

Book Reviews

Sensors & Security, Flashing Lights and Making Noises

Cudworth Teaching Aids, £29.95 each

Reviewed by Dr Rowland Dye

Cudworth have divided KS3/4 Electronics into separate modules entitled Sensors & Security, Flashing Lights and Making Noises. Further titles such as Power Supplies are also promised soon. Each module comprises a 15-minute video and a 23-page booklet which is photocopiable within the institution.

Each module is intended to be largely self contained. The booklets start with an eight page core of basic information covering resistor codes, symbols, soldering, Ohm's law and capacitors. Between a dozen and two dozen circuits are then described together with further components as necessary. Finally a range of possible pupil projects is listed.

Sensors & Security contains transistor switching circuits using the LDR, thermistor, moisture sensor as inputs and the bulb, LED, relay, solenoid and counter as outputs. These circuits are then extended using the 741 op amp. The video introduces examples of automatic sensors in everyday life, with pupils describing a moisture detector, automatic fan and door and a heater system for a greenhouse.

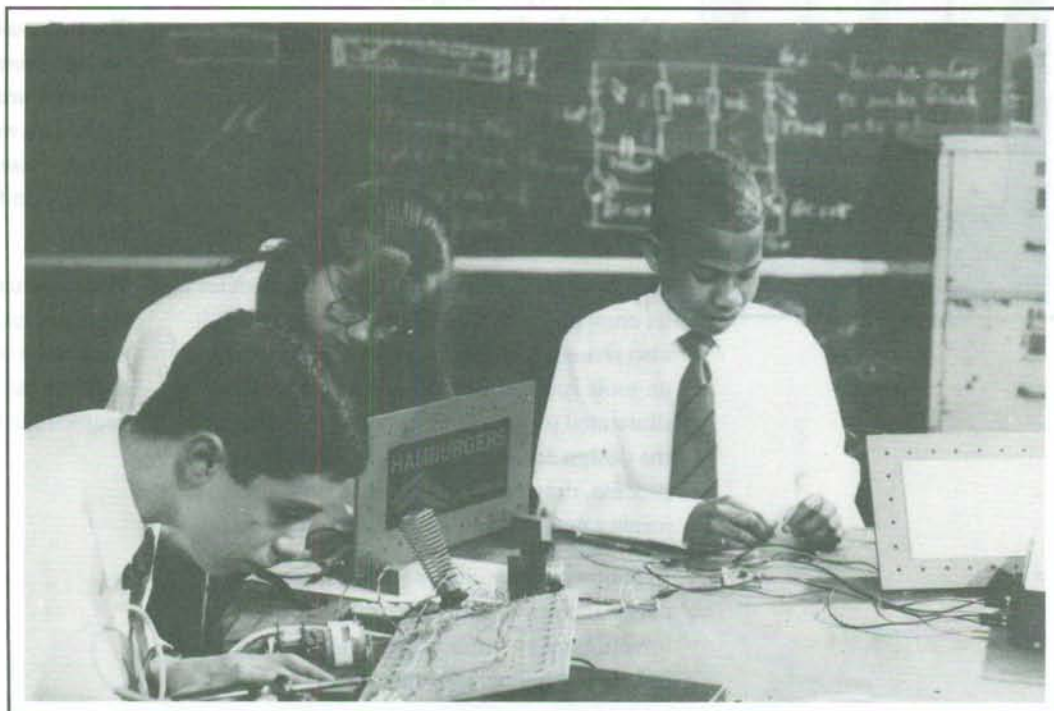
Flashing Lights has two-transistor astable circuits shown in various configurations, then moves on to the 555 timer astable. The outputs are developed from bulbs and LEDs to the light

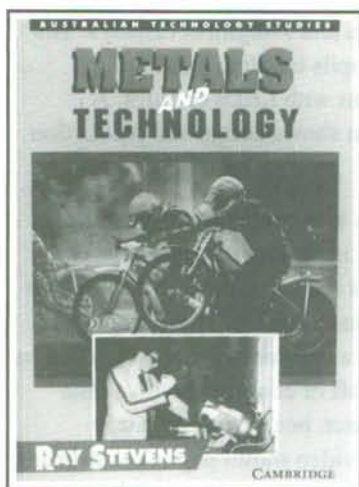
chaser, counters and 7-segment displays. The video shows pupils building fast-food advertising signs with LEDs or bulbs. A separate section shows design and production of PCBs.

