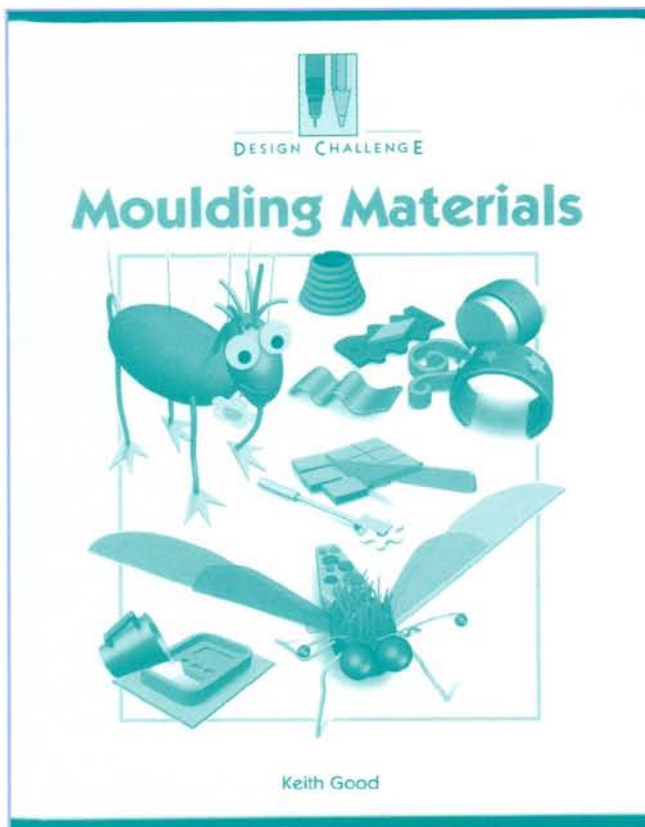


Design Challenge: Super Structures, Exciting Electrics, Moulding Materials, Teacher's Book
Reviewed by Bridget Egan, King Alfred's College, Winchester

These four volumes are companions to the *Amazing Machines*, reviewed in a recent issue of this Journal (Vol. 5, No.1). Together they form a short series of books intended to help children to solve design problems, by offering step-by-step instructions for basic construction, using low-cost materials normally to be found in any primary school. The books are well laid out, in a uniform style, with not too much text on a page, and with colourful and very clear computer-generated graphics, which are easy to follow. They have good visual appeal and text suitable for pupils in Key Stage 2.

The first two named offer teachers and pupils guidelines that will ensure success in the making of structures, or of circuits and switches, while leaving scope for pupils to make their own design decisions, and to develop their own ideas in response to design challenges. *Super Structures* also presents focused tasks that will enable pupils to understand some of the underlying principles of stability, rigidity and equilibrium, and what happens to structures when forces act upon them. *Exciting Electronics* gives clear and useful information on components, and on simple series and parallel circuits, and introduces basic conventions of circuit drawing.

Moulding Materials presents information about a range of materials which are often under-used in primary design and technology, which are not only easy to use, but also highly relevant to the development of pupils' understanding of manufacturing processes and of many everyday products. The range extends



from clay and plaster to food products (dough and pastries are presented in the book, but this could also include jellies, icings, chocolate) and to proprietary foam plastic sheet. There is also a section which offers guidance on some of the conventions of technical and presentation drawing. Although I would not advise teachers to insist that primary pupils use these conventions in their designing, there are certainly pupils in the later stages of Key Stage 2 who will enjoy practising isometric and perspective drawing, and the photocopiable grid sheets will support their efforts.

The accompanying *Teacher's Book* gives some useful pointers for supporting design and technology in the classroom, and includes a short list of current suppliers and organisations offering guidance, as well as some background

information on the sections of each of the books. There is a section of photocopiable resource sheets to support some of the work in each book. I would have liked a section on safety to have been included, particularly in relation to the use of moulding materials. In the case of food materials, it would have been helpful to have a pointer to where clear advice about good hygiene practice in the classroom can be found. Similarly, Plaster-of-Paris (and by extension, ModRoc®) are now banned from primary schools by some LEAs, or can only be used while a mask is being worn, and it would have been useful at the very least to flag the importance of consulting LEA safety guidelines. While experienced teachers of design and technology will not need such reminders, this series of books is likely to be more useful to the less experienced, who will also be less experienced in risk assessment for design and technology.

Overall, however, I found the series both useful and attractive. They are clear and accessible for both pupils and teachers, and the format, with plenty of pictorial information and not too much text, makes them suitable for the majority of pupils in the latter part of Key Stage 2. The series is reasonably priced, and is a useful addition to the resource base for design and technology in the primary school.

Design Challenge: Super Structures, Exciting Electronics, Moulding Materials

Keith Good

Evans: £9.99

ISBN: 0 237 51987 9 (Super Structures),

0 237 51985 2 (Exciting Electronics),

0 237 51988 7 (Moulding Materials),

Appropriate content	////	Generic use
Pupil/student use	////	One of a series =
Teacher resource	////	Photocopiable =
Visuals	////	Pupil/student activities =
Overall style	////	Cross-curricular

Design Challenge: Teacher's Book

Keith Good

Evans: £9.99

ISBN: 0 237 52015 X (Teacher's Book)

Appropriate content	////	Generic use
Pupil/student use	n/a	One of a series
Teacher resource	////	Photocopiable =
Visuals	////	Pupil/student activities
Overall style	////	Cross-curricular

Communications Close-up: Books and Newspapers, Film and Photography, Global Networks, Radio and Television

Reviewed by David Foster, Head of Technology Faculty, Tibshelf School, Alfreton

"I should like to give all the series five out of five for the content, pupil use, teacher resource, visuals and overall style. They would represent an excellent cross-curricular resource in a library or a departmental resource area. I'm really impressed by the way [Ian Graham] has made them so current – they will retain that look for quite a time."

There are four books in this series. They cover the areas of books and newspapers, film and photography, radio and television and global networks.

Books and Newspapers

This book is a vital text for anyone teaching the graphic products course at GCSE because it contains everything the pupil would need to know about the printing of leaflets and packaging. It would also be of benefit to pupils studying ICT courses at GCSE level since it deals with the uses of plastic cards and also smart cards. The illustrations throughout are excellent with every page carrying photographs of the examples described in the text and bold clear diagrams where appropriate. Ian Graham certainly has put a considerable effort into the production of this book. He invites the reader to see how far through the day you

Communications Close-up: Books and Newspapers, Film and Photography, Global Networks, Radio and Television
Ian Graham

Evans: £11.99

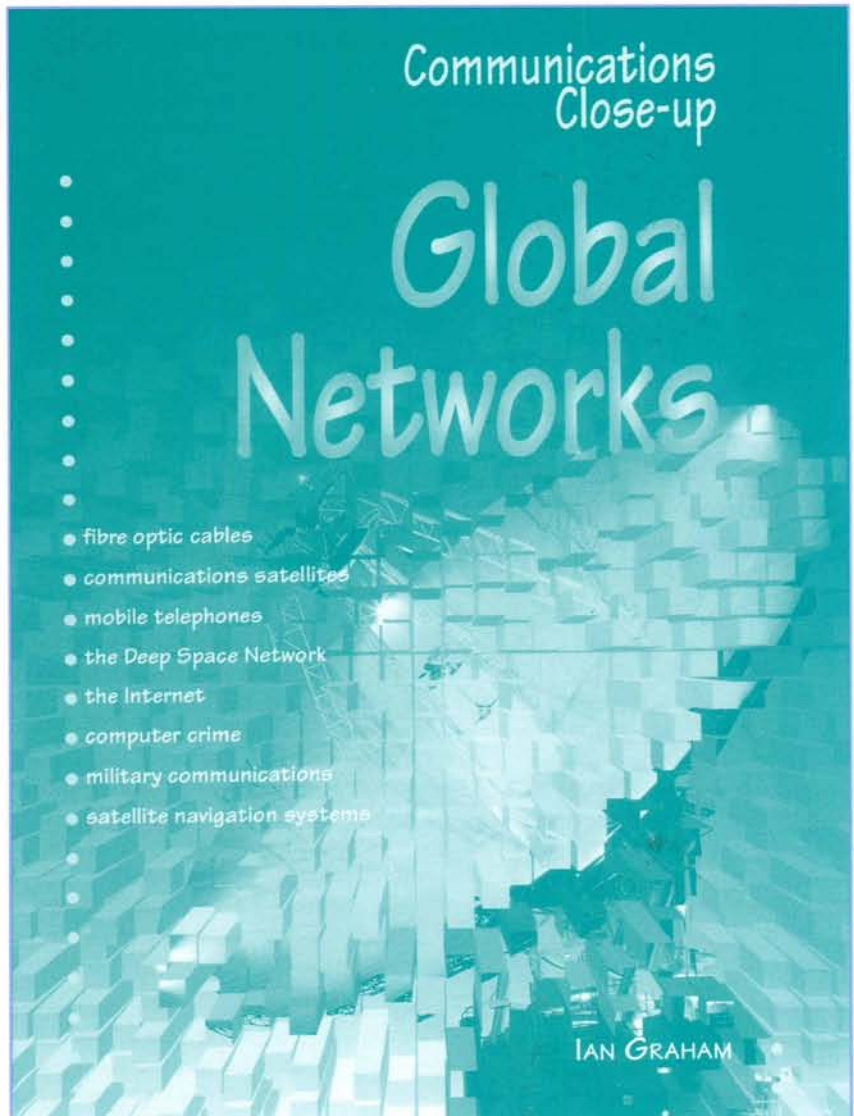
ISBN: (Books) 0 237 51983 6 (Film)

