The Sutton Academy

Knowledge Rich Curriculum Plan

Year 13 Food Science & Nutrition

Week Commencing	AC / Focus	Lesson Focus	Learning Objective	Key Vocabulary (Tier 2 / Tier 3)	Notes / Difficult Concepts / Teacher Script	Independent Study / Homework
01/09/2026	**AC2.2 – Obtain outcomes from scientific investigations**	Carrying out scientific trials/investigations using planned variables	Carry out an experiment with controlled variables and collect valid and reliable data	**Outcome** : The result of an investigation **Valid** : Fair, accurate, and measurable **Reliable** : Can be repeated with similar results	Model the link between good control and reliability. Script: "How can you make sure someone else could get the same result using your plan?"	Begin collating observation notes, measurements and timings for write-up
08/09/2026	**AC2.2 (continued)**	Continue investigation and begin informal analysis of outcomes	Refine and repeat aspects of the investigation where needed for accuracy	**Replicate** : Repeat under same conditions **Consistency** : Similar results across trials	Encourage re-testing where anomalies appear. Script: "Is this a one-off result or a pattern?"	Complete experiment charts/tables. Bring sensory data, images, or raw data for next week
15/09/2026	**AC2.3 – Record outcomes of investigative work**	Sensory analysis, nutritional analysis, method photos, write-up begins	Record outcomes clearly and accurately using suitable formats (e.g., sensory charts, star diagrams)	**Accuracy** : Being exact and correct **Sensory Analysis** : Using sight, taste, smell to evaluate food	Provide templates and examples. Script: "Clear records prove your investigation worked. Think like a food scientist."	Start writing up AC2.3 section using recorded outcomes
22/09/2026	**AC2.3 (continued)**	Finalise evidence records (nutritional calculations, photos, written observations)	Ensure all evidence is presented clearly and labelled	**Documentation** : Evidence of work and progress **Photographic Evidence** : Visual records of outcomes	Common issue: poor or incomplete labelling. Remind students to annotate clearly.	Submit completed AC2.3 record by end of the week
29/09/2026	**AC2.4 – Process data from scientific investigations**	Analyse results using appropriate methods (tables, charts, averages)	Apply statistical and ICT methods to process and interpret results	**Statistical Methods** : Techniques to summarise data **Analysis** : Interpreting what results show	Script: "What's the story your results tell? Use maths or charts to explain it."	Use Excel or graph paper to create visual data representations
06/10/2026	**AC2.4 (continued)**	Continue data analysis: trends, consistency, anomalies	Make conclusions about the quality	**Anomalies** : Unexpected results **Trends** : Patterns in data	Learners may confuse cause and correlation. Script:	Write summary paragraph

			and consistency of data collected		"Just because two things happened together, doesn't mean one caused the other."	interpreting your data
13/10/2026	**AC2.5 – Review suitability of investigative methods**	Introduction to reviewing merits and limitations of method used	Evaluate how suitable the investigation method was and how it might be improved	**Merit** : A strength or advantage **Limitation** : A weakness or constraint	Prompt with targeted questions: "What worked well? What would you change if you repeated this?"	Plan evaluation structure using merits vs limitations columns
20/10/2026	**AC2.5 (continued)**	Complete full method evaluation (time, equipment, control of variables, analysis quality)	Provide a balanced review with reasoned judgement	**Validity of Data** : Trustworthiness of results **Suitability** : How appropriate the method was for the aim	Focus on making evidence-based judgments rather than vague opinions. Script: "Back it up with what actually happened."	Submit full evaluation write-up for feedback
04/11/2026	**Catch-up / Feedback / Re-drafting**	1:1 feedback and redrafting time based on formative marking	Improve clarity, completeness and precision in responses across AC2.2–2.5	**Redraft** : Improve a piece of writing based on feedback	Provide sentence starters for weaker writers. Use mark grid to RAG progress.	Continue working independently on final draft
11/11/2026	**AC2.2–2.5 Finalise Submission**	Final independent time to finish written work and submit	Ensure all four assessment criteria are fully addressed with relevant evidence	**Submission** : The final version of assessed work	Remind of plagiarism rules and word count guidance if applicable.	Submit full Unit 3 section for teacher marking
18/11/2026	**Marking Window / Progress Tracking**	Silent revision session / Optional redrafting if needed	Consolidate understanding while final marking begins		Offer optional extension tasks if students finish early	Extension task: design a new investigation proposal with improved reliability
25/11/2026	**Unit 3 Marking Completed**	Learner reflection and response to marking (verbal/annotated/target sheet)	Understand strengths and targets for future practical or	**Reflection** : Looking back and evaluating progress	Discuss links to Unit 4 (controlled assessment).	Write a short response to feedback – what