Making Noises also contains two-transistor astable circuits in various configurations to produce sounds via a speaker, and then moves on to the 555 timer astable. These are developed into a two-tone device which can be pulsed on and off or controlled with a time delay, light sensor, heat sensor or music keyboard. The video shows pupils constructing a variety of board games with special sound-effects.

Videos are a useful medium for explaining principles and points of detail which would be lost in the crowded classroom. The packs contain a well organised core of skills and information followed by libraries of circuits which would enable students to progress at their own rate, but I found myself frustrated by the attempt to cover too much in a limited space. There are some curious omissions and some irritating errors. I would have preferred basic skills to be treated in their own module and would have appreciated some background information on components. I look forward to a revised edition which will support busy and hard-pressed teachers looking for teaching resources in this field.

Scene from one of the Cudworth Videos





Metals and Technology

Ray Stevens
 Cambridge University Press, £7.95
 Reviewed by R.M. Gawel

Can an Australian textbook offer anything to teachers in the UK? Certainly Ray Stevens tries to cover a wide ranging theme, dividing his book into ten chapters dealing with the familiar topics.

The more densely technical aspects are treated in detail — probably greater detail than is strictly necessary. The design side, structures and tools and processes are more sketchy although there are useful checklists and some valuable hints for pupils conducting research. I noted that although the case studies cover work by both a boy and a girl, the former was much more comprehensive, which is not quite what we've come to expect.

Naturally, there is some Australian emphasis in the book, and there may some value in comparing British and Australian practice through this book, but the overall feel was definitely old fashioned. The illustrations are all monochrome and most pupils expect something a bit more sophisticated. There are plus points, however: the summary panels and many of the questions and tasks in each chapter, for example.

Metals and Technology covers one area of National Curriculum technology and that in a patchy way compared with many textbooks, yet it may be a justified addition to the bookshelf in providing an Australian view of school technology.

Wood and Technology

Betty Prange and Maureen Kelly
 Cambridge University Press, £7.95
 Reviewed by R.M. Gawel

This book suffers from the same deficiencies as its companion by Ray Stevens, but equally, it also shares its strengths. Although the section on tools is comprehensive, not all tools are illustrated or their use explained in detail, and the design section tries to compress the design process, drawing methods, materials and joining methods into one too-short chapter.

In contrast, other chapters offer interesting detail and provide an Australian aspect of government attempts to regulate the timber industry. Although its topics have been well

covered in other textbooks, this has something to offer — and not just the positive role model given by two female authors. It would be valuable as a source book, particularly in studying timber as a question of global significance.

Nutrition and Food Design

Jenny Ridgewell
 Ridgewell Press, £22.50
 Reviewed by Anne Gilbert

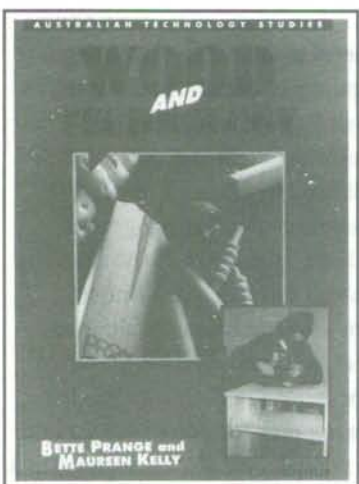
This is another useful food-based publication from Jenny Ridgewell, aimed at key stages 3 and 4. It is part of a series and due to its publication date is linked with the old technology curriculum, but could be used with the new curriculum too.

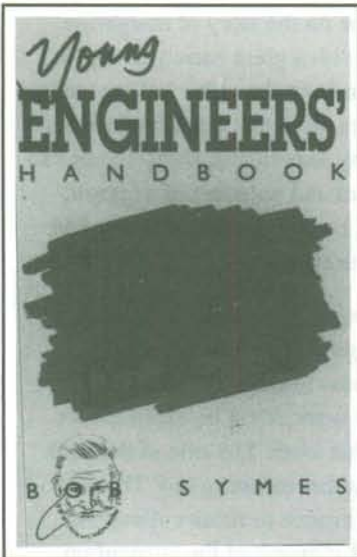
Its cost is high as can be expected of material that is photocopiable, but unlike some past publications, it includes fact sheets as well as resource task sheets, allowing discrimination in the use of the material by teachers. The contents draw on a wide range of resources already in existence.

