Department Curriculum Map

Department	Food Preparation and Nutrition

Skills required:

Year 7

- Understand diet, nutrition and health, including the physiological and psychological effects of poor diet and health
- Understand the economic, environmental, ethical and socio-cultural influences on food availability, production processes, diet and health choices
- Demonstrate knowledge and understanding of functional and nutritional properties, sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food
- Understand and explore a range of ingredients and processes from different culinary traditions (traditional British and international) to inspire new ideas or modify existing recipes.

Year 8

By studying food preparation and nutrition learners will:

- Able to demonstrate effective and safe cooking skills by planning, preparing and cooking a variety of food commodities whilst using different cooking techniques and equipment
- Develop knowledge and understanding of the functional properties and chemical characteristics of food as well as a sound knowledge of the nutritional content of food and drinks
- Understand the relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health

Year 9

- Demonstrate effective and safe cooking skills by planning, preparing and cooking a variety of food commodities whilst using different cooking techniques and equipments.
- To be able to plan a balanced diet for people with specific dietary needs or nutrition deficiency.
- Understand the economic, environmental, ethical and socio-cultural influences on food availability, production processes, diet and health choices • demonstrate knowledge and understanding of functional and nutritional properties, sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food
- Consider complementary actions of each commodity within a recipe.

Year 7, 8 & 9

- Science Investigation
- How bacteria grows
- Sugar investigation
- Enzymic action investigation
- Food Structures
- Ice cream in a bag
- Gluten structure

- Cultural Foods exploration and sensory analysis
- Fat investigation
- Alternative proteins
- Raising Agents

Year	AUT1	AUT2	SPR1	SPR2	SUM1	SUM2	Secured
Year 8 Skills Covered	Demonstrate effective and safe cooking skills Plan, prepare and cook a variety of food commodities whilst using different cooking techniques and equipment Develop knowledge and understanding of the functional properties and chemical characteristics of food. Develop sound knowledge of the nutritional content of food and drinks.	Demonstrate knowledge and understanding of how preparation and cooking affects the sensory and nutritional properties of food. To be able to explain in detail • how heat is transferred to food through conduction. • convection and radiation. Describe how and why the production of some dishes rely on more than one method of heat Transference How selection of appropriate cooking methods can: ○ conserve or modify nutritive value, e.g. steaming of green vegetables Improve palatability e.g. physical denaturation protein	Understand the relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health production processes, diet and health choice's The positive use of micro-organisms such as bacteria in dairy products: cheese, aeration, plasticity and emulsification (iii) protein - coagulation, foam formation, gluten formation, denaturation (physical, heat and acid) (iv) fruit/vegetables - enzymic browning, oxidisation Reasons why particular results may not always be achieved, e.g. a sponge cake	Develop an understanding of economic relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health To be able to identify environmental, ethical and socio-cultural influences on food availability.	Understand the functional and nutritional properties of commodities. Sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food Understand and explore a range of ingredients and processes from different culinary traditions (traditional British and international) to inspire new ideas or modify existing recipes		

