

# KS5 Curriculum Overview: Food Science and Nutrition

## 2021-2022

### Core aims of Level 3 Food Science and Nutrition

The intent of the Food Science and Nutrition curriculum is to continue to ensure students are prepared for life in terms of understanding food for the future. During the course, students will have the experience of learning about food through a wide variety of topics, pushing the boundaries of what they've been taught at key stage 4. Nutrition and health plays a massive role in day to day life, with more and more people becoming obese and suffering from diet related diseases. Students will have the opportunity to look into this in detail and study the effects whilst preparing them for a healthy future life. Students will also have the opportunity to study the nutrition and diet of specific groups, such as the nutritional needs of a young adult and how it differs from a young adult with a specific illness. The study of food choice is so important, we live in a world where some individual's choices are misunderstood, this section of the course explains about different dietary choices in terms of religion and in terms of moral choice (for example: being a vegetarian), this gives an insight into the amazingly diverse world that we live in. Students will use this knowledge to complete their practical cooking exam, where they will plan and cook a meal for a specific group. Students will also look into the safety of food and how they can ensure food is safe to eat, this topic is vital and gives students the understanding of food borne illnesses and ways in which they can be prevented. Finally students will have the opportunity to research and experiment with the functions of ingredients, finding the best possible outcomes to create a particular dish. This involves research and controlled experiments which will develop students understanding of how different foods work alone and together.

Students will be taught how to prepare, cook and create certain dishes in the kitchen and successfully present their dishes. These practical skills can be taken forward to their cooking exam and future life as an adult. This element of the course not only produces excellent products in the kitchen and reinforces learning, but boosts self-confidence and self-esteem.

Food Science and Nutrition opens the door to a large number of fascinating and rewarding careers in the food industry, such as a: nutritionist, food scientist, dietician, sports nutrition, product development technologist, Chef, business owner, quality control, Environmental Health Officer, Food journalist. Not only does Food open doors to these amazing career opportunities, it also is a pathway into University and studying Food related courses at Degree level and at Apprenticeship level.

Mandatory units:

- **Unit 1** – Meeting nutritional needs of specific groups
- **Unit 2** – Ensuring food is safe to eat Students then have a choice between studying:
- **Unit 3** – Experimenting to solve food production problems
- **Unit 4** – Current issues in food science and nutrition

**Trips and visits**

Past Trips:

BBC Good Food Show

Nantwich Food Festival

Chef Visits

Environmental Health Officer visit

**Assessment**

**Unit 1: Meeting Nutritional Needs of Specific Groups**

- Mandatory unit completed in Y12
- 180 guided learning hours
- Both **internally** and **externally** assessed

Details of the **external** unit 1 assessment are as follows:

- 90 minute examination; plus 15 minutes reading time.
- A total of 90 marks with three sections on the paper (Section A is short answer questions, Section B is extended answer questions and Section C relates to a case study).
- Each paper will be available in June of each year and learners are allowed two resit opportunities with the highest grade contributing towards the overall grade for the qualification.
- The paper will be graded Level 3 Pass, Level 3 Merit and Level 3 Distinction.

For the **internal** unit 1 assessment students will be involved in a 3 and a half hour cooking assessment where they have to plan, prepare and cook food items to match a brief set by WJEC. Students will produce a controlled assessment to go alongside this practical exam which will relate to the learning objectives that they are taught in Y12 (1-6) and the success criteria provided by WJEC.

**Unit 2: Ensuring Food is Safe to Eat**

- Mandatory unit completed in Y13
- 90 guided learning hours
- External assessment released on the 1<sup>st</sup> May in Y13

In Y13 students get an option of selecting 1 of 2 units to study (unit 3 or unit 4). There details can be seen below:

**Unit 3: Experimenting to Solve Food Production Problems**

- Optional unit completed in Y13
- 90 guided learning hours
- Internal assessment which involves practical experimentation

**Unit 4: Current Issues in Food Science and Nutrition**

- Optional unit completed in Y13
- 90 guided learning hours
- Internal assessment which involves practical experimentation