The level of language is pupil friendly, with simple cartoon-type illustrations, a range of data presentation methods and flow charts and a useful resources list. The tasks set are general and familiar and suitable for use with pupils. Nutritional information is stressed and there are links with many of the nutritional databases used in schools, using DRVs and RNIs (also explained in the glossary).

The tasks are aimed primarily at KS3 pupils, but with some expansion could be used at KS4. Contents are based on the main nutrients needed as well as dietary guidelines, in line with the latest recommendations; there are also sections on food processing and special dietary needs.

This publication would be a useful addition to any food technology resource area. As with any publication of this kind, it doesn't offer all the answers but the style and content can be easily adapted for use with pupils.





Corporate Identity & Package Design

Giovanni Brunazzi
 Art Poligrafiche Europe, £50.00
 Reviewed by G. Asquith

This is a hardback, top of the range reference book of 190 pages, having both Italian and English text — the latter being at times a less than accurate translation. It is, however, a very detailed publication divided into four sections: packaging, communication, case histories, a guide to environmental packaging and an A to Z of package design terminology.

The book is well illustrated with very high quality photographs. The case histories are most informative and could be an excellent reference for students. Sections 3 and 4 make me wonder how I have managed without this information for so long.

This is an excellent publication, but you should see the book before purchase as the price is high.

Young Engineers Handbook

Bob Symes
 Bright Books Ltd, £1.99
 Reviewed by John Durrell

You may already be familiar with Bob Symes, who has been involved in a range of media presentations promoting technology. He is also one of the presenters of Tomorrow's World. The format of the book is A5 and it is divided into nine sections, the last two being a glossary and useful addresses.

The first section is an introduction directed at young engineers, and the middle sections deal with a range of topics including power, communication, heating and ventilation, movement, holding things together and cost counting. The book appears to have been written almost in the same style as the Boys' Own books of the 1940s although, to be fair to Bob Symes, girls are also shown joining in the activities.

It gives a taste of various technological activities, and although it seems to want to get



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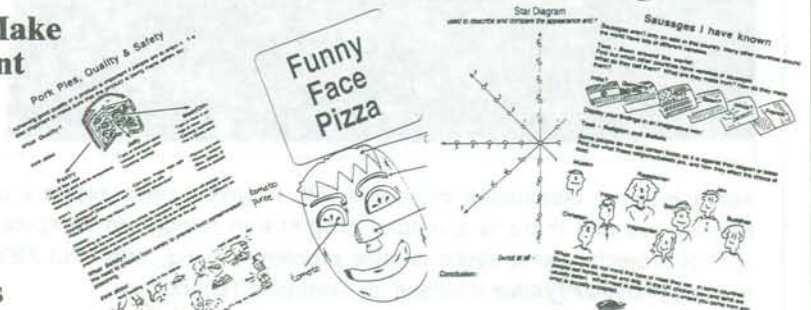
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young people interested in the construction of technological projects, it appears to lack the details essential to completing a project. For example, a circuit diagram for an intercom is given with no values for the components; it fails to give advice on how to build the circuit, save to say that pupils could ask the shop assistant for advice.

There is a section on construction which is divided into permanent and semi-permanent joining of materials and, for good measure, a section on glues. The book claims to give only outline information and this is the case: some of the projects would require a good deal of further research. Within a D&T context, some of the ideas might trigger potential projects, but pupils would need to put more 'flesh on the bones'. As a taster the book works, but as a class resource it is less successful.

Spreading the Word

SCSST, £25.50

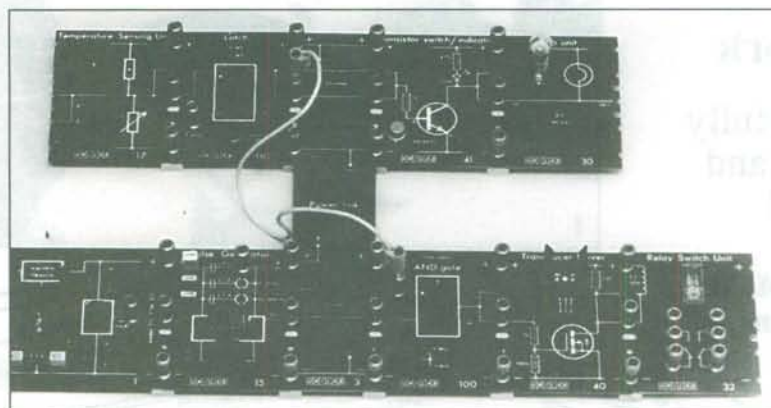
Reviewed by David Foster

This pack contains a videotape of some twelve minutes' duration, and two booklets, Spreading

