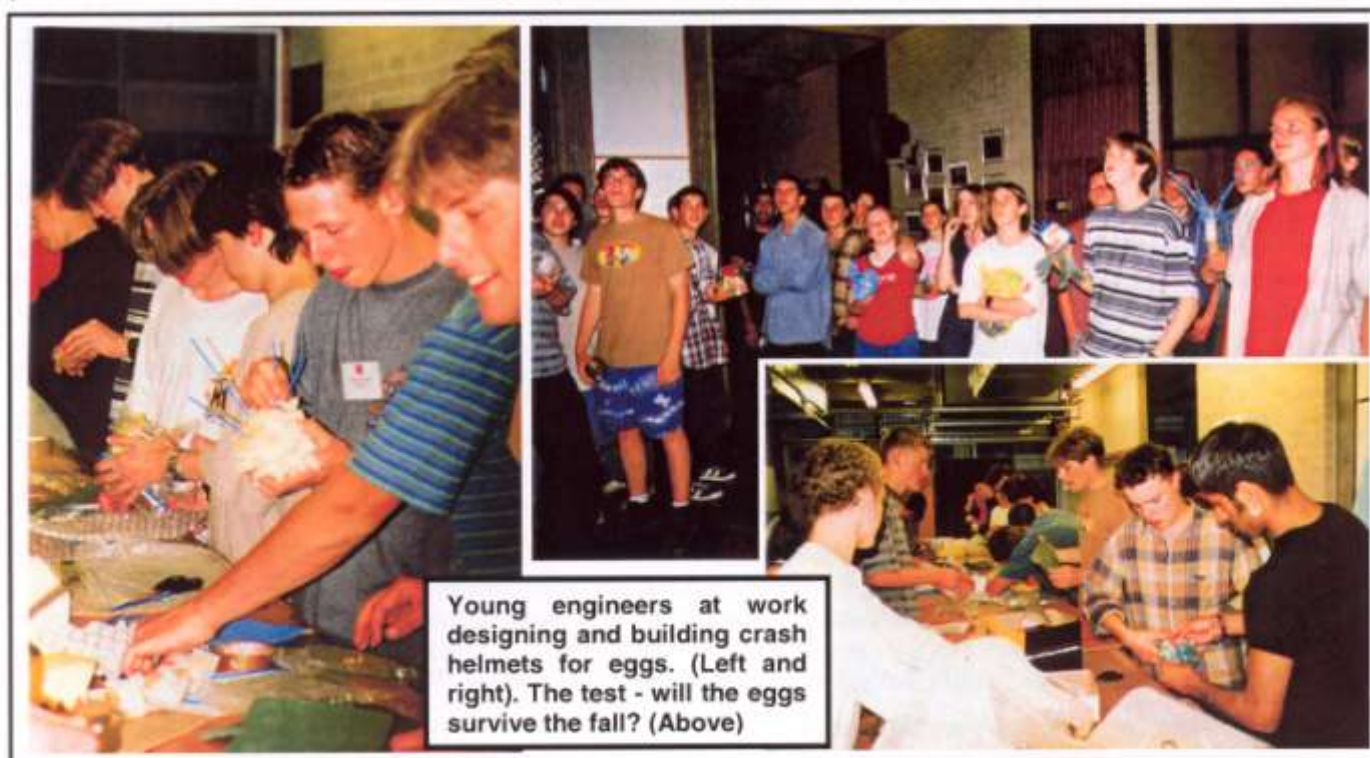
The catalogue, which contains a brief description of each resource, the subjects covered and target age, is also accessible in full on the former British Steel website, <http://www.britishsteel.co.uk/school.htm>

Information on the Corus Group and access to the education pages are also available on <http://www.corusgroup.com>

Orders can be placed through the internet on: <http://www.britishsteel.co.uk/schord.htm>

HOW CAN STUDENTS FIND OUT ABOUT MATERIALS SCIENCE?

How can students find out about materials science? There are a number of options available including University Open Days, science fairs and careers exhibitions. However, one of the best ways to find out is to spend a few days in a materials department. The School of Metallurgy and Materials at The University of Birmingham is running a four day residential course for lower sixth form (year 12) students entitled "What is Materials Science". The course gives students an introduction to materials science through a series of experiments, interactive lectures and demonstrations. The focus is on finding out more about the subject and making science interesting, relevant and most of all FUN. Typical activities include making crash helmets for eggs, building loud speakers and testing different materials to destruction! Students will also gain an insight into student life by staying in a Hall of Residence, experiencing hall food (which is not that bad!), and taking part in various social activities with the group, such as ten pin bowling.



Previous participants have found the experience very enlightening and thoroughly enjoyable. The chance to sample what a subject is like before deciding upon a degree program is invaluable, especially for a subject like materials science which many students do not know about. One of the participants on the 1998 course, now studying for a degree in materials science at Birmingham, says "The course was really useful in helping me to make up my mind about which degree course to study. I also found my four days at the University very interesting and great fun!"