**Homework**

- |                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Past papers and exam questions</li><li>• Mini projects</li><li>• Revision ready for Y12 exam</li></ul>                                                                                                               |
|                                                                                                                                                                                                                                                              |
| <b>Clubs and/or intervention</b>                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"><li>• Catch up clubs available as per the technology department timetable</li><li>• Enrichment opportunities available with lower school development</li><li>• Careers convention enrichment opportunity</li></ul>         |
|                                                                                                                                                                                                                                                              |
| <b>Parental/Carer support</b>                                                                                                                                                                                                                                |
| <ul style="list-style-type: none"><li>• Course book: WJEC Level 3 Certificate in Food Science and Nutrition by Anita Tull and Jillian Bryant</li><li>• Refer to My Child At School for deadlines</li></ul>                                                   |
|                                                                                                                                                                                                                                                              |
| <b>Helpful sources of information</b>                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"><li>• Course book: WJEC Level 3 Certificate in Food Science and Nutrition by Anita Tull and Jillian Bryant • All teacher made resources will be available to students</li><li>• My Child At School for deadlines</li></ul> |

### Clubs and/or intervention

- Catch up clubs available as per the technology department timetable
- Enrichment opportunities available with lower school development
- Careers convention enrichment opportunity

### Parental/Carer support

- Course book: WJEC Level 3 Certificate in Food Science and Nutrition by Anita Tull and Jillian Bryant
- Refer to My Child At School for deadlines

### Helpful sources of information

- Course book: WJEC Level 3 Certificate in Food Science and Nutrition by Anita Tull and Jillian Bryant • All teacher made resources will be available to students
- My Child At School for deadlines

## Year 12 Overview

Term	Knowledge	Assessment	Connections to learning	Connections to future pathways
Autumn 1	<b>Big Idea:</b>  Unit 1: Meeting the Needs of Specific Groups (Learning Objectives 2, 3, 5 + 6)			
	Introduction to course: <ul style="list-style-type: none"> <li>○ Completion of bridging task</li> <li>○ Dietary profile analysis of own diet relating to Eatwell Guide</li> </ul>	<ul style="list-style-type: none"> <li>○ Initial project assessment</li> </ul>	Referring back to KS4 food knowledge – Eatwell Guide	Careers <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul>
	Unit 1 Unit 1 – <b>LO3</b> Understand the relationship between nutrients and the human body <ul style="list-style-type: none"> <li>○ AC3.1: describe functions of nutrients in the human body (growth, development, energy and regulating metabolism – in detail)</li> <li>○ AC3.2: explain characteristics of unsatisfactory nutritional intake (characteristics:</li> </ul>	<ul style="list-style-type: none"> <li>○ Practical feedback</li> <li>○ Knowledge tests</li> <li>○ Exam style questions</li> </ul>	Refers back to KS3 Food knowledge and develops upon this	Future learning <ul style="list-style-type: none"> <li>○ University courses</li> </ul>

visible and nonvisible,  
unsatisfactory  
nutritional  
deficiencies,  
nutritional excess)

- AC3.3: analyse  
nutritional needs of  
specific groups  
(different life stages:  
childhood, adulthood,  
female pre/post-natal  
and  
pre/postmenopausal,  
male, elderly. Medical  
conditions: type 1  
diabetes, type 2  
diabetes,  
hypercholesterolemia,  
anaemia, lactose  
intolerant, coeliac  
disease. Culture:  
religious beliefs,  
lifestyle choices, e.g.  
Vegans/vegetarians)
- Adapting recipes to  
suit different needs
- Mini briefs for specific  
individuals – help  
towards Section C for  
U1 exam.

Unit 1 – **LO2**  
Understand properties of  
nutrients

○ AC2.1: explain how nutrients are structured (proteins,

lipids, carbohydrates, minerals, vitamins, water)

- AC2.2: classify nutrients in foods (biological value, glycemic value, nutrient density, sources of nutrients, complimentary actions of nutrients)
- AC2.3: assess the impact of food production methods on nutritional value (cooking methods, packaging, storage methods, preservation methods, fortification of food)

Unit 1 – **LO5/6** Be able to plan production of complex dishes AND be able to cook complex dishes

Autumn  
2

**Big Ideas:**

Unit 1: Meeting the Needs of Specific Groups (Learning Objectives 1, 5 + 6)

	<p>Unit 1 – <b>LO1</b> Understanding the importance of food safety</p> <ul style="list-style-type: none"> <li>○ AC1.1: explain how individuals can take responsibility for food safety (employers and employees)</li> <li>○ AC1.2: explain methods used by food handlers to keep themselves clean and hygienic (personal hygiene and protective clothing)</li> <li>○ AC1.3: explain methods used to keep work areas clean and hygienic (waste disposal, signage and kitchen design)</li> <li>○ AC1.4: analyse risks associated with food safety (risk causes: bacteria, food spoilage, high risk foods, contamination, allergens. Risk implications: to consumers and businesses)</li> </ul> <p>Unit 1 – <b>LO5/6</b> Be able to plan</p>	<ul style="list-style-type: none"> <li>○ Practical feedback</li> <li>○ Knowledge tests</li> <li>○ Exam style questions</li> <li>○ Case study assessment</li> <li>○ Folder checks</li> </ul>	<p>Building knowledge gained at KS4 food level</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	production of complex			
--	--------------------------	--	--	--

