Bottled Water

Part A – The bottled water boom

More and more supermarkets are selling bottled water. It is a product which is simple to produce and there are large profits to be made. Bottled water costs 600 times more than tap water. The boom in sales is due to clever advertising and marketing.

This unit is about the work of advertising agencies. Your task will be to devise a marketing campaign for a new brand of bottled water.

But first, here's a little background information. It looks at why people are prepared to go out and *buy* something they can get by turning on the kitchen tap.

If you can, why not gather information of your own – go to shops, talk to people who buy bottled water or arrange a tasting session?

Part A Information: the boom in sales of bottled water.

Groupwork: planning a marketing campaign for a new brand of bottled water.

Technical reports are provided on chemical analysis, mineral waters and health, tap water.

Part B Questions to answer about a bottled water labelled in French.

Part C Questions based on information in the technical reports.

Part D Spas: find out about and discuss.

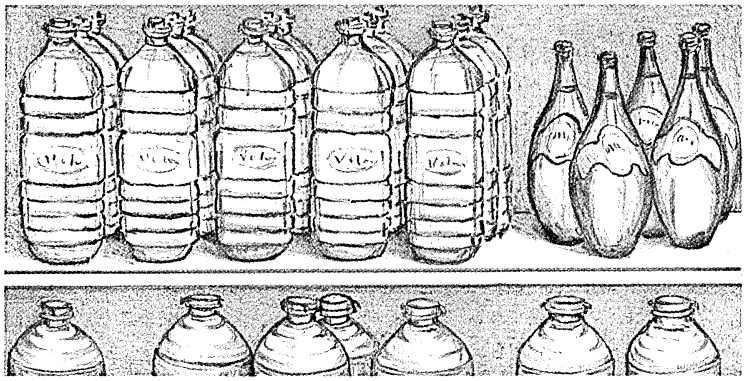


Figure 1 Supermarket shelves filled with bottled waters

The bottled water market

The first bottled water to go on sale in supermarkets in Britain was the French brand, Perrier, in 1974. Since then, sales have risen steadily. They reached a retail value of £150 million by 1989. The rise seems likely to continue. Figures for the amount drunk per person in Britain lag well behind the rest of Europe.

Most of the 200 brands sold in the UK are British. More people buy sparkling water than still.

The reasons which consumers give for buying bottled water fall into three categories: taste, medical advice and concerns about pollution of tap water.

Table 1 The number of litres of bottled water bought per person per year in European countries (1988)

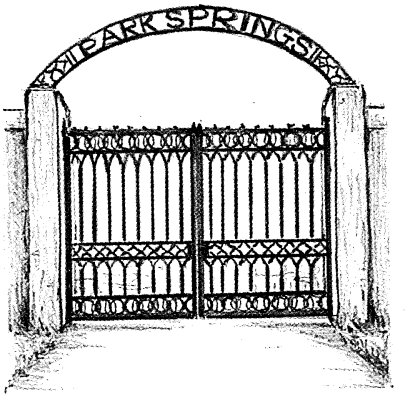
Belgium	60
Britain	4
France	70
Germany	60
Italy	60

Park Springs – a new brand of bottled water

This is the situation. You belong to a new advertising agency.

You receive a letter from the marketing director of Park Springs Estate Ltd., a firm that runs a local health centre.

The firm wishes to sell bottled water from the spring on its estate. It is asking advertising agencies if they are interested in promoting this new brand of bottled water nationally.



A firm that wants to employ an advertising agency will usually invite several agencies to compete for the job.

In the advertising world this is called 'pitching for the account'. Each agency draws up a marketing plan and presents it to the directors of the firm.

The account is normally awarded to the agency that comes up with the best ideas within a reasonable budget.

Park Springs Estate Ltd.
Wood Lane
Beechfield
Homeshire

Dear

As you may know, the water from the spring on our Estate has been famous for its purity and health giving properties since Victorian times. With the growing sales of bottled waters in supermarkets, we believe the time is right for us to enter this profitable market.

Your agency is invited to pitch for the account to market Park Springs Mineral Water nationally.

We expect that the successful agency will provide a complete marketing plan – from the design and labelling of the bottle, to information leaflets for shoppers as well as a national advertising campaign.

Agencies pitching for this account are asked to submit their proposals by the end of the month.

Yours sincerely,

Rita H Lomas

Rita H Lomas

Marketing Director

Your agency will pitch for the Park Springs account. Success is important to establish its reputation as a new agency.

Plan your advertising pitch

☐ Work in a small group. Your group will act as an advertising agency.

