Food Preparation & Nutrition Department – Year 10

Shirley High Curriculum Map

Students must be able to make the connections between theory and practice to apply their understanding of food and nutrition to practical preparation. Students will demonstrate effective and safe high-level cooking skills by planning, preparing dishes using a variety of cooking techniques and equipment. Students will develop knowledge and understanding of the functional properties, chemical processes and nutritional content of foods. Students will understand the relationship between diet, nutrition and health, including the physiological and psychological effects of different diets and health.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Theme/Topic/Skill:	Theme/Topic/Skill:	Theme/Topic/Skill:	Theme/Topic/Skill:	Theme/Topic/Skill:	Theme/Topic/Skill:
	Food and nutrition Food preparation	Diet, nutrition and health Food preparation	Food Science - carbohydrates and protein Food preparation	Food Science - fats and raising agents Food preparation	Food Safety and hygiene Food preparation	Food choice Food preparation
Why Now?	.Learners will be introduced to the key concepts of nutritional food and healthy balanced diets. This builds on their study of the Eatwell Guide as part of the KS3 curriculum and provides opportunities for retrieval. Students will revisit kitchen safety and basic cooking skills learnt in KS3. Recipes will be more complex than those used in KS3 and students will be introduced to the importance of presentation	Teaching this now allows learners the opportunity to apply knowledge learnt in the previous unit to the dietary needs of different social groups. Learners will evaluate the dietary needs of particular groups (e.g. teenagers) and identify where adjustments need to be made to ensure they remain healthy. Practically, students are now ready to be introduced to higher level, essential industry skills such as filleting fish and jointing chicken.	By now, learners will have a secure grasp of food nutrition and will be ready to explore the more complex topic of food science. Knowledge from the previous unit will ensure learners have the necessary skills to be able to evaluate the science behind food cooking. Learners will start with carbohydrates and protein because these are present in most foods, and learners are more familiar with them. Practical lessons during this time will allow students to test food science theories themselves.	Learners will continue to build on their knowledge of food science. Learners will move on to look at the less familiar groups of fats and raising agents. Practical lessons during this time will allow students to test food science theories themselves.	Learners will understand how the science studied in the previous unit influences safety requirements with regards to buying, storing and preparing food. This builds on learning about food safety the learners have already done at KS3. It is essential that this is taught before students embark on creating individual dishes. Practical lessons at this stage of the course will involve cooking with microorganisms, as students now have the understanding of the importance of working with these ingredients safely.	Learners will now have the skills and knowledge required to research and cook independently. They can be given more practical autonomy, as they have a firm grasp of food safety and hygiene. Students will begin to plan, prepare and cook dishes for a menu of their choice.
Fundamental Concepts	Functions, sources, deficiency, excess and dietary reference values of Macronutrients and Micronutrients.	Nutritional needs through life stages and the relationship between diet, nutrition and major diet related health risk.	Cooking of food and heat transfer. Function and chemical properties of carbohydrates and protein	Functional and chemical properties of food in fats and oils, fruit and vegetables and raising agents	Food safety , spoilage and contamination and the principles of food safety in buying, storing and preparing food. Principles of food safety when buying fish, meat, vegetables	Factors which influence food choice including food labelling and marketing influences. British and international cuisine
Students will…	**Learn about…** Protein low and high biological value proteins • protein complementation • protein alternatives eg textured vegetable protein (TVP), soya, mycoprotein and tofu Fats • saturated fats• unsaturated fats (monounsaturated and polyunsaturated). Carbohydrates • starch (polysaccharides) • sugars (monosaccharides/ disaccharides) • dietary fibre. Vitamins Fat soluble • vitamin K A D E Water soluble • B group – B1 (thiamin), B2 (riboflavin), B3 (niacin), folic acid, B12 • vitamin C (ascorbic acid) • loss of water soluble Vitamins when cooking (B group and Vitamin C). Antioxidant Vitamins A C E The role of antioxidants in protecting body cells from damage. Minerals • calcium • iron • sodium (salt) • fluoride • iodine • Phosphorus. Water The importance of hydration and the functions of water to eliminate waste from the Body, cooling and for digestion. • How water is lost from the body. • How much water/fluid is needed each day? • Occasions when extra fluids are needed. Making informed choices for a varied and balanced diet	Making informed choices for a varied and balanced diet • nutritional needs for the following life stages: young children, teenagers, adults and the Elderly. • how to plan a balanced meal for specific dietary groups: vegetarian and vegan, coeliac, lactose intolerant and high fibre Diets. Energy needs • factors which affect the BMR, such as age, gender and PAL. Their importance in achieving energy balance. • the percentage of recommended energy