

Exploring Primary Design and Technology

Reviewed by Alan Cross, Lecturer in Education, The University of Manchester

This book is a very useful contribution to the support needed by primary teachers in design and technology. Primary teachers, both qualified and trainee, require high quality materials like this to guide their development. Design and technology remains for many primary teachers, a new and challenging subject. The anxiety of some teachers, caused at least in part by the comparative youth of the subject contrasts with the enthusiasm with which most children approach the design and making of products. This book is published at a significant time for design and technology in primary schools as the Secretary of State for Education has temporarily removed the requirement for primary schools to teach all of the Programmes of Study. This action, as part of the present drive towards raising standards in literacy and numeracy, will have a dramatic effect on design and technology as the attention of schools is further focused on the so-called basics. Johnsey asks whether design and technology, which he says has just 'risen', will be stifled at birth or nurtured? It is hard to see the present primary educational climate as one disposed to nurture design and technology.

Johnsey provides an excellent structure with his 'toolbox model'. He explains that each of us carries in our personal 'toolbox' of procedural skills, knowledge and understanding and practical capability. Johnsey recognises that many teachers might lack confidence in these areas of design and technology but takes an optimistic tone encouraging the reader to build on existing skills, knowledge and capability and thus further add to sections in their personal toolbox. This book is well organised and clearly written in a very comprehensible style.

In part one the toolbox concept is introduced with part two taking the reader through design and making skills giving clear exemplification. Johnsey clearly articulates as part of the first element of his toolbox, technological principles associated with procedural skill. Emphasis here on the skills of design and technology shows the potential to heighten the learning outcomes of even simple design and technology activities. Parts three and four of the book take the

reader through the middle and lower tiers of the personal toolbox on knowledge and understanding and practical capability. Here is a valuable collection of ideas which will prove useful to any primary teacher. A good example here which will be appreciated by primary teachers is a page of ideas showing different ways in which a child's model can be made to stand up! Reassuringly this book goes further than simple tips for teachers. An example here is a brief consideration of the place of values in design and technology. What is it that makes one person purchase a petrol guzzling car and another person a car which uses much less fuel? The answer is the value the client places on a particular characteristic of a product. This topic is often overlooked but is at the heart of decisions made by designers and technologists based on their need to cater for their clients. This is an example of a more challenging aspect of design and technology made comprehensible by the author.

Illustrations and diagrams are used well in the book. They represent an important graphic form of communication which is itself important in design and technology. The illustrations are generally very good though a number lack the detail which some readers would require. Several very powerful ideas for teaching are given including 'backwards cartoons'. These demonstrate the author's thorough understanding of primary school design and technology based on practical teaching experience and Johnsey's illuminating research into children's behaviour when engaged in design and technology.

A useful distinction is made between children as design and technologists, professional design technologists and design and technology by lay people. Johnsey points to the difference between contexts addressed in the world outside the classroom and those devised for primary children by teachers.

Johnsey goes on to consider management of design and technology in the school and provides useful advice for design and technology co-ordinators. The important role of the school's senior management team is confirmed. Practical help is given with examples relating to long, medium and short term planning. It is suggested that the long term school plans for design and technology develop a number of themes which interweave over a series of terms and years. The section on

Exploring Primary Design and Technology

Rob Johnsey

Cassell: £16.99

ISBN: 0 304 33619 X pb

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

assessment is practical and in line with current good practice. This builds on previous good advice that the teachers should be clear about the intended outcome of the activity. There is much needed advice to the teacher on classroom organisation, management and, unusually detailed advice on the order in which a teacher might tackle exemplar lessons.

This practical book provides good value for money as it is full of sound ideas, based on the experience of the author and other teachers. It addresses key issues which primary teachers and schools must negotiate in their teaching including background knowledge and management of classrooms and the school. This book will be of great use to primary teachers both qualified and trainee and to co-ordinators who now must ensure that design and technology receives its share of the reduced time available and that time is used to maximum effect. Whilst very strong on advice for teachers of older infants and juniors (Years 2-6) the book addresses less directly the needs of teachers and children in the early years.

The book's overall very positive tone might jar a little for some readers. Some may have found design and technology problematic in its implementation. A number of teachers remain extremely apprehensive about design and technology and its management in the classroom. The size of the subject itself including construction, textiles and food can make it difficult to manage. Design and technology co-ordinators themselves are often under great pressure as full-time class teachers with often at least one other subject area to co-ordinate. This book has the potential to assist all these people greatly at the classroom and school level.

Creative Computing

Reviewed by Alan Cross, Lecturer in Education, The University of Manchester

Many primary teachers will be familiar with these reader-friendly publications which all feature numerous colour pictures of classroom displays of children's work.

Creative Computing by Frances James and Ann Kerr reflects aspects of present good practice which for many schools remain a series of objectives. The book is up to date with a friendly style for the non-specialist. Like other recent publications it has suffered from our change in terminology to Information and Communication Technology and the associated acronym, ICT. More important than the acronym is that the book gives the non-ICT specialist primary teacher a number of relatively straightforward, teacher friendly, routes into ICT. Technical terminology is kept to a minimum, the book recognises that particular terms are important in ICT.

The book works its way through a series of ICT opportunities which will be recognised by teachers of Key Stages 1 and 2 as very worthwhile for their age range. These include ideas for imaginative play areas, text handling, word processing, graphics etc. Examples of ideas that I particularly liked were the suggestions about designing your own screen savers with associated storyboards, looking at print styles and activities based on electronic mail. Each aspect is dealt with in a couple of pages, so the detail is minimal, the emphasis is on useful ideas to get started.

There are helpful ideas for the classroom regarding an area the teacher might establish for a computer, however, there is no consideration of options beyond one computer in the classroom. Many primary schools are moving to two or three computers per classroom or sets of portable computers or computer suites.

Within the book there are a number of themes. One of which is the cross-curricular nature of ICT, another, which stood out to me as a reader but is not identified separately in the book is the huge contribution that ICT can make to literacy and numeracy. The book encourages examination of words, use of specialised vocabulary, use of spelling tools etc. This emphasis on language goes

through the book and must reflect considerable experience on the part of the authors. The section on introducing a database is particularly good in the space available, teachers need more of this sort of advice.

I would have liked a little more for teachers on classroom organisation and the active role of the teacher. There was no mention of the National Curriculum, which is understandable as a response from a publisher to the expected changes, but teachers do need clear advice about how these ideas relate to the Programmes of Study. The Internet surprisingly gets very little attention, there is little more than a series of simple suggestions. I was concerned that there was no warning to teachers that whilst the Internet has great potential (particularly for teachers), care needs to be taken regarding access to the full breadth of Internet sites for children as many are not suitable for young children.

This is a useful book for trainees, teachers and for ICT co-ordinators who need straightforward approaches to suggest to those colleagues who still make too much use of the dust cover! At £9.99 this book represents good value for money.

Creative Computing

Frances James and Ann Kerr
Folens: £9.99
ISBN: 0 947882 49 9 pb
Orders: 01582 472788

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

NEW FROM TRENTHAM BOOKS

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Mike Veveris and Julie De Rosa

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Contents include Object Drawing – flat and isometric, 3D Modelling, User Co-ordinate Systems, Rendering and numerous graduated exercises.

Mike Veveris and Julie De Rosa lecture at the University of Derby.

1998, ISBN 1 85856 107 8

140 pages, A4

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All About Food (new edition)

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

Sixteen years since the first edition, we now have the third edition of this perennial and popular text book. New publishing techniques allow for full colour with many good photographs and line drawings; the cover still has the delightful red tomato. The price compares favourably at £10, with the rash of newly written food technology text books.