0 237 51981 X (Networks) 0 237 51984 4

(Radio) 0 237 51982 8

Orders: 01235 400400

Appropriate content	////	Generic use	=
Pupil/student use	////	One of a series	=
Teacher resource	////	Photocopiable	
Visuals	////	Pupil/student activities	=
Overall style	////	Cross-curricular	=



can get without looking at something printed. From these real life examples Ian builds the framework for his book and takes the reader through many processes which I am sure are accepted by all of us without really knowing how the process was done.

The book looks at the production of paper from wood pulp and from recycled sources and raises the awareness of the reader of the need for environmental controls. The processes in recycling paper from newsprint are clearly explained. I was amazed to learn that recycling one million tonnes of paper would save energy to the equivalent of 186,000 tonnes of oil. There are many more real life examples in this encyclopaedic book. It really is a mine of information.

The chapter about security inks is fascinating and would certainly deter any budding forgers today! The author

explains the development of monochromatic security inks which change colour completely if they are scanned or copied. We are all aware nowadays of the need for vigilance because of the superb quality of the image produced by colour photocopying machines. Banknotes are an obvious target for this crime and people can be caught out on the receiving end of the 'dodgy tenner'. The method of providing markers in the special ink used in the printing of banknotes which show up only under ultraviolet light is discussed and an excellent example of a 100 Deutschmark banknote is provided.

At the back of the book is an excellent Timeline which pinpoints, for example, the Egyptian invention of papyrus about 3000BC, colour printing invented in 1107 by the Chinese and the invention of the 'qwerty' keyboard in 1872. Did you know that the dot matrix printer was invented

four years after Hillary and Tenzing climbed Everest for the first time? Or that the pencil was invented in 1564? I expect not, but you need never fear that obscure question again, the answer is here!

This really is a fascinating book. It is superbly presented and provides the reader with a wealth of information in an easy to understand form. The Glossary and the Timeline are invaluable elements in this book. It has a sharpness which gives the book a 'now' quality rather than 'last year or so' look of some textbooks. I know that pupils will really enjoy delving into this and will be impressed by the list of Internet links provided at the back.

As an addition to your resource base, I really think you would not find a better book.

Film and Photography

In the same series, Ian Graham has produced an excellent volume which enables the reader to look at the world of film and photography through a series of excellent examples. He begins by explaining clearly, with the aid of diagrams and an image from a scanning electron microscope, how the retina works. He moves on through the development of the camera and includes an excellent cutaway graphic of a digital camera.

In the Moving Pictures chapter, the 'behind the scenes' techniques in films such as *Jurassic Park* and *Toy Story* will have appeal for the reader. These current examples are vital in the classroom today – we have all seen the changes on the faces when we try to enthuse the pupils with a class set of older (but still relevant!) textbooks. This book is filled with excellent up-to-the-minute references and contains an effective Glossary and a good selection of Internet sites. This is an excellent book which manages to pack a considerable amount into its 46 pages.

Radio and Television

Radio and Television is another title in this excellent series. We all take for granted the technology that surrounds us today and readily accept that we can communicate with just about anyone anywhere on the globe, whenever we choose. Few though, I imagine, would have much of an idea about how some of this technology actually works. This book seeks to explain, with a variety of real life examples and clear, easily understood text, how much of today's communication works. It goes further than this in some

areas and seeks to examine the future development of, for example, satellite radio in the developing world. The reader will find here information about the development of the DVD using blue laser technology and will be impressed as I was to learn that these will have the capacity of 25 CDs available today. Once again, an informative Glossary and useful web sites are included.

Global Networks

In the last of the four books in this series, the author once again begins with a simple starting point (in this case the telephone) and uses an excellent range of real life illustrations to explain its development. He covers the development from the first telephone through to the digital devices of today. As in the previous three books, he is keen to provide reasons, using appropriate terms, as to why the development went this way or that. The reader learns about the copper cables laid under the sea and the replacement of these optical fibres. The mobile phone is explained using excellent diagrams and the need for more satellites to enable more mobile phone traffic to work is made obvious. The author covers the Internet and its development to date and looks to the future where he mentions the development of the wristwatch mobile phone.

These four hardback volumes of about 40 to 50 pages each are, I believe, absolutely excellent both in content and in value at £11.99 each. I think that the Timeline in each book would make an excellent display in a resource area or a teaching area because it provides the pupils with the understanding of the rapid growth of technology over a comparatively short space of time. There are different examples of Timelines in each book which allow the focus of each book to be made effectively.

Collins Study and Revision Guide: D&T Food Technology GCSE Key Stage 4

*Reviewed by Jonty Kinsella, Deputy
Head of Department, Orleans Park
School*

This is a serious book and attempts very well to suggest some new ideas for its genre. It is a heavyweight in comparison with current rivals and very dense of text. Layout is reminiscent of a tiled, Windows computer screen. There are some product photographs, some simple diagrams and some charts. The text is fairly small and dense colours are used liberally and cream, light blue and fuchsia predominate. I am pleased to say that the layout is not double page spreads; I feel sure pupils nowadays hardly know any other ways in which textbooks can be presented.

It is part of a series which includes resistant materials as well as most other mainstream subjects. It is divided into two parts – 'Course work' about one third and the remainder 'Knowledge and Understanding'. Thirty three sections cover the total text within 240 pages. At the end of every section there are some activities; questions, answers if appropriate, and tutorials. Each section is interspersed with a 'hand written' page representing what a pupil could do for this section e.g. a real list of design ideas, a real manufacturer's specification. Another novel feature is the text boxes in hand styled script 'examiners comments'. These 'windows' are written in an evaluatory way 'good points' and 'areas for improvement'.

Interspersed after the Knowledge chapters are 'Exam Practice' sections five short practices and one complete exam paper. Each short section usually has four questions; two or three of which are 'marked' by the examiner in a box by the answer. A few questions are left for the

pupil; the answers to these begin in a separate section at the back. The complete paper is answered with exemplars in pupil style writing but it gives a very clear picture of the amount of depth and detail such questions require. It is reassuring to see examiners ready to put their knowledge on the line in this way.

The knowledge section is packed with information, and I personally like this and prefer it to the current vogue for DMA based design of textbooks. I feel that pupils need to feel how the knowledge is organised in ways other than projects. For this reason I feel inclined to use these texts from the beginning of Key Stage 4 with the more able pupils. This would also lend itself to a less dense information, useful therefore for the less able. This requires more work by the teacher but it is more flexible as a teaching tool. As a food scientist, I also warm to organisation of properties – different way of setting liquids, of producing gases for raising dough, how to stabilise droplets of oil in aqueous suspensions. I look forward to showing my Head what food technology can offer the science curriculum! Nutrition however is more than a label or a design criterion or a computer printout!

Overall I like this book a good deal and at the price will probably get a half set.