☐ Decide on a name for your advertising agency.

Figure 2 Some brands with which Park Springs will compete

☐ Plan a marketing campaign for Park Springs water. Here are some points to help you.

1 *Why do people buy bottled water?*
Think up some ideas.

2 *What technical information will help you with your marketing campaign?*
You have three technical reports on water:
- chemical analysis,
- mineral waters and health,
- tap water.

Decide how you are going to share out the work of reading this information.

3 *What sort of image of Park Springs mineral water (e.g. pure, fresh, healthy etc.) should you promote?*
Consider competitors' packaging and labels. Decide on some key words to describe your product.

4 *What sort of publicity material is needed?*
Think about what sort of people will be buying Park Springs water. Devise a scheme. Share out the work between you.

5 When you have finished, collect your publicity material together and send it to the Directors of Park Springs Estate Ltd.

6 Your advertising agency may be asked to make a personal presentation of your scheme. People in agencies often share such presentations between two or three people, each covering one special aspect.

Your pitch for the account should include some of the following:

- An outline report on how you plan to promote Park Springs water nationally. It must include a background to the agency, the personnel, their credentials etc.
- A design for the bottle (should it be returnable or recyclable?) and for the label – what information should go onto it?
- A leaflet for shoppers.
- An advertisement suitable for a food magazine.
- A letter to shop managers persuading them to stock Park Springs mineral water. You must assure the retailer that the line will be profitable. You may suggest a trade competition as an incentive to staff to 'sell' the product.
- An article on bottled water for a free magazine which uses the opportunity to promote Park Springs mineral water.

Chemical analysis report

Water from springs and wells contains minerals dissolved as ions. Ions are charged atoms or groups of atoms.

The directors of Park Springs Estate asked chemists working in an analytical laboratory to test popular brands of mineral waters.

The concentrations of mineral ions they found are given in table 2.

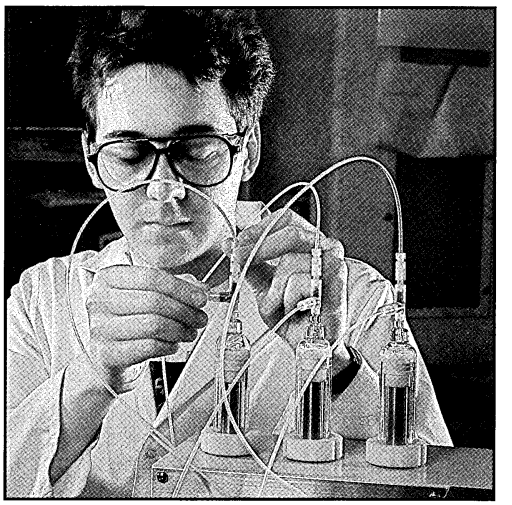


Figure 3 Apparatus for analysing water samples

Table 2 The concentration of mineral ions in bottled waters in milligrams per litre

	Water					
	SSW	**CH**	**Per**	**Ev**	**SPel**	**PkSp**
Sodium	45	8	14	7	45	9
Calcium	50	104	147	78	207	170
Magnesium	13	1	3	24	58	11
Sulphate	14	12	61	10	540	27
Chloride	74	15	28	2	71	35
Nitrate	2	5	22	4	1	7
pH	7.6	5.0	5.4	7.5	5.1	6.2

Key

SSW	=	Scottish Spring Water
CH	=	Chiltern Hills
Per	=	Perrier
Ev	=	Evian
SPel	=	San Pellegrino
PkSp	=	Park Springs (the product you are to promote)

Report on mineral waters and health

For many centuries people have believed that water from special sources had medicinal properties. Even today bottled waters in some countries are claimed to treat ailments like rheumatism and gout.

Bottled waters are low in **minerals**. A good balanced diet will provide all the minerals, like calcium, a person needs. Bottled waters will not therefore promote good health by supplying extra minerals. However, their low mineral content may benefit people with medical conditions like high blood pressure and heart disease. If they are advised to go on a strict low sodium diet a bottled water with a low sodium content may help.

People who are concerned about the levels of lead, nitrates and aluminium in tap water and their long-term effect on health may feel safer buying bottled water.

Children especially are at risk of **lead** poisoning. Lead affects the brain and nervous system, it can cause anaemia and affect muscles.

Nitrates pose a risk of blue baby syndrome, a rare blood disease in small babies. In areas where the tap water is high in nitrates, parents are advised to use bottled water for making up babies' formula. Nitrates occur naturally in foods that adults eat. Although there have been concerns that nitrates may be linked with human cancer, no definite link has been established.