The character of this much used book varies little from its predecessors, but the arrangement is different. The five chapters are 'Eating for Health', 'Cooking Equipment and Cooking Methods', a short chapter on 'Designing and Making Food Products', a new addition of 'Food Manufacture and Processing' and half the book on 'Recipes', which includes the commodity information. There are two, useful indexes – one for recipes and one for concepts and information.

This book has always been wonderful for the lower ability pupil. The new approach to food however, does make it more difficult for these pupils regardless of the nature of any text book layout. In our subject, the application of nutrition has always been regarded as the most difficult area. Real costing – i.e. the design of a spending plan for the purchasing of household food, and the application of food safety were also difficult. This new edition is different from its earlier brethren, in respect of the application and the concepts that are included. There are now mathematical examples of product costing, tabulations and food tables. None the less there are many spreads that still allow for learning by the traditional question approach which follows the presented information.

The chapter on designing takes the now familiar track of the design process – straightforward spreads include research techniques, taste panels, disassembly, costing and evaluation techniques. There are however no spreads on how to do a design, on graphics or on the sort of detail that is needed for coursework presentation.

The food manufacturing chapter is accessible which is often not the case with other texts that are trying to incorporate this in a project format. Spreads include – product development,

marketing, systems and control, a production line, food safety (HACCP) and the law, food packaging and labelling and preservation.

In the past I have never considered buying class sets of earlier editions because of the treatment of nutrition. I am delighted to say that this is now up to date, unambiguous, and quantitative in part. The recipe section includes many more examples using fruit and vegetables in interesting ways, ethnic foods, using herbs and spices more, and basic baking recipes for product development.

The major omission is in the area of food science. Coursework and question papers assume a working knowledge of the properties of raw materials and made up foods. For instance coagulation, gelatinisation, and gelation, pathogenic, are explained by simple factual descriptions of 'setting' and 'harmful'. For its target market, this may be no bad thing but this area will need supplementing. There are no investigations other than as suggestions in the question sections.

The format and typeface are simple and effective. Pupils will learn the layout and be happy with it. It is an ideal book for cover and homework. The sentence structure usually contains only one idea with few subclauses. It compliments rather than replaces exam board dedicated texts, and with the updates I would have no hesitation in buying a half set for my department.

All about Food

Helen McGrath
Oxford University Press: £10
ISBN: 0 19 832767 6 pb
Orders: 01536 400552

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

Products and Packages for Key Stage 4

Reviewed by Chris Snell, Head of Department, The Cheltenham Ladies' College, Cheltenham

This is an extension of the Key Stage 3 'Products and Packages' pack produced by INCPEN in 1996. The Key Stage 4 pack comprises:

- **six case studies** – each case study maps out the packaging of a commercial product from research to design and through to manufacture. They are selected for their relevance to materials which may be used by students. The products are: a mobile phone, work surface protector (toughened glass), shirt and tie set, breakfast cereal, fruit drink and a ready-to-eat meal (frozen).
- **fifteen profiles** (photocopiable) – of specialists (individuals, teams or subcontracting companies). These range from market researchers, graphic design consultants, materials technologists, carton manufacturers through to microbiologists, quality assurance managers and logistics managers concerned with transit packaging and minimising waste.
- **twelve resource tasks** – focused practical tasks in National Curriculum terms. These range from assessing existing packaging, quantitative research, creating a design brief through to carton design, concept design, choosing materials (there is a separate A3 chart of materials, their application areas, properties etc.), testing materials for shelf life and alternative systems.
- **seven packaging issues** (photocopiable) – this treats the contextual, historical, environmental, economical, technological and social interactions.
- **teachers' notes** – these take an overall view of the inter-relationships between each of the foregoing and their separate functions. The objective of the pack being to provide not just information about the packaging industry, but to provide material for students who have coursework tasks to complete (half or full course GCSEs) and support for GNVQ courses in

Manufacturing, whilst stressing the benefits to those doing business studies.

- **A3 sheet** – one side containing a **Materials selection chart**, the other a flow chart of **Packaging Design** – functions and industrial structure.

This is probably one of the most structured, comprehensive treatments of packaging available. Many teachers like to develop their own lesson outlines from scratch, but this material has been so well thought out and assembled that they will probably find it of use with little or no modification.

The various features such as **Glossaries** that appear in each topic, **Summaries**, prompts, **Hot links** that relate the current topic to an appropriate **Resource Task**, reinforce the learning process and clarify the subject without labouring issues. Pupils and teachers alike should find this a worthwhile study pack. It is written in a straightforward prose style and provides material suited to both class work and homework. As a study pack, it provides too much material for inclusion in say a Systems and Control GCSE, because it could easily span a 10–15 hour session of lessons. It would, however, provide a good basis for a piece of Graphics coursework.

At £5.95 it is good value because of the photocopiable material alone.

Products and Packages

University of Salford Technology Education Development Unit
Hobsons Academic Relations: £5.95
Orders: 01933 228 953

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

Examining Textiles Technology

*Reviewed by Glen Reeve-Fowkes,
County Adviser for Design and
Technology, Cornwall*

Examining Textiles Technology brings to life many of the aspects of the GCSE Textiles Technology syllabus and some aspects of GNVQ manufacturing. The first section usefully explores the development of the textile industry and introduces pupils to many of the issues which the industry addresses.

Fibre and fabric production methods are fully explained with clear diagrams and/or full colour photographs. This section covers a wide range of methods and concludes with a challenging section on environmental issues.

The manufacturing section is particularly helpful in developing pupils' knowledge

and understanding of the ways in which textile products are designed and made in quantity. Photographs of computerised cutting and construction equipment which are then described in the text will give pupils (and teachers) a much needed insight into the textile industry.

The final section uses 10 case studies to demonstrate the design and production of a wide range of commercial products from Wrangler jeans to beaded jewellery.

Each section has 'mini tasks' which teachers may find useful as a starting point for homework; the glossary collated at the end of the book is a great help in developing pupils' technical vocabulary but teachers will find that they need to develop this section, particularly for able pupils.

The layout is clear and logical; pupils can use the book for their own research and as

a guide to developing their own 'systems for manufacturing'.

The book is perhaps not very user-friendly to boys but overall it is colourful, attractive and informative about many technical and production details and at £8.99, I would consider it to be a very useful resource to add to the classroom collection.

The associated teacher's resource pack is a collection of 63 photocopiable sheets which focus on textile testing and techniques for colouring fabrics. The presentation is clear but is unlikely to extend the teacher with new information. It would be a useful resource for teachers who need to produce resource sheets for pupils to use independently.

EXAMINING TEXTILES TECHNOLOGY



ANNE BARNETT

Heinemann

Examining Textiles Technology

Anne Barnett

Heinemann Educational

ISBN: Teacher's Resource 0 435 42106 9

£19.99

ISBN: Students' Book 0 435 42104 2

£8.99

Orders: 01865 311366

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

PCB Wizard V2.0

Reviewed by Rowland Dye and Phil Norman, Filton College, Bristol

PCB Wizard Version 2.0 is new Printed Circuit Board design software developed especially for the educational field. Students can start with ready-made component pads from a comprehensive parts bin. Adding, routing, and editing tracks is straightforward, intuitive, and can even be automated. So far, readers may say, it sounds like yet another good PCB design package. However the authors have found out what teachers really wanted but didn't know was possible! At the click of a button, symbols are converted into coloured 3-D images of their real-world components. Toggling to and fro really helps link them in students' minds.

