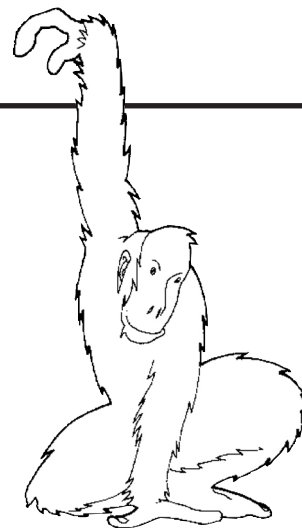


# Novelties Incorporated



## *The big picture*

### Task

To design and make a novelty product suitable to sell as a small gift or souvenir.

### The story so far

Novelties Incorporated is a small firm that specialises in producing small gifts and souvenirs. one of its clients is a garden centre which has a butterfly form and aquarium.

The students' task is to develop products that could be sold in the centre's giftshop. (Other possible settings are a zoo, museum, stately home, theatre, summer fair.)

## Learning

### Designing

Using natural form as a basis for design.

### Making

Shaping sheet materials to a high standard of finish. Using batch production techniques for producing multiple copies (optional).

### Technical matters

Properties of materials.

### Commercial matters

Retailing and costing.

## Design decisions

### The sort of product

The student can decide on the nature of the product to some extent. Is it an item of jewellery – a brooch, a badge, a pendant, a bangle; a domestic novelty – a fridge magnet, a hanging ornament, a layered decoration; a useful item – bookmark?

### The point of sale

The students are unlikely to decide this as the teacher will probably set the nature of the retail outlet for the class.

### The customer

The student can decide whom the product is for.

### The performance of the product

The student can decide whether the product is to be amusing, intriguing, decorative or even slightly offensive.

### The appearance of the product

The student has to choose an appearance that relates to the nature of the retail outlet.

### The materials, adhesives, fixings and components

The student can choose from:

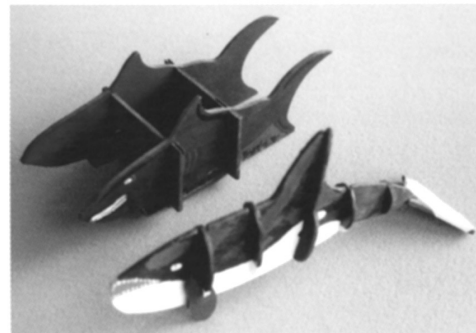
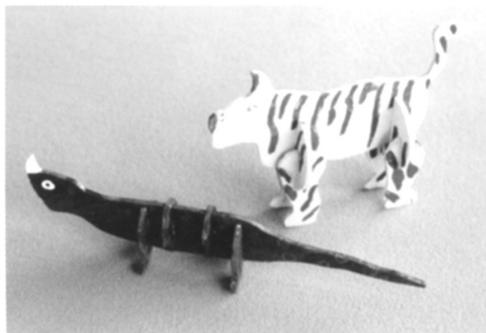
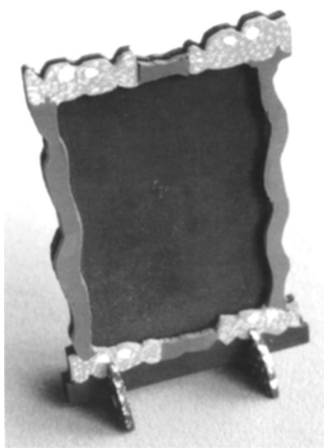
- plain card, corrugated card, acrylic sheet, polystyrene sheet, aluminium sheet;
- liquid adhesive, spray adhesives, tape adhesives;
- paper fasteners, click rivets, pop rivets;
- stick on shapes, letters and decorations.

## Products

In this school some students responded to the brief by designing and making a simple novelty picture or photo frame utilising animal form in the design. The students also had to design a simple means of keeping the frame upright. The results are variable, indicating the difficulties that some students had in producing a good finish. The fierce frog has definite appeal.

