REVIEW SECTION

The Story of the Can

Reviewed by Marion Rutland, Senior Lecturer, Roehampton Institute, London

The CD-ROM is designed primarily for a secondary school audience, it has over 50 screens containing ideas for all off-screen project work and quizzes which students can use to test themselves and learn technical information. It is a free resource, as is the teaching pack *Exploring Cans* and a range of other teaching resources by the Carnaud Metal Box company.

The resource has a strong environmental content and is designed to be used in the design and technology classroom, studio or workshop supporting Key Stage 3 activities. It covers programmes of study at Key Stage 3, Key Stage 4 and could support the GNVQ Manufacturing and Information Technology Foundation courses. The CD-ROM also provides curriculum links across fields of design and technology such as food, graphics and control. It provides pupils with an insight into the manufacturing process.

The CD-ROM can be installed on an IBM/PC-compatible 486 66MHz or higher computer with 8 Metabytes of RAM and Microsoft Windows 3.1 or later. It is simple to install, with the help of a User Guide, and intuitive to use. Each screen is well designed, has good, clear illustrations and colours with easy to read text. It is organised with a main menu screen and the use of icons or pictures called 'hot spots' allowing access to particular sections of the CD-ROM. Each screen has a menu of icons at the bottom including video, animation, related information, environmental and technology issues, glossary, print, main menu etc.

The disc is divided into a number of sections including packaging, can materials, can design, can manufacture, in the can and environment and the can. Each section is organised in layers which can be accessed through icons with the ability to return to the main menu at any time. The information is well presented through illustrations and verbal information. It is interesting, concise and easy to understand. It could be used at an individual pupil level in the design and technology area for research or in a learning resource centre.

Suggestions for a number of activities, or projects and quiz questions have been included for each section. The projects are carried out externally to the CD-ROM, either as homework or teacher led classroom activities. There are notes in the User Guide to support both teacher and pupil preparation.

The CD-ROM would make a very useful resource for design and technology teaching and, an added bonus is that it is free.

The Story of the Can

Canned Food Information Centre: Free
Orders: 0800 243364

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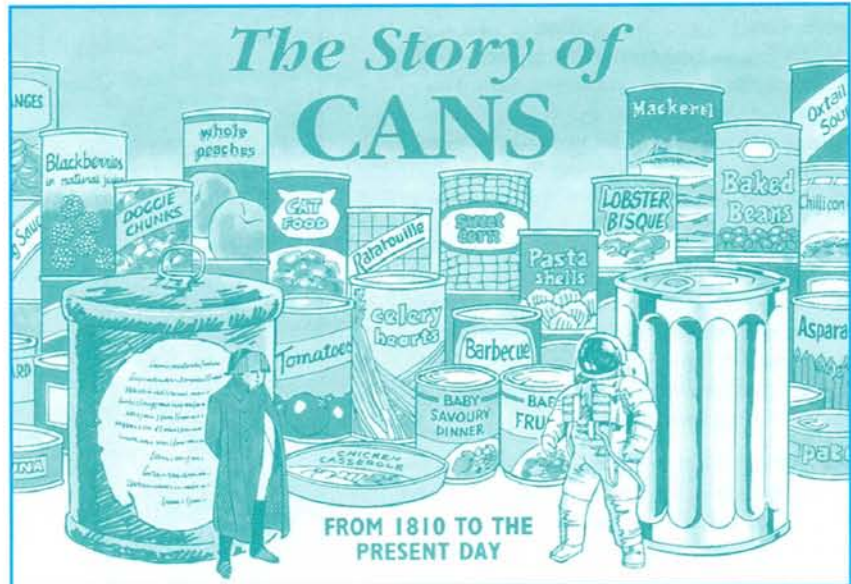
Exploring Food Cans

Reviewed by Marion Rutland, Senior Lecturer, Roehampton Institute, London

The teaching pack aims to involve secondary pupils in a problem-solving experience that includes self-directed research and investigative work. The focus of the project is the manufacturing processes associated with canned foods. It is produced as a free resource, as is the CD-ROM *The Story of the Can* and other teaching resources, by Carnaud Metal Box.

It is intended that pupils will appreciate the role of investigations and experimental science and the links between science and design and technology. The teachers' notes recommended that the project should be based on the teaching strategy of role play, though there are ideas for non-role play activities. It is suggested that additional teaching staff will be needed to make the role play more manageable and convincing. Not an easy option for the majority of schools, despite the thought that the potential for staff development should be highlighted. Most of the introductory activities are open-ended and intended to allow differentiation by outcome. It is intended that more able pupils will undertake the more demanding topics.

The pupils are involved in the project by meeting an explorer, who is responsible for organising expeditions based or copied from previous centuries. They will be expected, for example, to argue in favour of the use of cans as a means of preserving the food required on an expedition similar to the voyage to the 'Great South land' led by Captain James Cooke in 1772. They have to convince the crew who are sceptical about taking canned foods of their value, based on investigations and research findings from the data sheets in the pack.

The pack contains a series of black and white 'data' worksheets and 'doubt sheets', which can be photocopied. Each data sheet contains considerable background information in pictures, diagrams and text. Some contain questions based on the text, extension tasks and investigative activities. These are followed by ten sets of 'doubt cards' with suggestions of activities, extension materials and further information. They include information on a range of issues including the value of canned foods, how foods are canned, the nutritional value of canned foods, the history of canned foods, principles of food preservation, additives, opening cans, preventing corrosion and recycling.

It is an interesting pack of teaching materials, that contains a range of background information and activities. It is aimed at Key Stage 4 and GNVQ pupils which is appropriate for the quantity, quality and depth of the text. It is suggested as extension materials for Key Stage 3, which could be appropriate for more able, well motivated Year 9 pupils. The value of the pack is in the information and range of activities. Organising and managing role play activities with whole classes could be a problem in some schools. Teachers will need to consider carefully the best ways of using the resources for their particular pupils and school and plan accordingly.

Exploring Food Cans

Canned Food Information Centre: Free
Orders: 0800 243364

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

James Dyson: Against The Odds

Reviewed by David Spendlove, Head of Design Technology, Altrincham Grammar School for Boys

This is an essential book for any sixth form design student to read. It provides a dramatic insight into the world of business, innovation, and manufacturing in addition to highlighting the mechanisms for patents and license agreements. It is however written in such a reader friendly manner that it is gripping and exciting even though we all know the ending before we start. The book is clearly written about the creation of the DCo1 Dual Cyclone vacuum cleaner and the immense struggles Dyson fought against in its creation. Dyson does this without resorting to self-indulgence and illustrates often with humour the evolution of his design products and principles. What is particularly uplifting for technology teachers, is that Dyson on several occasions demonstrates a genuine commitment to the subject, as he sees the subject as providing a unique opportunity in establishing design education in schools. The book is also particularly useful as it provides facts and figures (e.g. tooling and production costs), which are often difficult to understand when dealing with school-based design and technology.

