

Health & Food Technology

Support Pack



Nutrients

Complete the table with the function, effect on health and sources of each nutrient.

Nutrient	Function	Effect on Health	Sources
Protein	Growth & repair of body cells Maintenance of body cells	Can be converted into fat which can lead to obesity	Meat, fish, eggs, rice, oats, peas, beans, cheese
Carbohydrate			
Fat			
Vitamin A			

Vitamin D			
Vitamin B Complex	<p>Helps release energy from carbohydrates.</p> <p>For growth and normal function of the nervous system.</p>	<p>Tiredness due to energy not being released from the carbohydrates.</p> <p>Depression, anxiety, irritability.</p>	<p>White and wholemeal bread, meat, liver, kidney.</p>
Vitamin C			
Iron	<p>Iron is a component of haemoglobin, the substance that forms red blood cells. This helps to transport oxygen around the body to help reduce the</p>	<p>Prevents anaemia.</p>	<p>Red meat, green leafy vegetables, dried fruit and pulses, cocoa and plain chocolate, fortified</p>

	feeling of tiredness.		flour and bread.
Calcium			
Sodium	Essential for maintaining the correct fluid balance in the body.	High blood pressure, strokes - if too much is consumed.	Table salt, salty snacks, canned foods.

Water & Dietary Fibre

Read over the function/sources of water and dietary fibre, and make sure you know how they work together!

Water - Functions

1. Vital to life - it is required for all body fluids.
2. Helps excrete waste from the body as it combines with NSP to prevent constipation.
3. Regulates body temperature.

Water - Sources

- Fruit & vegetables
- Milk/fruit juices
- Tap water/bottled water

What happens if you don't get enough water?

- You may become dehydrated which could result in confusion and lack of concentration.
- As our bodies are made up of mostly water, we can go longer without food than we can without water, as the body requires water to run efficiently.

Dietary Fibre a.k.a Non Starch Polysaccharides (NSP) - Functions

1. Helps to remove toxic or harmful waste products from the body.
2. Absorbs water to help bulk out faeces, which helps it move through the body.
3. Helps to prevent bowel disorders such as constipation and bowel cancer.

Dietary Fibre - Sources

- Wholegrain cereals, bread and oats.
- Pulse vegetables - peas, beans and lentils.
- Fresh fruit and vegetables.

What is the effect on health if you don't have enough dietary fibre?

- Bowel disorders e.g. Constipation, bowel cancer

Use this space provided to fill with post it notes on all the other interrelationships.

POST YOUR ANSWERS HERE



Question Time!

National 5	Higher
<p>1. Identify two nutrients found in fruit and vegetables, and explain one function of each.</p> <p>2. Give two practical ways to increase fruit and vegetable intake.</p> <p>3. Identify one method of cooking that helps to meet current dietary advice, and explain why.</p> <p>4. A school cafe has created the following dish to add to their 'Healthy Range'. - Pasta with a tomato, leek and nut sauce Evaluate how this dish would be a suitable option in the range.</p> <p>5. Name a dietary disease linked to a high sodium diet.</p> <p>6. Identify and explain two ways to reduce saturated fat in the diet.</p>	<p>1. Explain how a diet high in dietary fibre can increase the risk of anaemia.</p> <p>2. Explain the interrelationship between Vitamin C, Iron and Folic Acid.</p> <p>3. Explain how a diet containing alternative proteins can contribute to a healthy diet.</p> <p>4. Evaluate the contribution of dairy products in the diet.</p> <p>5. Explain how manufacturers help consumers meet current dietary advice, in relation to: - fruit and vegetables - salt</p>

The Dietary Goals for Scotland

Fruit and vegetables

Intake of a variety of fruit and vegetables to reach at least 5 portions per person per day (>400g)

Fibre

An increase in average consumption of AOAC fibre⁴ for adults (16+) to 30g/day. Dietary fibre intakes for children to increase in line with SACN recommendations⁵

