# Design & Technology - Food

# Curriculum Intent and Long Term Plan – 2024-25

## Subject Intent Statement

In food we aim to improve students' wellbeing by allowing them to develop an appreciation of nutrition and healthy eating, a deep and broad understanding of food, as well as instilling a love of cooking. Learning how to cook healthy, tasty and economical meals is a crucial life skill everyone should be taught. Students will develop a wider understanding of environmental impacts including those relating to food production and an understanding of sustainable choices such as seasonal, local foods, the importance of food provenance, as well as the impact of food waste. Through the analysis of past and present technology we aim to develop an enriched understanding of positive design on the world that we live in. We have high expectations of student's intellectual, creative and practical abilities during problem solving activities, whilst developing the personal skills they will need when entering employment, in order to become a successful and positive member of the local community.

## Key Concepts

| Key Stage 3 | Key Stage 4 |
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| • Food safety<br>• Food nutrition and health<br>• Food science<br>• Food provenance<br>• Food choice<br>• Food preparation skills<br>• Food preparation and cooking techniques | • Research<br>• Investigation<br>• Demonstrating and trialling technical skills<br>• Planning<br>• Analysis<br>• Evaluating |

## Key Language/Terminology

| Key Stage 3 | Key Stage 4 | |
|---|---|---|
| Visible<br>Function<br>Energy<br>Hypothesis<br>Factors | Justify<br>Undertake<br>Research<br>Portion<br>Hypothesis<br>Factors | Adult<br>Finance<br>Impact |

## Year 7

### Curriculum Coherence

**In Year 7 we focus on healthy eating and The Eatwell guide. Where compatible we start to introduce some food science with some simple experiments that link with the topic area being covered.**

| Medium Term Plan Title/Topic | Themes/Concepts | Key Core Knowledge Foci | Application/Skills Foci | Ambitious Tier 2/3 Vocabulary | Assessment | Independent Learning |
|---|---|---|---|---|---|---|
| Health and Safety | Food safety<br>• Personal hygiene<br>• Kitchen Safety | Washing hands<br>Key temperatures<br>Bacterial growth<br>Food storage<br>Using a cooker safely | Washing hands before practical tasks<br><br>Beans on toast | | | Using a cooker safely worksheet. |
| Equipment and knife skills | Food safety<br>• Knife skills<br>• Food spoilage | Bridge and claw<br>Walking with a knife<br>Enzymic browning<br>Bridge and claw<br>How to prevent food spoilage | Knowing which foods need putting in the fridge<br><br>Fruit salad | Hypothesis | | Information sheet on how to handle knives safely.<br><br>Organising and weighing out ingredients for practical lesson |
| Fruit and vegetables | Food, nutrition and health<br>• Carbohydrates<br>• Vegetable | Functions and sources<br>Complex and simple<br>Nutritional value and uses | Pasta salad | | | Research the ways fruit and vegetables can be used in meals<br><br>Organising and weighing out ingredients for practical lesson |

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| Carbohydrates | Food, nutrition and health<br>• Sugar<br>• Fibre | Mono, di and polysaccharides<br>Health issues from too much sugar<br>Importance of fibre in the diet | Fruit crumble | | | Fast Food Babies – video and questions<br><br>Organising and weighing out ingredients for practical lesson |
| Fats and oils | Food, nutrition and health<br>• Fats<br>• Oils | Functions and sourced<br>Structure and uses in food<br>Health implications of too much fat. | Butter and mayonnaise | Visible | | Research Obesity and CHD. |
| Protein and dairy | Food, nutrition and health<br>• Protein<br>• Vegetarians | Functions and sources (plant and animal)<br>HBV and LBV<br>Protein complementation<br>Reasons to become a vegetarian | Fish/chicken goujons | | | Interview a vegetarian/vegan to find out the reasons that they choose vegetarianism<br><br>Organising and weighing out ingredients for practical lesson |

| **Year 8** | **Curriculum Coherence** |
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| | **In Year 8 we start to introduce more scientific knowledge to the curriculum. We start to ask the students to consider why changes happen to food and how we can use the functional properties of nutrients to change the organoleptic qualities of food. We also start to look at food from around the world.** |

| Medium Term Plan Title/Topic | Themes/Concepts | Key Core Knowledge Foci | Application/Skills Foci | Ambitious Tier 2/3 Vocabulary | Assessment | Independent Learning |
|---|---|---|---|---|---|---|
| Micronutrients | Food, nutrition and health<br>• Vitamins<br>• Minerals | Functions and sources<br>Deficiencies and excess | Fruity muffins | Function | | Organising and weighing out ingredients for practical lesson |
| Flour, gluten and yeast | Food science<br>• Cereals<br>• Structure<br>• Raising agents | Types of cereal<br>Types of flour<br>Uses of flour<br>Function of gluten<br>How yeast works | Garlic bread | | | Research the history of scones. |
| Gluten | Food science<br>• Structure of baked products | Function of gluten in more detail | Making scones | Function | | Research why do some people choose/need a gluten free diet.<br><br>Organising and weighing out ingredients for practical lesson |
| World foods | Food choice | What factors affect the cuisine of different countries<br>Land, weather, religion | Bolognese sauce (reduction method) | Factors | | Organising and weighing out ingredients for practical lesson |
| Eggs | Food, nutrition and health<br>Food science<br>• Coagulation | Nutritional value of eggs<br>Function of eggs in cooking | Cloud eggs | | | Menu based on eggs or make an omelette for a family member. |
| Cooking methods | Food science<br>• Heat transfer | Conduction<br>Convection<br>Radiation | Making Spanish Omelette | Energy | | Organising and weighing out ingredients for practical lesson |