This book combined with Papanek's *Green Imperative* will provide a good rounded perspective of the processes of design innovation and production for all design students.

If you have a budding Dyson in your class or the future accountants who have continually suppressed Dyson's innovation then this book will provide them with a genuine insight into an extra dimension of design and technology.

Against The Odds
James Dyson
Orion Business Books: £9.99 (pb)
ISBN 0 75281 383 8

Appropriate content	✓✓✓✓	Generic use
Pupil/student use	✓✓✓✓✓	One of a series
Teacher resource	✓✓✓✓✓	Photocopiable
Visuals	✓✓✓✓✓	Pupil/student activities
Overall style	✓	Cross-curricular
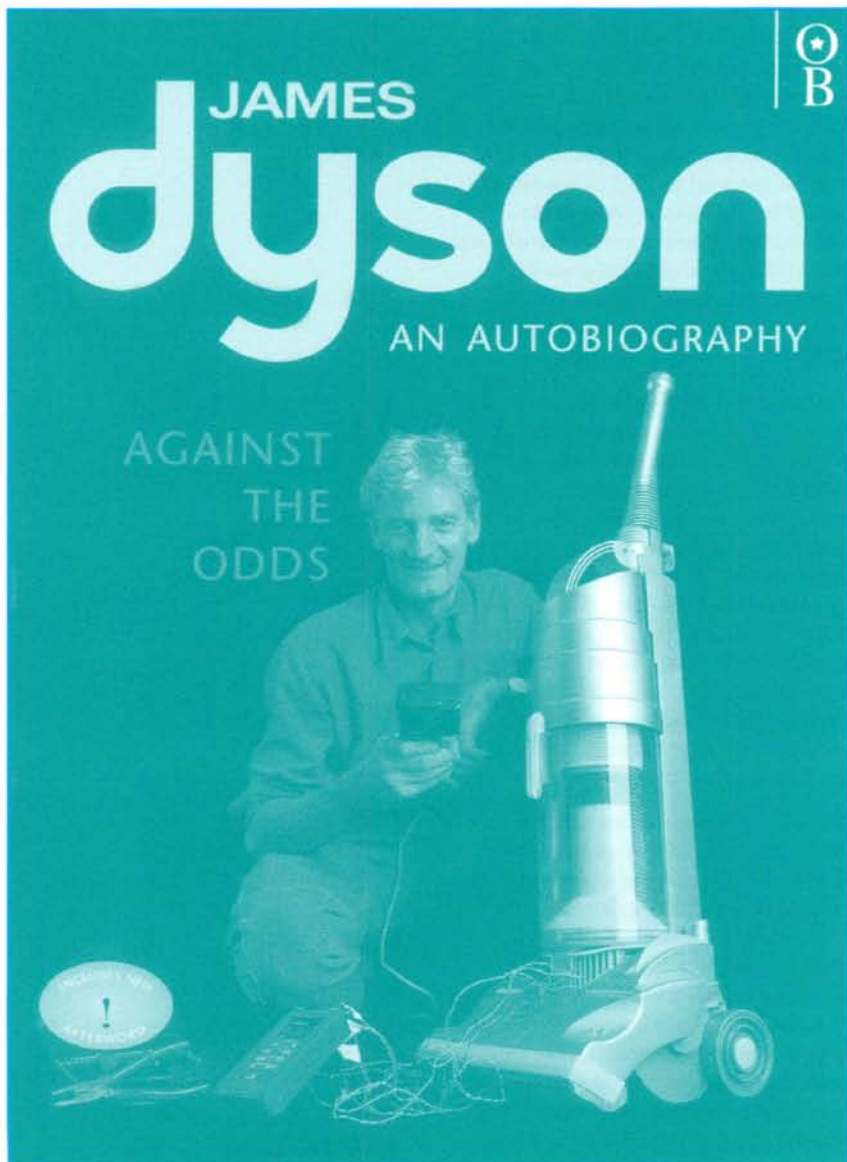
Design and Make It! Key Stage 3 Assessment Resources: Product Design
Design and Make It! Key Stage 3 Assessment Resources: Food and Textiles

Reviewed by Ali Farrell, Independent Consultant

Design and Make It! is an assessment pack for use at Key Stage 3 and marketed as good preparation for the work in the associated *Design and Make It!* GCSE books. There are three parts to the series and each of these is reviewed here: a Food and Textiles ring binder (63pp); a Product Design ring binder (96pp) (Product Design covers resistant materials, electronic products and graphics products); and *D&T On Target*, a pupil book, one copy of which is free with each of the assessment ring binders, also available individually or as a class set. Each of the above may be used separately, or in conjunction as a departmental resource across design and technology.

The materials have been devised for use in Year 9 as units of work with an end of key stage assessment function. As such, they are an alterative to the SCAA Tasks and Tests, 1996, and based on a similar model.

The Food and Textiles file contains two units of work. Family Pride (food) involves designing and making lunch-time food products suitable for different target markets and Off the Wall (textiles) involves designing and making tactile wall hangings and 3-D structures for a centre for the partially sighted. The Product Design file contains three units of work. You've been Framed (resistant materials) involves designing and making desk-top frames for photographs and pictures; Who's Afraid of the Dark (electronic products) involves designing and making a portable night-light; Repack Man (graphic products) involves designing and making environmentally responsible packaging, posters and other items. It would have been helpful if the units of work had been consistent with advice which sees graphics at Key Stage 3 as part of the design and technology programme of study, rather than treated as a separate material area. The design and make assignments themselves may be considered somewhat low-level for Year 9 and more on the craft side rather than embracing new technologies.

Each of the units of work contains lesson plans and resource requirements to save teachers' time in planning, an assessment checklist to help in the making of assessments against the level descriptions, project sheets, an end of unit project test and template sheets that prompt pupils to provide the specific evidence needed to meet all aspects of the attainment targets. I'm not sure why pupils would be required to meet all aspects of the attainment targets (in fact, elsewhere in the pack it says that they don't) since guidance from SCAA (now QCA) in 1996 is to assess pupils against the attainment targets in a 'best fit' manner, i.e. not necessarily hitting all aspects of the attainment targets at a level in one design and make assignment to be awarded that level. Their advice is also to take into account a number of pieces of work from across the key stage, not just the one at the end.