Other students developed slot-together animals as simple novelties. These are more intricate and make more demands on both designing and making skills. The seated bird is particularly pleasing.

There is the opportunity here to use CAD/CAM in conjunction with a computer controlled milling machine to design and make both the photoframes and slot together animals. You can build this in as the means of production from the beginning by ensuring that students make card prototypes only and use these as templates for the CAD data. Or you can make this an extension work option for those who finish quickly.



## Values

### Technical

Students should consider the degree of precision required for the product. For example, should the material be shaped to the nearest 1 mm or 10 mm? They should also consider the quality of finish and balance this against the extra time involved.

### Economic

Students should consider the idea of value for money or worth in buying a non-essential item, and how the price of a novelty depends on the market in which it is being sold.

### Environmental

Students should consider whether it is justifiable to use materials for a non-essential item like a novelty. They can do this by using the winners-and-losers

evaluation and also by asking. 'Where do the materials come from?' and 'Where do they go?'

### Social

Students should consider the idea of a novelty or souvenir both as a gift and as a memento.

### Moral

Students should consider whether the creation of a market (for gifts and souvenirs) within the garden centre is justifiable.

### Aesthetic

Students should consider the quality of the images that are used in novelties and souvenirs – the kitsch, the tacky, the unusual and intriguing, the respectful, the derisive.

# Novelties Incorporated

## *The detail*

### Sample brief

Design and make a novelty product suitable to sell as a small gift or souvenir. It will be suitable for sale at a particular retail outlet such as a garden centre, zoo, museum, stately home, theatre etc. It should be part of a collection that reflects the nature of the retail outlet.



### Sample specification

#### What the product has to do:

- be suitable as a gift or souvenir for a particular group;
- be part of a collection of similar products.

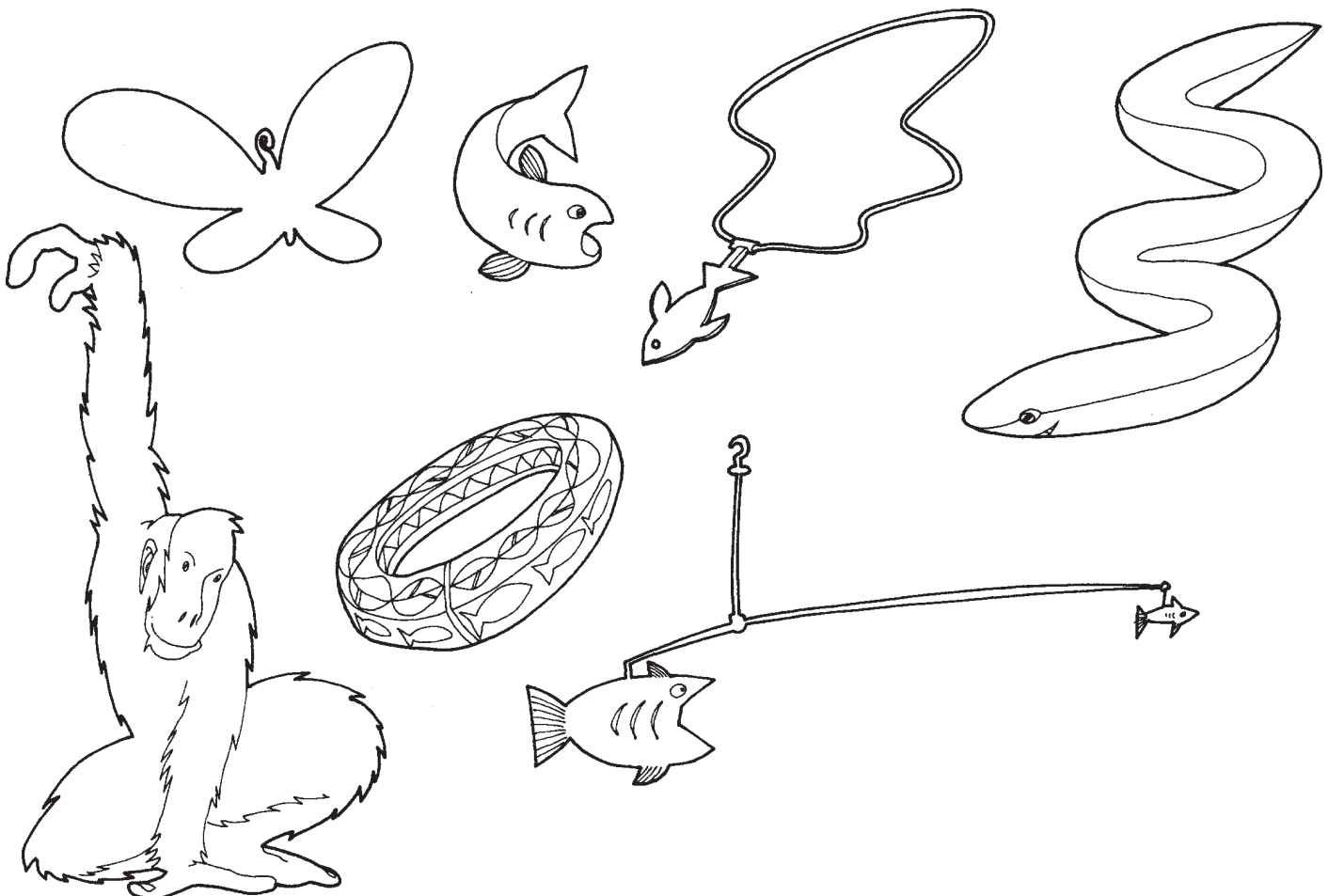
#### What the product should look like:

- be appealing to the identified purchasing group;
- reflect the nature of the retail outlet.

#### Other features:

- suitable for batch production;
- fairly low cost;
- limited environmental impact, e.g. uses recyclable or recycled materials in both the product and its packaging.

### Starter sketches



## Nuffield teacher talk

'Try copying that leaf to get an interesting shape.'  
 'If that's too hard, put the leaf under a piece of thin paper and trace the outline.'  
 'Now that you've done that, cut it out and use it as a template to draw four more. Play with them so you get some interesting arrangements.'  
 'For each one do the thin sheet of paper trick to draw some outlines that give interesting shapes you could use for a brooch.'  
 'It's not a problem if they are too big. You can try to

copy them smaller, or use the photocopier on reduce, or scan into the pic, and use zoom.'  
 'If it's for a small child, what sort of things will appeal? Simple shapes and bright colours. How will that be different for an older person, say your mum? What about your gran? So if you don't know, how can you find out?'  
 'How will you join those two flat bits together?'  
 'Are you sure PVA glues the best bet? What about double-sided tape? What would it look like if you used click rivets?

## Resource Tasks

### General design

For the first Capability Task in Year 7:

- SRT 1 *Writing design briefs*
- SRT 2 *Specifying products*
- SRT 8 *Using image boards*
- SRT 21 *Using simple shapes and guidelines*
- SRT 37 *Evaluating outcomes — user trips*

For the second Capability Task in Year 7:

- SRT 11 *Brainstorming*
- SRT 12 *Metamorphosis*
- SRT 22 *Using grids — enlarging and reducing*
- SRT 29 *Putting products onto backgrounds*
- SRT 17 *Appreciating products — style*

For the third Capability Task in Year 7:

- SRT 13 *Pattern design*
- SRT 9 *Choosing and manipulating images*
- SRT 10 *Capturing and manipulating images*
- SRT 18 *Appreciating products — colour*
- SRT 41 *Cool or what? Developing your design vocabulary*