Collins Study and Revision Guide: D&T Food Technology GCSE Key Stage 4

Jenny Hotson and Jill Robinson
Collins Educational: £9.99
ISBN: 0 00 323539 4
Orders: 0141 306 3455

Appropriate content	////	Generic use	◀
Pupil/student use	////	One of a series	◀
Teacher resource	////	Photocopiable	
Visuals	////	Pupil/student activities	◀
Overall style	////	Cross-curricular	

Design in the Making: Food Technology

Reviewed by Jillian Mellor, Key Stage 4 Co-ordinator, The Hurst Community School, Bowghurst, Tadley

The book is brightly coloured with a selection of illustrations, photographs, recipes and images. There are also some lovely phrases. There is a very good introduction explaining 'What is food technology' and 'What they will be doing'. There is a grid entitled 'Quality control' which would be a useful tool to collect data, however, it seems that this is the teacher's grid, despite stating that pupils have to record their achievements. It would have been appropriate to show a grid whereby pupils could have recorded their own data. The book claims that pupils will learn about the properties and how to make interesting and exciting dishes. After reading the recipes I feel they are far from inspiring, and more like traditional and bland. The introduction also touches on health, safety and hygiene, systems and understanding heat.

The book is divided into three main sections, loosely headed Staple Foods, Electrical Equipment and Biscuits. Each section begins with what students are expected to learn in the section and concludes with a test. In the middle there is a lot of text, a variety of activities, a choice of three differentiated homework tasks and some recipes. The recipes are accompanied by a coloured pie chart which identifies the nutrient content of the recipe and the energy value. Some recipes have had the method written as a flow chart which I think looks effective, but not all recipes have been written in this way. None of the recipes are unusual, just the straightforward crumbles, biscuits, milk shakes and pasta dishes. The photographs taken are of children in classroom situations, which look realistic, the photographs of food are also true pictures of how food looks when it comes out of the oven cooked by a pupil in school. Do I want to see this in a book?

The book is aimed at Key Stage 3 with the final section leading into Key Stage 4. It claims that it is suitable for modular teaching and 'offers seamless progression throughout the course'. I just can't see it!

In conclusion, I like the title of the book, I like the front cover, I like the colour presentations in the book, I like the flow chart style method for the recipes. I don't like the content. I can't see the progression, the recipes are poor, although the homework assignments are differentiated, the activities are not and there are at least 72 of them, you keep having to flick back to other pages to recap. So I won't be buying this book for my department this year.

Design in the Making: Food Technology

Steve Cushing

Longman: £8.75

ISBN: 0 582 36590 2

Appropriate content	///	Generic use	
Pupil/student use	///	One of a series	=
Teacher resource	//	Photocopiable	
Visuals	///	Pupil/student activities	=
Overall style	//	Cross-curricular	

OnTrack/TrackMaker

Reviewed by Les Porter, Course Director for Industrial Design and Technology at the Design Department of Brunel University, Uxbridge, Surrey

OnTrack is designed to provide a complete introduction to Key Stage 3 and 4 electronics. The system has been developed to provide teachers and their students with step-by-step instructions to develop electronic systems using a unique, module based, sub-system approach. Each of the sub-systems are divided into input, process and output modules that can be selected and built up into larger systems that perform particular functions.

The design process teaching that underlies the system is also broken down into a number of sub-sections showing the type of work that should be completed when following a design and make assignment. The supporting literature suggests that teacher input will be necessary when working through the introductory assignments but as students become familiar with the material they should be left to experiment using a systems approach. Quinn Gardener, author of the material, describes OnTrack as having been produced 'to help teachers and students overcome the difficult task of developing individually designed electronic systems...' I think that OnTrack does this particularly well. The main use of OnTrack is for small Key Stage 4 groups using individual kits to develop conceptual ideas into product prototypes

OnTrack

Quinn Gardener

Quickroute Systems Ltd: £299 + p&p +VAT (at the time when review was first undertaken but now reduced to £199+p&p +VAT).

Appropriate content	////	Generic use	=
Pupil/student use	////	One of a series	=
Teacher resource	///	Photocopiable	=
Visuals	///	Pupil/student activities	=
Overall style	///	Cross-curricular	=

TrackMaker

Quickroute Systems Ltd: £29.00 (single user) + p&p +VAT
Orders: 0161 476 0202

Appropriate content	////	Generic use	=
Pupil/student use	////	One of a series	n/a
Teacher resource	////	Photocopiable	=
Visuals	///	Pupil/student activities	=
Overall style	///	Cross-curricular	=

or for teachers at Key Stage 3 to give class demonstrations regarding a systems approach to electronics. The system addresses a need that I have strong feelings about and achieves what it sets out to do.

The kit consists of three input modules; seven process modules; three output modules; a component card with specialist transducer devices such as thermistors, LDRs and output devices such as LEDs and piezo sounders attached to it and a pack of discrete components such as motors, tilt switches, reed and micro switches and joining leads. Also in the kit comes the innovative power bridge base (Figure 1) and the Hold Down module (Figure 2). Components are attached to the power bridge base using a clever Velcro system.

Supporting the hardware section is the QuickLink user manual and a CD-ROM. The CD-ROM contains software called TrackMaker which is a dedicated software package used later in the design process. TrackMaker allows the student to make printed circuit boards (PCB) that are similar to the system that they have previously hard modelled. The software uses a modular approach similar to the way their hardware systems were designed. The software is simple to use. Modules that have previously been hard modelled are simply selected from the bottom of the main window and are dragged on the working area of the screen. When placed in their correct position they automatically lock and connect the power rails and signal paths (Figure 3). Following this process a PCB mask can be printed and the student's own PCB produced.

After all the modules have been dragged and dropped it is possible to edit the system if required. New tracks and pads can be selected from the tool bar and designs modified as required. It is possible to add the school's own modules to the TrackMaker libraries. These could then be incorporated into future designs thus making the system even more user friendly for developmental work. Pictorial views, showing the actual components used, are available on separate layers giving great help when it comes to assembly and soldering and providing actual design evidence that could be included into students' research folios. The manual for the software is provided in a format that can be accessed through a web browser. The quality of this manual



Figure 1



Figure 2

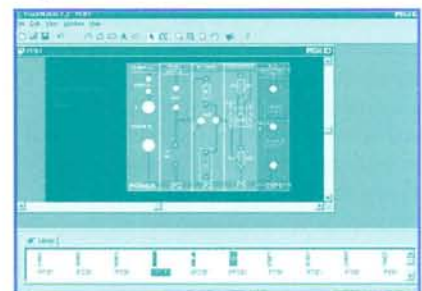


Figure 3

is first class. The vocabulary it uses is good for its intended audience and the way that the contents are accessed is particularly easy to follow and of high quality.

I have undertaken extensive field trials using all the material with Year 10 and 11 school students and with first year undergraduates. All make the same general comments. They find the kit easy to work with and the CD-ROM particularly helpful and good, but all that have worked with the kit have reservations about the layout of the kit's user manual and the way the manual allows the user to navigate through the activities that it provides. All find the manual difficult to use, and find the format of the manual irritating because it uses so many different fonts, bold texts and italics and find the graphics to be of poor quality (see footnote). Those involved with the field trials liked the way that the assignments were written and particularly liked the way that the assignments were challenging and

encouraged the user to find out more about the tasks that were being undertaken. I was particularly impressed with the way that the kit is diode protected, so that if students accidentally connect the power supplies the wrong way around, components are not damaged.

My initial reservations were about using the material in a real teaching situation. In the field trials I used the product in one-to-one situations and that worked out fine! I questioned how feasible it would be to use the material for class teaching and the author has since addressed these issues. To use OnTrack as the author first described in his literature required each student to undertake a series of activities working at their own pace. To do this each student would need his or her own kit, otherwise the exercise would become totally unmanageable in a classroom. I ask the question: 'How many schools could afford to buy a class-set of OnTrack at £299 (+VAT) for each kit?' (See footnote.) Discussion with the author tells me that it is the intention to supply two versions of the kit, one for Key Stage 3 and some add-ons for Key Stage 4 so that schools can purchase the equipment in stages, but this is for the future and does not exist at the moment.