But there's more! Hands up those teachers who struggle to get their students to add up the cost of components in their projects. Well PCB Wizard does it

automatically in its Bill of Materials section.

And there's still more! PCB Wizard can import circuits from Crocodile Clips. The software deals with pin-outs and routes all the possible tracks around the board. Students take it for granted the computer does it automatically, and why not? Teachers who remember the bad old days with pencil and grid paper watch in amazement!

And still more! Recognising that many students have their own computers, PCB Wizard comes with a freely copiable student version. Projects can be worked on at home, then brought in for printing. This innovative break with restrictive licensing is a welcome first to our knowledge.

Compared with some industrial packages where choice gets in the way of getting started, PCB Wizard is configured ready for use. Nevertheless, new components can be added and the whole system customised to suit various ages and

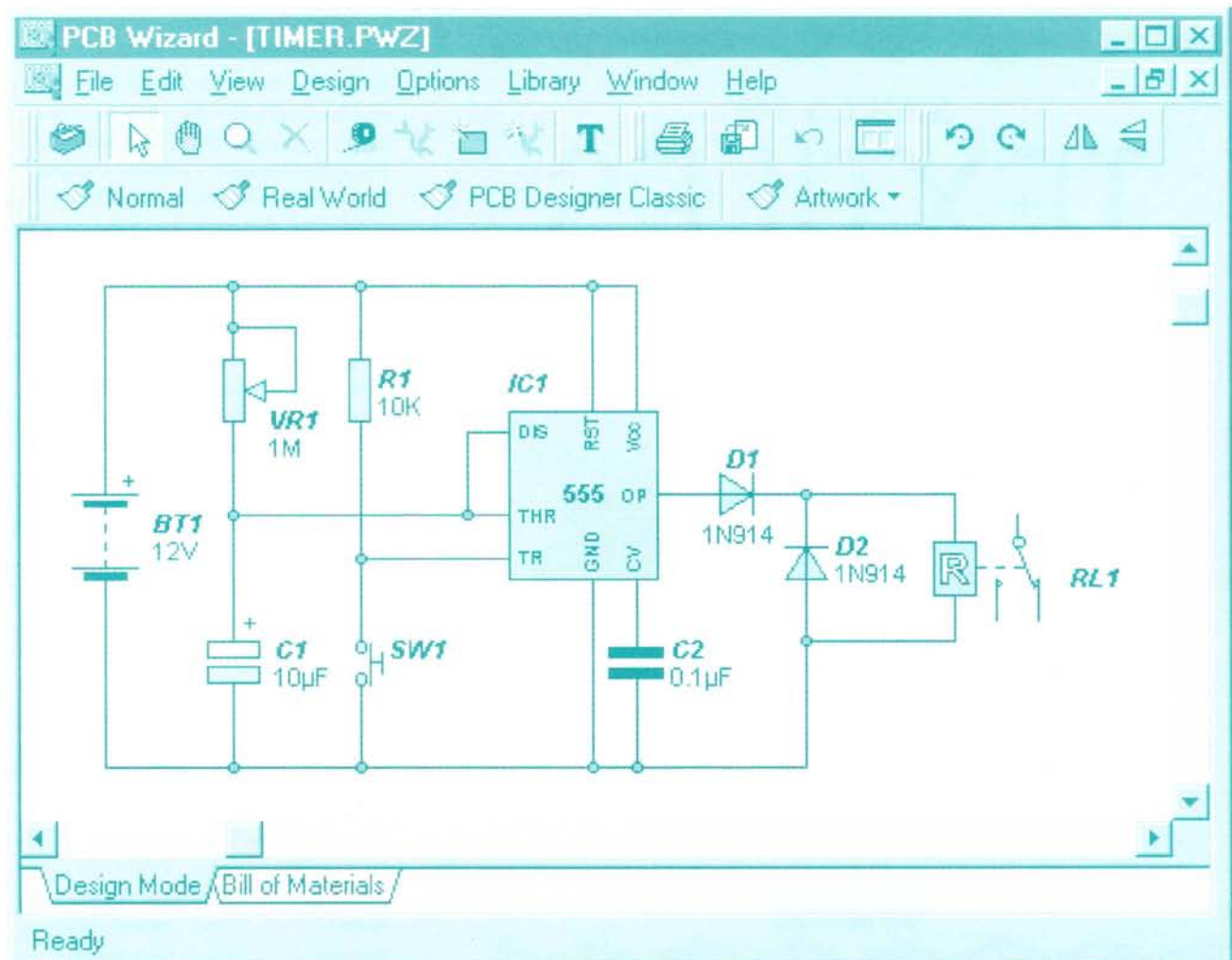
PCB Wizard V2.0

New Wave Concepts: £89 (single user, standard edition)

Orders: 01638 751878

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

abilities. There are nice extras such as video clip tutorials and a tip-of-the-day! As it runs in Windows the screen layout and icons are familiar. PCB layouts, real-world component drawings, and costings can be cut and pasted into other packages to provide exciting additions to usually tedious report writing. The speed is near instantaneous on a standard 486. The documentation is well set out with plenty of screen shots and useful tips. The telephone support is excellent. The authors are keen to have feedback and to listen to teachers' views. More innovations are promised in the pipeline.



Skills in Textiles Technology

Reviewed by Christine Twisleton

Skills in Textiles Technology is designed for Key Stage 3 pupils who are working with textiles in design and technology. The resource consists of a Pupils' Book and a Teacher's Resource Pack which is photocopiable. Together, they provide coverage of knowledge, understanding and some skills required for National Curriculum work for pupils aged 11-14 and are additionally useful for foundation work at GCSE level.

The overall approach is firmly rooted in the design process and provides useful guidance to pupils concerning aspects of planning, designing and making with textiles. This pack fills a gap in the market in terms of resources for Key Stage 3 textile work owing to its up-to-date style of linking the work to the real world of the textile industry and fashion. It is sufficiently comprehensive to provide a good range of activities, but it should be noted that it does not set out to provide

detailed information on methods of construction and techniques. This is no bad thing because there are plenty of sources of this information available elsewhere.

The Pupils' Book is colourful and well presented. Diagrams and tables of information are very well done. The format generally takes the form of double page spreads, providing factual information supported by questions related to the text or realistic activities. A wide range of areas are addressed, covering:

- Fibres and fabrics
- The textile industry
- Use of colour in textiles
- Safety aspects in working with textiles
- Costing exercises
- Disassembly of textile products
- Testing and labelling
- Designing, planning and making
- Packaging, marketing and the law relating to textiles

- Use of IT and CAD/CAM in the textiles industry
- Properties and finishes
- Quality assurance and control

Pupils would enjoy using this book, but it in no way caters for any pupil with reading or comprehension difficulties. The pupils are introduced to a sound range of appropriate technical vocabulary.

The Teacher's Resource Pack includes a very useful list of further references and addresses including videos and software which we all find helpful. Over 40 pupil worksheets are provided covering a range of activities relating to

- Use of textiles
- Fibres and fabrics, properties and characteristics
- 9 different fabric testing investigations
- Knitted, woven and non woven fabrics
- Disassembly
- Quality assurance and control
- Use of the sewing machine
- Drawing and designing
- Joining textiles
- Creating patterns
- Work related to clothing

As with the Pupils' Book, the text, diagrams and tables are very clear and would copy well. I think that teachers would find the pack a valuable resource, representing value for money. Its only drawback is that some Key Stage 3 pupils would find the approach and text too demanding and teachers would have to make their own modifications. Advice is offered in the Teacher's guide concerning special needs but this is rather superficial. However, it is good to see that the text, questions and activities are generally realistic and worth doing as well as providing high expectations of pupils. I feel that this text will be put to good use by some teachers for Year 10 pupils and is therefore a versatile and helpful resource to have in your department.