			controlled assessments			would you do better next time?
01/12/2026	**AC3.1 – Analyse food production situations**	Identify common food production problems (lack of ingredients, equipment, etc.)	Be able to identify and analyse causes of food production problems using real-world examples (case studies / scenarios).	**Analyse** : Examine something in detail **Customer Needs** : Preferences and dietary requirements **Environmental Conditions** : Temperature, humidity etc.	Use industry examples—staff shortage, fridge failure, or delayed deliveries. Script: "What would *you* do if this happened in a kitchen?"	Research one real-life food production issue and write a short analysis (who, what, why, impact).
08/12/2026	**AC3.2 – Propose solutions to production problems**	Generate creative, realistic solutions using food science and innovation	Be able to propose viable solutions based on research, prior learning, or innovative practice from chefs and industry.	**Innovative Chefs** : Chefs who try new methods **Proposal** : A suggested idea or plan **Feasibility** : How realistic something is to do	Push beyond obvious ideas—consider tech or chef-led trends. Script: "What's a practical fix *and* one that shows creativity?"	Write three different proposals for a production problem with pros and cons.
15/12/2026	**AC3.3 – Justify proposed solutions scientifically**	Link proposed solutions to evidence (AC2 investigation & secondary sources)	Be able to justify solutions using both primary evidence (Unit 3 testing) and secondary sources (books, research, internet).	**Justify** : Give reasons for a decision **Primary Data** : Evidence you collected yourself **Secondary Evidence** : Existing research or information	Script: "It's not enough to say it works. Show *why* it works using your experiment results or reliable sources."	Complete written justification of at least one proposal, linking to both test results and external sources.
05/01/2026	Describe properties of micro-organisms	Micro-organisms • Bacteria • Viruses • Fungi Properties • Size • Location • Cellular structure	Understand the types (bacteria, fungi, viruses) and their properties (size, reproduction, pathogenicity)	**Micro-organism** : Microscopic organism **Pathogenic** : Disease-causing **Cellular structure** : Internal makeup of cells	Use diagrams/models. Script: "How do we *see* the invisible threat in food?"	Create a microorganism comparison chart

		• Pathogenicity • Growth/reproduction				
12/01/2026	Assess how conditions affect microbial growth	Conditions • Temperature • pH • Oxygen • Water • Nutrients Environments • Preparation • Cooking • Serving • Storing • Transporting • Outdoors • Temporary	Identify how temp, pH, oxygen, water, and nutrients affect microorganism growth	**Conditions** : Factors that support or hinder microbial growth **Environment** : The surroundings in which food is stored/prepared	Practical examples help – fridge vs warm kitchen. Script: "Which condition helps bacteria grow quickest?"	Poster: Ideal vs unsafe food environments
19/01/2026	Explain how micro-organisms affect food quality	Quality • Appearance • Texture • Smell/Aroma • Taste • Non-visible effects • Nutritional content	Understand visible/invisible signs of spoilage and how microbes change food (taste, aroma, nutrition)	**Quality** : Overall standard of food **Spoilage** : Deterioration **Nutritional content** : Food's macro/micronutrient levels	Link to taste tests. Script: "Can microbes ruin food without you seeing them?"	Complete a food fault analysis for spoiled foods
26/01/2026	Assess preservation methods preventing microbial growth	Preservation methods • Freezing • Jamming • Drying • Pickling • Salting • Additives	Learn how freezing, drying, pickling, etc. slow or stop microbes	**Preservation** : Techniques to prolong shelf life **Additives** : Substances added to preserve or flavour	Include case studies—UHT milk, jam, etc. Script: "What method gives longest shelf life—and why?"	Summary table of 5 preservation methods with pros/cons
02/02/2026	Explain the physiology of food intolerances	Food intolerances • Lactose intolerance • Wheat intolerance • Chemicals in foods	Understand how lactose, wheat, and chemical intolerances affect the body	**Intolerance** : Inability to digest certain foods **Physiology** : The body's function	Link to case studies—label packaging/claims. Script: "Is intolerance the same as allergy?"	Create a one-page intolerance guide (food, symptoms, advice)
09/02/2026	Explain the physiological	Food allergies • Eggs	Learn the body's immune response	**Allergy** : Immune system reaction to food	Emphasise severity. Script: "Why is an	Write a training card for staff handling