This years course will be running from 3rd to the 6th July 2000 and if you would like further information or application forms for your students please contact: Diane Talbot, Schools Liaison and Recruitment Officer, School of Metallurgy and Materials, The University Of Birmingham, Edgbaston, Birmingham. B15 2TT Tel: 0121 414 5188 Fax: 0121 414 5232 e-mail D.Talbot.1@bham.ac.uk

Other universities running similar courses include:

Swansea on 26/27th & 29/30th June. Contact Dr Belinda Hulm on 01792 295867 or b.j.hulm@swansea.ac.uk.

Queen Mary and Westfield on 13th June 2000. Contact Cath Pedley on 0171 975 5159.

POLYMER STUDY TOURS

A Unique Opportunities for Teachers in 2000

Polymer Study Tours are industry awareness courses for school teachers involved in science and design technology. These free one-week courses are designed to bring teachers up to date with the latest developments in the world of polymers, as well as providing information for school leavers on career opportunities within the plastics and rubber industries. The courses have been running since 1987, and to date over 1000 teachers have benefited from the scheme. Courses will be run in 2000 at four centres on the dates shown below.

Brunel University, Uxbridge,	(Tel 01895 203253)	2 nd – 7 th July
Manchester Metropolitan University, Manchester,	(Tel: 0161 247 3329)	2 nd – 7 th July
Napier University, Edinburgh,	(Tel: 0131 444 2266)	25 th – 30 th June
Trowbridge College, Trowbridge,	(Tel: 01225 766241)	9 th – 14 th July

Teachers can apply directly to the centre of their choice for a place on a course. Also further information can be obtained by calling 0171 457 5000.

UCAS CONVENTIONS

Last years UCAS conventions were very popular and this year they are running again. There are many events scheduled for venues up and down the country and further details can be found through the UCAS website, or by contacting UCAS direct at the address given below. They will provide you with a timetable of events so that you can plan a visit the one most convenient for your school.

Joy Adcock
UCAS Enterprises
Rosehill, New Barn Lane
Cheltenham, Glos. GL52 3LZ

Tel: (01242) 544804

Fax: (01242) 544806

Email: j.adcock@ucas.ac.uk

Website: <http://www.ucas.ac.uk>

The Institute of Materials will be present at the four largest ones and the dates and locations of these are listed below.

London:	Business Design Centre Islington	16/17 March
Manchester:	Manchester Evening News Arena	4/5 April
Sheffield:	Sheffield arena	15/16 June
Tyneside:	Telewest arena	21/22 June

These are very helpful events for your pupils and we would recommend that you encourage them all to try to attend at least one. Exhibitors include:

- Universities who will provide full details of the courses they have on offer and advice to prospective students about all aspects of life at and after university.
- Professional bodies such as ourselves, covering a wide range of careers, industries and organisations, who can provide advice on the qualifications needed to enter a particular profession.
- Major businesses that can speak very specifically about a career in their particular sector.

Refresh your memory about what it is like to be present at one of these big events by looking at the articles in last term's newsletter once more.

OPEN DAYS

The University of Leeds

The Department of Materials will have a stand near to the Institute of Materials stand at the ASE event held at the University of Leeds from 6 - 8 January. Come and see us!

The Department is also open for visits in May/June on dates of mutual agreement. We can accommodate numbers of anything up to around 30 students who can come and visit the department on a pre-arranged programme. We can provide many demonstrations in areas covering the science and technology syllabus. Discuss with us your requirements and we will put together an event. You could even try one of our 'Whodunnits?' (see newsletter 3).

If you would like to bring a school's group in, or you have any ideas relating to Schools activities you would like to discuss, contact Tony Bromley on 0113 233 2362. Their web address is: www.materials.leeds.ac.uk

Oxford University

Oxford University, Materials department has four Open Days for Materials each year, on 15, 16, 20 & 21 March 2000.

For more details or to arrange a visit of the Department with a group of pupils for a quick introduction to Materials and a tour around some research facilities contact Chris Grovenor on 01865 273761 (Fax: 01865 273764) The Materials Dept web page is <http://www.materials.ox.ac.uk>

The University of Birmingham

The University of Birmingham, Department of Metallurgy and Materials are also having two open days on 4th and 5th April 2000. The department will be open to anyone interested in looking around and there will be demonstrations of the activities undertaken by members of staff. There will also be the chance to get involved yourself in some of the ever popular "hands-on" activities. Members of the department will be on hand to answer any questions about any aspect of materials, from careers and courses to how and why things behave as they do.

The Department of Metallurgy and Materials is also holding two Science Fun days on 30th June and 1st July 2000. There will be more details in the next newsletter but if you are in the Midlands area make a note in your diaries now. Their web address is www.bham.ac.uk/metallurgy

Most Materials departments have open days in the spring and summer, so if the department closest to you is not mentioned here, it does not necessarily mean that there is nothing available. Find out about other open days by logging on to their websites details of which were given in our newsletter last summer.