	<p>dishes AND be able to cook complex dishes</p> <ul style="list-style-type: none"> <li>● Mini briefs for specific individuals – help towards Section C for U1 exam.</li> </ul>			
<p><b>Spring 1</b></p>	<p><b>Big Idea:</b></p> <p>Unit 1: Meeting the Needs of Specific Groups (Learning Objectives 4, 5 + 6)</p> <p><b>Internal Unit 1 controlled assessment – begin in February</b></p>			

	<p>Unit 1 – <b>LO4</b> Be able to plan nutritional requirements</p> <ul style="list-style-type: none"> <li>○ AC4.1: evaluate fitness for purpose of diets (Fitness for purpose: nutritional, against guidelines, weight maintenance, to satisfy personal needs – hunger, avoid monotony and eating patterns)</li> <li>○ AC4.2: calculate nutritional requirements for</li> </ul>	<ul style="list-style-type: none"> <li>○ Practical feedback</li> <li>○ Knowledge tests</li> <li>○ Exam style questions</li> <li>○ Case study assessment</li> <li>○ Folder checks</li> </ul>		<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>given individuals (Calculate: BMR, dietary reference values, physical activity factor and deficit/excess nutrient intake. Individuals: different life stages, different activity levels, different medical conditions, different eating patterns and different environments)</p> <p>Unit 1 – <b>LO5/6</b> Be able to plan production of complex dishes AND be able to cook complex dishes</p>			
	<p>Start Unit 1 internal controlled assessment set by WJEC (February)</p> <ul style="list-style-type: none"> <li>○ Time plans</li> <li>○ Justification of complex dishes</li> </ul>	<ul style="list-style-type: none"> <li>○ Internally assessed controlled assessment</li> </ul>	<p>Using mark scheme and past knowledge from course so far to complete controlled assessment</p>	
<p><b>Spring 2</b></p>	<p><b>Big Idea:</b></p> <p><b>Unit 1 internal controlled assessment practical exam – 3 and a half hours</b></p> <p><b>Unit 1 internal controlled assessment ends</b> Revision for Unit 1 external exam - June</p>			

	<ul style="list-style-type: none"> <li>○ Completion of Unit 1 - 3 and a half hour practical exam (March)</li> <li>○ Completion of Unit 1 internal controlled assessment</li> <li>○ Revision for exam in June focusing in sections A-C and how to answer/tackle questions</li> </ul>	<ul style="list-style-type: none"> <li>○ Internally assessed controlled assessment</li> <li>○ Exam style questions</li> <li>○ Past papers</li> <li>○ Folder checks</li> </ul>	<ul style="list-style-type: none"> <li>○ Using mark scheme and past knowledge from course so far to complete controlled assessment and practical exam.</li> <li>○ Recalling of knowledge learnt so far in course.</li> </ul>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
<p><b>Summer 1</b></p>	<p><b>Big Idea:</b></p> <p>Unit 1: Meeting the Needs of Specific Groups Revision for exam</p> <p><b>Unit 1 external assessment - exam paper</b></p>			
	<ul style="list-style-type: none"> <li>○ Unit 1 must be with moderator by 15<sup>th</sup> May</li> <li>○ Revision for exam in June focusing in sections A-C and how to answer/tackle questions</li> </ul>	<ul style="list-style-type: none"> <li>○ Exam style questions</li> <li>○ Past papers</li> <li>○ Folder checks</li> </ul>	<p>Recalling of knowledge learnt so far in course</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>

	Unit 1 external assessment: Exam paper: 90 minutes + 15 minute reading time	Exam paper: 90 minutes + 15 minute reading time		
--	--------------------------------------------------------------------------------	-------------------------------------------------	--	--

<b>Summer 2</b>	<b>Big Idea:</b>  Unit 2: Ensuring Food is Safe to Eat Begin note preparations for Y13 (Learning Objective 1 + 2)			
---------------------	-------------------------------------------------------------------------------------------------------------------------------	--	--	--