Year 8 Theme/ Focus/ Content	**Catering for people's needs** **De**velop recipes and meals to meet a recipes and specific nutritional need or lifestyle choice. Meals **Learners will**: Consider the influence of lifestyle and consumer choice when adapting or developing meals and recipes, to include: (i) adaptations to recipes to address current dietary advice (ii) adaptations due to lifestyle patterns e.g. working parents needing dishes that are quick to prepare and cook Develop the ability to review and make improvements to recipes by amending them to include the most appropriate ingredients, processes cooking methods, and portion sizes,	**Special Diets** Consider nutritional needs and food choices when selecting recipes, including when making decisions about the ingredients, processes, cooking methods, and portion sizes e.g. vegetarian alternatives Develop the ability to review and make improvements to recipes by amending them to include the most appropriate ingredients, processes cooking methods, and portion sizes e.g. low calorie diets Manage the time and cost of recipes effectively. Students will use their testing and sensory evaluation skills, adjusting accordingly.	**Food Provenance** Food origins to include where and how foods are grow reared or caught Food miles, impact on the carbon footprint, buying foods Locally impact of packaging on the environment versus the value of Packaging sustainability of food: the impact of food waste on the environment, local, global markets and communities, effect of food poverty 5ood security: access to safe sufficient food for all (World Health)	**Scientific Experiments** Students will undertake: Experimental work and produce dishes by following or modifying recipes. Develop and apply knowledge and understanding related to the working characteristics, functional and chemical properties of ingredients to achieve a particular result: (i) carbohydrates - gelatinisation, dextrinization (ii) fats/oils - shortening, aeration, plasticity and emulsification (iii) protein - coagulation, foam formation, gluten formation, denaturation (physical, heat and acid)	**Food Spoilage** The growth conditions, ways of prevention and control methods for enzyme action, mould growth and yeast production The signs of food spoilage, including enzymic action, mould growth, yeast production and bacteria The role of temperature, pH, moisture and time in the control of bacteria The types of bacterial cross-contamination and their prevention Keeping foods for longer, e.g. jam making.		
Year 7 Skills Covered	**Plan a meal** Learners should be able to use their knowledge of nutrition	**Nutrition** Micronutrients are required by humans throughout life in small quantities to	**Food Preparation** skills Learners must be able to plan, prepare cook and serve a number	• cooking a selection of recipes, e.g. water based methods,	For each food commodity learners need to know and understand:		

	and current nutritional guidelines to: • recommend guidelines for a healthy diet • identify how nutritional needs change due to age, life style choices and state of health • plan a balanced diet for: (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 involvement	facilitate a range of physiological functions Learners must know and understand for each named macro nutrient and micronutrient: • the specific function • the main sources • dietary reference values • the consequences of malnutrition (over and under) • complementary actions of the nutrients Learners need to know and understand the dietary value of:	of recipes. Learners must be able to demonstrate skills from each skill group (listed in Appendix A) to include: • planning for cooking: (i) a single dish (ii) a number of dishes in one session (to ensure a dovetailed action plan) • preparation of ingredients to make a selection of recipes, e.g. weigh and measure liquids and solids, use knife skills, combine and shape.	using the oven, set a mixture, select and adjust cooking times and temperatures, judge and manipulate sensory properties: seasoning, test for readiness • presenting a selection of recipes, e.g. shaping and finishing a dough, glazing and food styling, preparing fruits and vegetables as a garnish Learners must be able to: • select appropriate preparation, cooking and serving techniques when producing dishes taste, texture	• the value of the commodity within in the diet • 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 group and • techniques table listed in Appendix A, e.g. when subjected to dry/moist methods of • cooking • the origins of each commodity		
Year 7 Theme/ Focus/ Content	**Scientific experiments** Experiment with the commodity to explore physical and chemical changes that occur as a result of given actions Consider complementary actions of a commodity in a recipe	**Theory on a selection of Cooking Methods** How to puree, creaming, reduction and roux sauces, pasta dishes. Students will learn how to prepare composite meals. There is a greater emphasis placed on finishing techniques for food presentation and	**Factors affecting food choices.** How sensory perception guides the choices that people make, how taste receptors and olfactory systems work The sensory qualities of a range of foods and combinations	**Food commodity** Experiment with the commodity to explore physical and chemical changes that occur as a result of given actions Consider complementary actions of a commodity in a recipe	**Individuals with specific dietary needs or nutritional** Medical dietary to include; diabetes (type 2 diabetes only to be considered), dental caries; iron deficiency anaemia; obesity; cardio-		