Skills in Textiles Technology Teacher's Resource Pack

Rose Sinclair, Heinemann Educational

ISBN: Teacher's Resource 0 435 42116 6

£14.99

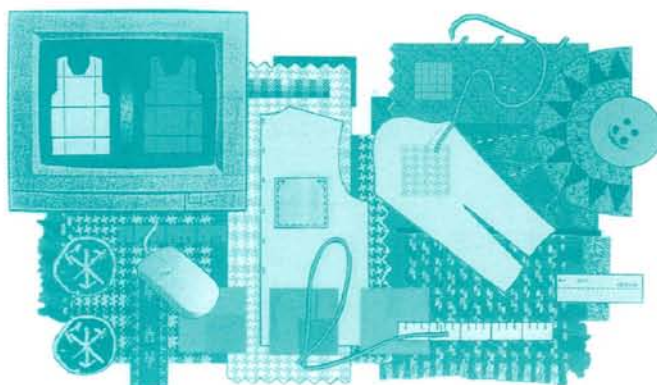
ISBN: Student's Book 0 435 42114 X £7.25

Orders: 01865 311366

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

SKILLS IN TEXTILES TECHNOLOGY

Rose Sinclair



Heinemann

Graphic Products to GCSE

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

The book is of the paperback type and of 144 pages, both an index and a contents are included. The first 25 pages are devoted to the design process covering in detail the areas of briefs, research, specification aesthetics, ideas, mock-ups and evaluating. I found much of this section confusing due to each spread dealing with a different project. Continuity was lost. Some photographs included seemed to be irrelevant and added to the confusion. I was also concerned that the majority of objects viewed were not Graphic Products but were from an area which could be described as product design or industrial design. The authors are adding to the confusion over what is a Graphic Product.

The next 10 pages deal with the traditional things found in many books such as drawing boards, instruments and pencils. Do we need any more of this? Section 5, 10 pages are about tools, equipment and their use in model making. Unfortunately five spreads are about tools which would be used in Resistant Materials. The next 28 pages deal with various aspects of drawing from perspective drawing to geometry. However, I do feel there is confusion again in the section on Axonometric drawing. The second half of the book deals with a number of topics including a small section on Enhancement, Data presentation, Developments, Fabrication of Resistant Materials, CAD (dealt with in two pages), I.T. CAM again dealt with in two pages. Industrial Practices – now here are some very nice well planned spreads about Graphic Products but this is followed by four pages on adhesives and two on components where nuts, bolts and washers are dealt with.

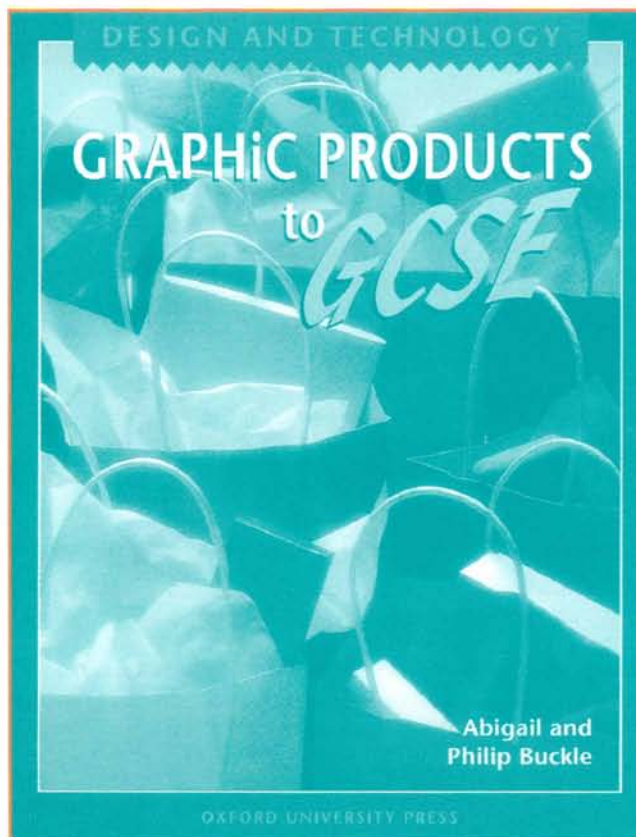
In Section 15 we get a two page spread dealing with materials – again much confusion here. In design and technology we are encouraged to link with industry and within our projects to study industrial practices. The authors should have given teachers and students information that card is a term not generally used in the trade. The term is board and that the weight of board is again generally measured in microns rather than by grams. The materials section goes on to deal with Plastics – some not appropriate and then to Wood. Systems and Mechanisms are well dealt with and to the appropriate depth. The layout of the book is pleasing and the language used is appropriate to GCSE, however I would find the content of the book more suited to Key Stage 3. Photographs and visuals are good but at times not relevant.

I would not buy the book for class use as the majority of the content could be found in numerous other publications delivered to us over the past few years. I would however have a single copy for teacher reference. At £9 the book is in at the usual market price but in my view is not value for money due to little new material being found on the pages.

Graphic Products to GCSE

Abigail and Philip Buckle
Oxford University Press: £9.00
ISBN: 0 19 832789 7 pb
Orders: 01536 400552

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



Collins Real World Technology Series: Food Technology

Reviewed by Roy Ballam, British Nutrition Foundation

I would describe this book as 'more of the same', although it does have a number of interesting features which make it stand-alone. It is set out in ten chapters, looking at a range of topics, including food safety, nutrition, product development, quality assurance and manufacturing.

The 'Investigating Ingredients' chapter is well produced, showing the function and application of a number of ingredients – all of which are simply explained, with practical food examples, but little attention to chemistry. This will help lower ability pupils, but may not offer enough stimulus and scientific understanding to motivate the more able. This is an important area of study and is seen as a characteristic of good practice by Ofsted.

Another well explained and often misunderstood area is that of food systems and control. The book makes good use of flow charts and industrial case studies – all clearly showing how systems and control are used to produce consistent quality food products.

The book also contains a number of up-to-date facts and figures. For example, reference is made to the fat replacer Olestra and genetic modification. It also contains a number of more traditional home economics tasks, for example to 'spot the hazards and safety risks in the kitchen'. Some recipes are also given to highlight particular principles, yet these are simply re-presented from other textbooks which teachers would have access to. However, the emphasis overall is mostly technological.

The design of the book is very busy, and page layout is often confusing. The use of bold printing highlights significant vocabulary, which might have been more usefully explained in a glossary at the end of the book. The quality of photographs and illustrations throughout the book is extremely variable. Each chapter ends with a number of comprehension questions. Reference to focused tasks and design assignments would be more appropriate for design and technology publications.

There are some typographical errors in the Collins book, for example, in the chart 'The Nutrients We Need'. It is a little excessive, not to say toxic, to suggest that women breast feeding need 1200g of Vitamin A and 10g of Vitamin D daily.