the Word and one on the story of margarine. The pack deals with a great variety of topics and following on from the video outlines many aspects of project work that could be provoked. Essentially, in my experience, short videos can add to the content and outcome of a lesson, whilst videos of twenty or more minutes can have the opposite effect.

Even from the point of view of KS3, there is still some mileage in the materials. The technology process remains the same and it is obvious that the work could be extended for pupils beyond this level. The title of the pack therefore has another meaning too. The pack certainly has relevance to those colleagues delivering the IT element of the curriculum when it explains the use of barcodes and stock control. The support materials booklet is excellent, even though black and white only.

There is a series of related titles and further video packs, text packs and multimedia packs. They deal with a wide range of topics and could come highly recommended if they are of the same quality.



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In the circuit shown, a rise in temperature turns on a lamp, which stays on, and pulses a relay, which could be used to sound a siren or turn on a fan.

223.922 Alpha Single Workstation Introductory Pack £199.50

Prices exclude carriage and VAT and are correct at the time of going to press

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Software Reviews

KidCAD

Davidson & Associates
 Distributed by ABLAC Learning Works
 PC with Windows: £39.95 (single user)
 £79.95 (up to five users)
 Reviewed by John Hanson

I was very pleased with this program and overall it proved to be worthwhile. I have used several of these Lego-style CAD programs on different computers, and this is a very good one. The icons are very attractive, there is a good range of 'bricks' and other components and the backgrounds you build on are very attractive. It has all the necessary tools and facilities for changing position and eye level, painting, zooming, rotating and showing in 3D. Of all these, it was the wide range of ten demolition tools with some of the best icons I have ever seen which really pleased me. It slowed down a bit as the drawings became complex but that is only to be expected.

It requires a PC with Windows 3.1 (enhanced mode) or above, at least a 386 processor with 4Mb memory, 9Mb of hard disc space and a sound card is recommended. I think this is a very high specification for most schools or individuals to meet and it took me a little while to find a computer that would load the program. I was, however, delighted that the program was bright enough to check the computer before it loaded and would not load unless its requirements were met. It may therefore have a limited market, likely to be used by children of computer professionals with up-to-date equipment, who want their children to be confident and competent in design and whose children are not put off by their parents pushing them off the computer in order to play with the software themselves. It would also be useful to schools doing technology with young children if they have lots of PCs available. Sadly, there are not many of them around.

Nevertheless, the manual is good and the whole package is attractive. At about £40 it is also reasonably priced.



Noddy's Big Adventure

Jumping Bean Co. Ltd
 Distributed by TTS
 Acorn: £26, PC: £30
 Reviewed by John Hanson

You can imagine my reaction when I received this piece of software to review but I dutifully opened it up and ran it. I was delighted with the free Noddy badge and quite pleased with the software. It is available for Acorn and PC and the PC version I used installed itself quite easily. It asked me a few odd questions during the set-up program such as 'How fast do you want the game to run on a scale of 0 to 255?', to which I had to guess an answer.

The program consists of a word processor, seven games and four linking scenes which allow you to move around the program. The word processor is in an attractive style similar to others aimed at very young children, with simple icons, sample stories and three levels which allow a range from a great deal of adult help to a self-sufficient simple word processor. The games include Kitchen Fun, which involves selecting ingredients to produce a food, Noddy's Scales (a number game), Tricky Trees and Can You Find Me? (memory games). Bert's Scrapbook and Beach Sorter are sorting games and Picnic Attack is a nice shoot 'em up. These are all similar to other infant games but with a technology slant. The linking screens are interesting and both these and the games are supported by stories in the instruction manual.

The graphics are good, the instruction manual excellent and the overall package attractive, helpful and useful. This is certainly of better quality than the children's educational games my children played more than ten years ago. I am a bit worried by the 'Conforms to the National Curriculum' claim as I think this plays on parents' insecurities, but overall this is an excellent package and at the price it is a good buy.