

	Year 10	Year 11
Autumn 1	Unit 1 Food Safety/Dairy NEA1 Practice Deadline: 21 October End of term exam: 25 Oct	NEA skills NEA1
Autumn 2	Unit 1 Dairy Unit 2 Protein NEA1 Practice Deadline: 16 December End of term exam : 20 Oct	NEA2
Spring 1	Unit 2 Protein NEA1 Practice Deadline: 10th February End of term exam : 14th Feb	NEA2
Spring 2	Unit 3 Carbohydrate NEA1 Practice Deadline: 23rd March End of term exam: 27 March	NEA2 Revision
Summer 1	Unit 3 Carbohydrate Unit 4 Fruits/ Veg NEA 1 Practice Deadline: 18 May End of term exam : 22 May	Revision / Written exam
Summer 2	Unit 4 Fruits/Veg/NEA 2 practice NEA 2 Practice Deadline : July 13 End of term exam : 15 July	

Year 10	Nutrition + Health	Food Science	Food safety	Food choice	Food Provenance
Commodity					
Unit 1 Fat <ul style="list-style-type: none"> fats + oils dairy 	<p>Deficiency + sources of fat Deficiency + excess of fat Saturated / unsaturated fat</p> <p>Diet + health – the relationship between diet, nutrition and health energy needs Major diet related health risks- obesity / cardiovascular disease</p> <p>How to plan and modify recipes, meals and diets to reflect the nutritional guidelines for a special diets – lower fat / lower cholesterol</p> <p>Fat soluble A,D,E,K + Calcium – Bone health</p> <p>Probiotics/Prebiotics And digestive health</p>	<p>Why food is cooked Conduction/Convection/Radiation</p> <p>Shortening /Aeration /Plasticity/Emulsification</p> <p><i>Chemical and physical structure of dairy based products</i></p> <p><i>Fats and rancidity</i></p> <p><i>Emulsion – focus on milk and mayo</i> <i>Denaturation and coagulation of milk proteins</i> <i>Making cream, butter, yoghurt – the science behind it</i> <i>Making cheese – use of rennet (curds and whey). Benefits of bacteria in the making of yoghurt, cheese, etc. Effect of heat on cheese</i></p> <p><i>NEA 1 enzymic browning experiment</i> <i>NEA 1 experiment fats in cake making</i></p> <p>Cooking methods</p>	<p>Controlling bacterial growth and contamination/ FAT TOM</p> <p>Food spoilage (1)mould/Yeast/enzymes</p> <p>Personal/kitchen/food hygiene</p> <p>Food preservation methods w/practical Jam/Chutney/Brine Intro to Osmosis</p> <p>The use of microorganisms in food production and preservation – cheese/milk/butter/yogurt +lacto-fermentation e.g. sauerkraut/kimchi/pickled vegetables</p>	<p>Healthy eating / physical activity level</p> <p>Lifestyle / time and cost</p> <p>Food intolerance - lactose</p>	<p>Fortification(1) – spreads</p> <p>Additives (1) emulsification</p> <p>Primary processing –(2) butter / oils</p> <p>Primary processing (2)-milk</p> <p>Secondary processing (2)milk – dairy</p> <p>Debate local versus nationally distributed and also imported Bring in cost and impact on milk prices for farmers livelihood Link in food miles, why consumers may chose organic Food wastage and sustainability</p> <p>How commodity is grown/reared and processed 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) Effect on nutritional content from processing</p> <p>Examples of secondary processing – milk to cream, yoghurt, cheese, etc. Videos available online to show processing</p> <p>Recap on: Food miles (UK verses imported raw materials to make the butter, oil, margarine)</p> <p>Organic verses non-organic, GM</p> <p>How commodity is grown/reared and processed</p> <p>Butter, oils, margarine Butter – how is butter made?</p>