Collins Real World Technology Series: Food Technology

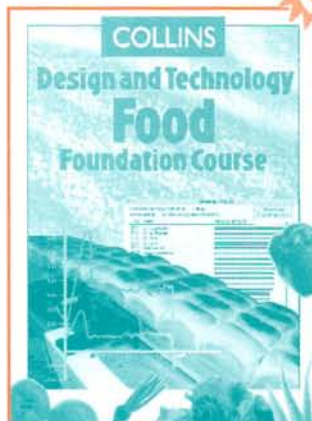
Janet Inglis and Sue Plews
Collins Educational: £10.99
ISBN: 0 00 329 490 0 pb
Orders: 0141 306 3455

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

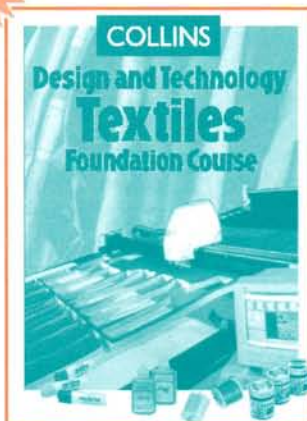
The correct figures are 950mg and 10mg respectively. Attention to detail is needed, especially when pupils may use these figures to support and justify exam coursework for qualifications (the book is recommended by the Midlands Examining Group). The classification of 'healthy' and 'unhealthy' foods and illustrations showing people suffering from malnutrition are quite misleading, and may give pupils incorrect messages about foods.

This publication covers the important aspects of food technology, with some up-to-date facts and excellent case study materials. However, it suffers from misleading typographical errors and a confusing layout design which tries to do too much.

COLLINS



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Please quote code 3958 March '99

Packaging

Reviewed by Melanie Fasciato, Senior Lecturer, Manchester Metropolitan University

Having been involved in educational publishing, including publications concerning packaging, for some time now, I was interested to receive the SmithKline Beecham packaging resource pack. I must admit to being rather disappointed. It consists of a very attractive graphite-coloured plastic box file, a short video of Lucozade advertisements since 1955, a list of the advertisements on the video, a set of 21 information cards, 12 task sheets, teachers' notes on four sides of A4, three bottle tops and two A4 sheets of card printed with 'Tums' boxes.

As an historical document, the video is fascinating and I think that it would be an interesting history resource. The notes for the video are very limited. They consist of the title of the advertisement, its length and year, and 'points for discussion'. The latter are limited to single words and short phrases, for example 'Mothers', 'Large glass bottle (returnable)' and 'Helps replace lost energy'. These are the themes of the advertisement, rather than points for discussion and I feel that most people would welcome more support, given the nature of the video. I found myself playing 'spot the TV personality' - as my daughter said, 'Oh look, he is off East Enders isn't he?' I don't wish to quibble, but the list of dates on the second page was identical to that on the first (1955-1986), but in fact the advertisements were from 1986 onwards.

The teachers' notes were very bright and inviting and promised to be 'now better than ever'. I have not seen this product before, but the notes were limited to how the pack could address the Programmes of Study for Key Stages 3 and 4, a list of the titles of the information cards and some contact addresses. I was unclear what the numbers referred to in the section dealing with the PoS coverage.

The best sections of the pack were the information cards and tasks. It was unhelpful that not all of the cards were correctly numbered, but the contents of the information cards was good, clearly laid out and had the correct ratio of text to illustration for most Key Stage 3 students to be able to use them easily. Some of the more technical vocabulary would need

explanation by the teacher for students at both key stages. The task cards were more variable in quality, as was the complexity of the tasks. One task card asked students to send away for information from various organisations and then analyse it. One of the questions was, 'How would you verify the information they give?' How indeed! Another task card suggested that the students use the information cards to answer the questions, this would limit the number of students able to use the pack at the same time. I would suggest photocopying to make class sets of the task cards and information cards which are the most useful, rather than using the pack in its entirety.

Packaging is a cross curricular topic and I feel that this opportunity was lost. There is the possibility of language work developing from the video and the information sent by organisations involved in packaging and recycling. There could be strong links with geography in the environmental task cards and with science in the materials investigations.

Overall I feel that there is some very useful material here, but it needed to be better edited and assembled. The teachers' notes should have been fuller, as should the video notes.

Packaging

SmithKline Beecham Plc: £10.00
Orders: 0181 975 3894

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

The presence and function of the three bottle tops and 'Tums' boxes was not explained. For £10.00, this is an expensive product when there are other publications which cover the same ground, many of which are free!

Designmuseum

The Design Museum's Education Department aims to promote an awareness and understanding of design by delivering a wide-range of services to schools and colleges, including:

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For further information contact Helen Cooper,
Design Museum, 28 Shad Thames, London SE1 2YD
Tel: 0171 403 6933 Fax: 0171 378 6540

The Cutting Edge of Manufacturing

Reviewed by Alan Trueman, Head of Design and Manufacture, Spelthorne College

This resource pack has been developed for use in the teaching of GCSE Technology and GNVQ Manufacturing and Business wherever manufacturing might be taught. The main focus of this pack is the manufacture of the Gillette disposable razor.

The pack covers topics such as manufacturing techniques, continuous production, quality control, computer control, testing procedures, ergonomics and anthropometric data, material selection, and health and safety issues. This list is not exhaustive but just covers the main areas.

The information is represented in a variety of ways, information sheets, a video, photo sheets, and manufacturing flow charts. There are task sheets but the pack should not be seen as a programme of study but a resource that will allow a teacher to pick and mix the topics to suit their own needs in the classroom. Gillette and the local schools in the area have developed the pack.

I feel that this resource will be excellent for any teacher needing to cover a manufacturing process. In addition the task sheets can be used to extend the pupils' understanding of control systems.

These task sheets cover aspects from internal environmental control to logistical problems of using forklift trucks; solutions are included so that you do have to be an expert in these fields.

The teacher leading the class can use the pack as a teaching resource. It could just as well be used as an independent learning programme where the pupil could be set a series of tasks wherein they could use the resource as the need arose.

The format of this resource is such that the teacher can use individual parts to fit in with any course of study. They could use the whole pack as an integrated study of manufacturing, dealing with the use of PLCs and how automation is used to control the whole manufacturing process, from the input of the raw material to the production of the finished product, in this case the disposable razor. The strength of this teaching resource is its adaptability in that you can use as much as you need and leave the rest for later. I do not feel that this resource has any particular weakness other than its lacking the atmosphere that a real visit might give to the students which seems a small price to pay for the detail and the close-ups that can be achieved using photographic techniques.

The presentation of the material makes it very accessible. The charts do need some explanation but can be easily understood by most practical teachers. The video gives a complete picture of the manufacturing process for the disposable

The Cutting Edge of Manufacturing

SmithKline Beecham Plc: £20.00
Orders: 0181 975 3894

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

razor and includes close-ups and some animation. Obviously there is a certain amount of advertising but this can be skipped over if one feels it is necessary.

The cost of this product is extremely cheap and good value, the price that you pay for the whole pack could justifiably be charged for the video alone. I would highly recommend this pack for any teacher who needs to present the manufacturing industry in any way. All in all a well produced product at an affordable price.



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Make more of yourself

Understanding Ingredients

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

The publication consists of a small (94 page), well coloured pupils' book, with a supportive monochrome, A4 teacher's resource pack of information sheets and focused practical tasks. There are activities in both that lead into design and make activities. It aims to give pupils a practical guide to the functional properties of foods by providing clear information on what ingredients do and how they behave. This is science; some concepts being nature study in type and others being physical or chemical - which is required in the National Curriculum.

A book which gives the basics about ingredients is long overdue. Each chapter in the pupils' book is sectioned - structure and types (qualities), safety, functional properties and nutritional value. The basic information is covered in enough detail and most chapters have practical tasks to enhance understanding. These tasks are of the design / planning type and there are few questions about the information itself. This limits use for private study or cover.