Fats

Average intake of total fat to reduce to no more than 35% of food energy

Average intake of saturated fat to reduce to no more than 11% of food energy

Average intake of trans fatty acids to remain below 1% of food energy

Salt

Average intake of salt to reduce to 6g per day

Sugar

Average intake of NME sugars in adults and children to reduce to less than 11% of total energy

Red Meat

Average intake of red and processed meat to be pegged at around 70g per person per day
Average intake of the very highest consumers of red and processed meat (90g per person per day) not to be increased

Oily Fish

Oil rich fish consumption to increase to one portion per person per week (140g)

Calories

A reduction in calorie intake by 120kcal per person per day

Carbohydrates

Total carbohydrate to be maintained at an average population intake of approximately 50% of total dietary energy with no more than 5% total energy from free sugars

National 5: Question Time!

1. A manufacturer wishes to make a healthier version of the following:

Haddock Bake
Haddock fillet
Tomatoes
Whole Milk
Butter
White Flour
Salt

State three changes they could make and explain how each change helps to meet a different piece of current dietary advice. (3 marks)

Hint! Remember you can add, remove or adapt the recipe.

2. A school cafeteria supervisor wishes to adapt the following recipe to help meet the Scottish Dietary Goals.

Savoury Pasta
Pasta
Streaky Bacon
Plain Flour
Whole Milk
Cheddar Cheese
Onion
Salt

Evaluate how the savoury pasta helps to meet the Scottish Dietary Goals for school children. (4 marks)

REMEMBER TO USE FOC!!!

Dietary Diseases

Complete each dietary disease bubble with information on how each disease affects health.

Type 2 Diabetes

How does diabetes affect health?

People with diabetes are more at risk of:

- Strokes
- High blood pressure
- Kidney failure
- Circulation problems

Obesity

How does obesity affect health?

Increased risk of high blood pressure due to the heart being put under a lot of strain from carrying extra weight around may increase the risk of strokes, heart disease, strain on joints.

Osteoporosis

Bowl Disorders

Cancers

Dental Caries

High Blood Pressure

Coronary Heart Disease

Anaemia

Food Intolerance & Food Allergies

Lactose Intolerance		
What is lactose intolerance?	How is health affected?	What can help?
People with lactose intolerance cannot digest the milk sugar called lactose.	They may suffer from cramps, feeling sick, swollen abdomen and diarrhoea after drinking cow's milk.	Using products made from soya milk and other lactose-free products.
Gluten Intolerance (Coeliac disease)		
What is gluten intolerance?	How is health affected?	What can help?
People who are sensitive to gluten , the protein substance found in wheat, rye, oats and barley food products, develop coeliac disease .	The lining of the intestine is damaged by the gluten and this prevents nutrients being absorbed.	There is a large range of gluten-free products available in supermarkets.
Food Allergies		
What is a food allergy?	Which foods cause allergies?	How is health affected?
Food allergies happen when the body's immune system reacts strongly to a particular substance.	Allergies to soya, peanuts, shellfish and eggs are the most common but there are an increasing number of other foods.	Mild reaction can include headaches, asthma, skin irritations, sickness and diarrhoea. Severe reaction can cause breathing difficulties and lead to anaphylactic shock . This can happen to some people within seconds of eating.
	Some food colours and preservatives cause hyperactivity in children.	

1. Explain **two** ways of avoiding **each** of the following: (2 marks)

- High blood pressure
- Osteoporosis

2. Explain **two** factors other than diet which can contribute to obesity
(2 marks)

Functional Properties of Foods

Complete the table below:

Eggs - Aeration	
How it works?	What is it used for?
When eggs white is beaten it traps air and forms a foam, making sponges lighter. Eggs hold air in cakes and act as a raising agent.	Meringues, swiss roll, whisked sponges.
Eggs - Coagulation	
How it works?	What is it used for?
	Egg custard, bread and butter pudding, quiche.
Eggs - Binding	
How it works?	What is it used for?
The eggs proteins coagulate when heated and bind or hold combinations of ingredients together.	
Flour - Gelatinisation	
In sauce making, when starch and water are heated, the water is absorbed through the walls of the starch granules, which then swell and burst. This thickens the liquid.	Sauces, soups.
Flour - Dextrinisation	
How it works?	What is it used for?
	Bread, cakes, biscuits,

