**Little Heath Sixth Form**

**(Subject)** Personal Learning Checklist

**Student Name: ……………………….…………………………………..………**

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| **Unit Name:**  *Nutrition and Food Production* | **Unit Code:**  A2 Unit G004: |
| *Minimum Target Grade:* | *Aspirational Target Grade:* |

*KEY:* ***Red =*** *with difficulty* ***Amber*** *= not sure* ***Green*** *= yes*

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| **GCSE Re-Cap (Skills and Knowledge)** | **Red** | **Amber** | **Green** |
| **Understand the nutritional properties of food** |  |  |  |
| * examine the nutritional properties of ingredients/• food products. An understanding of the nutritional characteristics of the main nutrients: proteins, fats, carbohydrates – sugars and starches, vitamins and minerals – Vitamins A, B, C and D, Calcium, Iron; |  |  |  |
| * have knowledge of nutritional advice. Interpret and • apply current nutritional/healthy eating guidelines, e.g. apply the recommendations of the ‘Eat well plate’, 5 a day, high fibre (NSP); |  |  |  |
| * be able to apply the nutritional advice when • analysing existing food products. Understand that diets with deficiencies or excesses of particular nutrients may lead to health related problems; |  |  |  |
| * investigate nutritional and dietary needs of • different target groups: including vegetarians, diabetics, coeliacs, calorie controlled, those with nut allergies and lactose intolerance; |  |  |  |
| * understand how different functional properties • of foods/ingredients affect finished products and achieve desired outcomes through product appraisal, investigations and food preparation |  |  |  |
| * The importance of appropriate proportions on the structure, shape and volume of mixtures |  |  |  |
| * demonstrate how accurate measurement, ratio • and proportioning affect preparation, making and shaping of products to designated criteria to achieve acceptable outcomes; |  |  |  |
| * investigate the adaptation of amounts in mixtures: • cakes, pastry, sauces, bread, biscuits; |  |  |  |
| * through experiment, investigation and product • development understand the importance of using appropriate amounts and types of ingredients and processing techniques to meet designated criteria and tolerances; |  |  |  |
| **The use, need and effect of additives** |  |  |  |
| * Understand the use of natural and artificial • additives in food products: |  |  |  |
| * Preservatives, e.g. vinegar, concentrated lemon juice, salt, sugar |  |  |  |
| * Colourings, e.g. caramel, tartrazine, |  |  |  |
| * Flavourings, e.g. herbs and spices, vanilla, monosodium glutamate |  |  |  |
| * Emulsifiers, e.g. lecithin; |  |  |  |
| **Product prototype development** |  |  |  |
| * identify ways in which a product could be • developed; |  |  |  |
| * carry out modification and reformulation by • changing the type, ratio and proportions of ingredients to meet nutritional/sensory aspects of the specification; |  |  |  |
| * work with small quantities to identify the impact of • the functions of ingredients on an outcome; |  |  |  |
| * use investigations and testing to trial different • shapes, sizes, finishes to achieve a high quality outcome which meets the specification; |  |  |  |
| * consider different storage methods (chilling, • freezing, re-heating) wherever appropriate to identify the impact on the sensory, structural and aesthetic properties of an outcome; |  |  |  |
| * demonstrate how availability of ingredients, • equipment and processes can alter or determine an end product; |  |  |  |
| * use a range of sensory testing methods to • carry out rigorous sensory analysis at each stage of development (product profile tests, ranking and rating tests, difference tests). Identify the impact of each development against the product specification and on the product’s acceptability; |  |  |  |
| * produce a manufacturing specification which lists • the information a manufacturer would need in order to produce the prototype in quantity; |  |  |  |
| * understand why and identify where standard • components would be used in the manufacture of the product; |  |  |  |
| * produce a production plan for the prototype in a • test kitchen identifying quality control checks; |  |  |  |
| **Labelling, packaging, product information and codes of practice** |  |  |  |
| * **use current labelling requirements to read, • understand and use information on packaging and food labels and apply these to their own products;** |  |  |  |
| * **understand that legislation governs the statutory and • non‑statutory content and layout for food labels;** |  |  |  |
| * **understand and demonstrate the requirements for • conveying product information to the consumer including, where necessary, information about accompaniments;** |  |  |  |
| * **use nutritional software to analyse the nutritional • content of the final prototype;** |  |  |  |
| * **understand the reasons why food may be • packaged in different forms to extend shelf life;** |  |  |  |
| **Technological Developments** |  |  |  |
| * **Understand the advantages and disadvantages of • Genetically Modified Foods to food producers and consumers;** |  |  |  |
| * **Explore, understand and assess the impact of the • use of modified starches and functional foods to food producers and consumers.** |  |  |  |
| * **Have an awareness of how new technologies • are used to produce new foods and ingredients, including nano foods and be aware of consumer concerns around these developments, including the views of the European Union.** |  |  |  |

