


Subject: GCSE Food Nutrition**Year: 10**


Autumn HT 1:	Autumn HT 2	Spring HT 1	Spring HT 2	Summer HT 1	Summer HT 2
Topic 1: Food commodities	Topic 2: The science of food	Topic 3: Principles of nutrition	Topic 4: Diet and good health	Topic 5: Where food comes from	
<p><u>Commodities</u></p> <ul style="list-style-type: none"> •bread, cereals, flour, oats, rice, potatoes, pasta •fruit and vegetables (fresh, frozen, dried, canned and juiced) •milk, cheese and yoghurt •meat, fish, poultry, eggs •soya, tofu, beans, nuts, seeds •butter, oils, margarine, sugar and syrup •the value of the commodity within in the diet, nutrition 	<p><u>The effects of cooking on food</u></p> <ul style="list-style-type: none"> •why food is cooked, to include, digestion, taste, texture, appearance and to avoid food contamination •.how heat is transferred to food through conduction, convection and radiation and how and why the production of some dishes rely on more than one method of heat transference 	<p><u>Macronutrients and micronutrients</u></p> <p>the definition of macronutrients and micronutrients in relation to human nutrition</p> <ul style="list-style-type: none"> •the role of macronutrients and micronutrients in human <p>Nutrition vitamins and minerals</p> <p><u>Macronutrients</u> humans consume in the largest quantities</p>	<p><u>Energy requirements of individuals</u></p> <p><u>EARs</u></p> <ul style="list-style-type: none"> • the recommended daily intake (RDI) and the percentage energy values of protein, fat and carbohydrates: monosaccharide's (sugars) polysaccharides (starch) and non-soluble polysaccharides (dietary fibre) vitamins and minerals, for: 	<p><u>Food Provenance</u></p> <p><u>Multicultural foods</u></p> <ul style="list-style-type: none"> • food origins to include where and how foods are grown, reared, or caught • food miles, impact on the carbon footprint, buying foods locally • impact of packaging on the environment 	<p><u>NEA 1 practice science investigation</u></p> <p>Recap on science and effects on cooking in food Mini Science project – students will explore a science practice assessment, they will be given a design brief and investigate working characteristics of ingredients through testing to produce an investigation task</p>


