Book Reviews

Design and Technology in Process: Survival
Project Director: Robin Murray
Heinemann Educational, ISBN 435 572814 (paperback) £29.95
Reviewed by Ian McLintock

The Survival Resource Park is the latest in the *Design and Technology in Process* series. The previous titles being, *Introductory Guide and Theme 1, Health and Fitness; Theme 2, Entertainment,* and *The Skills Book. The Skills Book* was reviewed in *Design & Technology Teaching,* Vol. 24, No. 1.

The package consists of a Teacher's Resource Pack and a copy of the *Student Activities* book. Both parts are punched and can be put into the original Teachers Resource Pack Binder (supplied at the beginning of the course).

The *Student Activities* book consists of 15 double page spreads, a glossary, a set of information sheets and series of student activity recording sheets.

The spreads starting with identifying needs (3.1) and opportunities (3.2) are followed by 13 interesting and relevant aspects of survival, from shelter and survival at sea to electronic warnings, child safety and the environment.

The introduction in the Teacher's Resource Pack is excellent for lesson preparation, it consists of a very useful chart of the breakdown of the balance of tasks, giving details of the unique system of openness, expected outcomes, the range of contexts and materials likely to be used for each spread. Each double page of notes for each spread gives an overview of each topic; the main activities including hints on teacher presentation, a breakdown of the programmes of study covered and a valuable list of resource contacts for books, pamphlets and information.

The excellent format of the pack enables the tasks to be used in a non-specialist way, thus the pack could be used either cross-curricularly or covered by teachers not familiar with the more traditional 'heavy' skills. The programmes of study are aimed at KS 3. But it only gives good delivery of Te1 and covers only parts of Te2, 3 and 4 effectively. No way could it fully prepare students for the recent SATs of which we are all so familiar; but it would give an experience of tasks which will enhance any KS 3 course.

In that this pack is all there is on the Survival theme, is in black and white and photocopiable within the institution, then at only £29.95 it is much better value than previous themes. Although the (presumed) loss of the colourful student's book may not inspire pupils to respond as well, I am sure the relevance of the topics will give better overall enthusiasm.
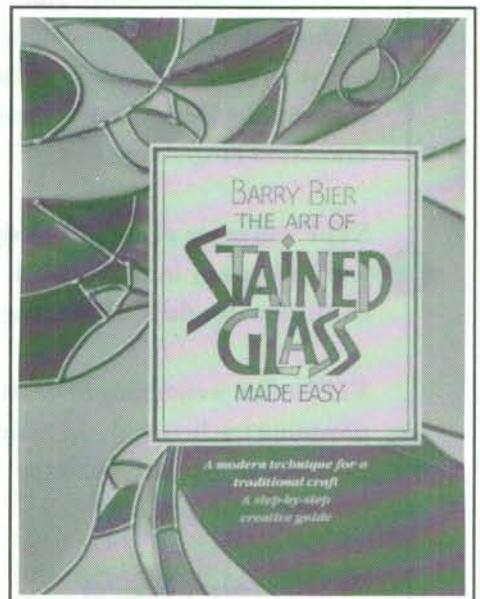
Stained Glass Made Easy
Barry Bier
New Holland (Publishers) Ltd, ISBN 1 853 682268 (paperback) £7.99
Reviewed by Mel Mars

This book is not for the stained glass purist. It explains how to paint a sheet of glass with glass paints and then how to apply adhesive and liquid lead to form the lines of your design.

There are sections on three-dimensional objects which you can make using the comprehensive collection of templates in the book, as well as two-dimensional ones. Such things as bells, jewellery boxes, house numbers and light catchers are all well laid out in their sections in easy to follow numbered stages.

The book would benefit from illustrations on using liquid and adhesive lead rather than relying on a written paragraph. Some

drawings showing soldering techniques similar to the handouts you can pick up on a number of do it yourself jobs in Do It All stores would be very useful.

