

KS4 Curriculum overview: FOOD

Year 10 Curriculum Map

Autumn Term 1	Spring Term 1	Summer Term 1
Introduction to the course, set expectations (Learners Agreement), target grades, how learners will be assessed. A balanced diet - Eatwell Guide & 5 a day. Basic nutrition – 5 main nutrients - 3 macronutrients & 2 micronutrients. Plus fibre: non-Starch Polysaccharides (NSP) & water. Eatwell guide, 5 a day and 8 tips for healthy eating. Commodity: Fruit and vegetables, including potatoes (fresh, frozen, dried, canned and juiced) – nutritional content. Practical: salad- knife skills- julienne, jardinière, macedoine, brunoise -Mise en place, independence, organisation, accuracy, hygiene, safety. Practical: Chilled lemon flan- zesting, juicing, denaturing protein and thickening with acid NEA 1 practise -experiments to test enzymic browning (written brief). Hypothesis Writing aims and planning for experiments. Conducting experiments, recording results, writing conclusions, in groups. Dietary guidelines and dietary reference values. Range of life stages identifying nutrients needed for each life stage with reasons. Specific dietary needs - including coeliac disease, diabetes 2, dental caries, obesity, cardio vascular disease (CVD), coronary heart disease (CHD), cholesterol & liver disease, nut allergies, lactose intolerance.	Commodity: Cereals (flours, breakfast cereals, bread and pasta) Wheat, oats, rice, maize, barley. Look at how cereals are grown, harvested and processed. General structure of grain – endosperm, germ and bran. Cereal as a staple food -focusing on wheat and rice. Milling of wheat into flour Nutritional content of cereals Fortification of cereals Link secondary processing to selected cereals: Wheat – flour wholemeal, white, self-raising, semolina, etc. Rice – brown, white, basmati, Arborio, rice flour, rice vinegar, etc. Oats – rolled, oatmeal. Cereal – as a staple food; impact of crop failure on health of a nation (link to sustainability and world health) Storage of cereals Strong plain flour - gluten formation (discuss gluten free bread), dextrinization Breadmaking: • Scientific principles, functions of ingredients, yeast as a raising agent. Conditions required by yeast to produce CO₂ - experiments NEA 1 practise -experiments to test gluten content of different types of flour (written brief). Hypothesis Writing aims and planning for experiments. Conducting experiments, recording results, writing conclusions.	Commodity: Butter, oils, margarine, sugar and syrup fats & oils classification, functions in body. Energy dense Saturated and unsaturated fats - chemical composition & sources. EFA Omega 3 & 6. Traffic light labelling Oils/margarine – growing of vegetable crop for oil production, include pressing (mention fish oil) Primary processing: Oil, Secondary processing: Butter, margarine, Hydrogenation of oils to produce hard fats – health implications. Implications of a diet high in saturated fat Making sensible choices on fat type (unsaturated, etc.) Lower fat alternatives Fat soluble vitamins - link to Eatwell Guide - tips. Functions of fats & oils in cooking. Plasticity, shortening (link to pastry), emulsification. Melting point/smoke point. NEA 1 practise -PPE 1 experiments to test creaming properties of different fats in small cakes (written brief). Extended research. Hypothesis Writing aims and planning for experiments. Conducting experiments, annotating photographs, recording results, writing conclusions. NEA 2 practise -PPE 1 Plan, prepare, cook and present three dishes that could be served at the street food /music festival.- analyse task