<ul style="list-style-type: none"> •features and characteristics of each commodity with reference to their correct storage to avoid food contamination •the working characteristics of each commodity, with reference to the skill – how to prepare cook them. when subjected to dry/moist methods of cooking •the origins of each commodity •experiment with the commodity to explore physical and chemical changes that occur as a result of given actions- practical lessons – dextrinization- caramelisation 	<ul style="list-style-type: none"> •. how selection of appropriate cooking methods can: <ul style="list-style-type: none"> (i) conserve or modify nutritive value, e.g. steaming of green vegetables (ii) improve palatability e.g. physical denaturation of protein • the positive use of micro-organisms such as bacteria in dairy products: cheese, yoghurt; meat products: salami, chorizo and fermentation of sugar in drinks • the working characteristics, functional and chemical properties of ingredients to 	<p>(i) protein: to include essential amino-acids in relation to nutritional requirements (histidine, isoleucine, lysine, leucine, methionine, phenylalanine, threonine, tryptophan, valine) and non-essential (alanine, asparagine, aspartic acid glutamic acid)</p> <p>(ii) fats, oils and lipids: saturated fats, monounsaturated fats, polyunsaturated fats and essential fatty acids</p> <p>(iii) carbohydrates: monosaccharides, disaccharides and polysaccharides</p>	<p>(i) a range of life-stages: toddlers, teenagers, early, middle and late adulthood</p> <p>(ii) individuals with specific dietary needs or nutritional deficiencies to include coeliac disease; diabetes (type 2 diabetes only to be considered), dental caries; iron deficiency anaemia; obesity; cardiovascular disease (CVD); calcium deficiencies to include bone health; nut or lactose (dairy) intolerances</p> <p>(iii) individuals with specific lifestyle needs to include</p>	<p>versus the value of packaging</p> <ul style="list-style-type: none"> • sustainability of food: the impact of food waste on the environment, local, global markets and communities, effect of food poverty • food security: access to safe sufficient food for all (World Health) <p>the distinctive features, characteristics and eating patterns of different cuisines. Cuisine is defined as a style characteristic of a particular country or region, where the cuisine has</p>	<p>Research</p> <p>Plan of action</p> <p>Hypothesis</p> <p>Produce testing ideas and charts</p> <p>Practical testing</p> <p>Investigate and record outcomes</p> <p>Evaluate and conclude ideas</p> <p>Revisit hypothesis and predictions, did they work</p>
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<ul style="list-style-type: none"> • consider complementary actions of a commodity in a recipe – nutrition of commodities • prepare and cook dishes using the commodities 	<p>achieve a particular result:</p> <p>(i) carbohydrates – gelatinisation, dextrinization</p> <p>(ii) fats/oils – shortening, aeration, plasticity and emulsification</p> <p>(iii) protein – coagulation, foam formation, gluten formation, denaturation (physical, heat and acid)</p> <p>(iv) fruit/vegetables – enzymic browning, oxidisation</p> <ul style="list-style-type: none"> • reasons why particular results may not always be achieved, e.g. a sponge cake sinks, a sauce goes lumpy • how to remedy situations when desired results 	<p>Micronutrients are required by humans throughout life in small quantities to facilitate a range of physiological functions</p> <p>(i) fat soluble vitamins: vitamin A, and vitamin D</p> <p>water soluble vitamins: B</p> <p>vitamins: B1 thiamin B2 riboflavin, B3 niacin, B12 cobalamin and B9 folic acid (folate) and vitamin C</p> <p>(ii) minerals: calcium, iron, potassium and magnesium</p> <p>(iii) trace elements, to include: iodine and fluoride</p>	<p>vegetarians: lacto-ovo, lacto, vegan, and those with religious beliefs that affect choice of diet, to include Hindu, Muslim, Jewish</p> <ul style="list-style-type: none"> • how nutrients work together in the body, e.g. complementary actions • basal metabolic rate (BMR) and physical activity level (PAL) and their importance in determining energy requirements <p>Learners must have a sound awareness of other common dietary issues including coronary heart disease (CHD),</p>	<p>developed historically using distinctive ingredients, specific preparation and cooking methods or equipment, and Presentation or serving techniques.</p> <ul style="list-style-type: none"> • traditional and modern variations of recipes to include variations of recipes to include changing use of food commodities, changes to nutritional guidelines, and use of modern cooking methods and or equipment • meal structures: presentation of menus 	
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	<p>may not be achieved in the first instance</p> <p><u>Food spoilage</u></p> <p>how to store foods correctly: refrigeration/freezing, dry/cold storage, appropriate packaging/covering of foods</p> <ul style="list-style-type: none"> the importance of date-marks, labelling of food products <p>to identify storage and preparation</p> <ul style="list-style-type: none"> the growth conditions, ways of prevention and control <p>methods for enzyme action, mould growth and yeast production</p> <ul style="list-style-type: none"> the signs of food spoilage, 	<p>Learners must know and understand for each named macro nutrient and micronutrient:</p> <ul style="list-style-type: none"> the specific function the main sources dietary reference values the consequences of malnutrition (over and under) complementary actions of the nutrients <p>Learners need to know and understand the dietary value of:</p> <p>(i) water (ii) dietary fibre (NSP)</p>	<p>cholesterol and liver disease</p> <p><u>Plan balanced diets</u></p> <p>recommend guidelines for a healthy diet</p> <ul style="list-style-type: none"> identify how nutritional needs change due to age, life style choices and state of health plan a balanced diet for: <ul style="list-style-type: none"> (i) a range of life-stages: toddlers, teenagers, early, middle and late adulthood (ii) individuals with specific dietary needs or nutritional deficiencies to include coeliac disease; diabetes (type 2 diabetes only to be 	<p>within different Cultures</p> <p><u>Food Manufacturing</u></p> <ul style="list-style-type: none"> primary stages of processing and production to include point of origin, the transporting, cleaning and sorting of the raw food e.g. bags of fruit. secondary stages of processing and production to include how primary products are changed into other types of products, e.g. wheat to bread; milk to cheese and yoghurt; 	
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	<p>including enzymic action, mould growth, yeast production and bacteria</p> <ul style="list-style-type: none"> • the role of temperature, pH, moisture and time in the control of bacteria • the types of bacterial cross-contamination and their prevention • preservation/keeping foods for longer, e.g. jam making, pickling, freezing, bottling, vacuum packing signs, symptoms of food poisoning to include poisoning caused by salmonella, campylobacter, e-coli, 		<p>considered), dental caries; iron deficiency anaemia; obesity; cardiovascular disease (CVD) calcium deficiencies to include bone health; nut or lactose (dairy) intolerances (iii) individuals with specific lifestyle needs to include vegetarians: lacto-ovo, lacto, vegan, and those with religious beliefs that affect choice of diet, to include Hindu, Muslim, Jewish (iv) individuals requiring high energy needs as a result of occupation or activity involvement</p>	<p>fruit to jams, jellies and juices.</p> <ul style="list-style-type: none"> • how processing affects the sensory and nutritional properties of ingredients e.g. cured meat products • technological developments that claim to support better health and food production including fortification and modified foods • the positive and negative effects of food modification on health and food production e.g. flavour intensifiers, stabilisers, preservatives, colourings, emulsifiers 	
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	<p>staphylococcus</p> <p>food wastage: including the effect on the environment and the financial implications of waste</p>		<p><u>Calculate energy and nutritional values of recipes, meals and diets</u></p> <ul style="list-style-type: none"> calculate the energy and main macronutrients and micronutrients in the following: <ul style="list-style-type: none"> (i) a recipe (ii) a meal (iii) an individual's existing diet over a period of time use nutritional information/data to determine why, when and how to make changes to: <ul style="list-style-type: none"> (i) a recipe, e.g. increase dietary fibre (NSP) content (ii) a menu, e.g. reduce saturated fat content 	<ul style="list-style-type: none"> the ability of additives to produce the desired effect 	
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			(iii) a diet, e.g. to increase energy intake prior to a sporting activity or to meet the new recommendations for free sugars		
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- show how an understanding of energy balance can be used to maintain a healthy body weight throughout life

WORDEN

Ludus Admirandus