sources from nutrients: • protein 15% • fat 35% or less • carbohydrate 50% (of which 45% from starches, lactose in milk and fruit sugars And a maximum of 5% from free sugars). How to carry out nutritional analysis how to plan and modify recipes, meals and diets to reflect the nutritional guidelines for a healthy diet. Diet, nutrition and health how diet can affect health and how nutritional needs change in relation to: • obesity • cardiovascular health (coronary heart disease (CHD) and high blood pressure) • bone health (rickets and osteoporosis) • dental health • iron deficiency anaemia • Type 2 diabetes. **Practical Skills** S2 fillet fish/ joint chicken for protein/ chef visit with pheasant jointing S8 sauce making S9 tendering meat Joint Chicken	Cooking of food and Heat transfer Food is cooked to: • make food safe to eat • develop flavours • improve texture • improve shelf life • give variety in the diet. How preparation and cooking affect the appearance, colour, flavour, texture, smell and Overall palatability of food. How heat is transferred to food through: • conduction • convection • Radiation. Selecting appropriate cooking methods Selection of appropriate preparation, cooking methods and times to achieve desired characteristics how the selection of appropriate preparation and cooking methods can conserve or modify nutritive value or improve palatability: • water based: steaming, boiling, simmering, blanching, poaching, braising • dry methods: baking, roasting, grilling, dry frying • fat based: shallow frying, stir fry Functional and chemical properties of food Proteins • Demonstrate how acids denature protein and marinades add flavour and moisture when preparing vegetables, meat, fish and alternatives (S9). • Setting of egg mixtures eg in quiche (S12). • Gluten formation – pasta making using a pasta machine, bread making using a bread machine (S5 and S10). • The use of marinades to tenderise and flavour meats and alternatives (S9). • Whisking eggs to produce a gas-in-liquid foam e.g. whisked sponge.	Carbohydrates • Make a blended white sauce showing starch gelatinisation such as either a roux or all-in-one blended sauce, infused sauce, velouté or béchamel to demonstrate how liquid/starch ratios Affect viscosity (S8). • Demonstrate how conduction and convection work to cook the sauce and the need For agitation. • Caramelisation of Vegetables (S6). • Dextrinization eg browning of bread when baking (S4). Fats and oils Students must link theory and Understand from practical application: • Use of fats/oils to demonstrate these Processes. • Shortening and plasticity, e.g. pastry making (S10). • Aeration e.g. using the creaming method with a food mixer for a cake (S1, S4, S5 and S11). • Make an emulsion sauce such as a salad dressing, mayonnaise or hollandaise (S8) Practical skills Scone investigation. 3.2 Functional and chemical properties of food – Fruit and Vegetables When preparing fresh fruits such as apples and pears, prevent enzyme browning by using lemon juice (S2) and (S3). • Oxidation e.g. prevents water soluble vitamin loss when preparing and cooking vegetables (S3) and (S6). Raising agents • chemical (baking powder, bicarbonate of soda, self-raising flours which produce carbon dioxide) • mechanical (whisking, beating, folding, sieving, creaming and rubbing in – all incorporate air into the mixture) • steam is produced when the water in any moist mixture reaches boiling point • biological (yeast) • Using chemical raising agents such as self raising flour and baking powder (S11). • Use steam in a mixture to raise choux pastry or	Food spoilage and contamination Microorganisms and enzymes The signs of food spoilage (also covers Revision Food science Microorganisms in food production- looking yeast, moulds and bacterial Bacterial contamination- condition and sources, types and symptoms Buying and storing food Preparing, cooking and serving food (also covers Revision Cooking of food) Revision Practical skill: making Cheese, butter, bread, yogurt, Food spoilage and contamination	Factors affecting food choice The following factors in relation to food choice: • physical activity level (PAL) • celebration/occasion • cost of food • preferences • enjoyment • food availability • healthy eating • income • lifestyles • seasonality • time of day • time available to prepare/cook. Students must be able to cost recipes and make modifications. Food choices related to religion, culture, ethical and moral beliefs and medical conditions Food labelling and marketing influences mandatory information included on food packaging in accordance with current European Union and Food Standards Agency (FSA) legislation • non-mandatory information: provenance, serving suggestions • how to interpret nutritional labelling • how food marketing can influence food choice eg buy one get one free, special offers, meal deals, media influences, advertising, point of sales marketing. British and international cuisine MOCK NEA 2 Multicultural Task • distinctive features and characteristics of cooking • equipment and cooking methods used • eating patterns • presentation styles • traditional and modern variations of recipes Students can select different cuisines to Study. Cuisine is defined as: 'a style characteristic of a particular country or region where the cuisine has developed historically using distinctive ingredients, specific preparation and cooking methods or equipment, and presentation or serving techniques'. Sensory evaluation Importance of senses when making food choices: sight, taste, touch and aroma