	toast.
Sugar - Caramelisation	
How it works?	What is it used for?
Sugar helps to colour products, such as the top of cakes, by caramelising in the heat of the oven.	Cakes, tablet, toffee.
Fat - Shortening	
How it works?	What is it used for?
	Pastry, shortbread and biscuit mixtures.
Fat - Aeration: Creaming	
How it works?	What is it used for?
Fat and caster sugar are beaten or creamed together until they form a foam. Air is trapped in the mixture which makes it lighter and helps the cake rise.	Cakes, biscuits.

Factors affecting the finished product

Sugar:

Decreasing sugar in a product:

- gives it less flavour
- gives a paler colour
- prevents cakes from rising

Increasing sugar in a product:

- results in a longer cooking time
- gives some foods a crunchy texture
- can result in the cake sinking in the middle

Fat:

Reducing fat in a product:

- baked items not keeping well
- less flavour in scones/cakes
- pastry being hard/tough

Increasing sugar in a product:

- a greasy flavour and texture
- a richer flavour
- a darker colour

Liquid:

Not adding enough liquid can:

- scones/bread having a heavy texture
- cakes having a dry texture
- shortcrust pastry being easily broken and crumbly

Adding too much liquid can:

- bread having a coarse and open texture
- fruit sinking in a fruit cake
- hard and tough shortcrust pastry

Test your knowledge!

1. Explain **one** function of **each** of the following ingredients in a baked product: (2 marks)

- Flour
- Milk

2. The in-store bakery of a supermarket is developing a new range of cakes. The results of product-testing are as follows:

- Cake A has not risen
- Cake B has a cracked top
- Cake C has pale appearance

Explain why each result may have happened (3 marks)

3. Explain how changing the proportion of ingredients in **each** of the following products could affect the finished result: (3 marks)

- A) Increase the proportion of flour in a sauce.
- B) Increase the proportion of sugar in a sponge.
- C) Increase the proportion of fat in pastry.

Stages of Food Product Development

There are 7 stages of food product development, use your knowledge to complete the following table.

Step	Information
1. Concept Generation	<ul style="list-style-type: none">● Development of new ideas.● Identifying any gaps in the market.● Identifying changes that could be made to existing products.
2. Concept Screening	
3. Prototype Production	
4. Product Testing	
5. First Production Run	

6. Marketing Plan	
7. Product Launch	<ul style="list-style-type: none">● This is an important stage as the product is now on sale.● Market monitoring - sales figures are checked very carefully.

National 5

1. Identify and explain **two** conditions necessary for the growth of bacteria.

2. State **two** points to be considered when reheating food to prevent food poisoning.

3. A catering van has been inspected and the following have been found:

- Raw meat and vegetables being prepared using the same knife.
- Hot food being placed in the refrigerator to cool down.

For **each** of these situations identify **one** potential food hygiene hazard and explain how it could be prevented.

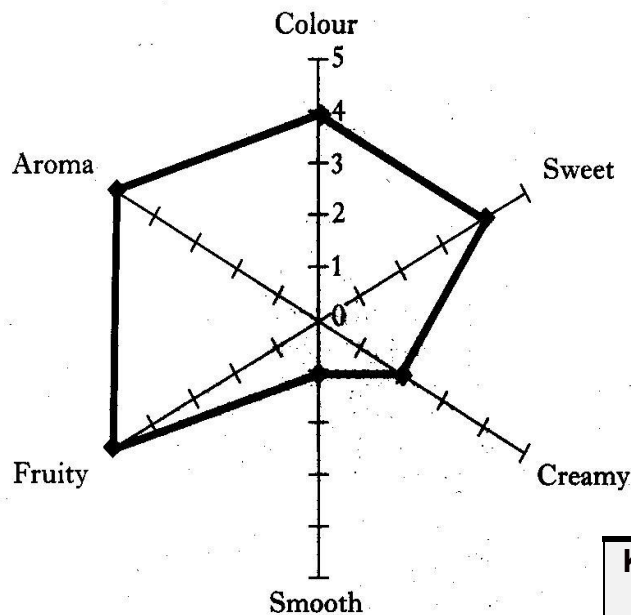
4. Give **two** reasons why a manufacturer would use disassembly.