<p>Unit 2 Protein</p> <ul style="list-style-type: none"> meat, poultry eggs beans pulses soya nuts/seeds <p>gelatine</p>	<p>Function + sources of protein</p> <p>Deficiency + excess + RDA</p> <p>Low and high biological value proteins</p> <p>Protein complementation</p> <p>Protein alternatives soya, mycoprotein, tofu, nuts/seeds – nutritional benefits</p> <p>Protein needs at specific life stages</p>	<p>Protein denaturation – Physical agitation/Temperature/Acid.</p> <p>Protein coagulation – Egg whites, custard, quiche.</p> <p>Foam formation</p> <p>Gluten formation</p> <p>NEA 1 experiment meringues NEA 1 experiment gluten</p>	<p>Cooking, cooling + serving</p> <p>Bacterial contamination recap -High risk foods</p> <p>Egg / meat freshness</p> <p>Egg / meat storage</p>	<p>Ethical + moral – animal welfare / eggs types</p> <p>Ethical + moral sustainability</p> <p>Vegetarian/Vegan diets</p> <p>Religious food choices</p>	<p>Oils/margarine – growing of vegetable crop for oil production, include pressing (mention fish oil)</p> <p>Processing of margarine – different oil types used, fortification</p> <p>Where and how rearing meat + fish.</p> <p>Free range / organic / intensive</p> <p>Climate change / global warming / carbon footprint</p> <p>Fishing / meat production sustainability.</p> <p>Primary and secondary processing (1) meat.</p> <p>Look at and compare geographical areas where meat, fish, poultry and eggs are reared/produced Discuss 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)</p> <p>Compare sea fish and farmed fish (can link to fish quotas and availability/ethical fishing – Marine Stewardship Council, etc.)</p> <p>Intensive farming verses natural farming Link to animal welfare</p> <p>Links in with provenance Look specifically at an animal of your choice, and review how this animal is farmed/reared and slaughtered (cattle, pigs, sheep, etc.) Link to animal feed (can reference BSE) and shelter</p> <p>How fish (including shellfish) is caught – again, reference sea fish and farmed fish (fish quotas and availability/ethical fishing)</p> <p>Poultry (including eggs) – how poultry is reared and slaughtered/how egg farming is conducted (different animal sources as well as hens eggs). Can mention game, briefly</p> <p>Secondary processing: Cuts of meat and poultry, processing into bacon, ham, sausages, pies, etc. (link to methods of preservation) Offal</p> <p>Cuts of fish (whole, steaks, filets, etc.)</p> <p>Eggs – pasteurised whole/white/yolk (link to food safety and convenience)</p>