## Year 9

**Curriculum Coherence**

**In Year 9 we start to widen the students understanding of food to consider the factors that affect why we choose the food we do. We cover religious aspects and geographical knowledge of environmental impact and sustainability.**

| Medium Term Plan Title/Topic | Themes/Concepts | Key Core Knowledge Foci | Application/Skills Foci | Ambitious Tier 2/3 Vocabulary | Assessment | Independent Learning |
|---|---|---|---|---|---|---|
| Teenage diet | Food, nutrition and health<br>Food choice | What influences choice of food<br>Nutritional requirements<br>Nutritional deficiencies | Quesadillas | | | Organising and weighing out ingredients for practical lesson |
| Reducing food waste | Food Provenance | What is food waste<br>Environmental impacts<br>Methods of reducing food waste | Carrot and apple cupcakes | | | Organising and weighing out ingredients for practical lesson |
| Food labelling | Food choice | Mandatory information<br>Why have it | Chilli con carne (gelatinisation) | | | Organising and weighing out ingredients for practical lesson |
| Asian cuisine | Food choice | Research into the Chinese culture and cuisine | Stir fry | | | Organising and weighing out ingredients for practical lesson |
| Functions of ingredients | Food science | Functions of ingredients used in biscuits | Group investigation | Hypothesis | | Organising and weighing out ingredients for practical lesson |
| Traybake | Food choice | Design and make a traybake suitable for sale in the supermarket | Making a traybake | | | Organising and weighing out ingredients for practical lesson |

## Year 10

**Curriculum Coherence**

**Year 10 is spent concentrating on the delivery of the exam element of the course. It picks up and revisits all areas of Years 7, 8 and 9 and looks at the key themes and concepts in more detail. Regular end of topic assessments ensure that students practice different styles of exam questions throughout.**

| Medium Term Plan Title/Topic | Themes/Concepts | Key Core Knowledge Foci | | Application/Skills Foci | Ambitious Tier 2/3 Vocabulary | Assessment | Independent Learning |
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| **HT1a:**<br>**Principals of Food Safety** | Food safety | • personal hygiene<br>• buying, storing, preparing and cooking food<br>• key temperatures<br>• bacterial contamination | | Omelette Challenge<br>Knife skills<br>Burger - using a food probe (H&S) | | End of topic assessment – Food safety and hygiene | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT1b:**<br>**Macronutrients: Protein** | Food, nutrition and health<br>Food science | • function<br>• sources (HBV/LBV)<br>• deficiency/excess<br>• complementation<br>• alternatives<br>• sensory testing | • denaturation<br>• coagulation<br>• gluten formation<br>• foam formation | Vegetable Curry<br><br>Vegetarian alternatives (taste testing tofu,soya,TVP)<br><br>Bread Rolls<br>Cloud eggs | Function<br>Expand | End of topic assessment – Protein | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT2a:**<br>**Macronutrients: Carbohydrates** | Food, nutrition and health<br>Food science | • function<br>• sources<br>• deficiency/excess<br>• DRV's | • gelatinisation<br>• caramelisation<br>• dextrinization | Courgette, onion and cheese muffins -high in carbohydrates<br>Macaroni Cheese - gelatinisation | Function<br>Energy | End of topic assessment – Carbohydrates | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions |

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| **HT2b:**<br>**Macronutrients: Fats** | Food, nutrition and health<br><br>Food science | • function<br>• sources<br>• deficiency/excess<br>• DRV's | • shortening<br>• plasticity<br>• emulsification<br>• aeration | Pastry experiment – outcomes when using different types of fats<br><br>Chocolate Log – whisking aeration | Function<br>Energy<br>Visible | End of topic assessment – Fats | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT3a:**<br>**Micronutrients: Vitamins and minerals** | Food, nutrition and health | • function<br>• sources<br>• deficiency/excess<br>• DRV's<br><br>• Protecting cells from damage<br><br>• Function<br>• How lost from body<br>• How much the body needs<br>• When is extra required | | Creating a PowerPoint Presentation on the different vitamins and minerals | Function | End of topic assessment – Micronutrients | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT3b:**<br>**Cooking methods and heat transfer** | Food science<br><br>Food science | • Conduction<br>• Convection<br>• Radiation<br><br>• Why is food cooked<br>• Water (boil, steam,simmer,poach, blanche,braise)<br>• Fat (shallow and stir frying)<br>• Dry (bake, roast, grill, dry fry) | | Stuffed Peppers<br>Pancakes<br>Raising Agents Experiment<br><br>Sausage rolls/Cheese twists (puff pastry) | | End of topic assessment – Cooking methods | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT4a:**<br>**Changing nutritional requirements** | Food, nutrition and health<br><br>Food choice<br><br>Food, nutrition and health | • Children<br>• Teenagers<br>• Adults<br>• Elderly<br><br>• Obesity<br>• BMI<br>• BP<br>• CVD/CHD<br>• Bone (rickets, osteoporosis)<br>• Dental health<br>• Iron deficiency - anaemia<br>• Type 2 diabetes.<br>Using Explore Food to calculate current nutritional information and data calculate energy and nutritional value. | | Using nutritional analysis programme on FaFoL<br><br>Jointing a chicken<br>Jambalaya<br>Lemon, garlic and thyme chicken<br>Cheesecake | Portion<br>Adult<br>Finance<br>Impact<br>Media<br>Factors | End of topic assessment – Changing nutritional requirements (long answer questions) | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT5:**<br>**Food processing** | Food science<br><br>Food science<br><br>Food choice | Milk → cheese<br>Wheat → flour<br><br>Yeast (bread, beer)<br>Bacteria (yoghurt, cheese)<br>Micro-organisms:<br>• enzymes<br>• uses in food production<br>Enzymic browning/oxidation<br>Nutritional needs<br>Food labelling<br>Religion and food | | Taste testing milk (primary)<br><br>Making cheese (secondary)<br><br>Making pasta (secondary) and pasta sauce | Process | End of topic assessment – Food processing | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |

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| **HT6:**<br>Environmental impact and sustainability of food | | Sensory analysis<br>Raising agents<br>Seasonal foods<br>Food sources<br>Technological developments<br>Food packaging and waste | Taste testing crisps<br>Profiteroles | | End of topic test - Environmental impact and sustainability of food | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |

# Year 11

## Curriculum Coherence

**In Year 11 students will complete NEA1 in HT1 with NEA2 being completed throughout the rest of the year. NEA1 task is published on 1st September, NEA2 task is published on 1st November. Regular revision lessons will be set aside to prepare for the final exam in June with HT5 being full devoted to revision activities and exam practice.**

| Medium Term Plan Title/Topic | Themes/Concepts | Key Core Knowledge Foci | Application/Skills Foci | Ambitious Tier 2/3 Vocabulary | Assessment | Independent Learning |
|---|---|---|---|---|---|---|
| **HT1:**<br>NEA1: Food investigation (30 marks) Students' understanding of the working characteristics, functional and chemical properties of ingredients | Research<br><br>Investigation<br><br>Analysis and evaluation | • analyse the task, explaining the background research<br>• carry out secondary research, using different sources, focusing on the working characteristics, functional and chemical properties of the ingredients<br>• analyse the research and use the findings to plan the practical investigation<br>• establish a hypothesis/predict an outcome as a result of the research findings.<br><br>• Investigate and evaluate how ingredients work and why through practical experimentation<br>• A range of appropriate testing methods should be identified and carried out to record the results e.g. annotated photographs, labelled diagrams, tables, charts, sensory testing methods, viscosity tests<br><br>• analyse and interpret the results of the investigative work • evaluate the hypothesis/prediction with justification<br>• explain how the results/findings can be applied in practical food preparation and cooking. | Practical investigations | Research<br>Undertake<br>Justify<br>Hypothesis | Written report (1,500–2,000 words) including photographic evidence of the practical investigation. | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT2:**<br>NEA2 | Researching the task | • analyse the task explaining the research requirements<br>• carry out relevant research and analysis<br>• identify a range of dishes<br>• select and justify a range of technical skills to be used in the making of different dishes. | | Research<br>Undertake | Production of a portfolio. The portfolio is not to exceed 20 sides of A4 or A3 equivalent.<br><br>Students will be taken off timetable to prepare, cook and present a final menu of three dishes within a single period of no more than 3 hours | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook |
| **HT3:**<br>NEA2 | Demonstrating technical skills | • demonstrate technical skills<br>• select and use equipment for different technical skills<br>• demonstrate food safety principles<br>• identify the technical skills within each dish<br>• select three dishes to showcase technical skills | Making trial dishes | Justify | | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook<br>Practicing dishes at home |

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| **HT4:**<br>NEA2 | Planning for the final menu<br><br>Making the final dishes<br><br>Analyse and evaluate | • justify the appropriateness of the final<br>• produce a detailed time plan<br>• demonstrate food safety principles<br>• demonstrate appropriate use of the three hours to dovetail tasks to prepare, cook and present the final three dishes<br>• record and analyse the sensory properties<br>• carry out nutritional analysis<br>• analyse the cost | 3 hour practical exam | Justify | | Organising and weighing out ingredients<br>Use revision book to check knowledge and practice series of exam questions<br>Flip learning using digital workbook<br>Practicing dishes at home |
| **HT5:**<br>Exam Revision | | | | | | |