In summary this is a product that has great potential for allowing students to develop their own competencies using electronics at Key Stages 3 and 4. In my opinion, before changes were made, it would have been difficult to use the system in a class teaching situation. The product is innovative, easy to use and the exercises are well thought through and allow for student progression and differentiation. The supporting CD-ROM is excellent. My reservations focus around kit management – I feel that checking components into the box at the end of the lesson would become a chore for the teacher and that the box would not last very long in classroom use. I feel that the colour used for the PCB modules is poor and bland and that the user manual needs a total re-visit concerning its layout and the desktop publishing methods that have been used. I also feel that at £299 (+ p&p and VAT) (see footnote) for each kit, many school departments would have difficulty in justifying such a large capital outlay for the product.

As a last accolade for OnTrack, one GCSE student, Simon Green, used the system during his course of study and went on to win the Young Electronic Designer Award 1999 and the best Newcomer Award from the IEE. I wish the system every success and applaud its contribution to teaching a systems approach to designing electronic products and to providing students with a hands-on approach to learning electronics.

Footnote

Following the initial review the authors of OnTrack and TrackMaker have met and discussed the review and its comments. I am pleased to announce that the user manual is about to be re-written and the system price has been reduced to £199 (with further discounts for bulk purchases). In addition it will now be possible to purchase OnTrack and TrackMaker as separate entities for those schools who would wish to do so. TrackMaker will market at £29 and to facilitate group and whole class use this will be available on a 10 or 25 user licence at £79 and £129 respectively. OnTrack on its own will market at £170. Prospective purchasers may find it helpful to have my tick box summary for TrackMaker in its own right. I thank the authors for taking on board my comments.

Control Studio and PCB Wizard 2.6

Reviewed by David Spendlove, Senior Lecturer in Design and Technology Education, Liverpool John Moores University

Control Studio combined with PCB Wizard 2.6 is truly outstanding. It may not be for the purists, however if you are a teacher and you want quick results with minimal fuss then this is what you need (New Wave describe it as the 'hottest product around' – it is certainly very impressive). The use of a systems approach within electronics is now common and a variety of kits are available to develop circuits using systems boards (Alpha, MFA). When they first arrived they changed the face of teaching electronics. This may now happen again as New Wave Concepts have created a software version utilising a systems approach. What is even more remarkable is that the transition to PCB is seamless, painless and very, very quick. The whole system is intuitive and within a matter of minutes you can produce the most ridiculously complex circuit and translate to a PCB without ever wondering if the chip in the systems board has 'blown'. The usual features are there from PCB wizard such as a real worldview of the components, smart track tool and a running total for the cost of the components.

The purists may not be happy as translation from either a systems approach (Control Studio) or a components approach (Crocodile clips) to a printed circuit board is very rapid and requires minimal component knowledge.

The continued introduction of this type of rapid prototyping/production software does pose interesting pedagogical questions about subject knowledge and in this example about electronics knowledge. With very little knowledge required to be able to produce quite complex work – progression might have to become retrospective e.g. you create the 'whole' first and then find out about the individual parts later. Perhaps the software designers who have given design and technology teachers the 'holy grail' in terms of manufacturing capability might want to address this issue with the next generation of software.

IT Dictionary

Reviewed by Bridget Egan, King Alfred's College, Winchester

This is a carefully constructed dictionary of technical vocabulary for the computer-using pupil. Using language suitable for pupils in Key Stage 2, it offers a ready reference source, explaining the meanings of various terms and acronyms which pupils may come across in working with the computer. It is not, however, simply a dictionary. In addition to the definitions of terms, it gives clear and easy-to-understand explanations of the relationships between software and hardware, and of the differences between aspects of hardware, software, and particular applications and services.

Each page consists of two entries, each having a definition, an explanation, a classificatory icon which shows whether the word or phrase in question refers to applications, hardware, software, services, or technical terminology, and a visual – either a view of what you might see on the screen, or a cartoon.

Control Studio and PCB Wizard 2.6

New Wave Concepts: £79.99 (single user)
£19.99 (multi user)
Orders: 01223 404555
www.new-wave-concepts.com

Appropriate content	/////	Generic use	☐
Pupil/student use	/////	One of a series	
Teacher resource	/////	Photocopiable	
Visuals	n/a	Pupil/student activities	
Overall style	/////	Cross-curricular	☐

IT Dictionary

Colin Rouse
Questions Publishing: £12.99
ISBN: 1 898149 78 X
Orders: 0121 212 0919

Appropriate content	/////	Generic use	☐
Pupil/student use	/////	One of a series	
Teacher resource	n/a	Photocopiable	☐
Visuals	/////	Pupil/student activities	
Overall style	/////	Cross-curricular	☐

To School – or not to School

Reviewed by John Durrell, Senior Lecturer in Design and Technology, Greenwich University

The copy of the report I was asked to review was sent to me in paper format. However for its wider circulation it is intended to be downloaded free of charge from the Internet at <http://www.iee.org.uk/PAB/Iteduc/Welcome.html>

The document itself appeared to break new ground at DATA. In the sections the reviewer would normally fill in about the publication type, e.g. hardback, paperback, etc. there was no header for 'downloadable – free of charge from web'. If the report's predictions come to fruition, this will need to change.

The report proposes a scenario for education in the year 2020, and as its title suggests, *'To school – or not to school'*, questions the very existence of schools as we would recognise them today. It examines the possible use of ICT and its impact on the future of education by working from the seeds of emergent (and established) technologies. These include the Internet, global communications and the developments in hardware and software. The report proposes what learning, particularly children's learning, will be like – of course its view is just one possible scenario. Even a well produced report such as this, with its inference to what it considers to be how the future will develop, is after all perhaps well informed crystal ball gazing. Who knows, in 2020, we may have technologies that can take us forward 20 years.

The paper is based upon the logical outcome of what the author considers will happen to the technologies currently with us, and how they will affect our educational planning. It is quite thorough, in that it considers all aspects of its projections. It proposes suggestions regarding what schools (and in the light of its projections, I use the word loosely) and other educational establishments would be like. It examines the existing

curriculum, which it calls 'The Academic Ethos', where the learning of skills and knowledge are seen as central, and it puts forward the notion of the 'Post Academic World'. This it describes as the ability to problem solve and to gain knowledge only when it is required.

It is suggested that society will need to change its views on the traditional concept of attending school and the interpersonal relationships that ensue. Lessons/lectures would happen in real time via the net to remote users based at home.

There is no design and technology specific content within the document. In fact, no mention is made of design and technology, but it does appear to advocate that in the future, the central premise upon which design and technology is based, being that problem solving, and the ability to both acquire and use knowledge, underpins the report's view of the future curriculum.

There are 14 sections, which examine a range of ICT resources available at present and projects their development and impact on schools, teachers attitudes, teacher training, and suggests views about society realigning its values, based upon the use of these new technologies.

As previously mentioned, the author(s) take a whole curriculum view, rather than dealing in detail with specific subject areas, which it is predicted will in any case be integrated. As a practising teacher, you may find the report thought provoking, but as Scrooge found, the future does not have to be, and seldom is as predicted. Things can change, and they have 20 years to do so.

I would suggest that you download and take a glimpse at one possible future. This is a first draft, and the authors invite comments at akemp@iee.org.uk

To School – or not to School

IEE: free to download

www.iee.org.uk/PAB/Iteduc/Welcome.html

Appropriate content	✓✓✓✓	Generic use	⇒
Pupil/student use	n/a	One of a series	
Teacher resource	✓✓✓✓	Photocopiable	n/a
Visuals	n/a	Pupil/student activities	
Overall style	✓✓✓✓	Cross-curricular	⇒

Design Modelling: Visualising Ideas in 2D and 3D

Reviewed by Rowland Dye, Filton College, Bristol

The topic of modelling presents a considerable challenge for teachers. Modelling is a broad topic encompassing a diverse choice of materials, the minutiae of manipulative skills, and the dedication required for high quality finish and presentation. Indeed the purpose of modelling itself can be difficult for students to really grasp as it can be used in a range of different ways throughout all stages of the design process.

This book, *Design Modelling: Visualising Ideas in 2D and 3D*, sets out to supply the answer to this challenge. It uses an abundance of line drawings, colour illustrations and photographs and draws on student work from the Sheffield Hallam University as well as a range of industrial design case studies.