5. Identify **two** sensory tests the manufacturer could carry out on a new product

Higher - Question Time!

1. The star diagram below shows the results of testing of a new fruit smoothie.

Evaluate the suitability of this fruit smoothie for young children.
(4 marks)



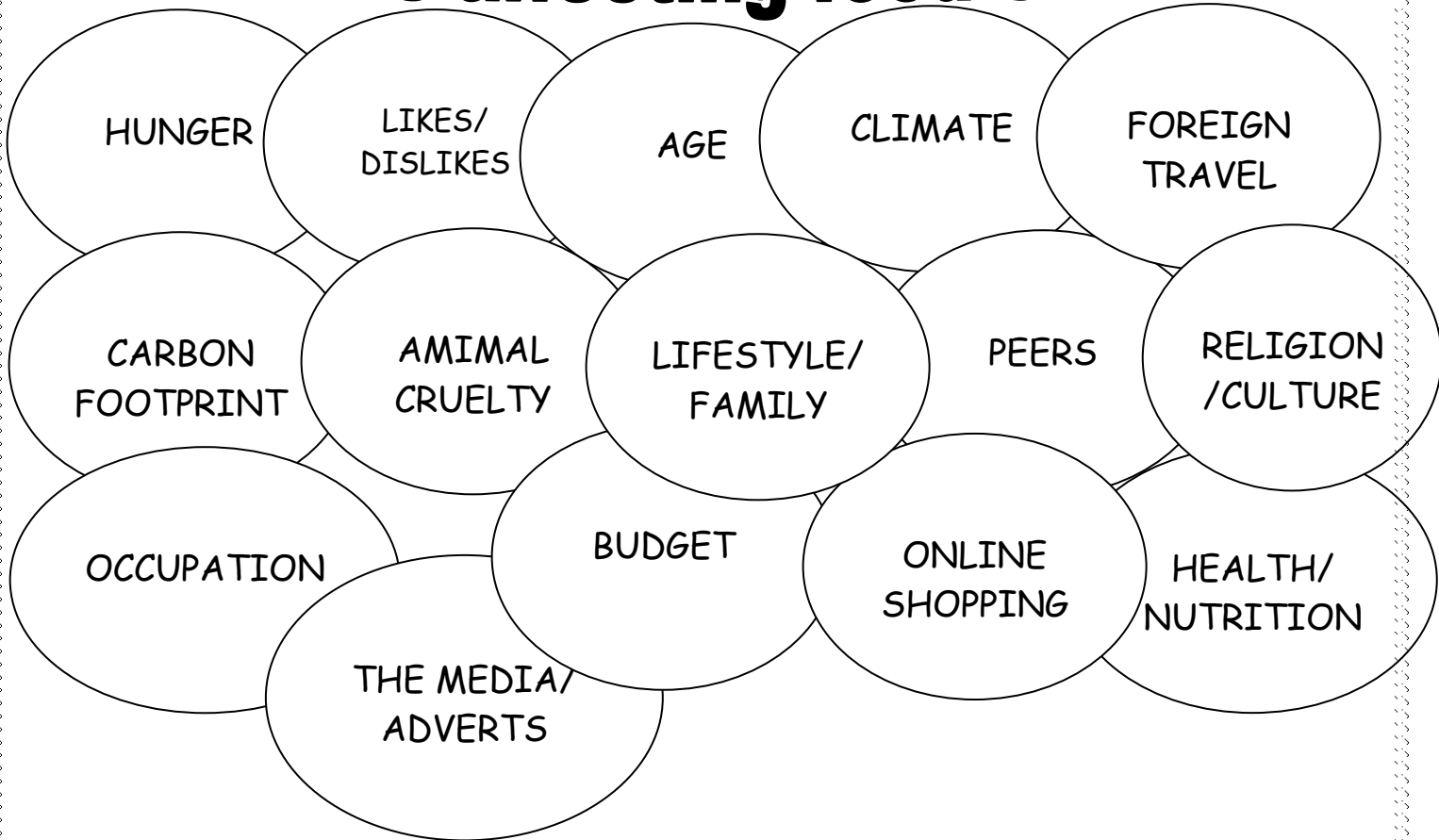
Key: 5 = very high
4 = high
3 = neither high or low
2 = low
1 = very low