Each unit of work has a useful lesson-by-lesson plan. Disappointingly, there are no overall learning objectives for any of the units of work. There are objectives for each lesson, e.g. for pupils to record their initial ideas and start planning their investigation; for pupils to continue with their investigation work - but these outline what pupils will do, not what they will learn. The materials are presented at two different ranges of levels for the less able (Levels 3 and 4) and more able (Levels 5, 6, 7 or higher) and structured through sequential project sheets containing prompts and stimulus materials and corresponding template sheets on which

KS3 ASSESSMENT: FOOD TECHNOLOGY (3-4)

8. From Designing to Making

Family Pride

Your final product should now be in sight! To make your product successfully you will need to plan the making very carefully.
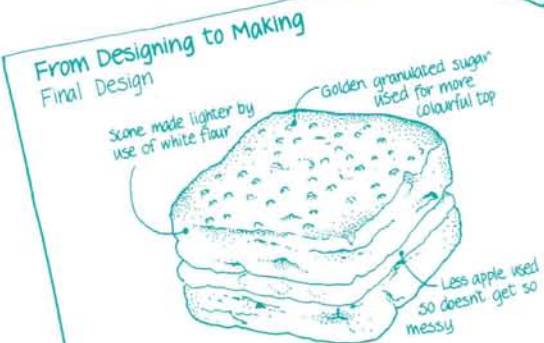
Evaluation

Look back at the **checklist** of important features your product must have (Project Sheet 5).

Check that your final product fits them. Maybe the list needs **changing** or adding to? Write out your **new** list.

Make sure you have provided the following information about your final product:

▶ the **ingredients**
▶ the **method** to be used
▶ **how** and **why** your final design has **changed**.

Checklist:
School-children's product:
Vegetarian, sweet, scone designed so no animal products used

Toddler's product:
Easy to eat, small bite-sized scones made

From Designing to Making
Final Design

Scone made lighter by use of white flour
Golden granulated sugar used for more colourful top
Less apple used so doesn't get so messy

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pupils write, sketch and draw as prompted. It is worrying also that the lessons consist of project sheets and template sheets being handed out and worked through in sequence. There is little indication of where any teaching would occur, although I am sure it is not intended that worksheets would replace structured teaching. The project and template sheets are clearly set out and take pupils step-by-step through a designing and making process. The template sheets provide useful prompts although it is a pity they are not differentiated in the same way as the project sheets.

The main flaw in these materials is that they present only part of the picture as far as assessment is concerned, but do so as if

this part were the whole. Whilst the pack provides support for the assessment of whole capability through design and make assignments, there is no indication that any other aspects of design and technology need to be assessed, nor that there is any means of assessing other than against the attainment targets. This tends to encourage units of work always to revolve around the full-scale design and make of a product which is unnecessary. It can also lead to practice where everything in design and technology is assessed against the level descriptions which is inappropriate and not how they were intended to be used. I would have preferred the materials to show teachers how to put together a course of study in design and technology, during which some deigning and making of products

takes place and opportunities provided for pupils' capability to be assessed. On these occasions the level descriptions would come into their own. The remainder of the time pupils would be following a course of study made up of units of work, each with specific learning objectives based on the programme of study and against which they would be assessed (using, say, a 4-point scale rather than the attainment targets) and materials to show how this might be done.

The ring binder materials are photocopiable, hence the cost of £48.50 for each. This will only prove value for money if thy are used extensively. Even so, it would still only sort out the end of key stage assessment which still leaves substantial aspects of a department's assessment untouched.

FAMILY PRIDE (3-4)

Planning the Making

Stage by stage
You now need to **plan** all the stages of making very carefully. Write a step-by-step plan to show how you will make your product.

Your plan must include:

▶ oven **temperature** and shelf **position**
▶ type of **baking equipment**
▶ method (in correct order)
▶ special instructions for **shaping**, etc
▶ any glaze or special **finish**
▶ **baking times**
▶ how soon to remove from tin/tray.

What **problems** might there be?
For example, what would you do if:

▶ you added too much liquid and your dough was very wet?
▶ you realised you had rolled out your dough too thinly?

Production Plan

STEP 1
Light oven - gas mark 7/220°C. Grease baking tray.

STEP 2
Sieve flour and baking powder into bowl. Add fat and cut up.

STEP 3
Rub fat into flour using fingertips. Stir in sugar.

STEP 4
Slowly add milk until a soft dough is formed.

SHEET 1

Presenting your products to Family Pride
Think about how you can show your ideas to **someone else**. What will they want to know?

▶ Who is it meant for?
▶ What are the most important features of your design?

What can you describe best by using:

▶ words
▶ pictures
▶ diagrams
▶ numbers?

Production Plan

STEP 5
Gently pat out dough to about 2 cm thick.

STEP 6
Use small cutter and cut out circles of dough. Place on baking tray.

STEP 7
Brush tops with milk. Add ½ cherry, press in gently.

STEP 8
Bake for 8-10 minutes. Cool on baking tray.

SHEET 2

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Design and Make It! Key Stage 3 Assessment Resources: Product Design
Tristram Shepard, Melanie Fasciato, Diana Mitchell, ISBN: 0 7487 3513 5
Design and Make It! Key Stage 3 Assessment Resources: Food and Textiles
Tristram Shepard, Roy Jarratt, Hazel King, Jane Tulloch, ISBN: 0 7487 3512 5
Stanley Thornes: £48.50 each

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

REVIEWS

On Target Design and Technology Key Stage 3

Reviewed by Ali Farrell, Independent Consultant

The third component in the Stanley Thornes series, the *On Target* pupil book is designed for use throughout Key Stage 3. Its purpose is to help pupils succeed at Key Stage 3 by providing an overview and complete coverage of the National Curriculum attainment targets and programme of study. A book that promotes progression and continuity and helps pupils understand what they are doing, why and how successfully, is welcome but I remain unconvinced that this book hits the mark. It claims to provide a valuable reference point between pupil, teacher and parent. As far as parents go I am sure this book gives a positive, upbeat impression about what is involved in design and technology as a subject which is of value in itself. Other than that there is perhaps little purpose in expecting parents to come to grips with attainment targets any more than pupils need to. It is far more purposeful for pupils to understand what they are doing and how they can progress and for parents to have an insight into this as well as how they can provide a supportive role in their children's learning.