### Focus area design

- SRT 23 *Drawing quick 3D views*
- SRT 25 *Making things look solid*

### Communication

- CRT 2 *Surface shading — showing texture*
- CRT 3 *Surface shading — showing depth*

### Making

- RMRT 6 *Making a photo frame from acrylic*
- RMRT 7 *Stripy jewellery*
- HSRT 3 *Being safe with resistant materials*

### Technical

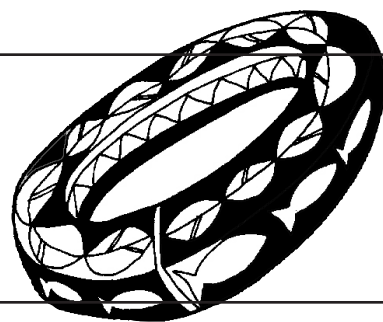
- RMRT 11 *Materials: Where are they from and where do they go?*

### Commercial

- RMRT 1 *Retailing: Why are shops different?*
- RMRT 2 *Costing: Why do some clothes cost more than others?*

## Case Studies

Batch production. *Student's Book*, page 246;  
 Lara Sparey, *Student's Book*, pages 113-6.  
 Making jewellery, (photocopiable).



## ICT opportunities

Use www to find out about gifts and souvenir products already available. Try putting 'novelty +products' in the search engine. Look directly at <http://thelefthand.com/>.

Use CAD to explore producing a variety of 2D shapes derived from natural forms.

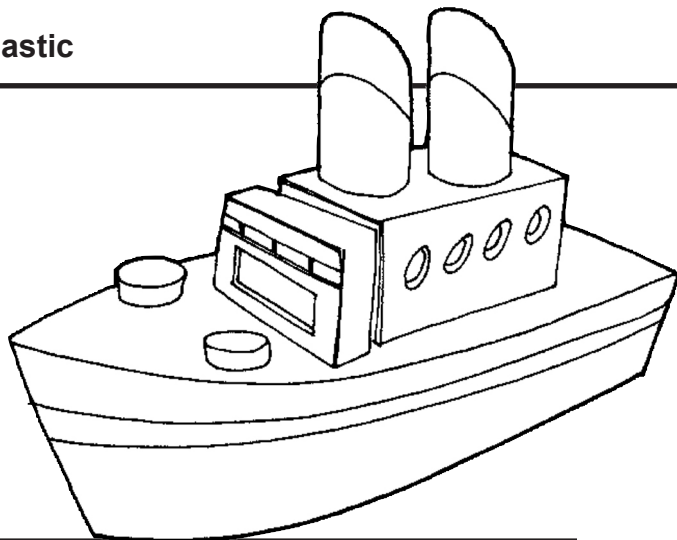
Use CAM to produce 2D shapes from sheet material.

# Rainbow Radios

## *The big picture*

### Task

To design and make a shell to house a small, working radio receiver and give the resulting radio an attractive 'themed' appearance.



## The story so far

Rainbow Radios make small 'themed' radios for large institutions such as hospital hotels, student halls of residence and cruise ships. They try to match their design to their client – 'ship-shaped

radios for Ship-shape Cruises' is one example. The students' task is first to identify a target group, and then to design and make a small, colourful radio that could be marketed by Rainbow Radios.

## Learning

### Designing

Using themes as a basis for design.

### Making

Developing 3D forms from sheet materials to a high standard of finish.

Using batch production techniques for manufacturing a simple circuit (optional).

### Technical matters

Properties of materials.

### Other matters

Retailing and costing.

## Design decisions

### The sort of product

This has been decided by the teacher – a small colourful radio.

### The customer

The student can decide whom the product is for.

### The performance of the product

The student can decide whether the product is to be amusing, intriguing, pleasing or even slightly offensive.

### The appearance of the product

The Student has to choose an appearance that relates to the nature of the target group and which can be achieved using a net plus decoration.

### The way the product fits together

The student has to decide about the way the radio receiver is held in the shell, access for changing the battery and access to the tuning and volume controls.