	Prepare and cook dishes using the commodities	learning about the properties of ingredients such as raising agents and the functional properties of starch.	and how to set up tasting panels for preference testing The range of factors that influence food choices, including, enjoyment, preferences, seasonality, costs, availability, time of day, activity, celebration or occasion and culture The choices that people make about certain foods according to religion, culture, ethical belief	Prepare and cook dishes using the commodities	vascular disease (CVD); calcium deficiencies to include bone health; nut or lactose (dairy) intolerances 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 How nutrients work together in the bod.		
Year 9 Theme/ Focus/ Content	**Scientific experiments** A. Investigations: 1.Commodities: Flour/Sugar/Butter 2. Micro-organisms 3. Cooking Methods 4.Science of sugar 5.Characteristics of fats 6. Food Properties 7.Raising Agent	**Theory** **Food Choices** • how sensory perception guides the choices that people make, how taste receptors and olfactory systems work • the sensory qualities of a range of foods and combinations and how to set up tasting panels for preference testing • the range of factors that influence	**Environmental Issues:** **Sustainability/ Food Wastage**	**Modification of recipe's** consider nutritional needs and food choices when selecting recipes, including when making decisions about the ingredients, processes, cooking methods, and portion sizes e.g. vegetarian alternatives • develop the ability to review and make improvements to recipes by amending them to include the	**Food Manufacturing:**		

	8.Enzymic browning	food choices, including, enjoyment, preferences, seasonality, costs, availability, time of day, activity, celebration or occasion and culture • the choices that people make about certain foods according to religion, culture, ethical belief, medical reasons or personal choices • how to make informed choices about food and drink to achieve a varied and balanced diet, including awareness of portion sizes and costs • how information about food is available to the consumer, including food labelling and marketing and how this influences food choice **Nutritional Diets for different groups** Identify how nutritional needs change due to age, life style choices and state of health • Plan a balanced diet for: (i) a range of life-stages: toddlers, teenagers,		most appropriate ingredients, processes cooking methods, and portion sizes, e.g. low calorie diets • manage the time and cost of recipes effectively			

		early, middle and late adulthood (ii) individuals with specific dietary **Definition of macronutrients and micronutrients** in relation to human nutrition • The role of macronutrients and micronutrients in human nutrition Macronutrients are defined as a class of chemical compounds which humans consume in the largest quantities (i) protein: to include essential amino–acids in relation to nutritional requirements					
Year 11 Skills Covered	Classification • Animal types Cuts of meat (link in methods of cooking – tender versus tough cuts, and cost) • Categories of fish – white/oily/shell, etc., also flat, round, etc. (link in preservation – canned, smoked, etc.) • Types of egg Nutritional values (include sources,	Vegetarians (lacto/lacto-ovo/vegan) Bone health – link in with vitamin D and calcium Healthy blood – link in with vitamin C and iron Composition of fruits and vegetables Oxidation/enzymic browning	How animals are reared, fed and milked. Animal sources of milk • Different methods of preserving milk (drying, UHT, pasteurisation, etc.) – link to convenience foods Importance of hygiene for effective food safety (heat treatment)	Cereals are a staple food (primary source of carbohydrate) • Energy requirements (link to different groups) • Balance of energy input with energy output • Nutrient requirements (link to different life stages) • Carbohydrate – starch	NEA Assessment 1 focus and practise Introduce a written brief, conduct. Build in more written work so that by the end of Year 10 learners will understand the expectations of the Year 11 NEA Assessment 1 (research methods, hypothesis setting, plan of action, writing up an experiment,		

	functions, deficiencies, excess, daily requirements) • Nutrient requirements (link to different life stages) Protein (HBV) Saturated fat B vitamins Iron (include complementary action of vitamin C with iron) Trace element – iodine and fluoride in fish and shellfish Health benefits of eating fish Omega 3 in oily fish • Dietary considerations Implications of excess or deficiency of protein Healthy blood – iron (haem and non-haem iron) • Iron deficiency, and recap on complementary actions of vitamin C and iron Health benefits of omega 3 Include religious considerations when eating meat Food science chemical and physical structure	*How does the texture of fruits and vegetables change when cooked?* Refrigeration temperatures Why it is important to wash fruits and vegetables? • Use By and Best Before dates Stock rotation Bagged salads – food poisoning risk Ambient – loss of nutrient content over time • Chilling – where in fridge should items be stored? • Reinforce refrigeration temperatures	• Effect on nutritional content from processing Examples of secondary processing – milk to cream, yoghurt, cheese, etc. *Videos available online to show processing* • Different animal sources (also link in non-dairy milk – e.g. nut, soya, coconut; alternatives to non-dairy cream) Link secondary processing – to cream, yoghurt, cheese, etc. • Different types of milk – skimmed, semi-skimmed, etc. Different types of cream – whipping, soured, etc. (link to fat content) • Different types of cheese – hard, soft, etc. (link to fat content) • Nutrient requirements (linked to different life stages)	• Dietary fibre (NSP: non-starch polysaccharide) – soluble and insoluble B vitamins Effect of nutrient absorption. Fortification of food in the context of flour and breakfast cereals Water soluble vitamin B group – effect of cooking. • Importance of wholegrains to reduce risk of heart disease, type 2 diabetes and control blood cholesterol. • Link to effect of low-fibre diet: Haemorrhoids, diverticulitis, cancer of the colon Deficiencies: Beriberi – lack of thiamin (vitamin B1) Pellagra – lack of niacin (vitamin B3) Allergies: Coeliac disease • Chemical and physical structure of cereal grains	analysis results of experiment and drawing conclusions, referencing sources) Plan a dish suitable for one group listed above under Dietary considerations (e.g. low-calorie, sporty/active person, pregnant woman) Use a nutritional analysis program to calculate nutrients and analyse data, cost dish, justify choices. By the end of Year 10 learners will understand the expectations of the Year 11 NEA 1 and 2 Assessment		