If the book were used in a sensitive rather than a prescriptive way it could be useful in an educational setting.
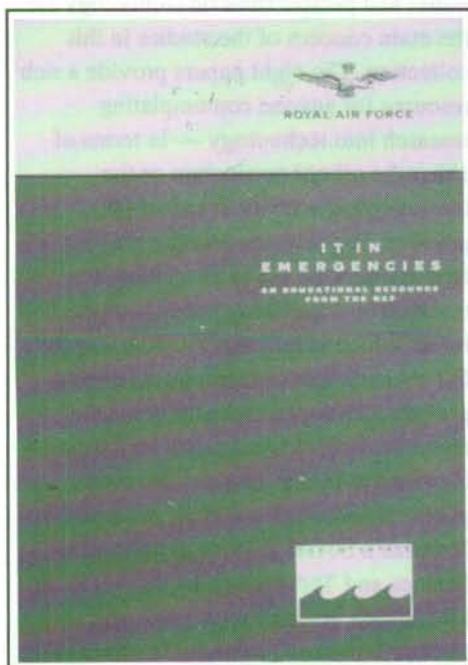
IT in Emergencies Pack
Royal Air Force
Royal Air Force
Reviewed by Dominic Clare

The RAF have produced a series of packs to support IT in the National Curriculum in the context of the use of computers within the service. The pack reviewed covers the Search and Rescue operation of the RAF and that application of computers, particularly the use of an information system.

The pack contains copies of a case study, the transfer of a round-the-world yachtsman to hospital, presented in booklet form with colour photographs. In addition, there are photocopy masters of seven pupils' worksheets, each describing an aspect of Search and Rescue with a number of computer-focused activities, including flowcharts and system design, using computer-based maps, data encoding, data logging, using a database and desk-top publishing, modelling, much programming, problem solving and using the software supplied. A disc is supplied

(the review version was 3.5" double density for PC or Nimbus under SETPC) with a search and rescue simulation program with data and clip art in standard format for use in a range of data handling and desk-top publishing programs. The disc also contains a read-me file which I found to be vital.

The teacher's notes list additional resources needed, including recording of radio weather reports, 'access to a programming language with which the pupils are familiar, e.g. BASIC, C or Pascal' and 'Autoroute or a similar mapping program'. I do not think many schools will have such resources and I did not find any vital. Each pupil's worksheet has useful associated notes and a grid showing IT levels covered by the worksheets is also given, covering Levels 4 to 9, although neither NSG strands nor Programmes of Study are referenced. In my opinion the pack could form the basis of a unit of work for pupils following an Information Systems GCSE or a BTEC or a similar course focusing on applications of IT. The IT skills supported are mainly of a low NC level with most emphasis on the applications and effects strand.

A Taste of Quality Pack McDonalds
McDonalds' Educational Service
McDonalds
Reviewed by Jonty Crockat

This pack is free of charge and one can be sent to every secondary school. The pack is well designed being easy to use, colourful and succinct, and beautifully boxed. The aim is an illustration of how a large and successful food company achieves quality and the introductory section is based on team discussion about this issue and the use of criteria. There is an explanation of, and distinction between, quality assurance and quality control, and a useful example of the meaning of systems.

A technology department could use it in a realistic way in that a 12 hour section of work could be done in most materials areas, and it is based on a real life company rather than a nebulous theme. There are lots of ideas for resource tasks in most materials and in graphics. There is room for extension of some activities and
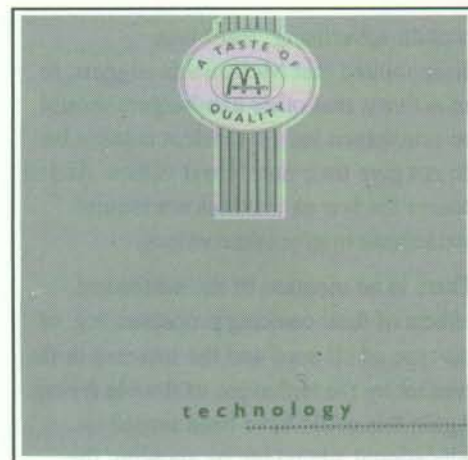
it needs more back up in certain areas, particularly in the provision of knowledge and understanding for resourcing tasks. There are implications for department needs, e.g. instruments for sound and temperature measurement. In the teacher's notes, the authors indicate that Level 10 can be achieved in some sections and they say the pack is suitable for KS 4. However, it could be used earlier in some circumstances.

