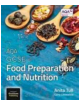
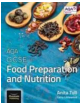
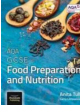
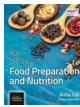
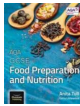
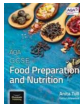




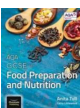
# AQA - Food preparation and Nutrition

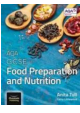
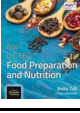
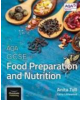
Written Paper - 50% of GCSE - 1h 45mins

## Section 1: Food, nutrition and health

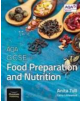
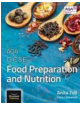
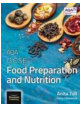
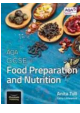
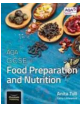


Macronutrients	Where to find in textbook	Red	Amber	Green
<b>Protein</b> <ul style="list-style-type: none"> <li>low and high biological value proteins</li> <li>protein complementation</li> <li>protein alternatives</li> </ul>	 p2-9			
<b>Fats</b> <ul style="list-style-type: none"> <li>saturated fats</li> <li>unsaturated fats (monounsaturated and polyunsaturated)</li> </ul>	 p10-15			
<b>Carbohydrates</b> <ul style="list-style-type: none"> <li>starch (polysaccharides)</li> <li>sugars (monosaccharides/disaccharides)</li> <li>dietary fibre.</li> </ul>	 p16-21			

Micronutrients		Red	Amber	Green
<b>Fat soluble vitamins</b> <ul style="list-style-type: none"> <li>vitamin A</li> <li>vitamin D</li> <li>vitamin E</li> <li>vitamin K</li> </ul>	 p22-23			
<b>Water soluble vitamins</b> <ul style="list-style-type: none"> <li>B group – B1 (thiamin), B2 (riboflavin), B3 (niacin), folic acid, B12</li> <li>vitamin C (ascorbic acid)</li> <li>loss of water soluble vitamins when cooking (B group and Vitamin C)</li> </ul>	 p24 - 25			
<b>Antioxidant functions of vitamins</b> <ul style="list-style-type: none"> <li>The role of antioxidants in protecting body cells from damage (A, C, E)</li> </ul>	 p27			
<b>Minerals</b> <ul style="list-style-type: none"> <li>Calcium</li> <li>Iron</li> <li>Sodium (salt)</li> <li>Fluoride</li> <li>Iodine</li> <li>Phosphorus.</li> </ul>	 p30-35			
<b>Water</b> <ul style="list-style-type: none"> <li>The importance of hydration and the functions water in the diet.</li> <li>how water is lost from the body</li> <li>how much water/fluid is needed each day</li> </ul>	 p36-37			

Nutritional needs and health		Red	Amber	Green
<b>Making informed choices for a varied and balanced diet</b> <ul style="list-style-type: none"> <li>the current guidelines for a healthy diet</li> <li>portion size and costing when meal planning</li> <li>how peoples' nutritional needs change and how to plan a balanced diet for different life stages</li> <li>how to plan a balanced meal for specific dietary groups</li> <li>how to maintain a healthy body weight throughout life.</li> </ul>	 p38-57			

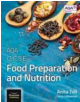
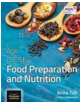
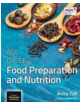
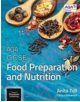
<p><b>Energy needs</b></p> <ul style="list-style-type: none"> <li>the basal metabolic rate (BMR) and physical activity level (PAL) and their importance in determining energy requirements</li> <li>the recommended percentage of energy intake provided by protein, fat and carbohydrates (starch and sugar)</li> <li>factors which affect the BMR, such as age, gender and PAL. Their importance in achieving energy balance</li> </ul>	 <p>p58-62</p>	Red	Amber	Green
<p><b>How to carry out nutritional analysis</b></p> <ul style="list-style-type: none"> <li>How to plan and modify recipes, meals and diets to reflect the nutritional guidelines for a healthy diet.</li> </ul>	 <p>p63-69</p>			
<p><b>Diet, nutrition and health</b></p> <ul style="list-style-type: none"> <li>how diet can affect health and how nutritional needs change in relation to:</li> <li>Obesity</li> <li>cardiovascular health (coronary heart disease (CHD) and high blood pressure)</li> <li>bone health (rickets and osteoporosis)</li> <li>dental health</li> <li>iron deficiency anaemia</li> <li>Type 2 diabetes</li> </ul>	 <p>pg70-77</p>			

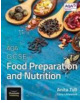
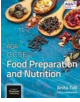
## 2. Food science