	basis of food allergies	• Milk • Soya • Wheat • Peanuts • Crustaceans • Nuts • Fish	to allergens like nuts, milk, fish	**Histamine** : A chemical released during an allergic reaction	allergy life-threatening but intolerance isn't?"	allergy-prone customers
16/02/2026	Explain the basis of food poisoning	Food poisoning • Foods affected • Causative bacteria and viruses • Physiological effects	Describe how contaminated food causes illness, naming key bacteria and physiological effects	**Food Poisoning** : Illness from eating unsafe food **Pathogen** : Harmful microorganism **Toxin** : Poison produced by bacteria	Use outbreak examples (e.g. Salmonella). Script: "How does food go from fresh to dangerous?"	Fact sheet on three food poisoning bacteria and symptoms
24/02/2026	Describe symptoms of food-induced ill health	Symptoms • Visible symptoms • Non -visible symptoms • Length of time until symptoms appear • Duration of symptoms • Level of contagion	Understand symptoms of intolerance, allergy, and food poisoning	**Symptoms** : Signs of illness **Contagion** : Spreadable illness **Duration** : How long symptoms last	Help students compare mild vs severe signs. Script: "Who's more at risk—child, elderly or athlete?"	Create a symptoms tracker table (onset, severity, duration)
03/03/2026	Describe food safety hazards in different environments	Environments • Preparation • Cooking • Serving • Storing • Transporting • Outdoors • Temporary	Identify hazards in prep, cooking, storing, transporting, etc.	**Hazard** : Potential danger **Environment** : Place or condition food is in	Use kitchen layout plans. Script: "Which hazard would *you* miss in a busy kitchen?"	Complete kitchen area hazard spotting activity
10/03/2026	Assess risk to food safety in different environments	Risk • Likelihood of hazard • Potential of hazard to harm • Individuals likely to be affected	Judge likelihood and impact of risks depending on setting	**Risk** : Chance something bad will happen **Likelihood** : Probability of **Harm** : Damage to health	Use risk matrices. Script: "What's high risk in a care home kitchen vs a street food van?"	Complete a RAG-rated risk matrix

		• Foods likely to be affected				
17/03/2026	Explain control measures to minimise food safety risks	Control measures • Good hygiene practices • Preventing cross contamination • Disposal of waste • Following food safety legislation • Effective cleaning • Effective food storage	Learn measures like hygiene, cross-contamination prevention, and cleaning	**Control Measures** : Actions taken to reduce risk **Legislation** : Legal requirements	Link to SFBB/HACCP. Script: "What's one small habit that could prevent a big food safety issue?"	Make a checklist for food safety control in one area (e.g. fridge)
24/03/2026	Justify proposals for food safety control	Justify • Presenting a case for action • Use of evidence to support proposal	Use evidence and reason to defend proposed controls for hazards	**Justify** : Provide reasons for a decision **Proposal** : Plan of action **Evidence** : Support from facts	Model PEE structure. Script: "Explain what, why, and prove it works—use your notes and examples."	Written justification of a food safety proposal
13/04//2026	**Mid-Point Review**	Individual feedback and targeted improvement	Review progress against all ACs and address gaps	Review planning sheet and decide which examples/data you'll use in your answers	Run as 1:1 progress checks and marking draft work. Provide green-pen tasks.	Redraft one AC using feedback
21/04/2026	**Full Write-Up / Redrafting**	Structured completion of ACs for submission	Prepare a full written portfolio for Unit 2 – all learning outcomes included	Review previous session output; note any ACs needing strengthening	Silent writing and peer review. Script: "Use the checklist—does your work meet all parts of the criteria?"	Finalise and proofread full Unit 2 practice submission
28/04/2026	**Submission Week**	Final independent editing, printing, and submission	Submit a full, polished portfolio showing understanding of food safety and health risks	Check AC checklist and prepare for submission	Celebrate completion. Reinforce skills for final controlled assessment.	Submit Unit 2 practice folder for feedback
04/05/2026	3 hours	**Start Controlled Assessment – AC1.1 to AC2.2**	Write-up begins: properties of microbes, conditions,	**Micro-organism** , **Pathogenic** , **Intolerance** ,	Apply scientific understanding of microorganisms and food-related ill health	Script: "Start with what you know. Prioritise ACs 1.1 to 2.2 in this session—

			preservation, intolerances	**Preservation** , **Symptoms**	to written scenarios and evidence	quality over quantity.”
11/05/2026	3 hours	**Continue – AC2.3 to AC3.3**	Food poisoning, symptoms, risk assessment and control measures	**Food Poisoning** , **Control Measures** , **Risk** , **Assessment Criteria**	Use practical knowledge to assess and propose food safety controls across environments	Mid-point prompt: “Have you clearly answered each AC? Time to complete the body and begin your justification.”
18/05/2026	2 hours	**Final Hour Allocation + Editing**	AC3.4 justification + final proofreading and completion	**Justify** , **Proposal** , **Submission** , **Validity**	Justify proposed food safety controls with evidence and prepare for submission	Script: “Final hour – check presentation, accuracy, and whether you've hit *every* part of the brief.”
25/05/2026	0	**No work permitted**	—	—	—	Remind students: no edits or additions permitted after Friday 22 May.
01/06/2026	–	**Submit Controlled Assessment**	Work submitted for marking and/or posting	**Submission** , **Assessment Record**	Ensure all evidence from AC1.1–AC3.4 is securely submitted	Print, file and post by Monday. Ensure teacher declaration is signed.