Aluminium may cause loss of memory in the elderly with a form of senile dementia called Alzheimer's Disease. Most people's intake of aluminium comes from food or other sources such as food packaging, additives or cooking utensils. Even 'health salts', used as indigestion treatments, may contain aluminium compounds and should not be taken regularly.

The balance of medical evidence suggests that by drinking bottled water rather than tap water you may be doing yourself less harm rather than more good. British law on advertising forbids any special claims that bottled waters are good for health.

Report on tap water

It seems that Britain's tap water is no worse than that in the rest of northern Europe. However, levels of pollutants do vary across the country and in some areas tap water has failed to meet European Community (EC) standards.

Bacteria Tap water supplies are carefully treated to kill bacteria which may cause diseases like typhoid and cholera. Natural mineral waters are not treated to kill bacteria and levels in them are generally higher than in tap water. The use of water filters with tap water often allows bacteria to multiply.

Nitrates Tap water from intensive farming areas may contain higher levels of nitrates than EC safety limits. Water companies dilute water supplies with a high nitrate content with water from other sources before piping it to the consumer.

Lead Lead levels in several regions are above EC safety limits. Homes built before 1976 may have lead pipes carrying their water supplies. People in soft water areas are at greater risk of lead poisoning from water supplies. (See also **acidity**.)

Aluminium Some natural water supplies contain aluminium. Aluminium may be added to water during treatment. Levels are monitored and controlled.

Iron and manganese These elements discolour water but are not thought harmful to health in small amounts.

Organic compounds Chemicals from the pitch on roads, sealings around old water mains, agricultural insecticides and industrial degreasing and dry cleaning fluids have been discovered in water supplies. They are known to cause cancer in animals but it is not known if they cause cancer at the levels found in tap water.

The acidity (pH) Tap water which is slightly acid will attack lead and copper plumbing putting people at risk of poisoning by lead and copper compounds.

Radon A radioactive gas, radon, dissolves in water underground but escapes when water is left standing in reservoirs. It may be present in water drawn directly from springs and wells.

Table 3 Analyses of typical water supplies

	Cambridgeshire	London	Manchester	Scotland
sodium	120	30	15	20
calcium	420	270	35	25
chloride	100	20	20	20
sulphate/nitrate	180	30	15	5
pH	7.1	7.6	8.2	6.7

Part B – A medicinal mineral water?

Source de l'Afrique is a bottled water which has won the highest awards for its quality.

The label provides the following information.

(a) Make a list of the all the scientific words you recognise with their English equivalents.

Even if you cannot read French you can see that scientific words in French are very similar to their equivalents in English.

(b) What chemical substances are dissolved in the water?

(c) For which medical problems is it recommended? Have you found similar recommendations on labels in the UK?

(d) Source de L'Afrique water is radioactive. Do you think this property will help to treat the medical problems mentioned?

(e) Would you expect British mineral waters to be radioactive too?

(f) Why is the water 'regassed' for bottling? Which 'natural gas' is used?

(g) If you can read French, translate the information on the label.

Part C – Questions

For answer or discussion

Q1 *Which of the bottled waters in the chemical analysis report would you choose for a person who has been recommended a low sodium diet by a doctor?*

Q2 *In areas where nitrate levels in tap water are high, formula for babies' bottles should be made with bottled water. The lower its mineral content the better. Which brands would you suggest are most suitable?*

Q3 *Do you think that children should be encouraged to drink mineral water in order to have enough calcium in their diet?*

Q4 *Which metal ions sometimes found in water supplies may be damaging to health?*

Q5 *Some people have high levels of aluminium in their bodies. Suggest how they might reduce their intake of this element.*

Q6 *Mr and Mrs Jones have two small children and only just enough money to live on. They discover in the local newspaper that levels of lead in their tap water are above the European Community recommended level. The local water company sends out letters to say that the problem is temporary and that levels are well below those known to damage health. What do you think Mr and Mrs Jones should do about drinking water for their family?*

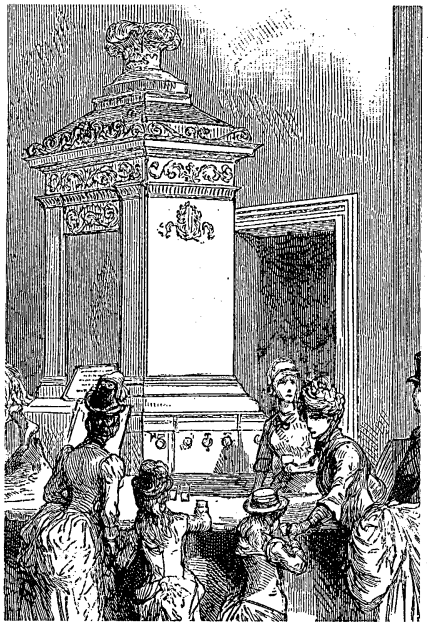


Figure 4 Cheltenham Spa in its heyday

Part D – Spas

For centuries people have gone to spas to 'take the waters'. The hot springs at Bath used by the Romans were a fashiohable meeting place in Jane Austen's day. These practices, now known as hydrotherapy, still flourish in many parts of Europe.