Cooking of food and heat transfer		Red	Amber	Green
<p><b>Why food is cooked and how heat is transferred to food</b></p> <ul style="list-style-type: none"> <li>the reasons why food is cooked</li> <li>how preparation and cooking affect the appearance, colour, flavour, texture, smell and overall palatability of food</li> <li>how heat is transferred to food through: conduction, convection, radiation.</li> </ul>	 <p>p78-89</p>	Red	Amber	Green
<p><b>Selecting appropriate cooking methods</b></p> <ul style="list-style-type: none"> <li>how preparation and cooking affect the appearance, colour, flavour, texture, smell and overall palatability of food</li> <li>Water based, fat based, dry methods</li> </ul>	 <p>p90-104</p>			
<p><b>Proteins</b></p> <ul style="list-style-type: none"> <li>protein denaturation</li> <li>protein coagulation</li> <li>gluten formation</li> <li>foam formation.</li> </ul>	 <p>p105-115</p>			
<p><b>Carbohydrates</b></p> <ul style="list-style-type: none"> <li>Gelatinisation</li> <li>Dextrinisation</li> <li>Caramelisation</li> </ul>	 <p>p116-125</p>			
<p><b>Fats and oils</b></p> <ul style="list-style-type: none"> <li>Shortening</li> <li>Aeration</li> <li>Plasticity</li> <li>Emulsification</li> </ul>	 <p>p126-139</p>			
<p><b>Fruit and Vegetables</b></p> <ul style="list-style-type: none"> <li>the scientific principles underlying:</li> <li>enzymic browning</li> <li>oxidation</li> </ul>	 <p>p162-163</p>			
<p><b>Raising agents</b></p> <ul style="list-style-type: none"> <li>chemical (baking powder, bicarbonate of soda, self raising flours which produce carbon dioxide)</li> </ul>	 <p>p140-157</p>			

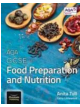
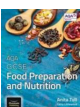
<ul style="list-style-type: none"> <li>mechanical (whisking, beating, folding, sieving, creaming and rubbing in – all incorporate air in the mixture)</li> <li>steam is produced when the water in any moist mixture reaches boiling point</li> <li>biological (yeast).</li> </ul>				
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## 2. Food safety

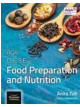
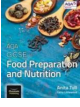
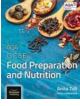
Food spoilage and contamination		Red	Amber	Green
<b>Microorganisms and enzymes</b> <ul style="list-style-type: none"> <li>the growth conditions for microorganisms and enzymes and the control of food spoilage</li> <li>bacteria, yeasts and moulds are microorganisms</li> <li>high risk foods</li> <li>enzymes are biological catalysts usually made from protein</li> </ul>	 <p>p158-160</p>			
<b>The signs of food spoilage</b> <ul style="list-style-type: none"> <li>enzymic action: ripening of bananas, browning of some fruits</li> <li>mould growth: eg on bread and cheese. Recognise the signs of mould growth on foods</li> <li>yeast action on fruits eg grapes, strawberries and tomatoes.</li> </ul>	 <p>p161-164</p>			
<b>Microorganisms in food production</b> <ul style="list-style-type: none"> <li>moulds in the production of blue cheese</li> <li>yeasts to raise bread</li> <li>bacteria in yoghurt and cheese production</li> </ul>	 <p>p165-170</p>			
<b>Bacterial contamination</b> <ul style="list-style-type: none"> <li>the different sources of bacterial contamination</li> <li>the main types of bacteria which cause food poisoning</li> <li>the main sources and methods of control of different food poisoning bacteria types</li> <li>the general symptoms of food poisoning</li> </ul>	 <p>p171-184</p>			

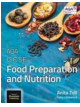
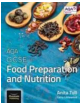
Principles of food safety		Red	Amber	Green
<b>Buying and storing food</b> <ul style="list-style-type: none"> <li>temperature control: freezing, chilling, danger zone, cooking, reheating, ambient storage</li> <li>date marks: 'best before' and 'use by' dates</li> <li>covering foods.</li> </ul>	 <p>p185-191</p>			
<b>Preparing, cooking and serving food</b> <ul style="list-style-type: none"> <li>personal hygiene</li> <li>clean work area</li> <li>separate raw and cooked foods and use of separate utensils</li> <li>correct cooking times</li> <li>appropriate temperature control including: defrosting and reheating</li> <li>appropriate care with high risk foods</li> <li>correct use of food temperature probes.</li> </ul>	 <p>p192-201</p>			