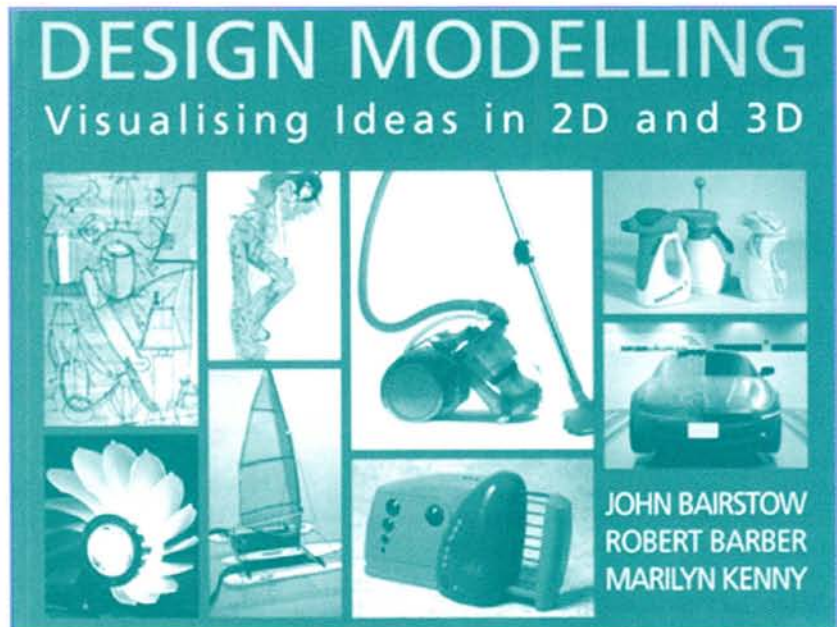
The authors explain that their book explores and illustrates the designer's role in developing new products. It aims to help students integrate 3D modelling and 2D graphics with the process of designing. They explain that design modelling plays a vital role in the development of any product and covers many different areas of the design process. The focus of the book is to explore the rich variety of methods used to develop design ideas in general design activity.

All aspects of modelling are covered from the initial generation of ideas through rapid visualisation to presenting facsimile models and prototypes. The book is structured to show progression from the simplest modelling techniques to more elaborate replicas. The material is presented in broad progressive sections. The pages are mainly self-contained and can be referred to individually,

Design Modelling: Visualising Ideas in 2D and 3D

John Bairstow, Robert Barber and Marilyn Kenny
 Hodder & Stoughton: £9.99 (Pb)
 ISBN: 0 340 66339 1
 Orders: 01235 400 400

Appropriate content	////	Generic use
Pupil/student use	////	One of a series
Teacher resource	////	Photocopiable
Visuals	////	Pupil/student activities =
Overall style	////	Cross-curricular



alternatively they can be cross-referenced with others. The book is divided into five sections.

Generating Ideas looks at a range of practical approaches to creating and recording design ideas. Starting From Design Research and the Specification the reader is led onto techniques for Creative Thinking and Sketching. This is followed by Mood Boards, User Trips, and Brainstorming, using Props, and a brief summary of 2D Graphics Techniques (already well covered in a previous book in the series). Quick Modelling in card and reclaimed materials leads onto Block Models, Construction Kits, and the uses of CAD.

Developing Ideas explores ways of refining initial ideas including aspects of Aesthetics, Manufacture, Ergonomics, and Technological Principles. These themes include Form, Texture, Colour, Test and Lash-up Models, Planning Interior Building layouts, CAD/CAM and Morphing.

Presenting Ideas provides the designer with ideas and techniques for communicating final solutions of products in two and three dimensions. This section recaps on conventional 2D Graphics, Rendering, and Presentation Drawing techniques. It continues with techniques for painting models, modelling details, and further use of 2D/3D CAD.

Case Studies illustrate how modelling techniques can be used to develop proposals in a range of specialisms. These include the new Jaguar XK8, Exhibition

Stands, Packaging, Furniture Design, Domestic Devices, the Dyson Vacuum Cleaner, and in Architecture.

Design Briefs provide starting points for student projects across a range of 27 situations. These range from Jewellery, Sales Design, Shelters, Sunglasses, Cameras, Irons, Hair-dryers, and CD Players, to name but a few. Also included at the end of the book is a Glossary of Terms and a useful list of Materials Information, Adhesives and Finishes.

This book will be useful for teachers and students of both art and design, and design and technology courses, from GCSE to A' Level. It will also be useful for students studying design-related courses in further and higher education. This book succeeds well in its aims. Everyone can add this book to their collection without hesitation and will find it a constant source of information and inspiration. It is also economically priced so it could be considered for a class set. It is the latest book produced in an already well-established series from this publisher and these authors. Any teachers who have come across this series will know the outstanding standard of presentation and illustration. At 128 pages in length, half of these in colour, this book is excellent value at only £9.99.

The importance of modelling in the design process is illustrated by the well known quote from James Dyson that "Design is not about genius. It is about cardboard and sticky tape, borrowing ideas and testing every detail until it works."

Design Directory: Scandinavia

Reviewed by George Asquith, Head of Technology, Greenhead School, Keighley, West Yorkshire

The book is intended to be a design resource and a reference document – it is not a class text book. It is one of a pair, the other is titled *Design Directory: Italy*. The publishers have plans to produce other titles in the series, including Great Britain, Germany, Japan and USA.

The 384-page book is a comprehensive document of Scandinavian design from 1860 to the present day. The designs come from Denmark, Finland, Norway and Sweden. The authors, six in all, have impeccable credentials ranging from the curator of Design at the Museum of Modern Art, New York to the head of Norway's top design committee, Norsk Form. Many of the objects collected together for the book have in the past made clear cultural and design statements.

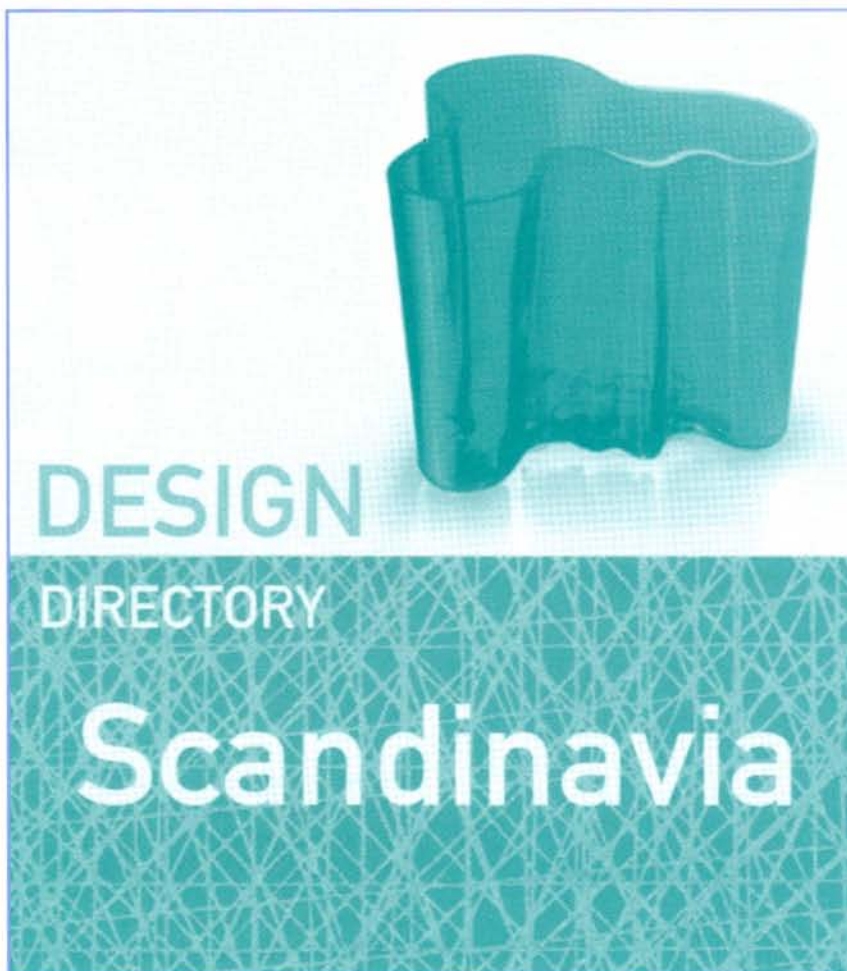
The book is divided into six main sections. The first 50 pages are full page (148 x 170 mm) colour plates.