This is a colourful and attractively presented book and begins by explaining what design and technology is. It does so with some success although there are several instances where attempts at clarity are less than illuminating. It does not adequately describe design and technology or the benefits of studying it and states that food technology is about more than cooking and nutrition, without explaining what it is. The description of textiles technology leans more towards the creative arts than technology and the description of graphics products does little to clarify the current confusion in this area. It is not helpful to suggest that resistant materials technology is sometimes called CDT and that food technology is sometimes called home economics. If it is being called CDT and home economics that is probably what it is, i.e. not design and technology, so don't confuse the issue by referring to it here. The book helps to explain key terms to pupils and to develop their technological vocabulary by means of a design and technology dictionary. There are some unhelpful explanations in this section, e.g.

comments on the importance of presentation in design and technology mention only design sheets and folder work as if this were the only way of doing and presenting in design and technology. Given that this is a generic design and technology dictionary there are proportionally few food and textiles examples which gives a skewed impression of the real world applications of design and technology.

It is important for pupils to understand what any course of study involves, what they will be learning, how they are doing and how they can improve and the book provides some useful examples of pupils' work and project case studies which really does breathe life into pupils' work. However, many of the explanations would leave the average 11-14 year old no wiser and possibly more confused. This is because it tries to explain things which teachers need to know, but which pupils could be spared, e.g. how a whole

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

capability level is calculated from the designing level and making level.

In terms of how the book deals with assessment it is flawed in encouraging pupils to tick things off once 'done'. This is coverage rather than attainment and will do little to help pupils or teachers to better understand how well they are doing. Work at different levels is differentiated according to the depth and breadth of knowledge, skills and

REVIEWS
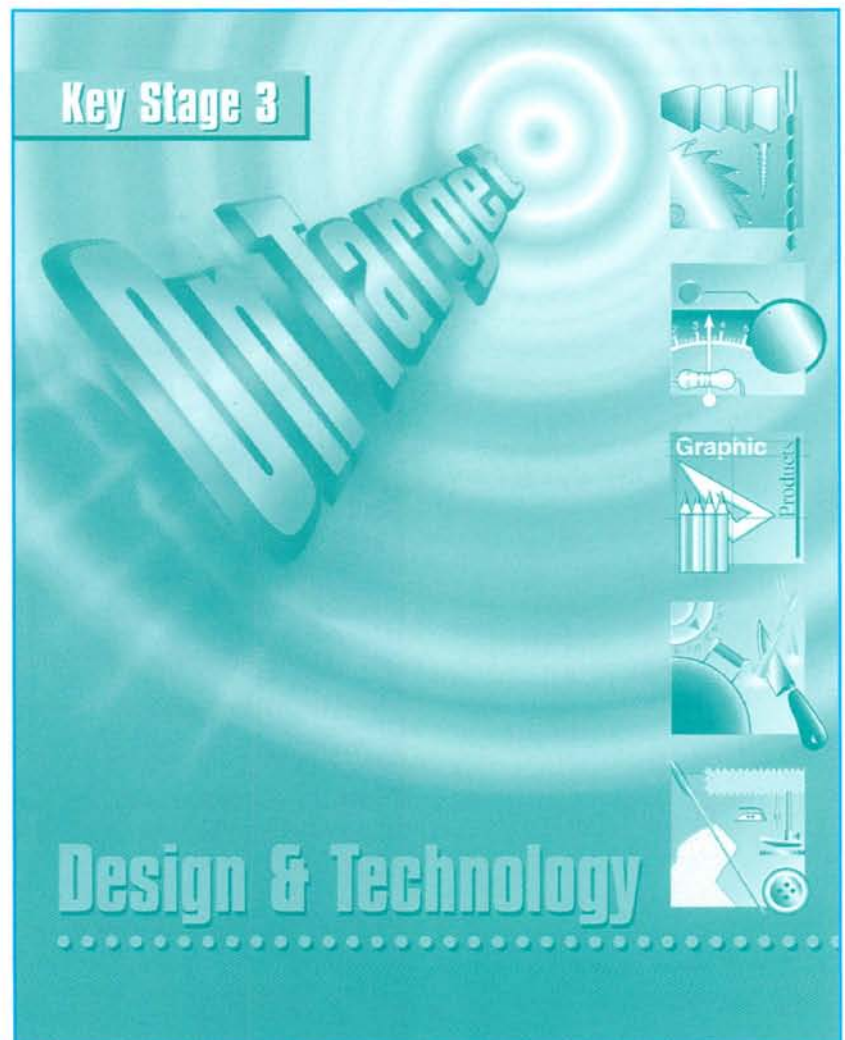
understanding from the programme of study that pupils bring to bear when designing and making – not just by working in a more sophisticated, complex or grown-up way as implied here. The book also separates out designing from making which will not help pupils or teachers to see these as inter-related aspects of the same activity. Furthermore, it is the teacher's job to assess what levels pupils are working at and then to let them know what they have achieved and how they can improve further. It is not necessarily appropriate to expect pupils to work this out for themselves, although it is important that they receive feedback about their work in design and technology and take an active part in the process of setting and working to targets and evaluating their success in meeting them.

Pupils also need a view about what it means to succeed at the various levels. More useful might have been a set of posters exemplifying pupils' work at different levels with some simple teacher annotation to show what characterises capability in each case. These could then be referenced in lessons, rather than being a formula in a book which is followed.

For me, the whole problem with this series is that it fails to consider the assessment of anything other than design and technology capability, so giving the impression that there is nothing more to design and technology than designing and making products and that the whole of the key stage will be spent doing this.

If every pupil has their own individual copy to carry with them throughout Key Stage 3 the total cost would not be affordable for most departments in relation to the benefits to be gained. Instead, teachers might be better off analysing the book to see which bits work, which don't and what is missing that really would make a difference to pupils' success and devising their own examples.

The Chocolate Challenge

Reviewed by Ann Riggs, Head of Science and Technology Department, University College of St Martin

This teaching resource is good value for anyone wishing to present a realistic picture of how a product comes to market – especially those who are chocoholics. If you have wondered how a favourite chocolate bar was produced and why, this resource will provide the answers. The easily recognised colours of Cadbury along with the photographs of melted chocolate and chocolate bars will prove inviting. It is a is very comprehensive pack which provides all the information anyone could want about how new chocolate bars are produced.

It is designed as a resource for Key Stages 2 and 3, primarily for Technology but, as stated, it will be useful for Art and Mathematics at Key Stage 2. The aims for the resource as given in the detailed teachers notes are to:

* take pupils through the various stages of designing and making a new chocolate bar;

* provide a first insight into the marketing process

* enable pupils to gain an awareness of the importance of market research and evaluation as part of the new product development process.

These aims are certainly met. The well-organised teacher's notes start with a project flow diagram which leads the reader through the stages in the development of a new project and also through the considerable materials included in the pack. Teachers will appreciate the differentiation and extension ideas although these tend to be ideas for the more able rather than children who may need extra help.