Some examples of tactics and skills that are included in the range of activities are: discussion in teams, work schedules, flowcharts, research, and investigation (fair tests) for example, on potatoes for French fries, reporting back to others, construction of rating tables based on first hand data collection, room planning, product evaluation, etc.

Each of the three sections has a structure — three pupil activity sheets are supported by a double spread data sheet. 'Processes' includes seat design and ergonomics, packaging design, delivery systems. There is a clever interpretation of 'Environment' — surface design: walls, tables, floors; energy consumption focusing on electrical usage; and corporate image; signs, colours, interior planning.

Knowing that the pack is from McDonalds, most pupils will focus on the food section, here called 'Products'. Food technology teachers know that kids have this split personality about hamburgers, junk vs. nice and good value. But this common need for a technology thinker to balance personal criteria has been ignored. Why not use this for an educational purpose? I suppose a free pack has to

contain advertising. But I was disappointed that McDonalds suggest, in an activity, that other hamburgers should be scrutinised for the nutrient content but do not give their nutritional values. And of course the law as yet does not require restaurants to give these values.

There is no mention of the nutritional effects of their cooking processes, e.g. of the type of oil used and the increase in fat content by the technique of double frying. Again this could have been turned to educational advantage by showing the constraints imposed by the need for quality control.

Publication of such packs highlights the need for resources based on real industrial processes and real companies. But how this request could be co-ordinated for progression in the NC seems at first sight to be a problem.

Hands on CAD
P. E. Perkins
Cassell, ISBN 0304 315648 (paperback)
£19.99
Reviewed by Phillip Brownrigg

Having been subjected to many new computer programs over the last few years, some with very comprehensive manuals that 'Marty the Martian' would be proud of or those that arrive with little or no explanation and hours are spent on the phone speaking with the 'boffin' who wrote the package, here at last is a book
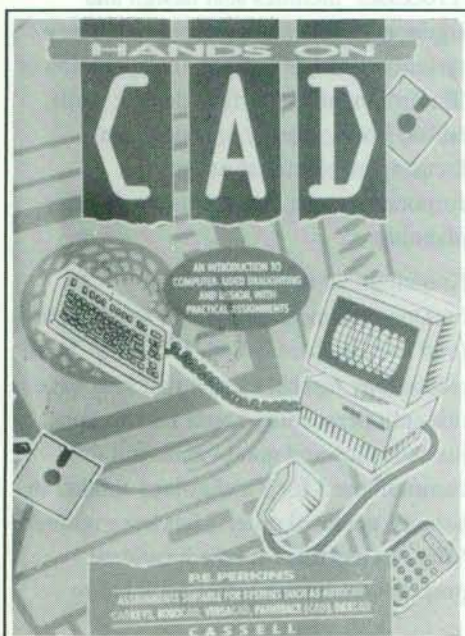
that delves into an area that sadly many of us haven't had the time to study in depth. With increasing pressure being placed on the Curriculum to incorporate IT and CAD into many subjects, well-written and informative specialist books will be required for reference.

Here is a book that has been written in a truly logical way using terminology that has been gradually built up through the first chapters. The book is divided into three main areas — an introduction to CAD and computers; two dimensional draughting and three dimensional draughting. Both later areas are approached in a gradual way so the user can build up a clear picture of the complex subject matter. It certainly allows the user to digest the complex number of commands in an extremely user-friendly manner. The assignments that appear in chapters 4 and 6 are extremely well presented and explained; the numerical 'idiot proof' step-by-step approach is very easy to follow. Although the book is primarily designed to be used with PC software, I went through many of the assignments using our school Acorn packages (Draw, Autosketch, Procad and ARC PCB) and found that little if any of the assignment required change. The glossary of common CAD terms and index are both easy to use.