Anne Barnett has decided to address the normal range of ingredients with emphasis on fats, oils, eggs, milk, yogurt, cheese, fish, meat and poultry, a little on cereals, some on vegetables (including potatoes and pulses) and sugar. There is a welcome chapter on spices. In the pupils' book there is nothing on the ingredients that manufacturers use; for example to stabilise a product, to extend the shelf life or any of the other major components in manufactured foods. A little appears about flavourings and modified starches in the resource pack.

The chapters appear fairly random in their order; cereals and cheese acting as

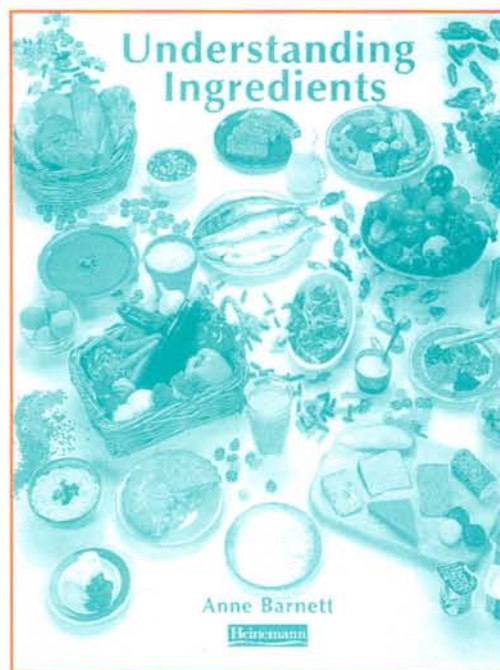
'filling' for chapters on 'butter' and on 'fats and oils'. This lack of sequencing is disappointing as good classifications help learning. Other, more subtle classifications are also missing. For example, emulsification is a very widespread phenomenon and is mentioned, but the range of its occurrence is not. Such repetition and review in other contexts is vital for scientific understanding. In fact at times, the book does tend to treat scientific concepts as mere information.

The way in which foods themselves are classified for the most effective way of developing pupils' understanding has long been contentious. I feel that a simple classification which can cross the boundaries of scientific properties and nutrition is the most effective for learning. Unfortunately the pupils' book and the pack classify certain ingredients differently, e.g. potatoes and pulses are vegetables in the pupils' book, but appear in the pack in the Dairy Council's '5 food groups' as an alternative to bread and meat respectively. Young children and the less able cannot use different classifications for different purposes. Indeed some of the assertions about the nutritional values of vegetables are rather confusing.

There are some diagrams to illustrate microscopic structures, e.g. of meat and cereal grains. In a book on 'Understanding Ingredients' I should have liked to see more illustration of concepts such as thickening (more than swollen granules as illustrated in the pack), leaching, retrogradation etc. Also some pictograms are confusing. For example the one on creams may be misread as cream containing, rather than providing, energy.

If older pupils need to research some background information on their own this book will be of great help. Details of, for example, sugar refining, cream making and margarine manufacture are useful.

The number and range of ingredients used in food technology is huge, and for a GCSE syllabus we have, as teachers, to choose our focus carefully. We no longer have the time to do all the ingredients in such detail. And my syllabus does not ask this. I tend to concentrate on those



ingredients and food systems that are needed for my DMAs. I find that the book needs augmenting for this purpose.

The pack is expensive, as all photocopiable publications are. Some worksheets contain questions that have no support in the pupils' book. Most worksheets are crammed full of information that would have been best in the book. A few are recording sheets. Some are for recipes that illustrate a scientific point e.g. fat amount in scones, biscuits. Most would work best for A* level or for able GCSE pupils who have longer than a one hour lesson.

Understanding Ingredients

Anne Barnett

Heinemann Educational

ISBN: 0435 428292 (Teacher's Notes)

£19.99

ISBN: 0435 428276 (Students' Book) £7.50

Orders: 01865 311366

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

Japanese Art and Design

Reviewed by Christine Twisleton

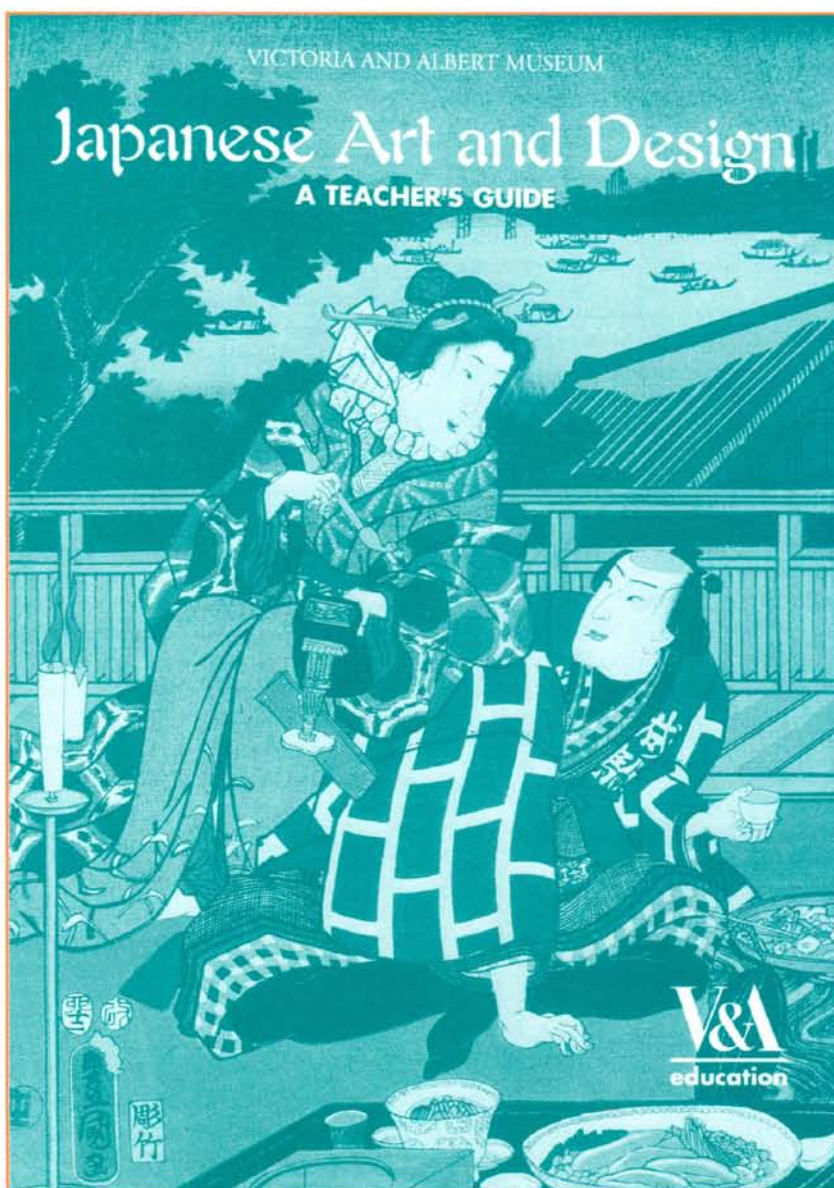
This is a specialised publication which introduces teachers to the Toshiba Gallery of Japanese art and design in the Victoria and Albert Museum. It demonstrates how the Gallery can be used as a resource to teach Art, Technology and English through a number of themes. Background information is provided, supported by suggestions for preparing for a visit, activities to do in the Museum and ideas for follow up back at school. Thirty-six pages are well laid out and illustrated in black and white including photographs of exhibits and clear charts and diagrams. These encompass a chronology of Japanese history, a guide to pronunciation of terminology, interpretation of motifs and symbols and instructions for making a Samurai helmet, Japanese Kamiko coat and a wind streamer. As can be seen from these examples the content is varied and practical as well as theoretical and would be suitable for all age ranges.