<p>Unit 3 Carbohydrates</p> <ul style="list-style-type: none"> • cereals • potatoes • sugar 	<p>Function + sources of carbohydrates</p> <p>Deficiency + excess carbohydrates</p> <p>Starch (polysaccharides)</p> <p>Sugars (monosaccharides/ disaccharides)</p> <p>Dietary fibre</p> <p>Energy needs BMR / PAL energy requirements</p> <p>Glycemic index</p> <p>Major diet related health risks, diabetes, tooth decay</p> <p>How to plan and modify recipes, meals and diets for special diets –low sugar, high fibre</p> <p>Portion size and costing</p>	<p>Gelatinisation</p> <p>Caramelisation</p> <p>Dextrinisation</p> <p>Raising agents: Chemical Mechanical Biological</p> <p>NEA 1 experiment starches gelatinisation</p> <p>NEA 1 experiment yeast</p> <p>NEA1 experiment chemical raising agents</p>	<p>Microorganisms in food production - yeast</p>	<p>Food allergies</p> <p>Food intolerance (1)</p> <p>Coeliac disease</p>	<p>Fortification (2) of flour</p> <p>Modified starches</p> <p>Where how grown – crops</p> <p>Food security</p> <p>GM foods</p> <p>Primary processing (3)- wheat</p> <p>Secondary processing (3) flour- pasta-bread</p> <p>Additives, (2) colouring, sweeteners, flavourings, preservatives, emulsification</p> <p>How climate, soil, etc., affects the types of cereals which can grow GM crops – discuss Cereal – as a staple food; impact of crop failure on health of a nation (link to sustainability and world health)</p> <p>How commodity is grown/reared and processed Look at how cereals are grown, harvested and processed General structure of grain – endosperm, germ and bran Suggest focusing on wheat and rice as there are many resources available online</p> <p>Milling of wheat into flour – key processing stages</p> <p>Secondary processing: Breakfast cereals – use different grains and look at sugar and salt content (link in food labelling on packaging – look at breakfast cereal packaging to compare cereal types and nutrients – how healthy are the cereals? Also, link in function of packaging and environmental impact, and marketing of breakfast cereals – who are these cereals aimed at?)</p> <p>Wheat into bread types, pasta</p> <p>Key stages in the bread making process Key stages in the pasta making process</p> <p>Classification Look at the range of cereals grown and eaten across the world</p> <p>Link secondary processing to selected cereals: Wheat – wholemeal, white, self-raising, semolina, etc. Rice –</p>
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<p>Unit 4 Vitamin + Minerals</p> <ul style="list-style-type: none"> • fruit • vegetables 	<p>Function + sources of vitamins + minerals Deficiency + excess of vitamins + minerals Fat soluble vitamins A, D, E ,K Water soluble B&</p> <p>Loss of water soluble vitamins when cooking group B and C Antioxidant functions of vitamins –AC & E</p> <p>Water functions, sources, deficiency, excess</p> <p>Major diet related health risks – iron deficiency anaemia, bone health osteoporosis rickets</p> <p>How peoples' nutritional needs change at different life stages</p> <p>How to plan and modify recipes, meals and diets to reflect the nutritional guidelines for a special diets – low sodium</p>	<p>Enzymic browning / oxidation</p> <p>Effects of preparation and cooking on nutrients</p> <p>NEA1: Nutrient loss with cooking methods experiments</p>	<p>Buying and storing fruit and vegetables</p> <p>Food spoilage (2) enzymic browning / yeast/ moulds growth prevention</p>	<p>Food intolerance (2) Lactose</p> <p>How we taste food olfactory system.</p> <p>Sensory analysis</p>	<p>Seasonal crops</p> <p>Buying locally produce</p> <p>Fair trade</p> <p>Primary processing (4)fruit + veg</p> <p>Secondary processing (4)– jam</p> <p>Fortification (3)– soya milk</p> <p>Food waste</p> <p>Food miles</p> <p>Locally produced</p> <p>Fair trade</p> <p>How/where fruit and vegetables are grown, link to climate, soil types Bring in organic verses non-organic (Soil Association, etc.) Use of pesticides and herbicides – discuss possible impact on health Customer choice can be linked to cost – discuss Food miles Seasonality</p> <p>How commodity is grown/reared and processed Select one or two appropriate fruits/vegetables and discuss growing, harvesting, etc. Suggest link to your own area, e.g. West Country – apples, peas (lots of online videos to show growing, harvesting, storage and processing)</p> <p>Clarify the difference between primary and secondary processing</p>

	<p>Nutritional values (include sources, functions, deficiencies, excess, daily requirements) Recap on 5 a day – link to eatwell plate Cover 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 vitamin content of fruits and vegetables Compare nutrient content of a specific fruit or vegetable – fresh, frozen, canned, dried, etc. Dietary considerations Vegetarians (lacto/lacto-ovo/vegan) Bone health – link in with vitamin D and calcium Healthy blood – link in with vitamin C and iron</p>				<p>Include different methods of preservation (carry out a taste test on one fruit/vegetable by looking at fresh, frozen, canned, dried, jam, juiced, etc.) - link in with methods of sensory testing</p> <p>Link in changes to texture, colour and flavour due to cooking</p> <p>Classification Difference between fruits and vegetables – leaves, stems, roots, tubers, bulbs, etc</p>
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NUTRITION + HEALTH	Yr 10U 1	Yr 10U 2	Yr 10U 3	Yr 10U 4	Yr11
Protein					
function, sources, deficiencies and excess of protein		✓			
low and high biological value proteins		✓			
Protein complementation		✓			
Protein alternatives		✓			
Fat					
function, sources, deficiencies and excess of fat	✓				
saturated fat / unsaturated	✓				
Carbohydrate					
function, sources, deficiencies and excess carbohydrate			✓		
starch (polysaccharides)			✓		
sugars (monosaccharides/ disaccharides)			✓		
dietary fibre (non-starch polysaccharide)			✓		
Vitamin					
Function, sources, deficiencies & excess				✓	
Fat soluble A, D, E & K	✓			✓	
Water soluble B & C				✓	
Loss of water soluble when cooking				✓	
Antioxidant functions				✓	
Minerals					
function, sources, deficiencies and excess minerals				✓	
calcium / iron / sodium (salt) / flouride / iodine / phosphorus				✓	
Water					
Water and hydration				✓	
Making informed choices for a balanced diet					
the current guidelines for a healthy diet / healthy body weight	✓	✓	✓	✓	
portion size and costing when meal planning					✓
nutritional needs at different life stages	✓	✓	✓	✓	✓
plan a balanced meal for specific dietary groups					✓
Energy needs					
the basal metabolic rate (BMR) and physical activity level (PAL) and energy requirements	✓	✓	✓		
the recommended percentage of energy intake	✓	✓	✓		
Diet and health					
the relationship between diet, nutrition and health	✓		✓	✓	
the major diet related health risks	✓	✓	✓		