2. Explain **three** stages the food manufacturer would use to develop a new fruit smoothie.
(3 marks)

3. Explain **two** ways to prevent food poisoning when cooking food.
(2 marks)

4. Explain why a food manufacturer would carry out market research before developing a new product.
(2 marks)

Factors affecting food choice



1. Explain one **way** each of the following might affect a consumer's choice of food: (2 marks)

- Likes/dislikes
- Animal cruelty

2. A young single male who has a full-time job and often works overtime at weekend wants to do his weekly food shopping online.

Evaluate the suitability of the following method of online shopping for him.

(4 marks - use FOC)

Online Shopping

- Food items arranged in alphabetical order
- Weekly special offers available
- System remembers previous order
- Substitute items sent automatically
- £5 delivery charge
- Morning, afternoon and evening delivery slots
- Delivery available Monday to Saturday

Contemporary Food Issues

Complete the following table, using your knowledge.

Factory Farming		
What is it?	Why consumers may choose it?	Why consumers may not choose it?
A farm which operates like a factory where animals are reared naturally.	Foods produced this way can be cheaper.	Concerns over animal welfare due to the conditions they are kept in.
Farmers' Markets		
What is it?	Why consumers may choose it?	Why consumers may not choose it?
Open air markets where farmers sell fresh locally grown seasonal produce.	Less food miles as the produce is local.	Some foods may not be available, depends on the time of year.
Allotments		
What is it?	Why consumers may choose it?	Why consumers may not choose it?
Small pieces of measured land rented to people usually for the purpose of growing fruit & vegetables.	Cheaper to grow your own than buy from a supermarket.	Lack of knowledge, skills, time or interest in growing their own food.
Organic Produce		
What is it?	Why consumers may choose it?	Why consumers may not choose it?
It is food which has been produced to standards which keep the production more 'natural'.		

Food Miles		
What is it?	How are consumers food choices affected?	
Food miles are the total number of miles your food has traveled from where it is grown to your plate/		
Seasonality		
What is it?	How are consumers food choices affected?	
Food is in season at the time of year when it is grown in the best soil and climate conditions to ensure quality.		
Packaging		
Packaging has a number of functions.		
<ul style="list-style-type: none"> ● Information so consumers can make an informed choice. ● Marketing - packaged in convenient sizes/weights. ● Protection - helps keep the food undamaged while being carried home. 		
Recycling & Pollution		
Some packaging is not environmentally friendly.		
<p>Manufacturers are being encouraged to help protect the environment by cutting down on the amount of packaging used and by using recyclable packaging materials.</p> <p>Biodegradable packaging is preferable as it will easily break down in the soil or the atmosphere.</p>		
Fairtrade		

What is it?	For Fairtrade	Against Fairtrade
The purpose of the Fairtrade system is to improve the wages and working conditions of workers in developing countries who produce the goods.	The quality of foods can be better because Fair Traders consider the environment.	Some shops stock a limited range of Fairtrade products so the consumer has less choice.

