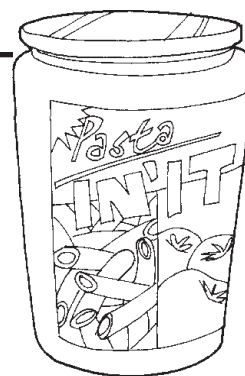


# Better food



## *The big picture*

### Task

To design and make an improved food product for the cold counter of a food store.

### The story so far

Mama Pasta is a company that produces ready-to-cook and ready-to-eat pasta dishes and meals for retailers. It has been asked to develop an improved range of pasta dishes aimed at people between 13 and 19 years of age. to be sold at a supermarket chain. The students' task is to design and make prototype pasta products that can

be tested by the food technologists at Mama Pasta. The products must be suitable for mass production, have packaging that is suitable for the cold counter and will appeal to potential customers in the target group.

### Learning

#### Designing

Using commercially available dishes as a starting point for design ideas.

#### Making

Production of sauces.

#### Technical matters

Controlling viscosity, texture, flavour and aroma of sauces.

#### Other matters

Labelling/packaging requirements for food products.

### Design decisions

#### The sort of product

This has been decided by the teacher – a pasta-plus-sauce dish.

#### The point of sale

This has been decided by the teacher to some extent – the product will be sold in a supermarket although students may choose the particular supermarket.

#### The customer

This has been decided by the teacher – the product is aimed at people aged 13-19.

#### The performance of the product

The student can decide the following:

- the overall viscosity of the sauce;
- the flavour and aroma of the sauce;
- the texture of the sauce;
- the pasta used with the sauce.

#### The appearance of the product

The student can decide how to present the product on the labelling/packaging.

#### The materials

The students can start with a basic, runny and rather bland tomato/onion sauce and then, from the following ingredients, choose ways to enhance it:

- thickening agents: cornflour, arrowroot, egg;
- meats: bacon, minced beef, ham, salami;
- vegetables: tomatoes, onion, green and red peppers, celery, carrots;
- herbs and spices: oregano, sage, thyme, mint, dill, marjoram.

## Products

In this school the teacher set the class the task of producing a new pasta-based dish and designing the packaging that would be used to give it appeal in a supermarket chill cabinet. To avoid spending large amounts of time trying to draw finished food products, the image of the food product on the packaging was produced using a digital camera. This also saved time and cost compared with conventional photography.



This student produced a tuna lasagne, held in a transparent bowl, vacuum formed from polystyrene with a card lid and fish shaped information labels.



This pair of students produced a spaghetti carbonara, held in a dark green star shaped bowl, vacuum formed from polystyrene with a card lid.

This student produced a pasta with ham dish, held in a transparent dish, vacuum formed from polystyrene with a card lid. Cooking and freezing instructions were included as separate information labels.



## Values

### Technical

Students should consider the need for quality assurance in food production.

### Economic

Students should consider the growing market for teenagers.

### Environmental

Students should consider the use of packaging for promoting the product.

### Social and moral

Students should consider the place of eating in the family within modern lifestyles. Students should consider the implications of a product just for teenagers.

### Aesthetic

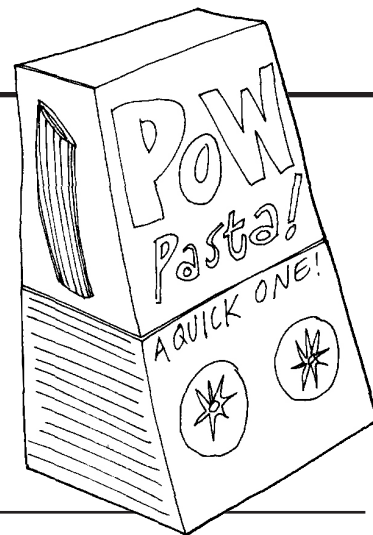
Students should consider how the appearance of the food product, when on sale and when ready to eat, influences its success in the market.

# Better food

## The detail

### Sample brief

Design and make a pasta-plus-sauce dish for sale at the cold counter of a supermarket, and aimed at people aged 13–19.



### Sample specification

#### What the product has to do:

- provide an individual portion of pasta plus sauce;
- 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 (as presented in the labelling/packaging).

#### Other features:

- suitable for batch production;
- fairly low cost;
- limited environmental impact, e.g. uses recyclable or recycled materials in the packaging (optional).

## Starter sketches



## Nuffield teacher talk

'OK, so you're not sure about which pasta to choose. What are the options? Spaghetti, tagliatelle, penne, etc. How can you decide?'

'Penne and shells are easier to eat – no twiddling it around your fork.'

'But some people like doing that. What do you think will appeal to the 13-19 age group?'