In addition to the teacher's notes the pack contains 12 activity sheets, 7 fact sheets, 4 case studies, mouth watering photographs of 8 familiar Cadbury's products, additional fact sheets about Cadbury and a poster. The case studies provide useful background information about the development of four Cadbury products while on the reverse of the photographs is a list of discussion points and information about the product. The activity sheets on producing a design brief, designing a pack for the bar, evaluating their product and producing an

advertisement, mean the pupils are able to own and manage their project. The 11 different activity sheets present clear instructions and ideas. I was particularly pleased to see activity sheet 12, 'Pupil self assessment' which lists 16 aspects of the project and asks pupils to grade how successful they think they have been in doing these.

I found the information sheets about Cadbury interesting, the sheets on new product development and packaging development have direct relevance for the main project of producing a new chocolate bar. The sheet on the development of Cadbury design could be used to understand the work of designers and the importance of easily recognised designs in the market place. The story of Cadbury provides an insight into the development of a company which translated the welfare of its employees in a particular but now, perhaps regrettably, way which seems rather dated. There is here, an opportunity to look at the wider aspects of manufacturing and to link technology education with history.

The Chocolate Challenge
Cadbury: £6.99
Copies from: Consumer Relation Department, Cadbury Limited, PO Box 12, Bourneville, Birmingham B30 2LU

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

Overall this is a resource to be recommended. The language in the photocopiable pupils' resources is appropriate. There is a wealth of information here which I enjoyed reading yet as I read I kept remembering a point made by Professor David Layton in a key note address. To illustrate the difference between needs and wants when pupils are identifying a product for development, he asked the question: Do we actually need another chocolate bar? It is not a surprise that such a question is not addressed in the pack but it does provide food for thought.

REVIEWS

Focus on Design Technology: Resistant Materials

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

The program is divided into three main sections and these are accessed from a main menu screen on starting the program. Subsequent access to this screen could not be simpler since the author has provided a Main Menu icon on the toolbar of each of the three sections. The toolbars themselves have been freed from any unnecessary clutter, making the program easy to use and thus quick to master. The three sections are:

1. Browse materials

Pupils can explore the materials in the databases and see in there a compilation of properties, uses and a picture of the material or a product made from the material. The materials are classified as timber (hardwood), timber (softwood), timber (man made board), metal, plastic.

The database screen is laid out clearly and the sequence of operation simple, viz, a category is selected, e.g. metal. A list of specific metals and alloys is then thrown up on screen, from which a choice leads to a list of properties associated with that material, appearing in an adjacent box. A colour photograph of the material, or a typical product made from it also appears. In another adjacent box further information is given, e.g. product made from injection moulding process (in the case of a plastic), etc. Typical uses are also given together with relevant notes. For example, Medium Carbon Steel. Uses: garden tools, wire ropes, axles, shafts. Note: less ductile and malleable than mild steel.

The properties section gives information such as composition melting point; hardness; strength; resistant to wear/corrosion; can be welded/forged/machined/cut; can be extruded; polishes well; conducts heat/electricity etc. Each property is represented by a symbol.

A Print Preview icon enables the information layout and content to be scrutinised prior to printing.

2. Search for a material

A similar function is performed by this facility. The search is performed either as

Focus on Design Technology: Resistant Materials

Focus Educational Software: £39.95
Orders: 01872 222391

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

a request for a specific material by way of desired properties (in the interests of simplicity pre-selected as a yes/no value in the majority of cases, although some such as hardness have three values i.e. hard, intermediate or soft), or as a search by defining working properties, e.g. casting, wasting. A list of materials appears. In an adjacent box pupils can type an evaluation of the search. The outcome from this can also be printed.

3. Costings and cutting list

This produces a costings screen where pupils can calculate prices of the materials to be used in a project and also construct a cutting list for the project. Material forms are integral e.g. for

REVIEWS

aluminium a choice from rectangular through to angle sections and sheet is provided. Prices can be updated using a free staff editing program. The cutting list appears on a spreadsheet; column widths can be adjusted and entries edited. The usual font setting facilities, file saving and clipboard selections are readily performed in the usual way.

Printing

In producing the program, one of the main design considerations was a program that would be simple to use by pupils in a wide age and ability range. Consequently, user control over the printout is restricted. This is an advantage, when so much paper is wasted by trigger happy pupils. The printed page is meant to go into pupils project folders. With this in mind, the page orientation is set to landscape.

Picture quality

Overall, this is a very useful resource, both for staff and pupils. The systematic way in which the program is structured makes its use speedy and effective, an important consideration when there are pupils queuing for scarce computer terminals. This is an ideal resource for Key Stages 3 and 4. In terms of post-16 use, it provides a good preliminary research facility. The wide range of materials covered enables the needs of most project work and homework to be met.

I had no difficulty working through the manual – nine A4 pages. Apart from a couple of spelling errors, the instructions are clear and well supported with explanatory screen shots. The quality of print and appropriate use of colour makes the manual appealing to pupils. Anyone uneasy with computers will find this software user friendly.

At £39.95 it is definitely a worthwhile buy that will make the lot of teaching staff a good deal easier, because pupils can access such a variety of important homework and project coursework material so readily without having to search through numerous books.

I look forward to other titles coming from this educational software company.

REVIEWS

The Food File

Reviewed by Melanie Fasciato, Senior Lecturer, Manchester Metropolitian University

The Food File is one of the best primary resources for teaching food technology that I have seen. It consists of a laminated cardboard folder which contains six sections which each comprise of black and white photocopiable activity sheets and colourful information sheets based on six different themes; bread, cheese, yoghurt and fromage frais, fruit, sausages and tea. Each section is self-contained and could be used either on its own or as part of a theme or topic in the classroom. They are attractively presented with good quality, informative, colourful graphics.

In each section there is also background information, support materials for planning, preparing and managing activities, an outline of cross-curricular learning opportunities and suggestions for useful resources. The information sheets are said to be for both Key Stages 1&2, although due to the language level and density of text, younger Key Stage 1 children would need support when using these. Key Stage 1 teachers may find that they would prefer to adapt them for pupil use or keep them for their own reference. With the exception of the tea and fruit sections, the second page of the information sheet has key words in bold type. I was a little surprised by some of the key words as the choice seemed a little erratic. For example 'bowl chopper' was not included in the section on sausages, even though it would not be a word which is familiar to young children.

Each activity sheet has two Key Stage 1 activities and two activities for Key Stage 2. The activities range from the safe and familiar (making sandwiches) to the less familiar (tea tasting). The activities are structured to give pupils valuable skill building opportunities and provide experience in many aspects of the design process. I have some reservations about the inclusion of tea as a food, but teachers will be able to decide for themselves whether or not this is appropriate for their own class.