1. Evaluate the use of glass bottles for the food industry. (3 marks - use FOC)
2. Explain **two** ways in which Fairtrade products might affect a consumer's choice of food (2 marks).
3. Evaluate the use of seasonal produce for an environmentally aware consumer. (4 marks - use FOC)

Technological Developments

Food Additives (sweeteners, flavourings, colourings, preservatives)	
Advantages	Disadvantages
<ul style="list-style-type: none"> ● Less food wastage, as contamination by bacteria is reduced. ● The appearance, taste and smell of the food is improved. 	<ul style="list-style-type: none"> ● Some types of additives cause hyperactivity in children. ● There are health concerns about long term use of some additives.
Cook-Chill Products	
Advantages	Disadvantages
<ul style="list-style-type: none"> ● Many cook-chill meals can be frozen at home so save on shopping time. 	<ul style="list-style-type: none"> ● Some cook-chill meals may be high in fat, sugar and salt and low in

<ul style="list-style-type: none"> ● There is a wide selection from which to choose. 	<p>NSP.</p> <ul style="list-style-type: none"> ● Cook-chill food must be thoroughly reheated.
UHT Products	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> ● Have a longer shelf life which allows them to be stored for longer. 	<ul style="list-style-type: none"> ● UHT milk can taste different from fresh so some consumers may not like the flavour.
MAP Products	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> ● The use of natural gases appeals more to consumers. ● Shelf life of food is improved as the oxygen content is reduced. 	<ul style="list-style-type: none"> ● The amount of packaging used may be an environmental concern for consumers.
Functional Foods	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> ● May improve health and reduce the risks of certain diseases when taken as part of a balanced diet. ● Allows consumers to take greater control of their health. 	<ul style="list-style-type: none"> ● Would have to be eaten in a fairly large quantity and for a long time to result in any improvement to health.

Developments to meet dietary needs

Sweeteners:

- **Advantage:** They can reduce the sugar and calorie content of the diet.
- **Disadvantage:** Sometimes they can leave an unpleasant aftertaste in the mouth.

Textured Vegetable Protein (TVP):

- **Advantage:** TVP is a very good source of HBV protein.
- **Disadvantage:** Can be lacking in flavour.

Mycoproteins: (Quorn)

- **Advantage:** Low in fat and contains no animal or saturated fats so helps prevent CHD.
- **Advantage:** The texture and nutritional value are not change by freezing or cooking.
- **Disadvantage:** Some product may contain egg white, which may make them insuitable

Tofu

This is made by coagulating or setting soya milk and then pressing the resulting curds into soft white blocks. There are different varieties of tofu, which can be used in savoury and sweet dishes.

Do you know?

1. Evaluate the use of each of the following for the consumer. (4 marks - use FOC)

- Food additives
- Functional foods

2. Technological developments have resulted in an increase in products using Modified Atmosphere Packaging (MAP).

Explain **two** advantages of MAP to the consumer. (2 marks)

3. Explain **two** benefits to the consumer of buying cook-chill foods (2 marks)

4. Evaluate the use of mycoproteins to the consumer (2 marks - use FOC)

Food Labelling

Food labelling can either be:

- **Statutory** - compulsory information that has to be on the label by law.
- **Voluntary** - this information is supplied voluntarily by manufacturers to give consumers a little more information about the product.

The food label **must** by law show the following **statutory** information:

Statutory Information	How this could affect consumers food choices
The name of the food	● Consumers will know exactly what the food is.
A list of ingredients	● The consumer will know exactly all the ingredients in the product and their proportions.
Date marking (use by or best before)	● These give information on how to store the food properly and safely.
Name & address of manufacturer	● May be needed in case of complaint.
Weight or volume	● Helps the consumer to work out value for money and compare products.

Place of origin	<ul style="list-style-type: none"> ● Some consumers may not buy products from certain countries on moral or political grounds.
Storage instructions	<ul style="list-style-type: none"> ● This tells the consumer how and where to store the food to ensure it remains safe to eat and at its best.
Cooking Instructions	<ul style="list-style-type: none"> ● Helps to ensure that foods are correctly prepared and cooked to prevent food poisoning.

Complete the same table for **voluntary** food labeling:

Voluntary Information	How this could affect consumer's food choices?
Nutritional Information	
Guideline Daily Amounts	
Traffic Light Labelling	
Barcodes	

Customer Care	
Vegetarian Labels	
Own-brand labelling	

1. Identify **three** points of information which, by **law**, must be stated on a food label.

Explain the importance of **each** point to the consumer (6 marks)

2. The following labels may be found on food packaging. Give **two** reasons why **each** label is useful to the consumer (4 marks)

A)



B)



3. Explain **three** ways in which food labeling reduces the risk of obesity.

(3 marks)

Organisations that protect the consumer

What are the rights of the consumer?