'You're not happy with the basic sauce – too runny, it doesn't coat the pasta well. So what can you do to make it thicker? What are the big molecule options – proteins or starches? Starch in the form of cornflour is probably easiest to use but you could try egg, made of protein. Proteins aren't a good bet – they're best for making things set rather than just thick.'

'Check out how to use them both as a thickening agent.'

'You fancy dyeing the pasta so that you get a contrast to the red sauce. Well, you could try adding food colouring to a test sample that you cook up just to see if it takes and if it affects the taste. Maybe you should try a range of colours in different concentrations to discover the most effective way of doing it.'

'You're not sure about the amount of pasta and sauce that are needed in a dish for one. Look on the packet to see how much pasta is recommended for one person and cook this amount to see what it looks like. How can you check whether this is OK for the target group? Now see how much sauce you need to get a good covering when you mix it well together. Start with a small amount and add more in fixed tiny amounts. Then, when it looks right, you'll know how much you've added. Probably worth tasting it to check that it tastes as good as it looks.'

## Resource Tasks

### General design

For the first Capability Task in Year 8:

- SRT 4 *Writing interview questions*
- SRT 15 *Getting visual ideas from sections of pictures*
- SRT 30 *Layout*
- SRT 32 *Instructions*
- SRT 38 *Evaluating outcomes – winners and losers*

For the second Capability Task in Year 8:

- SRT 3 *Selecting recording tools*
- SRT 14 *Attribute analysis*
- SRT 19 *Appreciating products – feel*

For the third Capability Task in Year 8:

- SRT 5 *Identifying needs and wants*
- SRT 16 *Making random connections*

SRT 28 *Modelling with spreadsheets*

SRT 40 *Freehand product analysis*

### Focus area design

- FRT 3 *Star Charts*
- FRT 5 *Preference tests*
- FRT 6 *Difference tests*

### Communication

CRT 11 *Presenting food product designs*  
(unless tackled in Year 7)

### Making

(See FRT5 and FRT6)

### Commercial

- FRT 8 *Nutrition 2*
- FRT 10 *Looking at labels and packaging*

## Case Studies

Covent Garden Food Company (photocopiable).

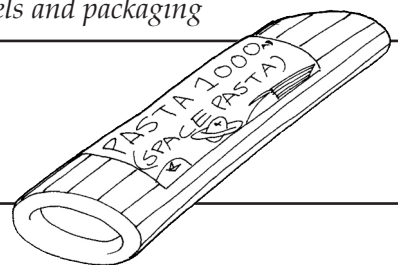
## ICT opportunities

Use the Internet to find out about food products already available for 13 to 19-year-olds. Try putting 'retail +food +teenage' in the search engine. Look directly at <http://www.sosland.com/oldarts/092796.htm> and <http://www.fritolay.com/consumer/funfoods/>

Use a DTP package to produce labelling/packaging text and layout.

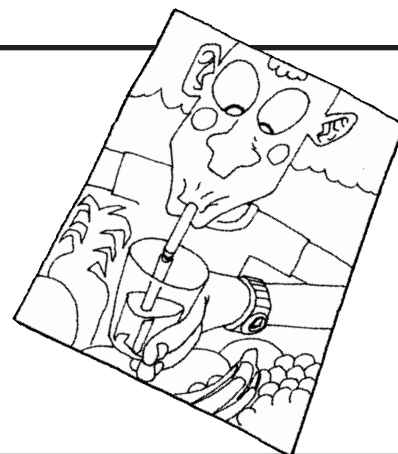
Use a digital still camera to record the food products and use these images in product labelling/packaging.

Use a digital video camera to record food processing clips.





# Home-made or shop-bought



## *The big picture*

### Task

To use the resources of design and technology to compare the quality of home-made and shop-bought products.

### The story so far

A school is keen to encourage children to cook at home and has decided to run a campaign on the virtues of home cooking. The Food Technology department has decided to use the theme 'You can drink it' to compare

home-made and shop-bought drinks and soups. So the students' work will concentrate on drinks and soups, with students designing and making home-made items, comparing them with shop-bought ones, and developing promotional materials entitled 'Home-made is best!'

### Learning

#### Designing

Using traditional recipes as a starting point for design ideas.

#### Making

Production of drinks and soups.

#### Technical matters

Controlling viscosity, texture, flavour and aroma of drinks and soups.

#### Other matters

Labelling/ packaging requirements for food products.

### Design decisions

#### The sort of product

This has been decided by the teacher – drinks and soups.

#### The point of sale

This has been decided by the school – the campaign launch event and the follow-up distribution points for the promotional materials.

#### The customer

The students can decide whom the soup or drink is for.

#### The performance of the product

The student can choose the following for the soup:

- hot or cold;
- flavour and aroma;
- viscosity.