Rolls-Royce course at Easter

Don't forget the teacher's course, mentioned in last newsletter, that is being run at The University of Birmingham, in conjunction with Rolls-Royce and The Armourers & Brasiers. For more details contact Erica Tyson on 01332 249394.

Manchester Course in June.

The Materials Science Centre will be running a residential Materials Summer School for A-level teachers (INSET) on June 26-28, (beginning on the evening of Sun 25th).

The program will include:

- Update sessions - modern applications of Materials Science
- Industrial visits
- Hands on materials science demonstrations
- Introduction to the Web based "internet microscope" for teaching
- Microstructures
- Team problem solving session
- Careers session
- Visit to the museum of Science and Industry

If you are interested in attending then contact Dr James Marrow 0161 200 3611

The Materials Information Service

Correct selection of materials and processes means competitive, profitable products, while poor choices can lead to failures, low performance and unnecessary expense. The Materials Information Service (MIS) is a division of The Institute of Materials providing a reference point for members interested in improving their understanding of engineering materials and processing methods.

In particular, they aim to highlight the extensive network of materials expertise and to encourage everyone working with materials to grasp the many opportunities offered by developments in this field.

Materials technologists staff it, and they regularly visit major sources of expertise to reinforce and maintain their network of contacts, thus aiding speedier and more accurate referrals.

Services

Their service and the resources available to them include:

1. Identifying information resources appropriate to your enquiry and supplying contacts for your use.
2. Providing information on engineering materials and processes backed up with contacts for further detail.
3. Information Sheets on a range of engineering materials and processes, plus profiles, design guides, for more in depth information and advice.
4. Providing information on books, journals and computer databases on materials subjects.
5. Database of materials consultants, trade associations and suppliers
6. Contacts at universities and higher education institutes with materials expertise
7. Representative literature from materials suppliers is maintained and added to as new materials appear

If you would like to contact them with a specific enquiry or to discuss some aspect of materials technology that is providing difficult them use the "fax-back" form overleaf and send it direct to MIS on: (0171) 839 5513 or email them at mis@materials.org.uk

Alternatively you can visit their webpage at <http://www.instmat.co.uk/ser-ints/mis/mishome.htm>

Presentations about Materials

A number of schools have contacted us asking whether we would be able to give a presentation to their pupils about Materials and the Careers available in this area. A general presentation is available in which we will give an indication of the scope of materials and show examples of materials as used by different industries.

I would point out however that this presentation is a general overview of the subject, suitable for pupils at KS 4 and Post 16. Should you request a presentation on a more specific subject then whilst obviously we would like to be as accommodating as possible, it is likely to be more difficult finding someone local to your school, expert in that area and willing/able to give a presentation aimed at a suitable level for your pupils. We do have a network of contacts in industry and academia that have indicated a willingness to talk to your pupils but it will very much depend on demand as to whether we can provide this more specialised service on request.

If you interested on a presentation at your school then please use the "faxback" form printed overleaf. Send it to me on 01454 202741 and I will make arrangements for a presenter to get in touch with you to organise the details

If a specialist presentation can not be arranged for you and your pupils, please try contacting your local university. Many of them are more than happy to have small groups round to tour the department and see where the developments in materials are heading. Likewise consider the many courses, open days and exhibitions at which materials are presented. They are there to help you find out more about what Materials Science and Engineering are all about.

Articles of interest in of Materials World

September

p 538 : An e-fab way for making the micro world.

p 549 : Which way with waste?

p 552/3 : Steel packaging brings cool new look to ice cream. Judges get a buzz from coffee pack.

p 560 : Polymer Circus.

November

p 671: Weighing up her future. Michelle Dagnall: Young Engineer of Britain 1999.

p 677 : HIP making great strides.

p 681 : Teaching Kilns some control.

p 692 : Materials Congress 2000, to which you will all be invited.

October

p 607 : Superplastic forming in dental prostheses.

p 610 : Dental drugs – gels deliver the goods.

p 621 : 3D moulded electronic circuits.

p 213 : Meet the materials website challenge.

p 639 : Britains ups and downs through 300 years

December

p 730: Rolls-Royce picks Nottingham for new University Technology Centre.

p 739: Looking into the sole – testing shoe materials.

p 743: A helping hand from materials testing.

p 745: Shaping the body from memory.

Schools Affiliate Scheme: Information Faxback

Please complete the form below and fax back to either Ruth Withey or MIS

School Name _____

Contact Name _____

Phone Number _____

Fax Number _____

E-mail Address _____

Please tick the following boxes to indicate your requirements:

I would be interested in a talk about materials.

I would like assistance from the Materials Information Service on the following topic(s):