The separate teaching notes are clear, providing information about curriculum coverage and advice on managing activities and health and safety issues. There is a grid which shows where the existing National Curriculum PoS

elements and the Scottish Key Features of Attainment Outcomes are addressed by each of the sections.

One particular feature is the tackling of manufacturing processes involved in the production of cheese, yoghurt and fromage frais, sausages and bread. This is a notoriously difficult aspect of food technology for the earlier key stages and has been handled extremely well by combining information graphics and text. I was fascinated to learn that bread and sausages are passed through a metal detector before being packaged!

The Food File is free and would be a very valuable addition to every primary school resource centre. Any doubts that food is not a 'real' design and technology material should be dispelled by this excellent teaching resource. Hopefully it will also serve to extend pupils' experience of food in the primary school beyond baking with mums.

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

The F⊙⊙D File

An exciting new food technology project for 5-11 year olds

The Usbourne Complete Book of The Internet and The World Wide Web

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

This book will greatly assist anyone wishing to use the Internet and avoid the apparent necessity to become an anorak!

It is another example of the Usbourne style of publishing which is particularly good when dealing with complex topics and a non specialist audience. This book represents very good value for money nd is well presented with excellent integration of text and illustration. The authors include a huge amount of detail expressed in a highly digestible sytle. This makes the book particularly useful to its intended audience of non specialists. The text is written in short sections imilar in some respects to the style of writing found on web pages. There are useful tips for both PC and Mac users and reference to the two most widely used Internet access programs (or browsers) Netscape Navigator and Microsoft Internet Explorer.

The book is divided into short, readable sections typically two pages in length. Each is introduced with a title and a useful sentence giving information about the content. These sections are numerous and at their best when describing the different functions and services provided by the Internet and World Wide Web and how a beginner might access them. In the second half of the book a series of sections give clear advice on web page construction. These will be skimmed by most readers, the majority of whom are unlikely to write their own web pages in HTML. This publication is up to date, which, in the world of computers is no meant feat. The book includes a useful glossary and list of web sites. Unfortunately the least useful web address given in the book is Usbourne's own, as it is still, at the time of writing, under construction.

This book will be very useful to anyone interested in the Internet. For the beginner it provides reassuring step-by-step guidance and plenty more to go at as readers become more confident. For the anoraks the book exemplifies the clear language which must be used when explaining the Internet to others.

Teachers are of course a special audience and for them this type of publication is very valuable. Teachers must be able to state things clearly and correctly. Teachers do, whatever subject they teach, need to know more about Information and Communications Technology than the average person, though they are unlikely to know more than some of the computer literate children they teach.
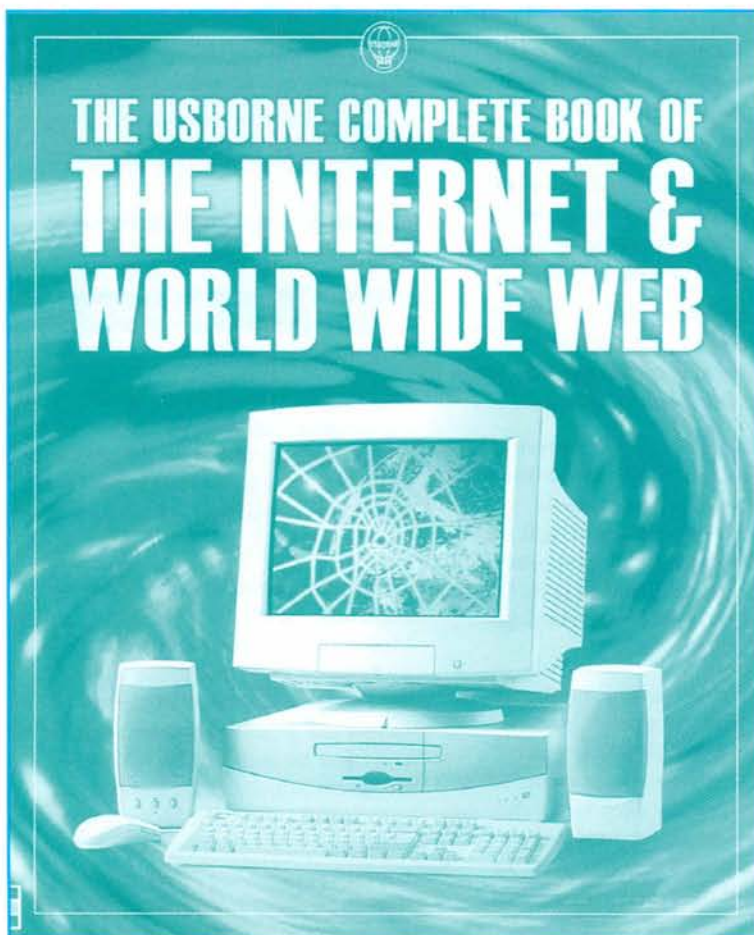
For the teacher of design and technology this book is a very useful introduction and general resource. Because the book is not aimed specifically at an education audience many important questions about use of the Internet in the classroom are not dealt with fully.

There is very brief reference to health and safety in relation to computer use and access on the Internet to unsuitable material. Overall this book makes a good contribution to background knowledge in this important area of Information and Communications Technology for both teachers and pupils from the top end of Key Stage 2. I will certainly be recommending it to primary teacher trainees.

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

THE USBORNE COMPLETE BOOK OF THE INTERNET & WORLD WIDE WEB

REVIEWS

Techno Designers

Techno Designers
Reviewed by Jenny Jupe,
Reviews Editor

This compilation of five television programmes is an invaluable resource for any design and technology department. Each programme lasts exactly 19 minutes and comprises a series of two to four case studies. As you would expect each case study is approximately four or five minutes long – just enough to provide students with an insight without being protracted and losing their interest.

For convenience and, more importantly for the management of learning, the five programmes each carry a theme:

• Batch production

• Mass production

• Limited editions

• Innovations

• Digital design

which are then explored and developed through the case studies and commentary.

Batch production focuses on the work of three designers:

1. Caterina Fadda a young ceramics designer whose amoebae shaped plates are used in the Hilton Hotel brasserie;

2. Marianne Forrest a clock designer whose ornamental clocks, made from bronze, are based on the sun and moon or the passing of time;

3. Anna Albright a product designer whose company Wireworks specialise in domestic products made from electro-plated wire.

Mass Production takes the German company Authentics, who make domestic products from translucent plastic, currently in vogue throughout high street retailers. The case study explores the mass market for domestic products from both design and manufacture for large scale production.