This book is extremely well-written and it would allow a complete novice to master the complexities of computer-aided design with its logical approach. As a reference book it will prove to be a valuable addition to any departmental library and a ready source of information on trouble shooting with a software package.

An extremely useful and 'friendly' book — congratulations to the author.

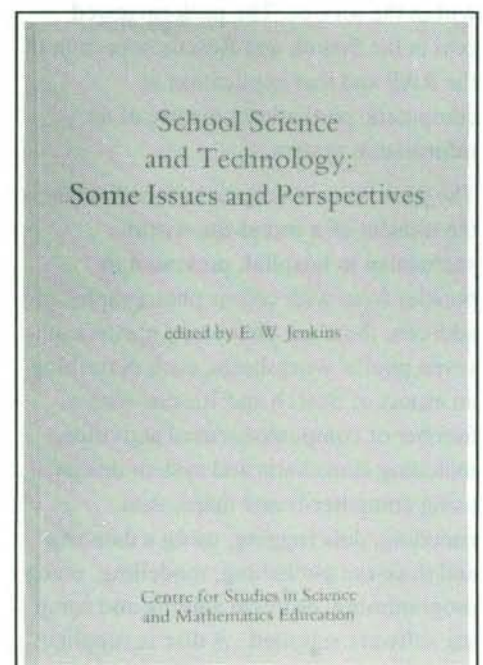## School Science and Technology: Some Issues and Perspectives
E. W. Jenkins
Centre for Studies in Science and Maths
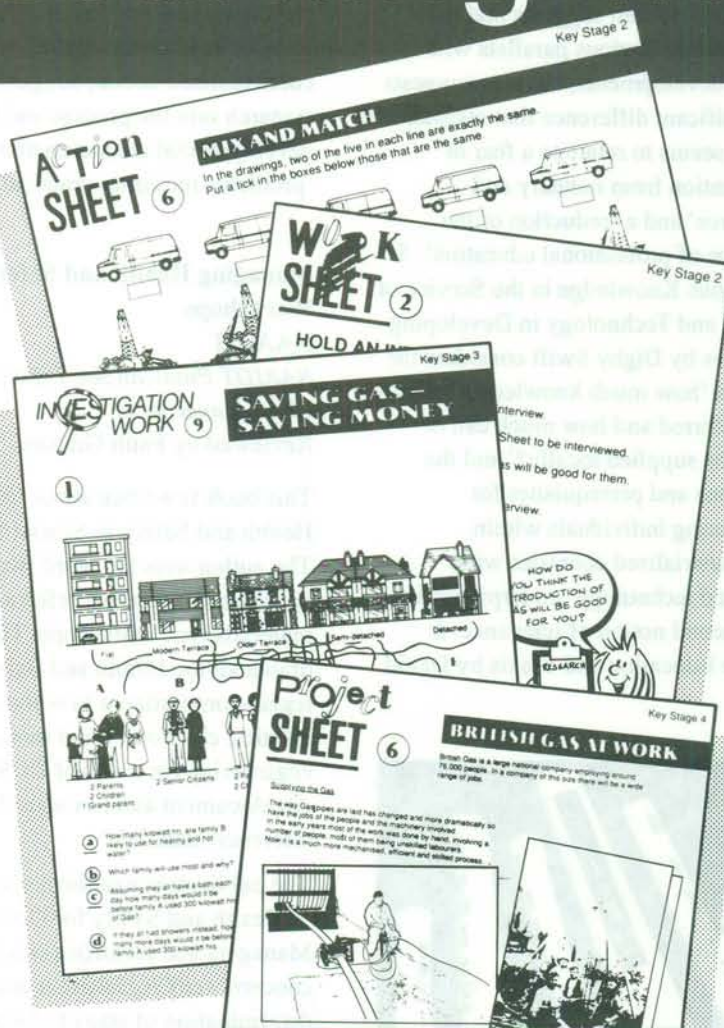*Ed. ISBN 0940442150 3 (paperback)*
£10.95
Reviewed by J. Compton