### The materials, adhesives, fixings and components

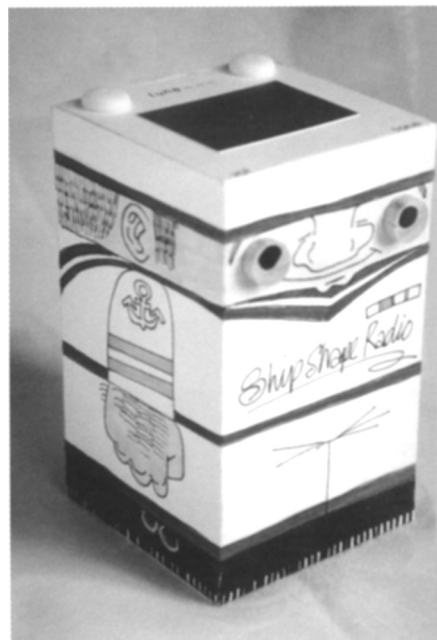
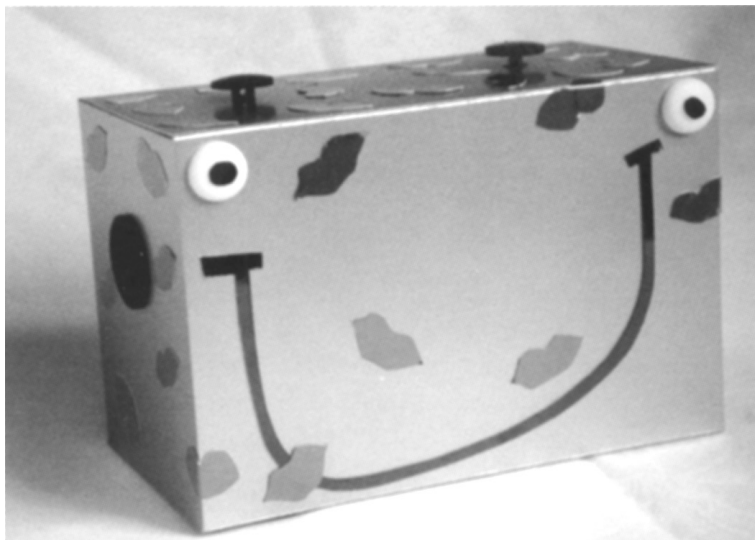
The student can choose from:

- plain card, corrugated card, corrugated plastic, thin polystyrene sheet, Paperchase translucent thin sheet plastic;
- liquid adhesive, spray adhesives, tape adhesives;
- paper fasteners, click rivets, pop rivets, Velcro®;
- stick-on shapes, letters and decorations.



## Products

In this school the teacher restricted the students to using plain white and coloured card as the starting material for the shell form to house the radios. The students had to produce a full scale paper version to begin with, to ensure that the speaker, battery and radio circuit would fit into the space available, and to explore the appearance of the radio. The students were able to use the paper version as a template for the card. The students used coloured paper and simple line and marker artwork to enhance the appearance of the radios.



In this school the teacher encouraged the students to use vacuum forming as a means of producing the shell form from polystyrene sheet. The students used different coloured polystyrene sheet and coloured paper to produce stick on decorations.



There is the opportunity here to use CAD/CAM in conjunction with a computer controlled plotter to design and make networks for the card shell forms. You can build this in as the means of production from the beginning by ensuring that students make paper prototypes only, and use these as templates for the CAD data. Or you can make this an extension work option for those who finish quickly.

## Values

### Technical

Students should consider the need for quality control in mass production

### Economic

Students should consider the effect of using low-cost materials on the availability of products.

### Environmental

Students should consider the impact of noise on the environment.

### Social

Students should consider the effects of radio in isolating and/or linking people.

### Moral

Students should consider the use and abuse of broadcasting.