There are four chapters, of which the first is concerned with Japanese Decorative Styles. Here, there is analysis of Japanese motifs, symbols, colour, line, shape, balance and space interwoven with the concept of pictorial narrative. A whole range of activities are suggested from simple illustration to woodblock printing and artefact construction. A second chapter entitled *Elegant Pursuits*, discusses popular Japanese activities during the Edo period, focusing on eating, drinking, picnicking, writing, games and gift giving. A range of Museum exhibits inspire activities for designing and making with these pursuits in mind. *Poems and Stories* provide the next theme examining two forms of traditional Japanese literature. Haiku and Renga techniques are considered as well as Japanese style stories. Finally, Japanese Craft artefacts and their strong links to the spiritual world in Japanese culture are

considered in relation to Museum exhibits, and include opportunities for pupils to study the craftwork in dress accessories and Samurai armour to be found in the Gallery.

This book would be very helpful to teachers with varying degrees of specialism, interested in making use of the Toshiba Gallery and represents good value for money in this context. It is really designed for teachers but could be of help to older pupils. It has been creatively produced to be as useful as a book of this size could be, in catering for all age ranges and supporting several curriculum areas. It is valuable to remember that publications such as these are a great support in encouraging teachers to make use of our national museum resources for educational

purposes. Parents may also find a book like this useful for activities with their children. A visit to the Victoria and Albert Museum is really essential to benefit from this resource.



Japanese Art and Design

Colin Mulberg

V&A Education: £5.95

ISBN: 1 85177 253 7 pb

Orders: 0171 938 8438

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

Textiles: A Handbook for Teachers*Reviewed by Christine Twisleton*

Museums can be an excellent source of original material supporting the education of our pupils in a way which is real and tangible in linking work with the present and the past. This A4 formatted 36 page book aims to introduce primary and secondary teachers to aspects of the textile collections at the Victoria and Albert Museum. Each of the five main chapter headings relates a textile production technique to a project. It encourages the use of the collections as sources of information and inspiration for textile work by pupils. Background information is provided based on each of the techniques and selected textile display materials. It takes a wide ranging cultural approach, exploring textiles from Britain, Europe, Japan, China and India. The social and historical contexts are also considered. Every section is accompanied by suggestions for activities to be undertaken by pupils at the Museum and practical ideas for preparatory and follow up work.

The book mainly supports National Curriculum in Art and Design Technology, but there are cross-curricular links with Science, Maths and History. Chapter one describes ways to explore pattern and concentrates on repeat pattern work. The main activity of scarf printing is geared to secondary pupils, but simpler activities for younger children are suggested. The second chapter on tapestry introduces this type of weaving and provides a photocopiable investigation sheet and alongside activity ideas offers advice on construction of card and small wooden frame looms. Resist-dyeing is the next topic and incorporates both tie-dye and wax resist techniques. Instructions are provided with the activity ideas and are suited to Year 6 and above. The fourth theme of embroidery uses the collection of English embroidery as a starting point for creative work for pupils in Key Stages 2, 3 and 4. Finally, textiles with a three dimensional finish are considered with the emphasis on quilting and textured embroidery.

Arrangements for making a school visit to the Museum are explained and a list of further resources is provided.

This publication is supported by black and white photographs of exhibits and clear diagrams of techniques. It is important to remember that this resource

is really aimed at teachers wishing to use the V&A Museum collections. It is well produced and presented for this purpose. Teachers able to bring their pupils to visit the Museum would find this book very useful, and older pupils may find it helpful for individual project work. It is helpful in raising awareness of what the Museum has to offer and how this resource can be put to good educational use. Efforts are made to provide activity inspiration, which we all need, as well as a basic framework especially for the non-specialist teacher. At £5.95 it represents good value for money but would need to be supplemented by additional research and preparation. An experienced teacher would be able to transfer the ideas from this book to exhibits of textile work in other venues nationwide, but I would value it for its original purpose.

Textiles: A Handbook for Teachers

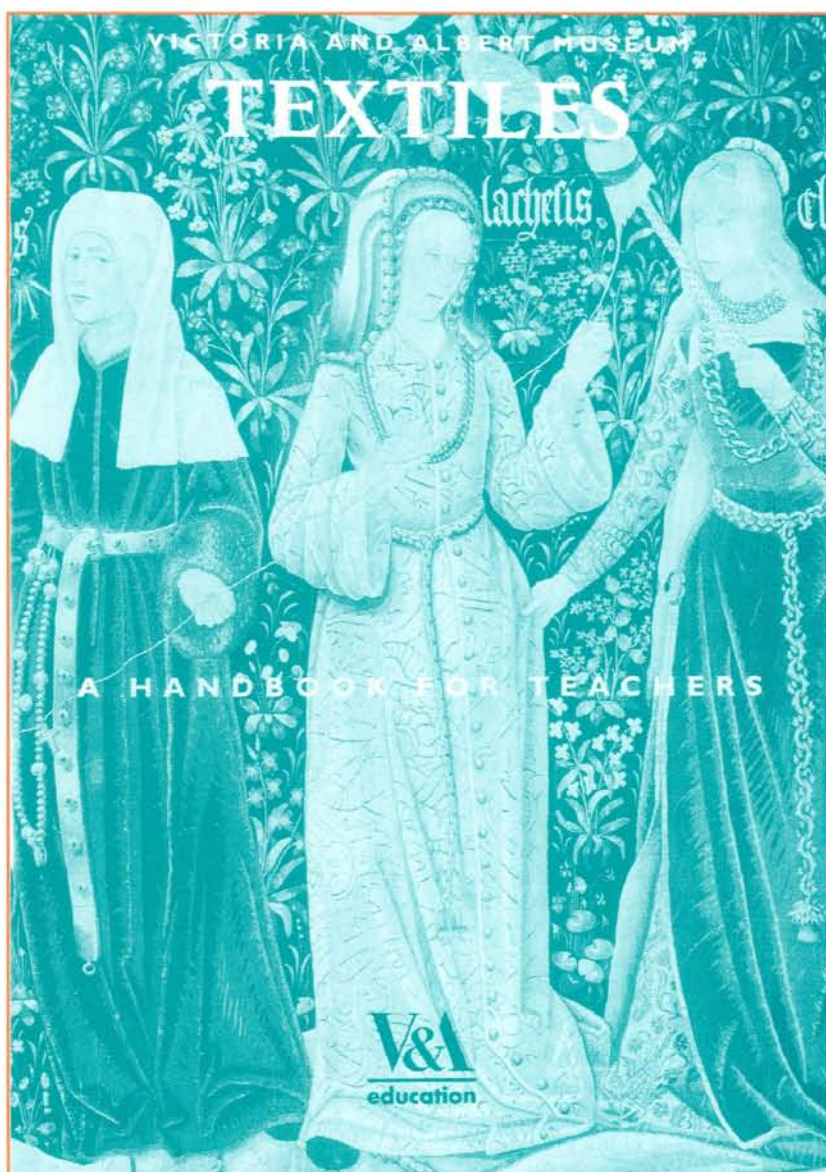
Carole Mahoney

V&A Education: £5.95

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



PICtutor CD-ROM

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

This CD-ROM tackles a technically difficult area in an interesting and informative style. There is even some humour in PIC chips! The system requirements for installation of this CD-ROM are 12MB of RAM and at least 10MB of available disk space. Windows version 3.1, 95 or 98 will support it. Equally MS-DOS version 3.1 or later will work.

