Topic 1: Getting Ready to Cook

Personal Hygiene – before starting to cook, you need to get yourself ready:

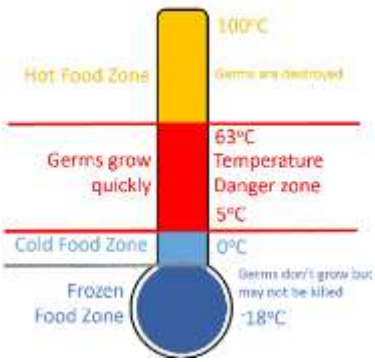
1. Taking off outdoor clothing (coats, blazers, jumpers and ties) and putting on a clean apron
2. Tying up long hair
3. Cleaning hands with hot soapy water

Good personal hygiene will stop you cross-contaminating food with the harmful bacteria that causes food poisoning. When preparing food you should not be eating your ingredients or licking your fingers.

Food Safety – some foods are 'high risk' because, if they are not stored, prepared and cooked properly, there is a high risk of them causing food poisoning. Food poisoning is caused by harmful bacteria (pathogens) which produce toxins when they reproduce. Common pathogens include salmonella (found in raw eggs), campylobacter (found in raw chicken) and E. Coli (found in uncooked meat).

Food Poisoning – when you eat food contaminated by bacteria the consequences can be serious. Symptoms include upset stomachs, headaches and dizziness. Bacteria needs food, moisture, warmth and time to reproduce. To prevent bacterial growth you need to use temperature control - keeping foods out of the 'danger zone' (5-63C) and following the 4Cs:

1. **Chilling** – when food is kept cold in the fridge (0-5C) bacterial growth slows down. Freezing food (-18C) stops growth but the bacteria will start to grow again when food is defrosted
2. **Cleaning** – removes bacteria from hands and work surfaces in the kitchen
3. **Cooking** – heating food to 75C+ kills bacteria. Once cooked, food should be kept warm above 63C
4. **Cross-contamination** – stops bacteria from spreading from high risk foods to other foods



Using the correct chopping board is one important way of avoiding cross-contamination. You should also clean your hands after touching raw meat and fish.

Topic 2: Healthy Eating

We need food for growth and repair of cells, energy, warmth, protection from illnesses and keep our bodies working properly.

Food is made of 5 nutrients. Each nutrient does a different job in the body. Eating a balanced diet means we get all the nutrients we need for a long and healthy life.

The amount of energy we need depends upon our age, gender, activity level and body size. If we eat more food than we need, and don't use it up by exercising, any energy that's left is turned into fat and we put on weight. If we eat less food than we need, the fat stores are used up and we may end up losing weight.

The Eatwell Guide shows how eating different foods can make a healthy and balanced diet. It divides up different food groups and shows how much of each group is needed. Extra information about the amount of water we need and the labels on food packaging is also provided.

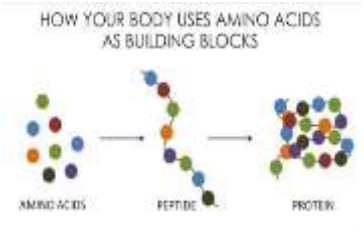
There are also eight guidelines for a healthy lifestyle. They are:

1. Eating at least 5 portions of fruit and vegetables every day
2. Eating higher fibre starchy foods like potatoes, bread, rice or pasta
3. Eating less food high in fats and sugar
4. Eating less salt
5. Eating more fish – including one portion of oily fish
6. Drinking plenty of fluids (at least 6 to 8 glasses a day)
7. Being more active
8. Eating breakfast every day

Topic 3: Protein – Meat, Poultry and Fish

Protein is one of the nutrients essential for life. It is needed for the growth and repair of our cells and for energy. Some groups of people need more protein than others, for example, children and pregnant women need more protein for growth.

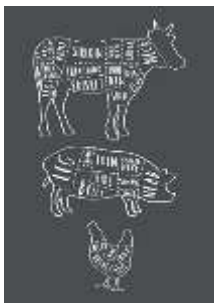
Each protein molecule is made up of a combination of 20 amino acids. It is essential that we include certain amino acids in our diet because our bodies cannot make them. There are 8 essential amino acids for adults and 10 essential amino acids for children (the extra 2 are needed for growth).



Sources of protein that contain all of the essential amino acids are called High Biological Value (HBV) or complete proteins. Sources of protein that contain some of the essential amino acids are called Low Biological Value (LBV) or incomplete proteins.

HBV proteins are mainly from animal sources. LBV proteins are mainly from plant sources such as beans, nuts and seeds. When combining LBV proteins you can consume all the essential amino acids (LBV + LBV = HBV). An example of this is beans on toast. This is called protein complementation.

Meat is the muscle tissue of animals and it is high in protein, iron and B group vitamins. The main types of meat eaten in the UK are beef, pork and lamb. Meat from younger animals is tender and cooks quickly, meat from older animals is tougher and needs marinating or slow, moist cooking. Choose lean cuts of meat and mince, and eat less red and processed meat like bacon, ham and sausages.



Poultry are birds that are reared for eating. Popular poultry includes chicken, duck, turkey and goose. Poultry is high in protein and B vitamins and is lower in fat than meat. Poultry needs to be cooked thoroughly because it is a high risk food that can cause food poisoning.