- Products and services must be of **satisfactory quality, fit for purpose and as described.**

Organisation	How does it protect the consumer?	Any other information
Advertising Standards Authority	<ul style="list-style-type: none"> ● It investigates complaints about food advertisements. ● It monitors food advertisements. 	<p>The type of adverts they deal with:</p> <ul style="list-style-type: none"> ● Magazine/newspaper ● Radio/TV commercials ● TVshopping channels ● Leaflets
Trading Standards	<ul style="list-style-type: none"> ● Factories, shops, pubs and markets for accurate weights and measures in food products and drinks. ● Traders do not falsely describe either by word or in writing any products or services they are selling. 	<p>Where do you find Trading Standards?</p> <ul style="list-style-type: none"> ● Use the internet or look up a phone book for the nearest office.
Which?	<ul style="list-style-type: none"> ● They offer information and advice to help consumers make more informed decisions about food and health related topics. ● They test products, appliances, food services each year and publish the results in 	<p>This is a non-profit organisation that works to make thing better for the consumer.</p>

	their magazine.	
Citizens Advice Bureau (CAB)	If you have a problem, the CAB will give you advice on the next steps to take.	This service provides free, independent and confidential advice to everyone on their rights and responsibilities.
Environmental Health Department	<ul style="list-style-type: none"> ● Investigate consumer complaints of poor hygiene. ● Inspect local food businesses to check that food hygiene regulations are being followed. 	<p>What will the EHD want to know?</p> <p>If the consumer has:</p> <ul style="list-style-type: none"> ● Bought or been served food that was unfit to eat, has been damaged by pests or contained items it shouldn't have.
Food Standards Agency	<ul style="list-style-type: none"> ● Give advice about the nutrient content of foods and dietary issues. ● Help people to eat more healthily by providing information on healthy eating matters. ● Control genetically modified food. 	This is an independent government department responsible for food safety and hygiene across the UK. The agency regularly consults with consumers to understand their views and concerns about food-related issues.

1. Explain **two** reasons why each of the following would inspect food premises:

- Environmental Health Officer (2 marks)
- Trading Standards Officer (2 marks)

2. Describe **one** way the Advertising Standards Authority (ASA) protects consumers' interests (1 mark)

3. Explain **one** way the Citizens Advice Bureau protects consumers' interests (2 marks)

4. Describe **two** ways the Food Standards Agency protects consumers' interests (2 marks)

Higher DRV Questions

a) The Nursery aims to meet the nutritional needs of the toddlers.

Table 1 shows the Dietary Reference Values for 1-3 year old toddlers.

Dietary Reference Values for Toddlers aged 1-3				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Protein (g)	Vitamin C (mg)	Calcium (mg)	Fibre (g)
7.96	25	40	160	18

The food intake of a 1-3 year old toddler includes the following lunch:

Lunch
Cream of tomato soup
Ham sandwich with white bread
Strawberry yoghurt

Table 2 below shows the dietary analysis of the toddlers intake, including the lunch.

Dietary Analysis of the 2 year old toddlers food intake				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Protein (g)	Vitamin C (mg)	Calcium (mg)	Fibre (g)
8.24	22	44	210	13

Analyse **three different** aspects of the toddler's diet, in relation to the Dietary Reference Values (DRVs) for 1-3 year old toddlers. **(9 marks)**

For each aspect you should include:

- A comment on the impact of their diet in relation to the Dietary Reference Values
- A potential consequence for their health
- A conclusion about the contribution made by their lunch choice to her their food intake

The Care Home aims to meet the nutritional needs of the elderly residents.

Table 1 below shows the Dietary Reference Values for 65-74 year old females. (9 marks)

Dietary Reference Values for females aged 65-74				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Vitamin B1 (mg)	Vitamin C (mg)	Sodium (mg)	Fibre (mg)
7.96	0.8	40	1.6	18

The food intake for a 70 year old female includes the following lunch:

<p>Lunch Pasta with smoked bacon and cream Tomato, red onion and green pepper salad</p>
--

Table 2 below shows the dietary analysis of her food intake, including the lunch.