The student can choose the following for the drink:

- hot or cold;
- flavour and aroma;
- viscosity.

#### The appearance of the product

The student can decide how to present the product

through the promotional materials.

#### The materials

The student can start with the basic recipe for ginger beer or lemonade and then, from the following ingredients, choose ways to enhance it:

- fresh fruit;
- fresh fruit juices;
- spices.

The student can start with the basic recipe for a meat or vegetable stock and then, from the following ingredients, choose ways to enhance it:

- thickening agents: cornflour, arrowroot, lentils, pearl barley;
- meats: bacon, minced beef, ham, salami;
- vegetables: tomatoes, potatoes, onion, green and red peppers, celery, carrots;
- herbs and spices: chilli sauce, soy sauce, Worcestershire sauce;

The students will also need access to commercially produced products for comparison purposes – packet soups, tinned soups, carton soups, squashes, cordials, fizzy drinks.

### Products

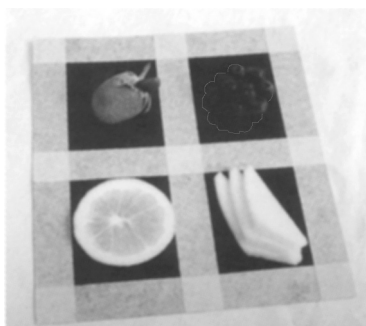
In this school the teacher discussed two important ideas with the class:

- the idea of an inexpensive basic ingredient;
- the idea of small amounts of expensive ingredients to add value.

She gave the example of fruit flavoured waters where the basic ingredient was water and the added value was provided by a flavouring. She compared this with the idea of adding a touch of coloured tone to a basic paint giving colours like apple or peach white.

Each group of students had to decide on an inexpensive basic ingredient, plain or fizzy water with or without lemon juice. Each group then identified four more

This group of students chose strawberry, raspberry, orange, and mango as the expensive ingredients.



This student used a glass of plain water with a teaspoon of lemon juice as the basic ingredient. For added value he used slices of orange with the skin and pith removed in layers with ice cubes between the layers. For garnish he added a half slice of lemon. He called the drink 'St Clements'.



This student used plain water as the basic ingredient with thin slices of mango as the added value ingredient. The mango was arranged around the edge of the glass with ice cubes in the middle. For garnish she added two blueberries. She called the drink 'Mango spike'.



This student used a glass of slightly fizzy water, made by mixing plain water with fizzy water, with half a teaspoon of lemon juice as the basic ingredient. For added value she used strawberries sliced in half and mixed randomly with ice cubes. For garnish she added a strawberry leaf. She called the drink 'Strawberry sunrise'.



### Values

#### Technical

Students should consider the need for reliability and consistency in the products they produce.

#### Economic

Students should consider the hidden costs in producing food at home.

#### Environmental

Students should consider the importance of health and hygiene practices both at home and in producing food in industry.

#### Social

Students should consider the effect on relationships of cooking and eating at home.

#### Moral

Students should consider the dilemmas facing busy families in finding time to cook and eat together.

#### Aesthetic

Students should compare the appearance of home-made and shop-bought food.

# Home-made or shop-bought

## The detail

### Sample brief

Design and make a drink that can be made at home, will appeal to children aged 8-11 and is suitable for summertime drinking. Design and make a soup that can be made at home, will appeal to the whole family and is suitable for cold winter evenings.



### Sample specification

#### The drink

What the product has to do:

- offer a mix of flavours and textures appetising to 8 to 11-year-olds.

What the product should look like:

- be visually appealing.

Other features:

- suitable for summertime drinking;
- be easily made at home from inexpensive ingredients.

#### The soup

What the product has to do:

- offer a mix of flavours and textures appetising to the whole family

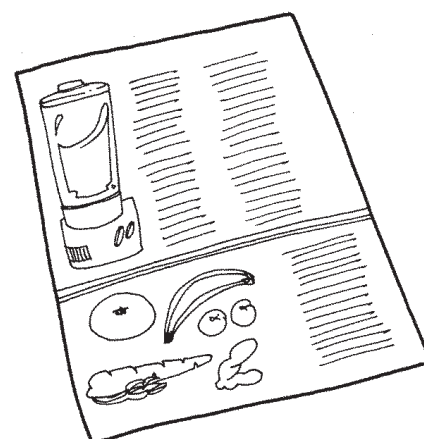
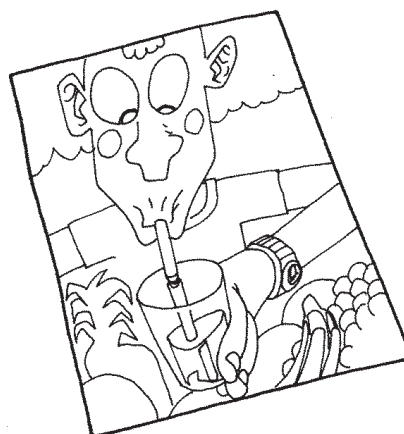
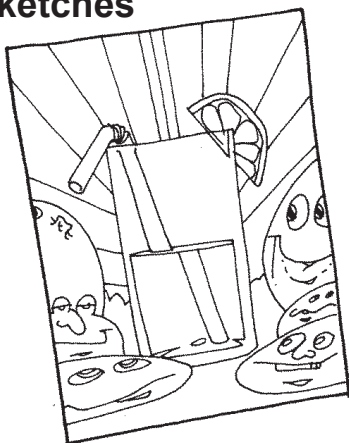
What the product should look like:

- be visually appealing.

Other features:

- suitable for cold winter evenings;
- be easily made at home from inexpensive ingredients.

### Starter sketches



### Nuffield teacher talk

'You want to use the ginger beer as a starting base for your drink. Why's that? Because it's fizzy. OK? So what's the problem? You're not sure what extra flavours to add. Have you got a list of possible flavours, say a list of fruit flavours? Yes, apple, orange, grapefruit, pineapple are just what I had in mind. We've got samples of all those juices, so you could easily find out what gives a tasty result. You'd need to set it up carefully so that you could do your own taste tests as you added extra flavours to the starting ginger beer. Do a table to describe what you'll do and we can check it out together.'

'You think the lemonade is too lemony but you don't want just to add sugar to make it sweet, you want to use another fruit. Have you thought of adding a fruit puree rather than just juice? How could you make a puree? Easy, just whizz the fruit up in the blender. You first have to wash or peel the fruit. What sort of fruits do you think you could use? Yes – mango, strawberry, raspberry, gooseberry, apricots, peaches, nectarines – they'd all do. You need to check out what we've got in stock and it might be worth visiting your local supermarket to see if there's anything we've missed. How will you work out which ones to use?'

'OK, so you want your soup to be meaty and spicy. Why's that? You've asked your family and that's what

they said. OK, so you start with meat stock. Do you want it to be thick or thin? Thin – OK. Well, the stock is thin to start with so you must be careful not to add anything that'll make it thicker. Do you want it to be a stronger colour? Yes – OK. What can you add to give it colour? What about Bovril or Oxo – they've both got a meaty flavour and they're dark? I'm not sure how much you'll need, you'll have to try different concentrations to find the one that gives you the colour you want and which gives you the meaty taste you want.'

'What about your spicy flavour? OK – spices, but which sort and how much?'

'OK, so your gran wants it to be thick soup with lots of quite chunky bits of vegetable but no meat. What's the starting vegetable stock like? Yes – pretty thin, so the first thing to sort out is how to make it thicker. What are the big molecule options? Proteins or starches. Starch in the form of cornflour is probably the easiest to use. Proteins aren't a good bet – they're best for making things set rather than just thick. The trick is to prevent its going lumpy – find out how to do that and check it out with me. Or you can always add a vegetable that contains starch. As it cooks, the starch will be released and make the soup thicker. So find out which vegetables contain lots of starch.'

### Resource Tasks

#### General design

For the first Capability Task in Year 8:

SRT 4 *Writing interview questions*

SRT 15 *Getting visual ideas from sections of pictures*

SRT 30 *Layout*

SRT 32 *Instructions*

SRT 38 *Evaluating outcomes – winners and losers*

For the second Capability Task in Year 8:

SRT 3 *Selecting recording tools*

SRT 14 *Attribute analysis*

SRT 19 *Appreciating products – feel*

For the third Capability Task in Year 8:

SRT 5 *Identifying needs and wants*

SRT 16 *Making random connections*

SRT 28 *Modelling with spreadsheets*

SRT 40 *Freehand product analysis*

#### Focus area design

FRT 3 *Star Charts*

FRT 5 *Preference tests*

FRT 6 *Difference tests*

#### Communication

CRT 11 *Presenting food product designs* (unless tackled in Year 7)

#### Making

(See FRT 5 and FRT 6)

#### Technical

FRT 16 *Investigating the effects of liquids*

#### Commercial

FRT 8 *Nutrition 2*

FRT 10 *Looking at labels and packaging.*

### Case Studies

Covent Garden Food Company (photocopiable).

### ICT opportunities

Use the Internet to find out about food issues for 13 to 19-year-olds. Try putting 'teenager +food +products' in the search engine. Look directly at <http://www.kidinfo.com/Health/Foods.html>.

Use a DTP package to produce labelling/packaging text and layout.

Use a digital still camera to record the food products and use these images in product labelling/packaging.

Use a digital video camera to record food processing clips.