	<p>Unit 2 preparation: Ensuring Food is safe to eat</p> <p>Unit 2 - <b>LO1</b>: understand how microorganisms affect food safety</p> <ul style="list-style-type: none"> <li>○ AC1.1: describe properties of microorganisms (microorganisms: bacteria, viruses and fungi. Properties: size, location, cellular structure, pathogenicity, growth/reproduction)</li> <li>○ AC1.2: assess how changing conditions affect growth of microorganisms in different environments (Conditions: temperature, pH, oxygen, water and nutrients. Environments: preparation, cooking, serving, storing,</li> </ul>			<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>transporting, outdoors and temporary)</p> <ul style="list-style-type: none"><li>○ AC1.3: explain how microorganisms affect food quality (Quality: appearance, texture, smell/aroma, taste, non-visible effects, nutritional content)</li><li>○ AC1.4: assess how preservation methods prevent the growth of micro-organisms (Preservation methods: freezing, jamming, drying, pickling, salting, additives)</li></ul> <p>Unit 2 - <b>LO2</b>: understand how food can cause ill health</p> <ul style="list-style-type: none"><li>○ AC2.1: explain the physiology of food intolerances (lactose intolerance, wheat intolerance, chemicals in foods)</li><li>○ AC2.2: explain the physiological basis of food allergies (eggs, milk, soya, wheat, peanuts, crustaceans, nuts, fish)</li><li>○ AC2.3: explain the physiological basis of</li></ul>			
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

	food poisoning (foods affected, causative bacteria and viruses, physiological effects) ○ AC2.4: describe the symptoms of food induced ill health (visible symptoms, non -visible symptoms, length of time until symptoms appear, duration of symptoms, level of contagion)			
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

## Year 13 Overview

Term	Knowledge	Assessment	Connections to learning	Connections to future pathways
Autumn 1	<b>Big Idea:</b>  Unit 2: Ensuring Food is Safe to Eat Note preparations for external controlled assessment on <b>1<sup>st</sup> May</b> (Learning Objective 1, 2 + 3)			

	<p>Unit 2 Introduction to food safety (visit/professional talk relating to food safety in industry) Unit 2 - <b>LO1</b> understand how microorganisms affect food safety</p> <ul style="list-style-type: none"> <li>○ <b>AC1.1:</b> describe properties of microorganisms (microorganisms: bacteria, viruses and fungi. Properties: size, location, cellular structure, pathogenicity, growth/reproduction)</li> <li>○ <b>AC1.2:</b> assess how changing conditions affect growth of microorganisms in different environments (Conditions: temperature, pH, oxygen, water and nutrients. Environments: preparation, cooking, serving, storing, transporting, outdoors and temporary)</li> <li>○ <b>AC1.3:</b> explain how microorganisms affect</li> </ul>	<ul style="list-style-type: none"> <li>○ Assessing detailed note taking to support student in controlled task</li> <li>○ Mock U2 assessments</li> </ul>	<p>Unit 2 is released on 1<sup>st</sup> May. This work will prepare students for this task.</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	food quality (Quality: appearance, texture,			
--	------------------------------------------------	--	--	--



smell/aroma, taste, non-visible effects, nutritional content)

- **AC1.4:** assess how preservation methods prevent the growth of micro-organisms (Preservation methods: freezing, jamming, drying, pickling, salting, additives)

Unit 2 - **LO2** understand how food can cause ill health

- **AC2.1:** explain the physiology of food intolerances (lactose intolerance, wheat intolerance, chemicals in foods)

- **AC2.2:** explain the physiological basis of food allergies (eggs, milk, soya, wheat, peanuts, crustaceans, nuts, fish)

- **AC2.3:** explain the physiological basis of food poisoning (foods affected, causative bacteria and viruses, physiological effects)

○ **AC2.4:** describe the symptoms of food induced ill health



(visible symptoms, non-visible symptoms, length of time until symptoms appear, duration of symptoms, level of contagion)

Unit 2 - **LO3** understand how food safety is managed in different situations

- **AC3.1:** describe food safety hazards in different environments (preparation, cooking, serving, storing, transporting, outdoors, temporary)
- **AC3.2:** assess risk to food safety in different environments (likelihood of hazard, potential of hazard to harm, individuals likely to be affected, foods likely to be affected)
- **AC3.3:** explain control measures used to minimise food safety risks (good hygiene practices, preventing

	cross contamination, disposal of waste,			
--	--------------------------------------------	--	--	--