Storage of fruit and vegetables. Preservation of fruit and vegetables - types of preservation and examples. Group preservation activities. Ripening, spoilage and decay. Food handling and hygiene – critical temperatures affecting bacterial growth. Freezer below -18°C, fridge below 4°C, Danger Zone 5 to 63°C, heat above 75°C. Use of temperature probe. Types of vegetarian lacto-ovo, lacto, vegan – moral & environmental reasons. Religion, culture and food choices. Practicals- quiche using appropriate vegetables- baking blind, knife skills, rolling out, baking Profiteroles – choux, piping, whisking, filling, sauce making, plating up using fruit, coulis, feathering, chocolate, tuiles, caramel	Practical: Bread calzones and salad Principal of fortification of food in the context of flour and breakfast cereals Water soluble vitamin B group – effect of cooking Practical: Chicken or Quorn Gougere (choux pastry) NEA 2 practise -Savoury pasty and risotto (cereal dishes containing fibre) - analyse task Plan of action - summarise what plan to do Research ideas - research background & tasks to do Results and analysis of research - list key findings Final dish and reasons for choice - link to brief & research findings, discuss skills, sensory expectations, time management Shopping list, Time plan & order of work Practical: Homemade Tagliatelle with ragu (pasta making) or fresh pesto	Plan of action - summarise what plan to do Research ideas - research background & tasks to do Results and analysis of research - list key findings Final dish and reasons for choice - link to task & research findings, discuss skills, sensory expectations, time management Shopping list, Time plan & order of work. Trialling one dish for PPE NEA 2 Class Practical
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Autumn Term 2	Spring Term 2	Summer Term 2
Commodity: Meat, fish, poultry, eggs Look at and compare geographical areas where meat, fish, poultry and eggs are reared/produced. Local verses imported (e.g. Welsh lamb verses New Zealand lamb, North sea fishing verses southern hemisphere fishing, local eggs verses imported eggs from Europe) Intensive farming verses natural farming Link to animal welfare. Links in with provenance. How animals are slaughtered – traditional and Halal. Practical: Portioning chicken, slicing breast for stuffed chicken breasts and marinated roasted chicken wings (freezing thighs for chasseur/curry/fajitas) Choosing cuts of meat and poultry, processing into bacon, ham, sausages, pies, etc. (link to methods of preservation) Offal – types and uses. Cooking methods for meat & poultry. Chemical and physical structure 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. Nutritional content of meat. How egg farming is conducted caged (battery), barn, free range (different animal sources as well as hens eggs). Eggs – pasteurised whole/white/yolk (link to food safety and convenience) Lion mark on egg - British. Nutrient content of eggs. Functions of eggs - aeration, binding, coating, glazing, emulsifying, thickening, enriching, garnish	Commodity: Milk, cheese and yoghurt. Animal sources of milk. Local V nationally distributed & imported. Cost & impact on milk prices for farmers. Food miles, why organic? Food wastage and sustainability Different animal sources (also non-dairy milk e.g. nut, soya, coconut; alternatives to non-dairy cream). Types of milk skimmed, semi-skimmed, etc. Primary processing - pasteurisation Preserving milk (drying, condensed, evaporated). Importance of hygiene for effective food safety (heat treatment). Nutritional content of milk products - effect on nutritional content from processing. Storage of milk and milk products – reasons Practical: Quiche or Sweet cheese tart Secondary processing – milk to cream, yoghurt, cheese action of rennet. Benefits of bacteria in the making of yoghurt, cheese, etc. Different types of cheese – hard, soft, etc. (link to fat content) - cow, goat, sheep, buffalo. Planning NEA 1 practise - making yoghurt - Hypothesis Writing aims and planning for experiments. Conducting experiments, recording results, writing conclusions. Practical: Chilled cheesecake - Gelation (use of gelatine) Chemical and physical structure of dairy based products Emulsion – (fat dispersed in liquid) Denaturation and coagulation of milk proteins. Different types of cream – whipping, double, clotted, soured, etc. (fat content) Making butter, – the science behind it. NEA 2 practise -Sponge pudding & crème Anglaise	Chemical composition of sugars. Composition of sugar - monosaccharides (glucose/dextrose, fructose, galactose); disaccharides (glucose + fructose=sucrose, glucose + galactose = lactose, glucose + glucose = maltose). Food miles (UK verses imported sugar)Where sugar cane and sugar beet is grown. Fair Trade - positives & negatives. Primary processing: sugar Secondary processing: sugar syrups Sugar and syrup Empty calories, link to weight gain, obesity, dental caries, type 2 diabetes, etc. Glycemic Index (GI) and Free sugars - explanation and examples. Consider sugar alternatives, including natural sugars & artificial sweeteners. PPE NEA 2 3hour Practical Exam -Plan, prepare, cook and present three dishes that could be served at the street food /music festival. Dovetailed time plan -Mise en place, independence, organisation, Accuracy, hygiene, safety Evaluation – suitability for task, evaluation of skills, comparison to peers and restaurant dishes, improvements, sensory analysis. Commodity: Soya, tofu, beans, nuts, seeds How peas, beans (pulses/legumes), nuts and seeds are grown Secondary processing: Beans (legumes) – link to preservation (drying and canning). Nuts – ground, flaked, nibbed, etc. Seeds – drying, etc. How soya beans are cultivated Secondary processing: How soya is processed into tofu TVP (textured vegetable protein), and link back to soya milk