The PICtutor is designed to teach users of all levels how to write machine code programs for the PIC series of microcontrollers.

The CD-ROM has 39 tutorial sections which are intended to guide the complete beginner through the initial understanding of PIC architecture, commands and programming techniques. This is often a really tricky area for a student since authors can assume a level of understanding way beyond the basic level. John Becker has tackled this problem well although there are some areas which I feel would need to be explained by the teacher working alongside. The style of the support information is of a technical nature and cannot be avoided. John has done well to simplify the language and terms used although the challenge of introducing this topic to a broad audience is a daunting task. I found the Tutorial screens easy to follow with a wealth of information to scroll through. The content is broadly divided into three sections. Section 1 deals with the first 14 tutorials which include Machine Code assembler, downloading files to the PIC, binary, basic commands, Input and Output ports, switch monitoring, flags, loops and control structures. Section 2 deals with Audio tone generation, subroutines, tables indirect addressing, timers, driving 7-segment LED displays and simple clocks. Section 3 deals with the last 10 tutorials which include LCD displays, 24-hour clock program, burglar alarm (with circuit), EEPROM data memory use, watchdog timer, interrupts and sleep mode. John has thoughtfully included a Reference section which includes useful addresses.

The Virtual PIC examples are very impressive and show clearly how the programs written by the student can be

tested and displayed on the screen, although these do run at a considerable speed!

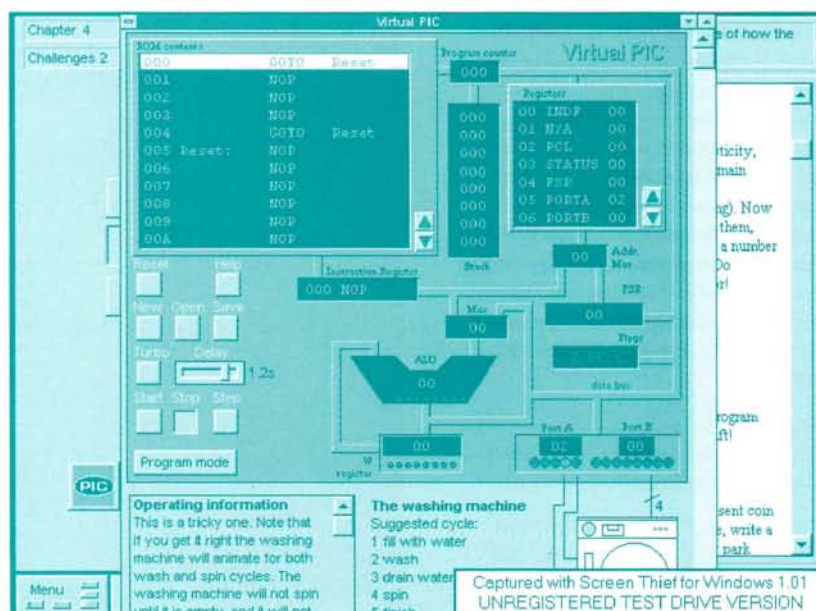
The most exciting development is the introduction of a Development Kit which has been designed to provide output devices such as a 7-segment LED display and an alphanumeric LCD display. The board is equipped with a reprogrammable PIC 16C84. From the student point of view, I think that this Development Kit is vital as they can see at first hand real outputs to devices which they can control. The Kit is supplied with a power supply. This facility provides the student with the opportunity to really get involved with the control of output devices and to extend their individual development. It would perhaps be useful to consider this Kit as a natural extension to student work in electronics where they have worked through a systems approach using kits like the Unilab system.

The CD-ROM is available in three versions: student / home, single user institution and 10 user network versions. Matrix Multimedia also have a technical support telephone to deal with any problems arising. It is well worth visiting the website <http://www.MatrixMultimedia.co.uk> for downloadable demonstrations. I have found this CD-ROM to be fascinating and informative and feel that it is an excellent resource and excellent value.

PICtutor CD-ROM

John Becker
Matrix Multimedia Ltd
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Orders: 01274 730808

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



Design and Make It! Systems and Control Technology

Reviewed by Trevor Taylor, Head of Technical Faculty, Wyvern School

Yes, I know, I'm getting crabby. Being re-christened Victor by the family tends to hit the point home, but at least I have an excuse this time. I've been reviewing the *Systems and Control* book which is part of Stanley Thornes' Design and Make series. Where shall I finish? Like the curates egg, it is better not to have started.

Two possible reasons for the poor value of this book. Perhaps the illustrators took some licence or the writers were very rushed. The end result, once one mistake was found, was that I became progressively more and more disenchanted as mistakes began to blur with questionable content and illustrations that simply filled white spaces. I'm not just talking about punctuation or spelling, which schools don't worry about anyway now that Mr Blunkett has it under control, but very important detail.

Well that's the steam gone, now for the detail which will follow as soon as the GCSE syllabus arrives.

Design and Technology: Systems and Control Technology – a common core with a choice from one of three options, electronics, pneumatics or mechanisms; is by far the most popular. The section on Mechanisms fills 13% of the space devoted to the options! I really must stop this griping.

Back to the book which is, by the way, designed to complement and introduce the practical elements of the course. The introduction to the book suggests that 'other specialist texts should be consulted' for the rest of the syllabus. An even better move would be to avoid using the book at all because so much teacher time will be spent explaining the misleading or incorrect content. Let's start with the use of diagrams that are not labelled, really irksome when you find notes copied from the book are just a waste of paper. Even uncommon circuits that will not be easily found in 'other specialist texts' creep unannounced onto the pages. In addition, photographs are often just used to fill empty spaces, once again, no labels.

Try explaining how pneumatic symbols work when using this book and you will be left with a very confused class.

Connections and actuators come very much adrift in the hands of the illustrators. I'm sure the same thing has happened when a sectioned view of a wooden project is shown with school boy howlers thrown in. And as for the cam that will jam, well! Don't try this sort of thing at home kiddies. (I am right in thinking that the writers would not make these errors, it must be the illustrators. Please tell me I'm right?)

The text urges us to mark pin one when using ICs on a PCB layout. A good move that will help all involved when looking at the circuit later. But try finding pin one on the examples provided. You will need a hand lens mind because someone thought that half size drawings would be okay for an option that so few schools would be taking. Pneumatic circuits also suffer the same negative zoom and 'other specialist texts' will be essential, as indeed it will be for flow charts which have 'Yes' and 'No' sprinkled artistically and liberally around where you least expect or need them.

Plumbing, not a subject that gets talked about much these days, but if you do, make sure you don't use the example shown in this book. I'm sure it won't materially effect GCSE results, but if the

Design and Make It! Systems and Control Technology

Andy Biggs, Mike Hoffman, Tristram Shepard

Stanley Thornes: £10.00

ISBN: 0 7487 3664 6 pb

Orders: 01242 228888

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

writers need to illustrate a domestic central heating system with pumped and gravity fed radiators, then they should be labelled the right way round. Confusion rules again, no labels for ages, then some arrive and they get them wrong.

Whilst taking a few minutes off task, I 'built' a Croc Clips circuit using a screen dump from a circuit in the book. Lo and behold, it bears no relationship at all to the PCB illustration that goes with it! Having reached this stage in the review, with a couple of pages left to go, and lots more to say, I find no enthusiasm to continue. The name of the circuit I copied? – 'Alarm'. Seems a good place to stop.





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