	of meat, fish, poultry and eggs. • Denaturation (e.g. uncoiling of protein molecules when making meringues) Coagulation (e.g. setting of egg in cakes) Foaming (e.g. formation of foam when whisking egg white protein) Aeration Connective tissue in meat and fish – how this should affect the cooking method Maillard reaction **Year 10** Introduce Food Provenance and how this commodity is grown Classification of fruits and vegetables Vegetable soup. How/where fruit and vegetables are grown, link to climate, soil types • Use of pesticides and herbicides – discuss possible impact on health • Customer choice can be linked to cost – discuss		• Protein – HBV and discuss amino acids Fats – saturated Recap on vitamins and minerals (cover vitamins A and D and calcium), and include complementary actions of the nutrients vitamin D and calcium Fat soluble vitamins A and D Trace element – iodine Effect on nutritional content from processing • Link to bone health: Calcium and vitamin D Link to allergies: Lactose intolerance from cow milk (why?) What are the alternatives? Link to heart health: Fat content and type • Chemical and physical structure of dairy based products	• Gluten formation, gelatinisation, coagulation, dextrinization, Retro-gradation Gels Bread making: • Scientific principles, including problem solving • Chorleywood process in bread-making • Vitamin C (ascorbic acid) in large scale bread manufacturing Yeast as a raising agent Recap on types of raising agents and discuss principles.			

	• Food miles • Seasonality • *T*he difference between primary and secondary processing. • Different methods of preservation Difference between fruits and vegetables – leaves, stems, roots, tubers, bulbs, etc. 5 a day – link to Eat well Guide Dietary fibre – soluble and insoluble Water • Recap on vitamins and minerals (cover A, B, C, D, calcium and iron), and include complementary actions of the nutrients vitamin C and iron/vitamin D and calcium • Nutrient requirements – link to different life stages • Fat and water soluble vitamins – effect of oxidation, heat on		Emulsion – explain why milk is an emulsion Denaturation and coagulation of milk proteins Making cream, butter, yoghurt – the science behind it Making cheese – use of rennet (curds and whey). Benefits of bacteria in the making of yoghurt, cheese, etc. Effect of heat on cheese Suggested investigations could include: • *Demonstrate and explain how an emulsion is formed when making butter.* • *Explain the changes that take place in milk when it is heated.* • *Make yoghurt and explain the food science behind it.* • *Make cheese and explain the food science behind it.* • *Why is UHT milk slightly less white? Compare the flavour of*				

	vitamin content of fruits and vegetables • Compare nutrient content of a specific fruit or vegetable – fresh, frozen, canned, dried, etc.		• *UHT milk with fresh milk and discuss.* • Concept of high risk foods (*dairy being a category*) How bacteria multiply How to avoid cross-contamination Why heat treating raw milk is important – link to food science How should dairy based products be stored? Temperatures? Link to dried, cartons, unopened and opened cans, fresh, frozen, etc. What are suitable conditions for storage? Why?				