Dietary analysis of the 70 year old female's food intake				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Vitamin B1 (mg)	Vitamin C (mg)	Sodium (mg)	Fibre (mg)

8.24	0.5	44	2.1	13
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Analyse **three different** aspects of the female's diet, in relation to the Dietary Reference Values (DRVs) for 65-74 year-old females.

For each aspect you should include:

- a comment on the impact of her diet in relation to the Dietary Reference Values
- a potential consequence for her health
- a conclusion about the contribution made by her lunch choice to her food intake.

A woman has recently found out she is expecting a baby. She wants to ensure she is meeting her needs as a pregnant woman.

Table 1 below shows the Dietary Reference Values for pregnant women.
(9 marks)

Dietary Reference Values for pregnant women				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Protein (g)	Folic Acid (mg)	Vitamin A (mg)	Iron (mg)
8.96	51	300	700	14.8

The food intake for a pregnant woman includes the following breakfast:

<p>Breakfast Scrambled eggs, grilled tomato, steak sausages and white toast A glass of fresh orange juice</p>
--

Table 2 below shows the dietary analysis of her food intake, including the lunch.

Dietary analysis of the pregnant woman's intake				
Estimated average requirements	Reference Nutrient Intakes			
Energy (MJ)	Protein (g)	Folic Acid (mg)	Vitamin A (mg)	Iron (mg)
7.35	60	200	675	15.6

Analyse **three different** aspects of the female's diet, in relation to the Dietary Reference Values (DRVs) for pregnant women.

For each aspect you should include:

- a comment on the impact of her diet in relation to the Dietary Reference Values
- a potential consequence for her health
- a conclusion about the contribution made by her lunch choice to her food intake.

National 5 DRV Questions

1. A 51 year old office worker works long hours. He is overweight and has high blood pressure and wants to improve his diet.

Dietary Reference Values for Males aged 50+ years					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Vitamin B complex (mg)	Iron (mg)	Sodium (g)	Fibre (g)
10.60	53.3	1.4	8.7	1.6	18

The table below shows the dietary analysis of typical day's meals for the man.

Dietary Analysis of his typical day's meal					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Vitamin B complex (mg)	Iron (mg)	Sodium (g)	Fibre (g)
13.20	55.0	1.6	4.8	2.1	12

Taking account of the Dietary Reference Values (DRVs) for males aged 50 plus, evaluate the suitability of his typical day's meal. (6 marks)

1. Max, a 34-year-old long-distance lorry driver, is slightly overweight and has a history of high blood pressure in his family. He eats most of his meals at a roadside café and spends his leisure time playing pool.

Dietary Reference Values for Males aged 19-50 years					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Sodium (mg)	Vitamin A (Ug)	Iron (mg)	Fibre (g)
11.5	55.5	1600	700	8.7	18

Dietary Analysis of his typical day's meals					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Sodium (mg)	Vitamin A (Ug)	Iron (mg)	Fibre (g)
9.5	59.9	1641	539	5.43	15

Taking account of the Dietary Reference Values (DRVs) for this age group, **evaluate** the suitability of this day's nutritional intake for Max. (6 marks)

1. Susan is a 32-year-old vegan. She is five months pregnant. She has had to give up work and spends a lot of time reading.

Dietary Reference Values for Females 19-50 years					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Calcium (mg)	Vitamin C (mg)	Iron (mg)	Fibre (g)
1.94	45	700	40	14.8	18

Dietary Analysis of her typical day's intake					
Estimated average requirements	Reference Nutrient Intakes				Guidelines daily amount
Energy (MJ)	Protein (g)	Calcium (mg)	Vitamin C (mg)	Iron (mg)	Fibre (g)
2.02	28	560	44	9.8	21

Taking account of the Dietary Reference Values (DRVs) for this age group, **evaluate** the suitability of her typical day's meals. (6 marks)