FOOD SCIENCE	Yr 10 U1	Yr 10 U2	Yr 10 U3	Yr 10 U4	Yr11
Why food is cooked and how heat is transferred to food					
the reasons why food is cooked		✓			
the different methods of heat transfer.	✓	✓	✓	✓	
Selecting appropriate cooking methods					
- water based: steaming, boiling, simmering, blanching, poaching, braising	✓	✓	✓	✓	
- dry methods: baking, roasting, grilling, dry frying	✓	✓	✓	✓	
- fat based: shallow frying, stir fry	✓	✓	✓	✓	
how preparation and cooking affect the appearance, colour, flavour, texture, smell and overall palatability of food	✓	✓	✓	✓	
Proteins					
protein denaturation		✓			
protein coagulation		✓			
gluten formation		✓			
foam formation		✓			
Carbohydrates					
gelatinisation			✓		
dextrinisation			✓		
caramelisation			✓		
Fats and oils					
shortening	✓				
aeration	✓				
plasticity	✓				
emulsification	✓				
Fruit and vegetable					
enzymic browning				✓	
oxidation				✓	
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).			✓		

FOOD SAFETY	Yr 10 U1	Yr 10 U2	Yr 10 U3	Yr 10 U4	Yr11
Microorganisms and enzymes					
the growth conditions for microorganisms and enzymes and the control of food spoilage	✓				
bacteria, yeasts and moulds are microorganisms	✓				
high risk foods	✓				
enzymes are biological catalysts usually made from protein.	✓				
The signs of food spoilage					
enzymic action	✓			✓	
mould growth	✓		✓		
yeast action	✓		✓		
Microorganisms in food production					
The use of microorganisms in food production	✓		✓		
Bacterial contamination					
the different sources of bacterial contamination	✓	✓			
the main types of bacteria which cause food poisoning and their prevention : Salmonella, S. Aureus, Campylobacter, E.Coli	✓	✓			
the general symptoms of food poisoning.	✓	✓			
Buying and storing food					
The food safety principles when buying and storing food.	✓	✓	✓	✓	
Preparing, cooking and serving food					
The food safety principles when preparing, cooking and serving food.	✓	✓	✓	✓	

FOOD CHOICE	Yr 10 U1	Yr 10 U2	Yr 10 U3	Yr 10 U4	Yr11
Factors which influence food choice					
Healthy eating and physical activity level	✓	✓	✓		
Lifestyle, time, cost	✓				✓
Availability / season				✓	
Religion		✓			
Culture					✓
Medical			✓		
Ethical + moral (animal welfare)		✓			
Ethical + moral (sustainability)		✓			
Food labelling and marketing influences					✓
British and international cuisines					
Food products from British tradition and two different cuisines					✓
Sensory evaluation					
Sensory testing methods					✓
How taste receptors and olfactory systems work when tasting food.					✓

FOOD PROVENANCE	Yr 10 U1	Yr 10 U2	Yr 10 U3	Yr 10 U4	Yr11
Food sources					
Where and how grown ingredients: fruits, vegetables				✓	
Where and how grown ingredients: cereals			✓		
Where and how reared ingredients: meat and poultry		✓			
Where and how caught ingredients: fish		✓			
organic and conventional farming / free range production / intensive farming		✓			
Food and the environment / sustainability of food					
seasonal foods				✓	
sustainable fishing		✓			
transportation food miles				✓	
buying locally produced food	✓	✓		✓	
food waste on the home / food production / retailers				✓	
packaging	✓			✓	
climate change / global warming / carbon footprint		✓		✓	
fairtrade				✓	
food security / insufficient land for growing food			✓		
GM food			✓		
Food production					
primary and secondary stages of processing and production	✓	✓	✓	✓	
how processing affects the sensory and nutritional properties of ingredients.	✓	✓	✓	✓	
Fortification	✓		✓	✓	
Additives	✓		✓		