Section two deals with designs from the period of 1890 to 1939, with all photographs now in black and white.

Section three deals with 1940 to 1969 and Section four deals with 1970 to 1999. The fifth section is a very comprehensive directory of designers and design houses and Section six is a guide to Scandinavian design addresses.

Sections two, three and four cover 46 pages and chronologically deal with the main features of the various designers, the design houses and their main contributions.

I feel the real value of the book is the 264-page directory which deals in detail with designers from Aalto to Zero designing artefacts such as furniture, glassware, lighting, liquor bottles,



crockery, cutlery, electrical goods, tools, audio equipment and vehicles. Each designer profile gives a taste of history and the development to date with black and white photographs. I am not aware of an influential designer or design house that has been left out.

The book is a wonderful design source and will be an inspiration for teachers and older students alike. My only reservations are that the majority of illustrations are black and white and the book is of small format. Good value for money.

Design Directory: Scandinavia

Bernd Polster

Pavillion: £9.99

ISBN: 1 86205 307 3

Available from all good bookshops.

Appropriate content	////	Generic use
Pupil/student use	////	One of a series
Teacher resource	////	Photocopiable
Visuals	///	Pupil/student activities
Overall style	///	Cross-curricular

Design Directory: Italy

*Reviewed by Richard Foulger, Post-16
Co-ordinator, Hove Park School,
Brighton*

This was a very difficult book to review. The contents of this book are excellent, but the layout, from a resource and student-use point of view, could have been restructured in order to create a first class reference book.

The Directory index is divided into four basic parts:

- a series of four chapters covering Italian design history
- the main directory of designers, together with their CVs
- a guide to sites, museums and showrooms in Italy
- an index of designers, companies and terms.

From the point of view of the student, the general content is excellent, but perhaps, not in the right order. Few students are likely to know many of the designers' names to start with so, initially, the directory of designers is likely to be of little use. The index might more usefully have been article-based. Designers' names could then have been given collectively, with each article, so that students could relate to their design task in hand. When students have studied a variety of designs from various designers, then their interest is aroused in increasing their knowledge of the designers. The designers' CVs might therefore have been more useful if they had been placed at the back of the book. Users of materials, construction methods and price ranges are either briefly mentioned or are non-existent.

Visuals are good but some are slightly fuzzy for photocopy purposes. Clear, tonal contrasts are necessary for photocopying with less heavy shadow. On one page, for example, there is a good,

Design Directory: Italy

Claudia Neumann

Pavillion: £9.99

ISBN: 1 86205 312 X

Available from all good bookshops.

Appropriate content	////	Generic use	
Pupil/student use	///	One of a series	=
Teacher resource	////	Photocopiable	=
Visuals	////	Pupil/student activities	
Overall style	////	Cross-curricular	=



clear picture of a Donna chair and a model of a vertical loft with good, sharp detail. On the same page is a picture of a Dalila chair which is tonally poor.

Overall, the style of the pages is well thought out. There is good use and mix of text and illustration and good contrast of type size and use of bold page faces. The front cover is attractive but misses the zing that might have been caught by the use, perhaps, of a sharper, paler green? Attractive colour contrast has been used for end pages.

The book is rather heavy and bulky to handle in its present format (170 x 150 x 30 mm) and, consequently, would probably not last long if in constant use. Perhaps slimmer volumes of the same size, subject-based, held in a case with the designers' CVs being the last, would be of more use, especially in the classroom or studio situation.

The pages up to page 83 are historically fascinating and would suit cross-curricular studies delightfully, incorporating especially history and history of art (a mention might have been

given to design museums in Britain where Italian designs are shown). Since this is one of a series of books it might have been helpful to consider some kind of cross-referencing or colour coding to indicate how art/design movement's historical events across Europe/Atlantic etc. have influenced design and the use of materials.

Detail covering current areas of design in Italy are excellent and would be of great interest and use to the travel hungry students of today.

This is an excellent, readable reference book but it is rather heavy for its format. In its present form, teachers may find that until students have a considerable knowledge of designers' names and a working knowledge of a history of art/design, they would find this book frustrating to use. The book is reasonably priced at £9.99 and is good value.

Advanced Manufacturing Design and Technology (Students' Book and Teacher's Guide)

Reviewed by Allan Trueman, Spelthorne College

These two books follow on from the *Design and Technology Core and Routes* (RSA) books for GCSE. This resource is provided in two parts, the students' textbook and the teacher's guide. The textbook is aimed at post-16 students, in the main studying Advanced Level design and technology or Advanced GNVQ in either manufacturing or engineering.

The students' book has been written by a range of experienced teachers and examiners. It will fill a gap in most teachers' backgrounds and knowledge i.e. modern manufacturing techniques, techniques that are often neglected on design courses and, unless the teacher has had recent industrial experience, would not have been previously encountered.

The book is divided into five parts, the first part being 'Planning and managing your own learning'. This is an important part of GNVQ and, more recently, A' Level. It covers such topics as setting targets, teamwork and its importance, how to communicate and how to make full use of industrial partnerships. This part of the book shows a common sense approach to these topics and is full of good ideas and practice. The emphasis is on individual learning and how to make the best of your opportunities. It also covers topics such as key skills and project management.

The second part is 'Designing and manufacturing: customer need to customer satisfaction'. This chapter incorporates several case studies which have a direct link with customer need and satisfaction.

Advanced Manufacturing Design and Technology (Students' Book and Teacher's Guide)

Hodder & Stoughton Educational: £16.99 (Students'), £15.00 (Teacher's)
ISBN: 0340705280 (Students' Book)
ISBN: 0340 705299 (Teacher's Guide)
Orders: 01235 400400

Appropriate content	////	Generic use	==
Pupil/student use	////	One of a series	==
Teacher resource	////	Photocopiable	
Visuals	////	Pupil/student activities	==
Overall style	////	Cross-curricular	

ROYAL COLLEGE OF ART SCHOOLS TECHNOLOGY PROJECT



D&T

**ADVANCED
MANUFACTURING
DESIGN & TECHNOLOGY**

**TEACHER'S
GUIDE**

DESIGN & TECHNOLOGY POST-16

The third chapter, 'Designing', deals with various concepts of designing again using modern case studies that could be used in a variety of ways. The case studies cover a range of products from bicycles to food and also biotechnology. These topics deal with modern design situations which are up to the minute and therefore very relevant.

The fourth chapter deals with modern manufacturing techniques. This section is the most beneficial to teachers who may not have had recent industrial experience.

The final chapter consists of several extended case studies. These cover furniture design, car part design, kettle design and other useful examples which are covered well.

I would recommend the students' textbook highly as it is difficult to get such diverse and up to date examples all in one book. If not a course reader then definitely a book for the library (information centre).

The teacher's guide explains the philosophy behind the RSA Schools Technology Project and goes into detail to explain how the projects have evolved and how to get the most from the course. It is not prescriptive and, if you are interested, is a good background read. I would not say it is essential but could give some good ideas.

Inspiration®

Reviewed by Chris Snell, Stress and Performance Engineering Analysis Consultant, former Head of Department, The Cheltenham Ladies' College

Inspiration®, a tool to develop ideas and organise thinking, has two environments: *Diagram view* or *Outline view*. Both keep track of the evolution of ideas. Working in Diagram view enables a diagram or map to be created showing how concepts interconnect. Outline enables the user to organise and write a report. In latter mode the main idea appears at the head of the outline; supporting topics and subtopics appear in hierarchical order. Each builds automatically from the other, so, for example, should a stage be added in Diagram mode it will automatically be registered in Outline mode. Diagrams build up in flowchart/spider-diagram form and various arrangements can be selected, e.g. top-down tree, cluster, web, right/left stacking models. Concept boxes may be chosen from a large selection of shapes and information typed in them.

There are 18 topic areas headed:

Basic; Boxes; Numbers; Thinking; Animals-Plants; Arts; Custom; Everyday; Food-Health; Fun; Geography; Math; People; Process; Science; Social Studies; Technology; Work-School.

The last 14 have their own subtopic lists, in the form of symbols and clip art.

Geography, for example, has national flags, landforms, iconic country outlines, signposts and the American states (since the software is from the USA).