Find out about and discuss

1 For what sort of ailments did people go to take the waters?

2 Spa is a resort town in Belgium. How did it become famous? (Try looking up 'spa' in an encyclopaedia.)

3 Most British spas have closed. What changes in science and society may have brought this about?

Answers to the questions are given in the *Teachers' Notes.*

The SATIS Team

Project Organiser and Editor	Anabel Curry	*Design*	Stephen G. Park
Project Director	John Holman	*Secretary*	Vivien Samson
Publishing Editor	Donna Evans	*Evaluation Officer*	David Walker

Publishing Manager at ASE Jane Hanrott

The SATIS Central Team

The central team determined overall policy for this project.

Paul Adams, St Michael's High School, Rowley Regis

Vivien Bates, Tapton School, Sheffield

Susan Benjamin, Teachers' Centre, Cardiff

John Coulton, Yewlands School, Sheffield

Peter Ellis, Ryde School, Isle of Wight

Joan Fraser, Faculty of Education, Liverpool University

Bill Harrison, Sheffield City Polytechnic

Colin Johnson, School of Education UWCC

John Murphy, North Border Comprehensive, Doncaster

Dave Pierson, Hampden Park School, Eastbourne

Linda Scott, County Curriculum Centre, Gloucester

Phil Stone, Bishop Hedley High School, Merthyr Tydfil

Jane Vellacott, Hemel Hempstead School,

The SATIS team wish to thank the following people who have made a special contribution to the development of units for SATIS 11 and SATIS 12

Dr Peter Borrows, ASE Laboratory Safeguards Sub-committee

Robert Bailey, NERIS

Andrew Hunt, Project Director of SATIS 16–19

John Stringer, Project Director of SATIS 8–14

Simon Albrecht, Nature Conservancy Council Education Liaison Officer

Stephen Carver, Brown & Root (UK) Ltd.

Duncan Hawley, Royal Forest of Dean Centre for Environmental Studies

Gareth Large, Saltwells EDC

Derek Raine, Astronomy Department, Leicester University

Janet Major, Diss High School

k those people in education, industry and the professions who gave so freely of their ial material. The team also wish to thank the many teachers who responded with ideas ose teachers and students who trialled the units.

SATIS 12

List of topics in this book

1201 Agrochemicals and the Environment

A look at the economic implications of using fertilisers and fungicide on wheat.
Attainment targets 1 and 2.

1202 Mapping the Human Genome

What is the Human Genome Project, its cost, timescale and possible benefits to society?
Attainment targets 4 and 8.

1203 Prospecting by Chemistry

Students simulate the work of a geochemist prospecting for iron. The unit includes testing for iron with thiocyanate solution.
Attainment targets 1, 5 and 7.

1204 From Babylon to Biotechnology

An introduction to the development of biotechnology and to current concerns, the unit replaces SATIS No. 710, *What is Biotechnology?*.
Attainment targets 3, 4, 7 and 17.

1205 Earthquakes – in Britain?

Students consider the observations of people who experienced an earthquake that occurred in North Wales in 1984. The experimental work involves designing an earthquake detector.
Attainment targets 1 and 9.

1206 The Greenhouse Effect

Students are invited to consider the evidence and draw their own conclusions.
Attainment targets 1, 5, 9 and 17.

1207 Radio Telescopes

Radio waves are used to exemplify some of the properties of electromagnetic radiation.
Attainment targets 15 and 16.

1208 Are there Fairies at the Bottom of the Garden?

What is the evidence for the existence of fairies, electrons and neutrinos? Why not make a fairy detector?
Attainment targets 1, 11, 12 and 17.

1209 Are you made of Stardust?

Every atom in your body was made in a star.
Attainment target 16.

1210 Bottled Water

Students work in groups to market a new brand of bottled water.
Attainment targets 3 and 5.

The Association for Science Education
College Lane, Hatfield, Herts AL10 9AA

ISBN 0 86357 141 7