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| **Skills** | **Red** | **Amber** | **Green** | **To address this before the exam I will:-** |
| * develop and apply knowledge and understanding |  |  |  |  |
| * develop an awareness of the management of resources to meet an identified human need in a diverse and ever-changing society |  |  |  |  |
| * critically evaluate evidence to justify informed decisions |  |  |  |  |
| AO1 Knowledge and understanding |  |  |  |  |
| * Demonstrate knowledge and understanding of the |  |  |  |  |
| AO2 Apply knowledge and understanding |  |  |  |  |
| * Demonstrate the ability to apply knowledge, understanding and skills in a variety of situations and |  |  |  |  |
| * to analyse problems, issues and situations using appropriate skills. |  |  |  |  |
| AO3 Organise, evaluate and justify |  |  |  |  |
| * Demonstrate the ability to gather, organise and select information, evaluate acquired knowledge and understanding and present and justify an argument. |  |  |  |  |
| **Knowledge/Specification** |  |  |  |  |
| * Introduction to nutrition |  |  |  |  |
| **Concepts** |  |  |  |  |
| * the concept of nutrition; |  |  |  |  |
| * the concept of a balanced diet; |  |  |  |  |
| * the concept of malnutrition in the UK. |  |  |  |  |
| * Nutrients and energy |  |  |  |  |
| The macronutrients proteins |  |  |  |  |
| * the dietary functions and sources of proteins; |  |  |  |  |
| * the sources of novel proteins; |  |  |  |  |
| * the biological value of proteins. |  |  |  |  |
| Fats |  |  |  |  |
| * the dietary functions and sources of fats; |  |  |  |  |
| * the types including saturated and unsaturated fatty acids; |  |  |  |  |
| * the dietary function and sources of essential fatty acids. |  |  |  |  |
| Carbohydrates |  |  |  |  |
| * the dietary functions and sources of starches and sugars including dietary fibre/non-starch polysaccharide. |  |  |  |  |
| The micronutrient vitamins |  |  |  |  |
| * the dietary function and sources of fat-soluble vitamins A,D,E and K; |  |  |  |  |
| * the dietary function and sources of watersoluble vitamins C, B group to include folic acid, thiamine, riboflavin, niacin, vitamin B6 and vitamin B12; |  |  |  |  |
| * the effects of deficiencies and excesses of vitamins; |  |  |  |  |
| * The effects of storage, preparation and cooking on vitamin C content; |  |  |  |  |
| * the value of vitamin supplements in the diet. |  |  |  |  |
| Minerals |  |  |  |  |
| * the dietary function and sources of minerals including iron, calcium, phosphorus, potassium, zinc, fluoride, sodium, iodine, magnesium; |  |  |  |  |
| * the effects of deficiencies and excesses of minerals; |  |  |  |  |
| * the relationship between vitamins and minerals to include vitamin C and iron, vitamin D and calcium. |  |  |  |  |
| Energy |  |  |  |  |
| * the good sources of energy to the United Kingdom diet; |  |  |  |  |
| * the concept of energy balance and the factors affecting an individual’s requirement; |  |  |  |  |
| * the effects of imbalance, including obesity. |  |  |  |  |
| Groups with nutritional and dietary needs |  |  |  |  |
| the dietary and nutritional needs of |  |  |  |  |
| * babies, |  |  |  |  |
| * pre-school children, |  |  |  |  |
| * young children, |  |  |  |  |
| * adolescents, |  |  |  |  |
| * adults, |  |  |  |  |
| * elderly, |  |  |  |  |
| * vegetarians, |  |  |  |  |
| * pregnant and lactating women. |  |  |  |  |
| * Properties of food |  |  |  |  |
| the nutritional value, choice and use of the following products in the diet: |  |  |  |  |