Math(s) has geometric shapes and solids, and a number of symbols such as Π , Σ , $=$, (far fewer than available from the Insert Symbol directory in Word).

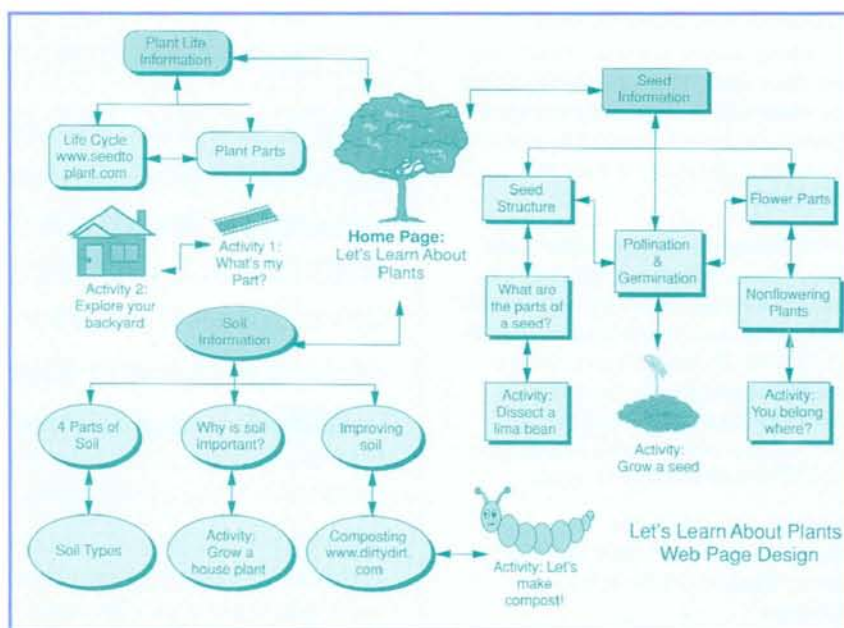
Science has circuits, lab-tools, life science, physical science, space and weather features. The circuits are American in character, e.g. a resistor is drawn as a saw-tooth line, rather than the

Inspiration®

TAG Developments: £59.00 + VAT (single licence)

Orders: 01474 537 886

Appropriate content	///	Generic use	=
Pupil/student use	////	One of a series	
Teacher resource	///	Photocopiable	
Visuals	////	Pupil/student activities	=
Overall style	///	Cross-curricular	=



standard IEE rectangle with connection lines. Notwithstanding that, diagramming and editing facilities are versatile and there is a facility for creating a library of bespoke symbols.

A Rapid Fire button enables random thought processes to be recorded as they happen, without the disadvantages that occur with a paper, pencil-and-rubber approach. A Checklist facility in each concept box may be toggled, from a Utilities menu. There is a group of tools similar to the AutoShapes facility in Word. Nudging buttons permit precise positioning of boxes, as well as the familiar click-and-drag and Grid-snap options. A Template facility may be engaged for repeated applications. Outline and Notes pages can be turned into HTML documents. A two-way interchange of **Inspiration®** documents between Windows and Macintosh is possible. Documents may be imported from other applications. Animation through the option to import GIF files is featured.

Target audience

This is, perhaps, a package more for student and teacher use and straightforward organisational planning and ideas generation than for a more technical/ manufacturing systems analysis, although, as a precursor for a 'quick and dirty' planning and ideas stage, it might prove useful in, say, a university business studies or production engineering department.

Because of the simplicity of operation of the basic features of the package, it would

be useful in non-design and technology subjects. For example, the relationship between people and events, like characters and plots in a play, or a history, geography or economics project. In mathematics I was able to produce Venn diagrams and probability tree diagrams, for example, but there is no facility for calculating outcomes. DATA readers might draw the attention of their colleagues, in such subjects, to this package.

It is difficult to tell whether Key Stage 1 or 2 pupils would find this useful. Teachers at these levels can download a demo disc from www.tagdev.co.uk to assess its potential, but it could find application at Key Stages 3 and 4.

Value to user

The continued emphasis on the use of IT makes this yet another package, which may be introduced to complement curriculum requirements. Its efficacy as a tool to develop ideas and organise thinking will depend on the imagination of the user.

Capacity to support pupils and teachers

The package has a comprehensively written Help feature. Finding my way around the various tools, techniques and other features was fairly straightforward using instructions from Help, without the benefit of a manual.

Particular strengths and weaknesses

The facility to draw flow diagram type charts and create links between them is more readily effected than by using

comparable tools offered by word processing packages. Subject heads might find some topic areas superficially treated and irritated by the American clip art. For myself, I am biased against the overuse of clip art as a substitute for rigorous scholarship.

Readability, presentation and cost

There was no manual with this trial disc. The tool bars and menus are well defined and I encountered no ambiguities. At £59 + VAT (£69.33) single licence, price is probably about right for the content. A trial with a demo disc would be worthwhile if teachers see a potential for this CD in their schemes of work.

Platform requirements

Macintosh 68040 or higher, Mac OS 7 or higher; Windows 95, 98 or NT 4.0 platforms.

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Make more of yourself

Compendium of Essential Design and Technology Standards

Reviewed by George Asquith, Head of Technology, Greenhead School, Keighley, West Yorkshire

The Compendium is presented shrink-wrapped which prevents the teacher inspecting and returning the document. However, no need to worry, you won't want to send it back. It is in A4 format with ready-punched holes. The paper quality is good and substantial. The page layout is generally in two columns and the various font styles used are very readable and consumer friendly. Visually the pages are well laid out. The language used is accessible to those in Key Stage 4 and above. It may well be used below Key Stage 4 with support from the teacher. The Compendium is a class resource for reference and not a class text book.

The Compendium is a collection of information from a variety of sources including British, European and international – referring particularly to products designed and manufactured in schools for electronics, food, graphics, resistant materials and textiles.

Section Two is dedicated to quality management systems and deals with the activity from the stand point of ISO 9000.

Quality management and assurance is not well covered in present coursework. This section of the Compendium will give teachers more confidence in the way they introduce this topic to students and moves on to show how quality management can be linked to marketing.

Section Three deals very successfully with the identification of hazards and the assessment of risk, another area not yet well covered in schools but one which could well enhance any student's design folio in describing to a third party the hazards and risk involved in the making process. This could indicate to those assessing coursework that students understood a process.

Section Four deals with anthropometrics and explains in detail how data is established. It speaks about fundamental fallacies about anthropometrics and how to use anthropometric data in the designing of products in schools and colleges. Simplified charts are included in a double-page spread. This information we have seen before in schools but only in large poster format.

Section Five is dedicated to textiles and deals with sizing, labels, specifications for fasteners, testing methods (all of which could be set up in schools).

Section Six is for those involved in food and deals with testing and choosing assessors, the apparatus needed, test methods, which is very detailed and comprehensive. This section alone is a must for the food areas of design and technology.

Section Seven is devoted to furniture and other wooden products dealing in detail with test procedures – chairs, tables, stability, finishes and toy safety. This last section is extremely comprehensive, looking into the electronics and electrical safety.

Section Nine is just a single side but deals with the graphics of safety.

Section Ten is about packaging and labels and looks at packages for various products across design and technology.

Section Eleven provides those who want more detailed lists of further British Standards manuals to which reference can be made.

Although the Compendium costs £25, I feel that it is a must for all departments and when teachers see the Compendium, I am sure they will be ordered for each section of the department.

Compendium of Essential Design and Technology Standards

BSI: £25.00

Orders: 020 8996 9001

Appropriate content	////	Generic use	==
Pupil/student use	////	One of a series	
Teacher resource	////	Photocopiable	
Visuals	////	Pupil/student activities	==
Overall style	////	Cross-curricular	

Design Aid

Reviewed by Keith Horrell, Acting Head
and Laurence Huckle, Student of
Sindlesham School

When asked to review *Design Aid*, my first response was to wonder where I would get the time to do justice to the amount of work that has gone into producing the CD-ROM. The answer was to put it to the people who will use it the most – the pupils. Laurence is a sixth form student who has just finished his A' Levels. His review follows shortly after this brief introduction.