	<p>following food safety legislation, effective cleaning, effective food storage)</p> <ul style="list-style-type: none"> <li>○ <b>AC3.4:</b> justify proposals for control measures in different environments (presenting a case for action, use of evidence to support proposal)</li> <li>○ Start Unit 3 mock (as can be seen in detail in Autumn 2)</li> </ul>			
<p><b>Autumn 2</b></p>	<p><b>Big Idea:</b></p> <p>Unit 3: Experimenting to Solve Food Production Problems  Mock and <b>Unit 3 internal assessment begins</b>  (Learning Objective 1, 2 + 3)  Individual revision for any student/s wishing to retake the Y12 Unit 1 external exam (June)</p>			

	<p>Unit 3 Mock Unit 3 task to allow students to understand requirements and success criteria. Unit 3 - <b>LO1</b> understand the scientific properties of food <b>○ AC1.1:</b> explain how food properties can be changed (denaturation,</p>	<p><b>○</b> Mock will be assessed with targets for improvements which will be applied by the student to the real U3 task</p>	<p>Recalling past knowledge from units 1 and 2 – especially why ingredients work and how. This also touches base with NEA 1 completed at Y11 Food Preparation and Nutrition level</p>	<p>Careers  <b>○</b> Food Scientist  <b>○</b> Dietician / Nutritionist / Sports Nutrition  <b>○</b> New Product Development Technologist  <b>○</b> Chef / Business Owner  <b>○</b> Quality Control / Environmental Health  <b>○</b> Food Journalism</p> <p>Future learning  <b>○</b> University courses</p>
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

gelatinisation,  
caramelisation,  
emulsification,  
solsgels)

- **AC1.2:** explain variables that affect physical properties of food (temperature, chemical reaction, manipulation: stirring, beating and whisking)

Unit 3 - **LO2** be able to scientifically investigate changes to food

- **AC2.1:** set success criteria for scientific investigations (comparison to food made with “standard” ingredients, appearance, smell/aroma, flavour, texture)
- **AC2.2:** obtain outcomes from scientific investigations (valid and reliable)
- **AC2.3:** record outcomes of investigative work (format of recording outcomes, clarity of



records and accuracy of record) ○ **AC2.4:** process data (analyse data:

statistical methods, use of ICT. Evaluate data: consistency of data, bias in data and validity of data)

○ **AC2.5:** review suitability of investigative methods (merits and limitations)

Unit 3 - **LO3** be able to solve food production problems

○ **AC3.1:** analyse food production situations (types of issue: lack of ingredients, lack of cooking facilities, environmental conditions and customer needs)

○ **AC3.2:** propose practical options to solve food production problems (make suggestions: from methods used by innovative chefs and from new technologies.

	Advantages/disadvantages of different			
--	---------------------------------------	--	--	--

	<p>options and use of scientific language, ideas and models)</p> <ul style="list-style-type: none"> <li>○ <b>AC3.3:</b> scientifically justify proposed options (use supporting primary investigative evidence and use supporting secondary evidence)</li> <li>○ Individual preparation and revision for Y13 students that are wishing to retake their Unit 1 Y12 external exam</li> </ul> <p>Begin Unit 3 internal assessment</p>			
<p>Spring 1</p>	<p><b>Big Idea:</b></p> <p>Unit 3: Experimenting to Solve Food Production Problems</p> <p><b>Unit 3 internal assessment ends</b> (Learning Objective 1, 2 + 3)</p> <p>Individual revision for any student/s wishing to retake the Y12 Unit 1 external exam (June)</p>			

	<p>Complete Unit 3 internal assessment</p> <ul style="list-style-type: none"> <li>○ Individual preparation and revision for Y13 students that are wishing to retake their Unit 1 Y12 external exam</li> </ul>	<p>Internal and external assessment of completed Unit 3 assessment</p>	<p>Reusing previous knowledge from last half term</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
<p><b>Spring 2</b></p>	<p style="text-align: center;"><b>Big Idea:</b></p> <p style="text-align: center;">Unit 2: Ensuring Food is Safe to Eat          Preparations for external controlled assessment on <b>1<sup>st</sup> May</b>          (Learning Objective 1, 2 + 3)</p> <p style="text-align: center;">Individual revision for any student/s wishing to retake the Y12 Unit 1 external exam (June)</p>			