Limited editions is fascinating! It profiles the work of Julie Mcdonagh, a fashion designer and Isabel Dodd a textile designer. The former uses car inner tubes to make black trendy punk bags, while the latter uses chemically treated rubber screen printed onto fabric to create an effect usually associated with textured embroidery. The final case study focuses

on materials used to develop the speed bike.

Innovation focuses on the development of innovative products made from recycled glass and precious metals.

Digital designs is, in my estimation by far the most appropriate of all the five programmes, involving the development of control systems for Thorpe Park and a heavily subscribed bus route in the City of Birmingham.

The range of themes makes the series eminently suitable for GNVQ Manufacturing students, especially those studying the Part One course, which demands that they consider a range of sectors and scales of production. At the same time the series will also support GCSE courses, with the emphasis on industrial practices and differing scales of production. Individual case studies might also be used with Key Stage 3 pupils as a starting point for a design and make assignment or as part of a structured

resource task. The visual appeal, together with equally appealing music makes the video very topical, although sadly they will date within a few years. For example the music from current film sound tracks and the domestic products made from highly coloured translucent plastic will become 'yesteryear' within a short time scale.

The strengths of the video come from the useful detail that each case study provides, clearly explained and shown on screen from the outset. Students and

Techno Designers
BBC Education
Repeated as a block on Tuesday 22 June
0200-0340
0181 746 1111

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

teachers know precisely what techniques are addressed, together with the technical language associated with various processes. One extremely useful technique that the series adopts is the animation of processes such as industrial injection molding and the electronic system control systems, both of which are difficult processes for many students to understand.

As with any resource it is best used by the teacher to tease out particular points and issues. I would use it to emphasise some of the following:

- the quick sketching that designers use – 'thinking through the end of a pencil'

- the use of CAD to create 3-D representations of ideas, from which modifications can quickly be made

- the use of modelling materials from which to create prototypes or industrial moulds

- working with the client to meet needs and develop an appropriate specification

- novel use of reclaimed and recycled materials (tyre inner tubes to create designer bags!)

Whilst the programme makers obviously sought expertise from a technology consultant, my greatest criticism is that nowhere do the case studies involve the use of food as an industrial material. This is somewhat surprising as the programmes certainly reflect some very creative thinking. What a pity that the series was not completed with products made from novel food materials or process.

REVIEWS

Basic Food Hygiene Interactive CD-ROM

Reviewed by Jenny Jupe,
Reviews Editor

Research has shown that secondary school pupils' knowledge of the principles and practice of food hygiene is less than adequate in some cases. The Health Education Authority, together with other educational and health professionals, are currently using money from the European Commission to produce an electronic resource, hard copy materials and website to improve the level of pupils' knowledge through the formal school curriculum. In the meantime this interactive trainer is very appealing and meets a definite gap in the market, which no other resource fills.

The resource comprises a CD-ROM, a pack of 25 certificates, operating instructions and users guide and retails at £75.00. If this initially seems costly then the main advantage has to be that the CD-ROM removes the need to fund students to sit tests at well in excess of £8.00 per head to pass the basic food hygiene certificate. Packs of 25 certificates are available from the authors at a cost of £25.00 and Creative Learning Solutions are currently working at a network version of the CD-ROM. Further details are available on the website, **http://www.clsolutions.co.uk**

The content is adequate, covering all the requirements of the Basic Food Hygiene syllabus. Navigation is very easy, with clear screen and sound instructions, making it accessible for pupils with reading difficulties and bilingual learners. However it is fair to say that the content is traditional, going no further than that already published to support the various national food hygiene courses. What a pity the authors didn't use the capability of the CD-ROM to do many more exciting things - updated information about food hygiene matters, current

information about the Pennington recommendations, news media articles, food hygiene glossary/directory. I appreciate that it is aimed at supporting a particular course, but the capability of media has not been fully explored.

Having said all that the CD-ROM must be commended for using a range of learning techniques, most of which will not be new to teachers, but which lend themselves well to computer based learning. For example a virtual board game for one player makes the section relating to food poisoning and the work of the environmental health officer far more interesting and hopefully easier to remember. Word searches, crosswords and quizzes are also used to good effect and the inevitable multiple choice questions feature heavily at the end of each section.

Students using the basic food hygiene trainer log onto the programme with a screen name and password, which they must remember when they log on at a later stage. The date is recorded, together with a tick list of sections completed and test result scores - which the teacher can access, through a master password at any time during the training programme. Students are then able to work through a series of ten sections that together cover the basic food hygiene syllabus. Each section has a similar format:
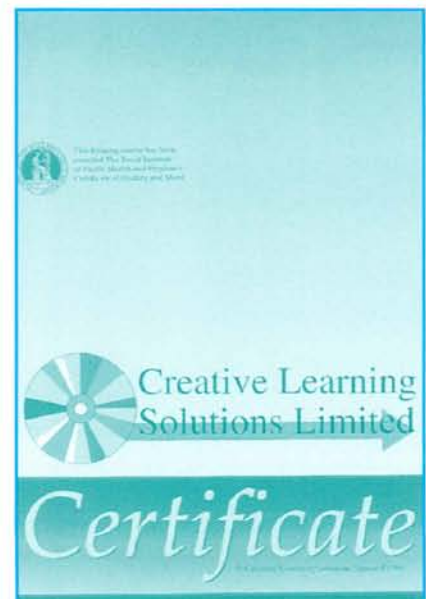
Introduction and objectives
3 minutes

Content
25-35 minutes

Questions
10 minutes

The format is helpful as students know from the outset what they are learning; the content is thoroughly covered, often broken down into sub sections and this is followed by multiple choice questions. The formula works well and the in house style for each section provides students with a very suitable learning mechanism.

The programme takes approximately seven hours to complete, but can be approached in short bursts depending upon availability of computers, lessons times, etc. Students are provided with an overall final assessment result when they have completed each section and, if successful, they may try a final test similar to the paper based test papers. If the student achieves a pass the programme prints their basic food hygiene certificate with details of their
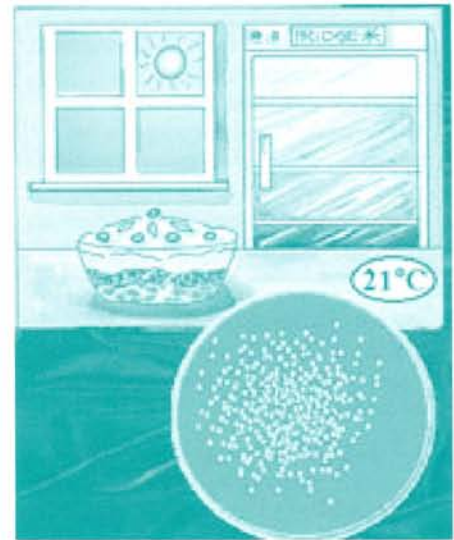
overall score. The question I am left with is does this mean that through self supported study using computer based learning students can achieve the basic food hygiene certificate in school? This is certainly the case, opening the door to making the certificate readily available through GCSE, GNVQ and standard grade courses to all students, at a very reasonable initial cost and with no teacher marking!