Despite a title which puts science 'first' issues and perspectives on technology are the main concern of the studies in this collection. The eight papers provide a rich resource for anyone contemplating research into technology — in terms of either the school curriculum or the technological activity in industrial practice. The Introduction (by Edgar Jenkins) sets the scene in relation to research by suggesting possible topics and issues which would benefit from research. For more extensive reading two papers provide a critical biography of existing research. 7: Technology and the School Curriculum by J.F. Donelly, reviews publications over the last 30 years and 8: Towards a Social History of School Science and Technology, by G. McCulloch, reviews nineteenth and twentieth century research. The remaining papers deal with the complex relationship between knowledge and practical action, an issue which is writ large in the attempts to define Design and Technology for the National Curriculum. A fundamental question is also raised and considered by several papers — is our aim as

School Science and Technology: Some Issues and Perspectives

edited by E. W. Jenkins

Centre for Studies in Science and Mathematics Education

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Technology educators to educate 'in technology (which) concerns 'the acquisition of some knowledge and skills that technologists have'; ... (or) about technology which would be 'a humanity' which 'examines technology in our culture'; ... (or) 'education through technology' which would seek to achieve 'goals of general education' through pupils doing technology'? (Extract from 3: Issues in the Theory and Practice of Technology Education by Peter Medway.)

In brief summary — 2: Science, Education and the New Vocationalism by David Layton addresses issues raised by the trend to 'vocationalise' education (not just the Science Curriculum) and proposes a model for re-working and contextualising the often abstract knowledge so that it can be actively 'used' by learners. 3: (See above) introduces the economic, social and educational pressures that have contributed to the ascendancy of technology education

before going on to propose a theory for its curriculum. 4: The Origins of the Technical Curriculum in England during the nineteenth and early twentieth Century by J.F. Donelly introduces the origins of 'the technical' and suggests that the history raises obvious parallels with current developments, but also suggests the significant difference that resistance to change seems to relate to a fear of 'intervention from industry and commerce' and a 'reduction of the influence of professional educators'. 5: Indigenous Knowledge in the Service of Science and Technology in Developing Countries by Digby Swift considers the question 'how much knowledge needs to be transferred and how much can or should be supplied locally?' and the conditions and prerequisites for empowering individuals within non-industrialised countries with 'imported technology' underpinned by a fundamental notion of relevance. 6: Science Education and Praxis by David

Layton proposes a model for the nature of technological knowledge against a background of the perceived hierarchy of 'pure' and 'applied' knowledge; the need for scientific and technical knowledge to be constructed and 'de or re-constructed' so as to be usefully applied within a given contexualised action; suggests future research into the process and the developmental characteristics of 'problems requiring practical action'.

Managing Health and Safety in School Workshops
NAAIDT
NAAIDT Publications, ISBN 0 906457 08, £7.50 (paperback)
Reviewed by Faith Graham

This book is written about 'Managing Health and Safety in School Workshops'. The author uses the word 'workshops' in the narrower context, referring to resistant materials type workshops. The book has drawn all the Health and Safety legislation pertinent to wood, metal, plastics, electronics and motor vehicle engineering (in terms of COSHH) into one document and has identified further reference material.

The publication examines the implications of Health and Safety for Governors and Managers and identifies two issues of concern, staff recruitment and the determination of size of classes. Both issues are covered comprehensively and make interesting reading.

This book is a reliable guide to working in resistant materials workshops. I recommend that it is read in conjunction with Safety in Technology Food and Textiles by NATHE for complete guidance for Health and Safety in Design and Technology in schools.

■ APOLOGY

Jimy James who reviewed the book on Edward Barnsley in the last issue was wrongly printed as Jimy Jones.