### 3. Food Choice

Factors affecting food choice		Red	Amber	Green
<p><b>Factors which influence food choice</b></p> <ul style="list-style-type: none"> <li>To know and understand factors which may influence food choice</li> </ul>	 <p>p202-210</p>			
<p><b>Food choices</b></p> <ul style="list-style-type: none"> <li>food choice linked to the following religions and cultures: Buddhism, Christianity, Hinduism, Islam, Judaism, Rastafarianism and Sikhism</li> <li>food choice linked to the following ethical and moral beliefs: animal welfare, fairtrade, local produce, organic, Genetically Modified (GM) foods</li> <li>food choice linked to food intolerances (gluten and lactose) and the following allergies: nuts, egg, milk, wheat, fish and shellfish</li> </ul>	 <p>p211-219</p>			
<p><b>Food labelling and marketing influences</b></p> <ul style="list-style-type: none"> <li>How information about food available to the consumer, including labelling and marketing, influences food choice.</li> <li>mandatory information included on food packaging in accordance with current European Union and Food Standards Agency (FSA) legislation</li> <li>non-mandatory information: provenance, serving suggestions</li> <li>how to interpret nutritional labelling</li> <li>how food marketing can influence food choice eg buy one get one free, special offers, meal deals, media influences, advertising, point of sales marketing</li> </ul>	 <p>p220-236</p>			
<p><b>British and international cuisines</b></p> <ul style="list-style-type: none"> <li>food products from British tradition and two different cuisines:</li> <li>distinctive features and characteristics of cooking</li> <li>equipment and cooking methods used</li> <li>eating patterns</li> <li>presentation styles</li> <li>traditional and modern variations of recipes</li> </ul>	 <p>p237-246</p>			
<p><b>Sensory evaluation</b></p> <ul style="list-style-type: none"> <li>sensory testing methods</li> <li>how taste receptors and olfactory systems work when tasting food</li> <li>importance of senses when making food choices: sight, taste, touch and aroma</li> <li>preference tests: paired preference, hedonic</li> <li>discrimination tests: triangle</li> <li>grading tests: ranking, rating and profiling</li> <li>how to set up a taste panel</li> <li>controlled conditions required for sensory testing</li> <li>evaluating how senses guide</li> <li>evaluating a wide range of ingredients and foods from Britain and other countries</li> <li>how to test sensory qualities of a wide range of foods and combinations.</li> </ul>	 <p>p247-254</p>			

## 4. Food provenance

Environmental impact and sustainability of food		Red	Amber	Green
<p><b>Food Sources</b></p> <ul style="list-style-type: none"> <li>grown ingredients: fruits, vegetables and cereals</li> <li>reared ingredients: meat and poultry</li> <li>caught ingredients: fish and understanding of:</li> <li>organic and conventional farming</li> <li>free range production</li> <li>intensive farming</li> <li>sustainable fishing</li> <li>advantages and disadvantages of local produced foods, seasonal foods and Genetically Modified (GM) foods</li> </ul>	 <p>p255-262</p>			
<p><b>Food and the environment</b></p> <ul style="list-style-type: none"> <li>Environmental issues associated with food.</li> <li>seasonal foods</li> <li>sustainability eg fish farming</li> <li>Transportation</li> <li>organic foods</li> <li>the reasons for buying locally produced food</li> <li>food waste in the home/food production/retailers</li> <li>environment issues related to packaging</li> <li>carbon footprint.</li> </ul>	 <p>p263- 268</p>			
<p><b>Sustainability of food</b></p> <ul style="list-style-type: none"> <li>The impact of food and food security on local and global markets and communities.</li> <li>an awareness of:</li> <li>climate change</li> <li>global warming</li> <li>sustainability of food sources</li> <li>insufficient land for growing food, availability of food, problems of drought and flooding</li> <li>Fairtrade</li> <li>Genetically Modified (GM) foods</li> <li>food waste.</li> </ul>	 <p>p269-273</p>			

Food processing and production		Red	Amber	Green
<p><b>Food production</b></p> <ul style="list-style-type: none"> <li>Primary processing related to the: rearing, fishing, growing, harvesting and cleaning of the raw food material (milling of wheat to flour, heat treatment of milk, pasteurised, UHT, sterilised and micro-filtered milk)</li> <li>Secondary processing related to: how the raw primary processed ingredients are processed to produce a food product (flour into bread and/or pasta, milk into cheese and yoghurt, fruit into jams)</li> <li>Loss of vitamins through heating and drying</li> <li>The effect of heating and drying on the sensory characteristics of milk</li> </ul>	 <p>p274-283</p>			
<p><b>Technological developments associated with better health and food production</b></p> <ul style="list-style-type: none"> <li>Technological developments to support better health and food production including fortification and modified foods with health benefits and the efficacy of these.</li> <li>Cholesterol lowering spreads, fortified foods: vitamins and minerals added to foods, use of additives: colourings, emulsifiers and stabilisers, flavourings, and preservatives</li> </ul>	 <p>p284-289</p>			