Fish can be divided into three types, white, oily and shellfish. Fish is high in protein and you should aim for at least 2 portions of fish every week, 1 of which should be oily, such as salmon or mackerel, because it is high in vitamins A and D.

Topic 4: Protein – Dairy and Eggs

Milk and dairy products, such as cheese and yoghurt, are great sources of protein and calcium. They can form part of a healthy, balanced diet, especially if you go for lower fat and lower sugar options.

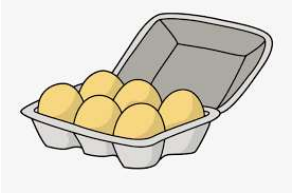
Milk is supplied by dairy cows but it is also available from sheep and goats. You can look out for the Red Tractor logo on dairy foods. This is a quality assurance scheme that informs consumers that milk has been produced to high standards by UK farms.

The milk you buy in the shops is heat-treated to 72C to destroy bacteria. This process is called pasteurisation. Fresh milk should be stored in the fridge and will last 5 days. Longer life milk is also available. Ultra-heat treatment milk (UHT) is heated to 135C and can be stored at room temperature for about 6 months.

Eggs are nutritious – they're a source of protein, vitamin D, vitamin A, vitamin B2, vitamin B12, folate and iodine. Eggs can be enjoyed as part of a healthy, balanced diet, but it's best to cook them without adding salt or fat, for example boiled or poached.

Eggs are produced by laying hens. Hens can be housed in cages or barns to lay their eggs or they can be 'free range' and have access to the outdoors. The British Lion Code of Practice ensures that eggs are produced to high standards – look out for eggs that have the Red Lion stamp.

Eggs are very versatile and can be used to make a wide range of sweet and savoury dishes including cakes, meringues and custard or savoury tarts, omelettes and Yorkshire puddings.



This is because the protein in eggs can denature (change shape) and coagulate (set). Proteins denature when heated, beaten or exposed to acidic foods such as lemon juice. Egg white becomes solid and turns white as it coagulates at 60C and egg yolk becomes solid at 70C.

Topic 5: Fats and Oils

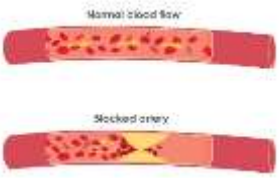
A small amount of fat is an essential part of a healthy, balanced diet. Fat is a source of essential fatty acids, which the body cannot make itself. It also provides energy and is converted into body fat to keep us warm and protect our vital organs.

Fat helps the body absorb vitamin A, vitamin D and vitamin E. These vitamins are fat-soluble, meaning they can only be absorbed with the help of fats.

The main types of fat found in food are:

- saturated fats from animal sources, including meat and dairy products, as well as some plant foods, like palm oil and coconut oil
- unsaturated fats found primarily in oils from plants and fish

As part of a healthy diet, you should try to cut down on foods and drinks high in saturated fats and replace some of them with unsaturated fats, for example using a low-fat spread instead of butter or olive oil instead of lard.



There's good evidence that replacing saturated fats with some unsaturated fats can help lower cholesterol which is a major cause of heart disease as it can block up your arteries. Too much fat in the diet can also lead to obesity and Type 2 diabetes.

Fats are used to spread on bread, as a cooking medium and for shortening and aeration. Deep-fat and shallow frying are popular ways of cooking food that add colour, flavour and texture to food - but it also adds unnecessary calories.

Shortening is when you add fat to biscuits or pastry to give them a crumbly texture. When fat is rubbed into the flour using the fingertips, it surrounds the flour particles with a waterproof coating – fats with high levels of plasticity, for example butter, are best for this. This stops water becoming absorbed and gluten being formed (the protein in flour). Gluten makes dough stretchy and baked products chewy and is ideal in bread making but not desirable in pastry which should be melt-in-the-mouth.

Fat also helps to trap air in a mixture to give a light, springy texture (aeration). In cake making, fat and sugar are creamed together and bubbles of air enclosed in the mixture to make a stable foam.

Topic 6: Adapting Recipes

For some people, following the Eatwell Guide is more challenging because they cannot, or choose not to, eat some of the food groups.

People with allergies and intolerances are not able to eat some foods because they cause severe reactions or unpleasant symptoms. Common food allergens include fish, nuts and sesame seeds. People with severe allergies should avoid all traces of these food as they can go into anaphylactic shock which can be very serious.

Gluten intolerance means that people need to find alternatives to some starchy foods like bread and pasta. Gluten-free flour is now available in most supermarkets and ready-made gluten-free products are also easier to find in shops.

There are also calcium-fortified dairy alternatives like soya milks, soya yoghurts and soya cheeses which can make good alternatives to dairy products for people with lactose intolerance.

Other people choose not to eat animal products because they are vegetarians or vegans. They do not agree that animals should be slaughtered for food or kept for human food production. There are many high protein alternatives for people who do not eat animal products including Quorn, quinoa and foods made from soya.

Choosing to eat only organic, Fairtrade or free range products is also becoming more popular. Organic foods are produced without any chemicals. Fairtrade foods are grown by people who receive a good deal for their produce. Free range farming is when animals are allowed to roam outside during the day rather than being kept indoors in large numbers (intensive farming).

People also adapt recipes to take account of their personal preferences (their likes and dislikes) or their religion, to make them cheaper, to make them healthier or to add variety to their diet.