| * meat, |  |  |  |  |
| * fish, |  |  |  |  |
| * eggs, |  |  |  |  |
| * dairy products, |  |  |  |  |
| * alternative protein sources, |  |  |  |  |
| * cereals, |  |  |  |  |
| * pulses, |  |  |  |  |
| * fats and oils, |  |  |  |  |
| * fruit and vegetables, |  |  |  |  |
| * sugars and sugar substitutes; |  |  |  |  |
| the performance characteristics of: |  |  |  |  |
| * eggs |  |  |  |  |
| * flour; |  |  |  |  |
| the behaviour changes, including: |  |  |  |  |
| * beating, |  |  |  |  |
| * whisking, |  |  |  |  |
| * shortening, |  |  |  |  |
| * kneading, |  |  |  |  |
| * heating, |  |  |  |  |
| which may occur in the production of food products, eg bread, cakes, sauces, pastry; |  |  |  |  |
| the role and function of additives in the food industry, to |  |  |  |  |
| * glass, |  |  |  |  |
| * paper, |  |  |  |  |
| * board, |  |  |  |  |
| * metal foil * plastics; |  |  |  |  |
| * preservatives, |  |  |  |  |
| * antioxidants, |  |  |  |  |
| * colouring, |  |  |  |  |
| * flavourings, |  |  |  |  |
| * flavour enhancers, |  |  |  |  |
| * emulsifiers and stabilisers |  |  |  |  |
| * nutritional additives. |  |  |  |  |
| the advantages and disadvantages of these materials to the manufacturer, retailer and consumer; |  |  |  |  |
| the importance of food labelling and current legislation; |  |  |  |  |
| the current approaches to nutritional labelling. |  |  |  |  |
| * food safety and health issues, * technological * social changes; |  |  |  |  |
| the developments in the range and type of food products available; |  |  |  |  |
| the reasons for the changes in the availability and supply of food and food products in the United Kingdom. |  |  |  |  |
| * Design, development and production of food   the process of design, development and production of food products, to include: |  |  |  |  |
| * concept generation, |  |  |  |  |
| * concept screening, |  |  |  |  |
| * development and testing, |  |  |  |  |
| * production methods, |  |  |  |  |
| * packaging and labelling, |  |  |  |  |
| * advertising |  |  |  |  |
| * launch; |  |  |  |  |
| the costs involved in design, development and production of food products to include: |  |  |  |  |
| * raw materials and labour, |  |  |  |  |
| * factory and machinery costs, |  |  |  |  |
| * packaging, |  |  |  |  |
| * distribution, |  |  |  |  |
| * advertising, * marketing, * how products are priced; |  |  |  |  |
| * the importance and types of sensory analysis tests used in food production; |  |  |  |  |
| * the importance of risk assessment, including Hazard Analysis and Critical Control Point (HACCP) in the food industry; |  |  |  |  |
| the importance of food packaging and the range of materials used to include: |  |  |  |  |
| * Developments in the Food Industry |  |  |  |  |
| * the current issues in the food industry in the United Kingdom; |  |  |  |  |
| the major factors that affect food production, including: - - environmental and moral concerns, |  |  |  |  |

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| **REVISION**  **Use the information on this checklist to make revision cards and notes** |

**Grade tracking:**

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| *Grade* | *Date* | *Grade* | *Date* | *Grade* | *Date* |
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| *Grade* | *Date* | *Grade* | *Date* | *Grade* | *Date* |
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*Note: You should discuss this checklist regularly with your subject teacher/mentor*