### Aesthetic

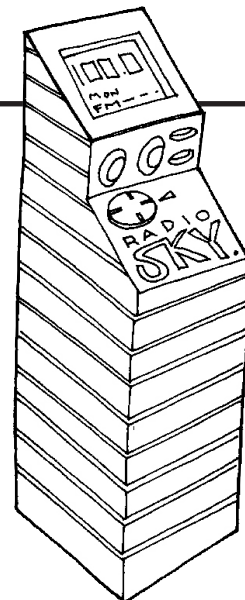
Students should consider how the appearance of a product can depend on a range of influences.

# Rainbow Radios

## *The detail*

### Sample brief

Design and make a shell to house a small, working radio receiver. The shell should be based on a theme that makes the final appearance suitable for large institutions such as a hospitals, hotels, student halls of residence and cruise ship.



### Sample specification

#### What the product has to do:

- house the radio receiver so that the circuitry and battery are secure;
- house the radio receiver so that the tuning and volume controls are easily accessible.

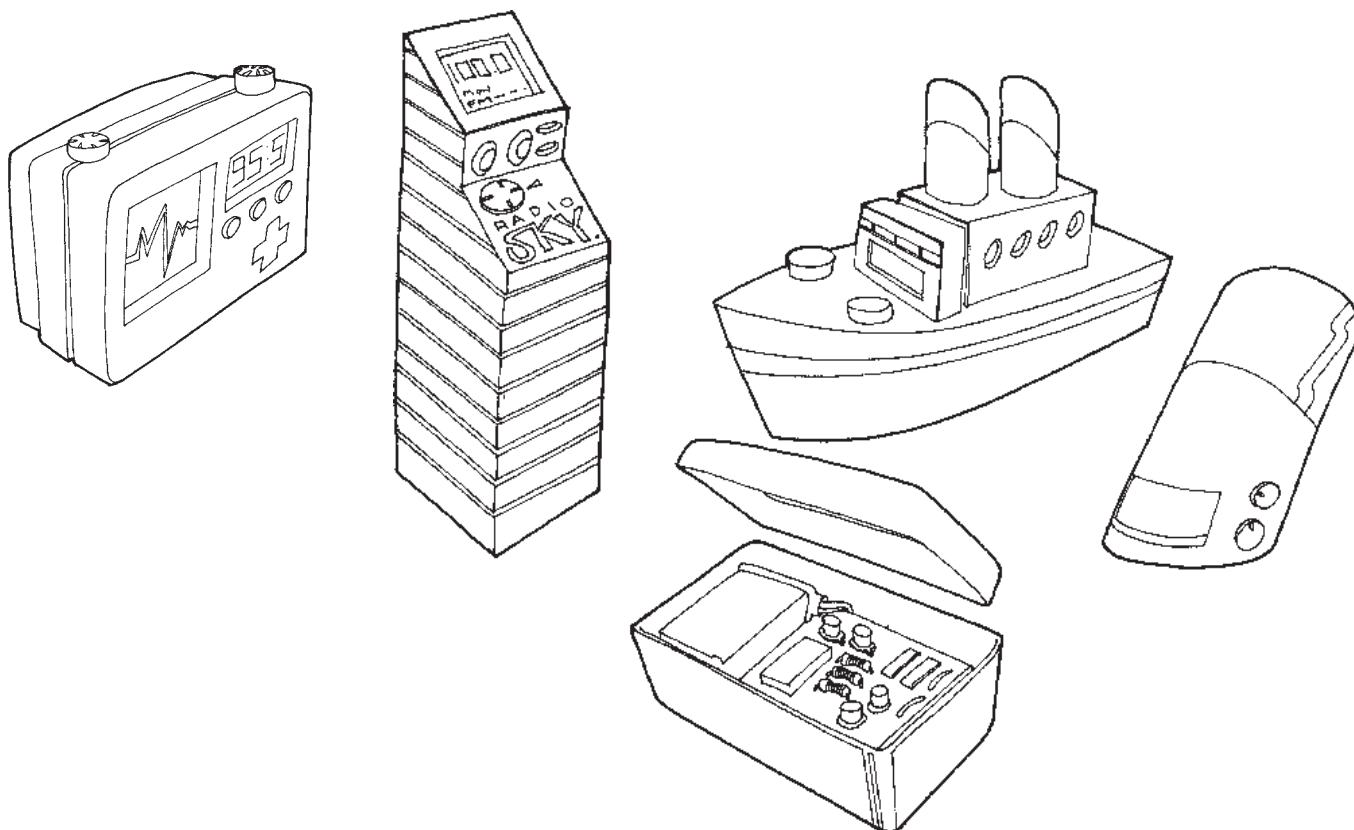
#### Other features:

- the battery can be easily changed;
- limited environmental impact, e.g. uses recyclable or recycled materials in both the product and its packaging.

#### What the product should look like:

- reflect the nature of the institution in which it will be used;
- be appealing to those who will use it.

### Starter sketches



## Nuffield teacher talk

'What will keep that edge stuck to that edge?'  
 'Are you sure the tabs are big enough?'  
 'What will you use to stick the tabs to the sides?'  
 'Are you sure that PVA glue is a good idea-'  
 'What's going to stop the circuit moving around?'  
 'What keeps the battery in place?'  
 'No, you cant use Blu-tack®'

'What size holes do you need in the shell for the tuning and volume controls?'  
 'Do you know where those holes will go?'  
 'Are you sure that they won't make the shell too weak or floppy?'  
 'How do you get the battery in and out?'  
 'What stops the flap from coming undone?'

## Resource Tasks

### General design

For the first Capability Task in Year 7:

SRT 1 *Writing design briefs*  
 SRT 2 *Specifying products*  
 SRT 8 *Using image hoards*  
 SRT 21 *Using simple shapes and guidelines*  
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SRT 13 *Pattern design*  
 SRT 9 *Choosing and manipulating images*  
 SRT 10 *Capturing and manipulating images*  
 SRT 18 *Appreciating products – colour*  
 SRT 41 *Cool or what? Developing your design vocabulary*

### Focus area design

SRT 23 *Drawing quick 3D views*  
 SRT 24 *Crating*  
 SRT 26 *Using nets*

### Communication

CRT 2 *Surface shading – showing texture*  
 CRT 3 *Surface shading – showing depth*

### Making

RMRT 6 *Making a photo frame from acrylic*  
 RMRT 7 *Stripy jewellery*  
 HSRT 4 *Being safe with technical components*

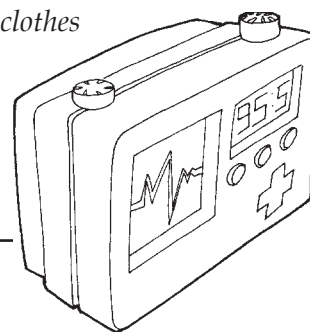
### Technical

RMRT 11 *Materials: Where are they from and where do they go?*  
 ECRT 9 *Making a radio*

If this cannot be done then use reverse engineering by obtaining a set of cheap, small transistor radios, strip the circuitry from the casings and build into the new shells.

### Commercial

RMRT 1 *Retailing: Why are shops different?*  
 RMRT 2 *Costing: Why do some clothes cost more than others?*



## Case Studies

Batch production. *Student's Book* page 246.  
 Making jewellery, (photocopiable / downloadable).

Lara Sparey, *Student's Book*. pages 113-6.

## ICT opportunities

Use www to find out about themed products that are already available. Try putting '+theme +products' in the search engine. Look directly at <http://www-itstoys-com/index.html>. Use CAD / CAM to produce basic nets from sheet material.

Use CAD / CAM to produce decorative 'stick-ons' for the shell.

Use CAD / CAM to produce decorated nets from sheet material.