Planning NEA 1 practise – conditions affecting coagulation of eggs in egg custard - Hypothesis Writing aims and planning for experiments. Conducting experiments, recording results, writing conclusions. Practical: Trimming chicken thighs & removing end joint from chicken drumstick for chicken chasseur with potato dish & 2 vegetables Compare sea fish and farmed fish (link to fish quotas & availability/ethical fishing – Marine Stewardship Council, etc.) How fish (inc shellfish) is caught – reference sea fish and farmed fish. Types of fish – white and oily. Cuts of fish (whole, steaks, filets, etc) How to tell fish is fresh. Video boning & filleting fish. Nutritional content of fish. Class Practical: Two egg dessert dishes (crème brulee & meringue nests) Breaded chicken/kiev or skewers.	Plan of action - summarise what plan to do Research ideas - research background & tasks to do Results and analysis of research - list key findings Final dish and reasons for choice - link to brief & research findings, discuss skills, sensory expectations, time management Shopping list, Time plan & order of work Practical: Rough Puff pastry Cheese Christmas Tree Sensory Analysis -Types of analysis - Cheese tasting - identifying cheese End of term test - based on topics covered so far	Include: mycoprotein (Quorn TM) – what it is derived from, how it is processed into mycoprotein. Food provenance - logos on labels - fair trade, sustainable fish..... meanings and implications. Seasonal foods and sustainability. PPE 1 Written Exam Class Practical: Lemon meringue pie. Basic recipes research project for holiday homework.
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Year 11 Curriculum map

Autumn Term 1	Spring Term 1	Summer Term 1
Discuss results of holiday homework Basic Mixtures research project. Students share their work. Recap on key principles of how to conduct NEA. Love food love science video 'How to Begin an Investigation' Go through the mark scheme and how to be successful in NEA 1 – Food Science Assessment (research methods, hypothesis setting, plan of action, writing up an experiment, analysis results of experiment and drawing conclusions, referencing sources) – generic information. Practical - Related to NEA 1 Task. Introduce NEA 1 Task – Food Science Assessment. Individual work - underline key words in task. Students explain what it means. What is focus? What could be investigated? Discuss time scale and planning. NEA 1 - analysing task and writing aim, identifying possible research methods. NEA 1 – linking science research to task – underlying scientific principles and how to test them during the practical investigations. NEA 1 – Plan of action – step by step for practical investigations, selecting suitable control and variables. NEA 1 – Ingredients and equipment list, step by step method. NEA 1 – Hypothesis – predictions of outcomes based on research. NEA 1 - plan for results collection – results chart, sensory analysis star, Munsell chart, rating or ranking	NEA 2 – Practicals – making trial dishes over 2 lessons – evaluation of each dish with decision on selection or rejection for final dishes with reasons related to task. NEA 2 – Deciding on 3 final dishes and accompaniments with reasons for choice - link to task and research findings, discuss skills, sensory expectations, time management. NEA 2 - Shopping list of all ingredients – colour coded. NEA 2 – Equipment list – colour coded. NEA 2 – dovetailed time plan and order of work (real time) for 3 hour practical exam with hygiene, safety and quality points. Each dish colour coded.	Revision – exam question starters then lesson focus selected topics requiring more information and/or weak areas identified in PPE 1, 2 and 3.

consumer test and any other tests related to specific task. NEA 1 – conducting practical investigations over 3 lessons, recording results, taking photographs of process and outcomes, analysing results of experiment, drawing conclusions and planning of further investigations. NEA 1 – Final conclusions, explanation of results applying scientific principles related to task, reviewing and evaluating hypothesis, suggesting further investigations.		
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Autumn Term 2	Spring Term 2	Summer Term 2
Preparation for PPE 2 - written exam Revision task - produce resource based on one topic area on priority revision list. Present results to rest of group. Practice question – based on topic area from PPE 1 results that requires more revision then modelling answer as class and compare to mark scheme then add extra information. Introduce NEA 2 – Food Preparation Assessment Task. NEA 2 – individual work - analyse task, underline key words in task. Students explain what it means. What is focus? What could be researched? Discuss time scale and planning. 3 dishes plus accompaniments to be prepared, cooked and served in 3 hours. Showcasing technical skills. NEA 2 - Plan of action - summarise what plan to do NEA 2 - Research ideas - research background & tasks to do PPE 2 – written exam. NEA 2 - Results and analysis of research - list key findings PPE 2 – exam feedback and focus on questions requiring improvement, model answers. NEA 2 – Suggesting 8 potential trial dishes – related to task and research results. NEA 2 – Practicals – making trial dishes over 3 lessons – evaluation of each dish with decision on selection or rejection for final dishes with reasons related to task.	NEA 2 – 3 hour practical exam. NEA 2 – Final evaluation of 3 dishes and accompaniments including sensory profile stars, analysis of suitability for task, evaluation of skills demonstrated, comparison with restaurant dishes and those made by other students, suggested improvements with reasons. Preparation for PPE 3 written exam – priority revision, practice questions. PPE 3 written exam. PPE 3 – exam feedback and focus on questions requiring improvement, model answers. Revision – selected topics requiring more information or weak areas identified in PPE 1, 2 and 3. Revision – exam question starters then lesson focus selected topics requiring more information and/or weak areas identified in PPE 1, 2 and 3.	Revision – exam question starters then lesson focus selected topics requiring more information and/or weak areas identified in PPE 1, 2 and 3. Written exam.