The first interesting response comes from his instant ability to access the information, as he found it very user friendly, others in the group found it less friendly and indeed some sixth form pupils stated the opposite that it was not 'user friendly'. As arbitrator I tried and was successful within a short space of time, but experience definitely helps accessibility.

Secondly he refers to the inability to produce 'end product as stand alone file or hard copy printout' this could be because we have a 'demo disc' and the consumer purchase version will have these facilities.

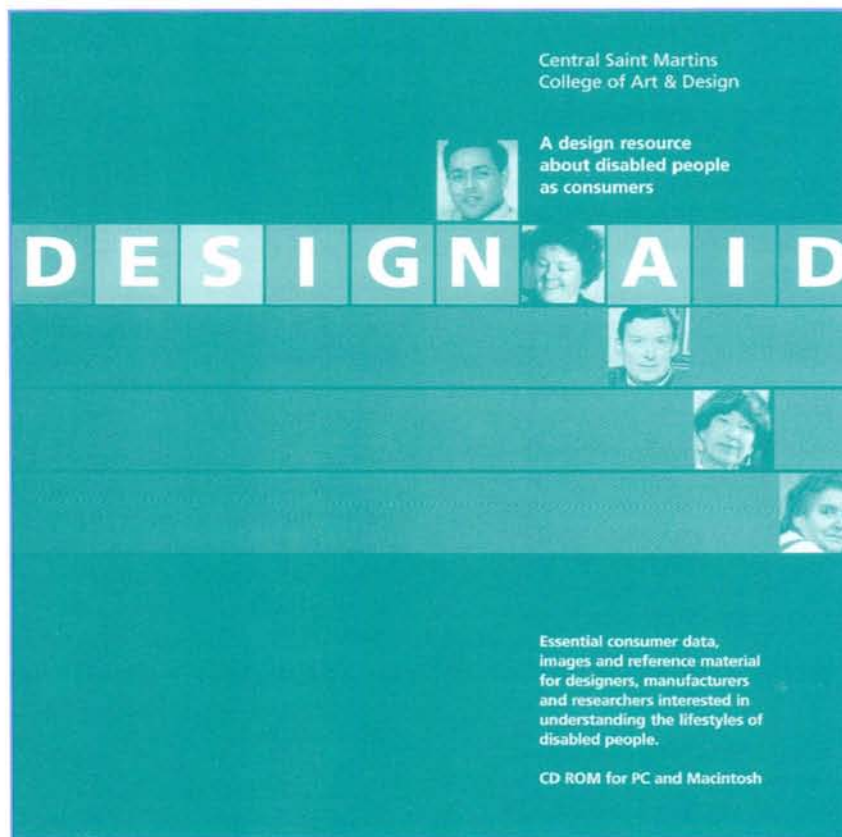
Finally I am pleased that we are producing pupils from school who have the ability to undertake a task like this and present what I think is a good assessment of someone else's work, and I certainly agree with his findings and perhaps an Internet site might be a good place for the assembled information.

This CD-ROM describes itself as a design resource for manufacturers of products to cater for the needs of disabled people. The main focus of this aid revolves around the study of not only the differing needs specific to disabilities, but also looking beyond this, to the interests and preferences of disabled people as consumers. This research data is accompanied by an extensive reference section featuring a partial multi-media

Design Aid

Design for Ability Research: £99 + VAT
Orders: 020 7514 7015

Appropriate content	///	Generic use
Pupil/student use	///	One of a series
Teacher resource	///	Photocopiable
Visuals	////	Pupil/student activities
Overall style	///	Cross-curricular



version of the *Hamilton Index*, published by The Disabled Living Foundation and detailing manufacturers for the disabled and their products. A specially arranged version of *The Disability Handbook* is also included on the CD, along with a list of contacts and a small selection of notes outlining issues arising throughout the work.

My first impression of the consumer information included was that it achieved a considerably wide range of aspects that would be important for a manufacturer or designer to consider, but it dawned on me that very large generalisations were being made, and thus limiting the value of the data. In this respect I don't consider it of great use either as a teaching aid or as an informative source for students. Perhaps if more attention was given to outlining examples of individual needs in the form of case studies, rather than categorising needs, this might have been a different case. As for activities offered, this CD-ROM again suffers. An attempt is made to enable the user to collect the images that accompany the various pieces of information, and assemble them in the format of a stylesheet. This is a good idea, but suffers from an inability to save the end product as a stand-alone file, or produce a printed version.

Despite this, I did consider the CD-ROM to be very user-friendly, although I question this medium as the most appropriate method of conveying the information. In regard to this I feel that its developers have become another in a series to jump on the multi-media bandwagon, in order to hanker to the information technology environment of today. Overall, I personally felt that the *Design Aid* CD-ROM was a good idea that could have been constructed with more thought, and that the same material would be more accessible and affordable as a series of books.

BETT DRIVES THE FUTURE

BETT, the world's largest educational technology show has expanded into the ground floor of the National Hall. Taking place at Olympia's Grand and National Halls between 10-13 January 2001 this new area will provide an added focus to Further & Higher Education, Distance Learning, Special Needs and the Skills Agenda, and will house new features reflecting these important areas of education.

Attracting over 400 exhibiting companies, and with a comprehensive programme of highly topical seminars, BETT 2001 will offer visitors from The Design & Technology Association (DATA) the opportunity to plan their investment and future expenditure, and discuss important issues affecting the teaching profession.

The comprehensive seminar programme running alongside the Show offers visitors an opportunity to hear the views of industry experts and to find out how ICT is enhancing and changing the way in which teachers teach and children learn.

The first DATA seminar will take place on Wednesday 10 January at 2.00pm in Theatre B and is entitled 'Using ICT in Electronics & Learning through the Web. For Keystages 3-4, this seminar will address the Marconi ECT Initiative which seeks to train teachers to teach electronics and communications technology in schools.

The second session takes place on Friday 10 January at 11.00am in Theatre B. Andy will be talking about this major initiative that aims to modernise designing and making in schools. The initiative uses the Pro/DESKTOP and ArtCAM Pro software packages to enhance this exciting development. The seminar will illustrate the scheme and how to join.

At BETT 2001, students of Design & Technology will be given the opportunity to embrace vocational engineering skills. Pupils can take part in a national Design, Make and Race motor car competition that will be located in the heart of the Future Skills area.

Another important development at BETT 2001 is the co-location of national agencies and government departments to the National Hall. For the first time ever, policy makers such as the DfEE, BECTa, TTA and QCA will be exhibiting alongside each other, offering co-ordinated messages and services designed to assist and develop the understanding of ICT in the national agenda.

For further information about BETT 2001, free tickets and information about subsidised travel offers contact the Ticket Hotline on 0870 7511458. For more information about the seminar programme dial the seminar fax line on 09003 423440 (calls will be charged at 60 pence per minute at all times).

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Guidelines for contributors

The Journal of Design and Technology Education

is the professional journal of the Design and Technology Association. DATA is the recognised professional association which represents all those involved in design and technology education. The journal provides a forum for the exchange of views on design and technology education and welcomes contributions to all sections. Published papers become the copyright of the Design and Technology Association, unless otherwise agreed.

About the journal

The journal has three sections:

- Research
- Curriculum development
- Reviews

The research papers published will emphasise the provision of a better understanding of design and technology and the improvement of the quality of design and technology education in schools, colleges and universities. Papers for the research section should usually be between 3,000-5,000 words though in exceptional circumstances papers of a maximum of 8,000 words will be considered. The curriculum development section has a number of sub-sections focusing on particular areas (primary, secondary, initial teacher education, special needs, etc). This section may contain reports of a less formal kind (but still analytical) on aspects of interest to those involved in design and technology. Papers for the curriculum development section should be 1,000-3,000 words long.

Refereeing policy

Both the research and curriculum development sections of the journal are refereed and the normal academic criteria will apply. Each submission is read by the section editor and at least two other members of the editorial board, which meets three times a year. Contributors should note that there is likely to be a delay of several weeks between the acknowledgement of receipt of their work and notification of the decision of the editorial board.

Each article must be accompanied by an abstract of 100-150 words, as well as six key words for indexing. The author's name, title, current post and contact details, as well as the section for which the article is intended, should be stated on a separate sheet so that the article is suitable for double-blind reviewing. Please note that the editor-in-chief may, at his discretion, place the article in a different section from that suggested by the author.

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