	<p>Send Unit 3 to WJEC by 15<sup>th</sup> May Unit 2 Recap and recover. Unit 2 - <b>LO1</b> understand how microorganisms affect food safety</p> <p>○ <b>AC1.1:</b> describe properties of microorganisms (microorganisms: bacteria, viruses and fungi. Properties: size, location, cellular structure,</p>	<p>○ Practice exam questions where students have to apply notes that they've taken to given questions</p>	<p>Prior unit 2 learning</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p> <ul style="list-style-type: none"> <li>○ University courses</li> </ul>
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

pathogenicity,  
growth/reproduction)

- **AC1.2:** assess how changing conditions affect growth of microorganisms in different environments  
(Conditions: temperature, pH, oxygen, water and nutrients.  
Environments: preparation, cooking, serving, storing, transporting, outdoors and temporary)
- **AC1.3:** explain how microorganisms affect food quality  
(Quality: appearance, texture, smell/aroma, taste, non-visible effects, nutritional content)
- **AC1.4:** assess how preservation methods prevent the growth of microorganisms  
(Preservation methods: freezing, jamming, drying, pickling, salting, additives)

Unit 2 - **LO2** understand how food can cause ill health

- **AC2.1:** explain the physiology of food intolerances (lactose intolerance, wheat intolerance, chemicals in foods)
- **AC2.2:** explain the physiological basis of food allergies (eggs, milk, soya, wheat, peanuts, crustaceans, nuts, fish)
- **AC2.3:** explain the physiological basis of food poisoning (foods affected, causative bacteria and viruses, physiological effects)
- **AC2.4:** describe the symptoms of food induced ill health (visible symptoms, non -visible symptoms, length of time until symptoms appear, duration of symptoms, level of contagion)

Unit 2 - **LO3** understand how food safety is



managed in different situations

- **AC3.1:** describe food safety hazards in different environments (preparation, cooking, serving, storing, transporting, outdoors, temporary)
- **AC3.2:** assess risk to food safety in different environments (likelihood of hazard, potential of hazard to harm, individuals likely to be affected, foods likely to be affected)
- **AC3.3:** explain control measures used to minimise food safety risks (good hygiene practices, preventing cross contamination, disposal of waste, following food safety legislation, effective cleaning, effective food storage)
- **AC3.4:** justify proposals for control measures in different

	<p>environments (presenting a case for action, use of evidence to support proposal)</p> <ul style="list-style-type: none"> <li>○ Complete mock questions as a class to help support Unit 2 assessment</li> <li>○ Individual preparation and revision for Y13 students that are wishing to retake their Unit 1 Y12 external exam</li> </ul>			
<p><b>Summer</b> <b>1</b></p>	<p style="text-align: center;"><b>Big Idea:</b></p> <p style="text-align: center;">Unit 2: Ensuring Food is Safe to Eat</p> <p style="text-align: center;"><b>Unit 2 external controlled assessment on 1<sup>st</sup> May</b> (complete in 3 weeks of release - 8 hours timed) (Learning Objective 1, 2 + 3)</p> <p style="text-align: center;">Individual revision for any student/s wishing to retake the Y12 Unit 1 external exam (June)</p>			

	<p>Begin and complete unit 2 external assessment - released on the 1<sup>st</sup> May Send Unit 2 to WJEC by 1<sup>st</sup> June</p> <p><b>LO1</b> understand how microorganisms affect food safety</p>	<p>➤ This unit is externally assessed</p> <p>➤ Assignment will be produced by WJEC, completed by learners under highly</p>	<p>Recall of Unit 2 prior knowledge</p>	<p>Careers</p> <ul style="list-style-type: none"> <li>○ Food Scientist</li> <li>○ Dietician / Nutritionist / Sports Nutrition</li> <li>○ New Product Development Technologist</li> <li>○ Chef / Business Owner</li> <li>○ Quality Control / Environmental Health</li> <li>○ Food Journalism</li> </ul> <p>Future learning</p>
	<p><b>LO2</b> understand how food can cause ill health</p> <p><b>LO3</b> understand how food safety is managed in different situations</p> <ul style="list-style-type: none"> <li>○ Individual preparation and revision for Y13 students that are wishing to retake their Unit 1 Y12 external exam</li> </ul>	<p>controlled conditions.</p>		<ul style="list-style-type: none"> <li>○ University courses</li> </ul>
<p><b>Summer</b> <b>2</b></p>	<p><b>Big Idea:</b></p> <p>Revision for any student/s wishing to retake the Y12 Unit 1 external exam (June)</p>			