Basic Food Hygiene Interactive CD-ROM

Creative Learning Solutions: £75 + VAT (single user)
Orders: 01626 836884

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

REVIEWS

The University of Greenwich Design and Technology Resource Materials
Reviewed by Michael Lawrance, Head of Faculty, Art, Design & Technology, Bishop Fox's Community School

For too long teachers have witnessed the creation of wonderful design folios from all kinds of pupils of Graphics, Resistant Materials and Electronics only to see them being collected in the Autumn when the examination work is released. Cupboards are emptied with pride by students and with a pang of regret by teachers. Only rarely is a worthy folio left behind and departments are usually bereft of successful material to display to new candidates to fire enthusiasm and engender passion for the particular subject.

Now the University of Greenwich has produced project sheets which will really appeal to students at Key Stage 3, Key Stage 4 and post-16. Work of the kind we are all treated to glimpses of in the pages of *Designing* is readily available in more detail produced by students for pupils. As the accompanying teacher's notes advise 'the original project work … has been

produced in response to design briefs set to student teachers at the Centre for Design Technology...'

These 'Display and Teaching Resources' should rightfully join the ranks of similar material produced by other design and technology establishments who make the effort to plug the gap between more expensive textbook resources and teachers' own aids often produced in a fit of cut-and-paste fury. At £12 for 24 sheets of glossy colour A4 thin card they represent very good value for money and should appeal to any Head of Department whose capitation funding is always precious. They would also be most beneficial to students during training or who have graduated to their first post. A typical pack will cover initial ideas for a design solution, development stages through to working and presentation drawings, manufacture and evaluation. Loose-leaf in format, they could be considered to have a certain advantage over textbook material and could easily be encapsulated to extend their durability.

Their main advantage is as a flexible teaching and learning resource. They could represent a project overview if

desired, though the designers strongly recommend that the sheets are not all displayed at the same time. Since they have been trialled in a number of schools already, we can safely acknowledge the experienced authors' advice that 'the sets work better when students are presented with the exemplar materials to reflect the stage they are operating at within your own project'. Some project material, such as the hardy perennial 'mechanical toy', seems familiar and is more suitable for Key Stage 3 or early Key Stage 4. It appeals to pupils of all ability levels and an important aspect, in my view, is that it represents designerly thinking without aspiring to be oh-so-perfect artwork – a valuable lesson in itself, particularly for any pupils who tend to get too precious about their folio work early on but fail to progress quickly enough.

'The Chameleon' is a complete mechanical toy portfolio of 24 sheets with plentiful examples of formal drawing projections, assembly drawings, cutaway views and exploded views as well as a great deal of rendering and presentation techniques. When tried out on a group of challenging Year 10 students they prompted a very positive response in

REVIEWS

general. The sheets considered to merit highest praise were those on initial ideas, animal ideas, ideas exploring potential mechanisms and the inventive work on housings. Typical comments related to the clarity and effectiveness of combining photos with sketches for research and product evaluation, how clearly good quality sketches can illustrate mechanical movement and its progression to a final design. Many students said "you can really understand what's going on," in the design process. Naturally the application of colour, legible annotation and the juxtaposition of these with sketches are always being urged by teachers, so here are valuable examples for students with less confidence and motivation to follow. What was also worth noting were the comments about background colours affecting the legibility of one or two sheets. Moreover, many became quite critical of repetitive use of the chameleon logo appearing throughout the project. All things considered, the sheets had quite an impact on the class, most pupils admiring the designs and some setting themselves a target of at least trying to match the quality overall in their own work. I'd say

that was pretty conclusive evidence of a well-designed set of resources.

Each sheet also carries a simple explanation of 'some of the thinking and techniques used' as the authors advise in the support notes. Teachers as well as pupils will find this addition a useful guide if a focussed task was to be prepared on, say, the value annotation can add to a drawing to explain a critical area of development.

Other sets of teaching resources are aimed at Graphic Products, Systems and Control and Resistant Materials. The first examines a range of design sheets from initial ideas to the final illustrations and models for a Loft Conversion in a Built Environment project. It would certainly give this often neglected area of the curriculum a boost and is brimful of superb presentation drawings and renderings to satisfy anyone from GCSE upwards.

Resistant Materials are also treated with a great deal of respect, flair and creativity. It is a pleasure to note that inspiration from design history combines with silversmithing techniques to result in

Design and Technology Resource Materials

The University of Greenwich £12.00 each
Orders: Ken Webster, University of Greenwich, School of Education, Avery Hill Campus, Bexley Road, Eltham, London SE9 2PQ

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

some superb quality metalwork of great finesse.

The team who have produced these sets are planning more and are doing enthusiasts for design and technology everywhere a great service at an affordable price. An investment in such resources would pay worthwhile dividends, for pupils, teachers and any department seriously intending to promote the success of the subject.

REVIEWS

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.

Footnotes to the text should be avoided where possible but, if essential, should be placed at the end of the paper. Full references must be supplied for all articles in the following standard forms:

GRONLUND, N. E. and LINN, R. L. (1990). *Measurement and Evaluation in Teaching* (6th edn) New York: Macmillan.

ROBERTS, T. (1991). 'Gender and the influence of evaluation on self-assessments in achievement settings', *Psychological Bulletin*, 109, 2, 297-308.

Submission of material
All contributions should be supplied as word-processed text on disk, in an Apple Mac or IBM-compatible PC format (Microsoft Word), with **2** typescript copies, double spaced, typed on one side of the paper. Pages should be numbered consecutively. Figures, tables and other illustrations should also be supplied on disk. Where typescript copies only can be supplied, tables and figures should be placed on separate sheets and not included within the text. Please include photographs (with captions) where possible. Any illustrations (planning sheets, pupils' work, etc) should be on separate sheets, clearly labelled, and should be as clear as possible to assist reproduction. Please have your name and contact details on a separate sheet of paper. Typescripts and disks will not normally be returned to contributors unless sufficient postage has been sent.

The author should retain a copy of the article and supporting material since the editor takes no responsibility for material which may be lost in the post.

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Reviews
The reviews section reviews books, software (including CD-ROMs) and teaching resources which are relevant to design and technology. Material for review should be sent to the reviews editor at the above address.