				batter. • Use egg as a raising agent to: • create a gas-in-liquid Foam, whisk egg whites, whisking savoury roulade. • Yeast in bread making		• preference tests: paired preference, hedonic. • discrimination tests: triangle. • grading tests: ranking, rating and profiling • how to set up a taste panel • controlled conditions required for sensory testing • evaluating how senses guide • evaluating a wide range of ingredients and food from Britain and other countries • how to test sensory qualities of a wide range of foods and combinations. Genetically Modified (GM) foods
Language for Life (Key terms/Vocabulary)	Macronutrients; protein; complementation; protein alternatives e.g. textured vegetable protein (TVP); mycoprotein; saturated fats; unsaturated fats (monounsaturated and polyunsaturated); polysaccharides; monosaccharides; disaccharides; dietary fibre; micronutrients; fat soluble vitamins; water soluble vitamins; antioxidant; hydration	Eatwell guidelines: vegetarian and vegan, coeliac, lactose intolerant and high fibre diets basal metabolic rate (BMR) and physical activity level (PAL) obesity cardiovascular health (coronary heart disease (CHD) and high blood pressure) • bone health (rickets and osteoporosis) • dental health • iron deficiency anaemia • Type 2 diabetes	conduction • convection • Radiation. protein denaturation • protein coagulation • gluten formation • Foam formation. • gelatinisation • dextrinization • caramelisation	• shortening • aeration • plasticity • Emulsification. • enzyme browning • Oxidation. Raising agents	Micro-organisms: yeasts, moulds, bacteria and their growth conditions/enzymes in food spoilage/ enzyme browning/control the different types of food poisoning bacteria/symptoms of food poisoning Primary and secondary processing	Food Standards Agency (FSA) Legislation, Buddhism, Christianity, Hinduism, Islam, Judaism, Rastafarianism and Sikhism Cuisine Sensory analysis GM foods food intolerance food allergy lifestyle seasonality food miles target groups nutritional profile marketing taste buds olfactory (smell)c receptors sensory descriptors
Extended writing Opportunities	Evaluation of practical work report writing	Evaluation of practical work report writing Writing a newspaper article on the visit and benefits to food industry	Evaluation of practical work report writing	Evaluation of practical work report writing	Evaluation of practical work report writing	Evaluation of practical work report writing
Maths Across the Curriculum	Measuring and weighing portion sizes when cooking	Analysis of data produced by The Nutrient Program	Weighing out ingredients Shaping and combining ingredients when batch making	Ratios and fractions in practical work (e.g. pastry)	Measurement of ingredients Ratio/Fractions in practical work	Analysis of data produced by The Nutrient Program
Links to careers/ aspirations	Black celebrities chef lesson linked with looking at Black British Cuisine. This is linked to BHM	Teaching of industry skills including filleting fish and jointing chickens. These are demonstrated by professionals who also speak to the students about their careers.	Introduction of unit with career links to food scientist food Technologies and product designer , taste tester,mindset. lesson focus on how to work in a Test Kitchen.	Visits to local catering college Croydon, Merton with link to future career pathways with food.	Lesson on Environment Health officers who investigate safety and Hygiene in the kitchen and have powers to close the kitchen.	
Cultural Capital	Students' understanding of the importance of healthy eating will improve their life choices. Students will learn about a range of different diets, including vegetarian and vegan, which supports their understanding of environmental issues. Students will use herbs from the school garden in their cooking which helps support their understanding of food provenance.	We invite employers to visit the department to run active and aspirational engaging cooking and theory-based workshops for example employers from the 'Fish Hero Programme', 'Taste of Game' initiative and professional chefs. Where appropriate students are given the chance to visit a range of establishments such as the 'cake bake show' to engage with employers about food preparation and nutrition opportunities. This exposure to aspirational individuals help support the academic progression of all students.	Student will be understand the functional chemical and nutritional properties, the sensory qualities and the microbiological considerations leading to food preparation Encourage students to be caring and considerate individuals who can evaluate and test food.	Student will continue to understand the functional chemical and nutritional properties, the sensory qualities and the microbiological considerations leading to food preparation Encourage students to be caring and considerate individuals who can evaluate and test food. a visit to FE colleges will give student understanding about a life of a professional chef and work environment.		Helping students to develop their understanding of food provenance and the value of growing their own produce. Food Preparation and Nutrition students also visit the garden and select herbs and other produce to enhance their dishes. Produce from the garden is regularly used in the school kitchen and in Food Preparation and Nutrition lessons, We offer opportunities for students to represent the school in the local community, for example participating in the annual local authority 'Market Day', the 'Grow your Onions' initiative
Practical Application of Skills	See skills list below	See skills list below	See skills list below	See skills list below	Practical skill: making Cheese/yoghurt , General practical skills/knife skills/preparing fruit and vegetables/use of cooker/cooking and equipment/sauces/dough/raising agents/setting mixtures	See skills list below