



UNIT OVERVIEW- YEAR 9

Food Technology Design Challenge

*Explaining the Purpose of Every
Ingredient*

9 weeks | 2 lessons per week | Portfolio evidence
collected throughout

Big idea

Instead of asking students to simply make a recipe, students investigate and explain the purpose of every ingredient. This turns practical cooking into a design challenge focused on flavour, texture, colour, nutrition, structure, and target audience.

Unit Snapshot

Subject area	Food Technology
Unit length	9 weeks, two lessons per week
Central question	How can we design a dish where every ingredient has a clear purpose?
Learning focus	Design thinking, ingredient function, sensory analysis, food safety, audience needs, practical production and evaluation.
Final assessment	Portfolio of evidence plus final signature dish concept, production/reflection, and ingredient purpose explanation.
Student outcome	Students plan, create, and evaluate a food product while justifying ingredient choices using food technology language.



Learning Intentions

Students will learn to:

- Identify the purpose of ingredients in a recipe or food product.
- Explain how flavour, texture, colour, nutrition and structure influence a dish.
- Use user needs and target audience information to guide food design decisions.
- Plan and prepare food safely while managing hygiene, equipment, and allergens.
- Evaluate a finished product using sensory evidence and design criteria.

Students will be successful when they can:

- Justify why each ingredient has been included.
- Use accurate food technology vocabulary in their portfolio.
- Show evidence of planning, testing, production, and reflection.
- Connect ingredient choices to the needs of a target audience.
- Present a clear final dish concept and evaluation.



Assessment Overview

Portfolio evidence is gathered as students move through the design process.

Recommended portfolio sections: research and ingredient function notes, target audience profile, recipe analysis, design ideas, planning documents, practical production evidence, sensory evaluation, and final reflection.

Evidence checkpoint	What students submit or record	Suggested timing
Checkpoint 1: Ingredient function notes	Annotated examples showing how ingredients contribute flavour, texture, <u>colour</u> , nutrition, structure, and target audience appeal.	Weeks 1 to 2
Checkpoint 2: Recipe analysis	A selected recipe broken down into ingredient purposes, possible substitutions and target user considerations.	Week 3
Checkpoint 3: Design brief and ideas	Design brief, target audience profile and three possible dish concepts with labelled ingredient intentions.	Weeks 4 to 5
Checkpoint 4: Practical planning	Final recipe plan, equipment list, workflow, safety notes, allergen considerations, and production timeline.	Week 6
Checkpoint 5: Production evidence	Photos, teacher observation notes, practical skills checklist, and student production reflection.	Week 7
Checkpoint 6: Evaluation and final portfolio	Sensory evaluation, ingredient purpose explanation, improvements, final reflection, and completed portfolio.	Weeks 8 to 9

9 Week Learning Sequence: Two Lessons Per Week

Week	Lesson 1	Lesson 2	Portfolio evidence
1	Launch the challenge: why every ingredient matters. Explore the big question and unpack examples of dishes where ingredients serve a clear role.	Ingredient function mini lab. Students taste, compare, or discuss basic components that influence flavour, texture, colour, nutrition and structure.	Portfolio cover page, unit glossary starter and ingredient purpose notes.
2	Deconstruct a familiar recipe. Students identify base, protein or plant protein, fresh produce, sauce/seasoning, texture element, and garnish.	Target audience focus. Students adjust a dish idea for a specific user, occasion, or dietary need.	Annotated recipe breakdown and target audience profile.
3	Food design language. Students build vocabulary for sensory description, nutrition, presentation, and ingredient substitutions.	Case study: turn a simple recipe into a design challenge by asking what each ingredient contributes.	Vocabulary bank, sensory word bank and recipe analysis checkpoint.
4	Design brief writing. Students define the problem, user, constraints, success criteria, and available resources.	Concept generation. Students brainstorm at least three dish ideas and identify the purpose of key ingredients in each.	Design brief, three concept sketches or planning boxes and teacher feedback notes.
5	Concept selection. Students compare ideas against audience needs, food safety, practicality, budget, and time.	Prototype planning. Students create an ingredient function table and adjust before <u>finalising</u> their concept.	Concept selection justification and ingredient function table.

6	Recipe planning and workflow. Students write a final recipe plan, equipment list, and production method.	Safety and quality control. Students identify hygiene, cross-contamination, allergen, and equipment safety considerations.	Final recipe plan, workflow, equipment list, and food safety checklist.
7	Practical production lesson. Students prepare or assemble the dish, collect photographic evidence, and record modifications.	Post-production reflection. Students evaluate what worked, what changed and how ingredient choices affected the outcome.	Production photos, practical skills checklist, and immediate reflection.
8	Sensory evaluation. Students gather feedback using appearance, aroma, <u>flavour</u> , texture, and overall suitability criteria.	Improve and refine. Students propose improvements linked directly to ingredient purpose and target audience needs.	Sensory evaluation table, peer feedback, and improvement plan.
9	Final explanation. Students prepare their ingredient purpose explanation and polish their portfolio evidence.	Submit and share. Students present their final concept, justify ingredient choices and complete final self-evaluation.	Completed portfolio, final reflection, final ingredient purpose explanation, and teacher assessment rubric.

Portfolio Structure

1. Research and Understanding	Ingredient purpose notes, vocabulary, examples, and annotated recipe analysis.
2. Design Brief and Audience	Problem statement, target user, constraints, success criteria, and audience needs.
3. Ideation and Planning	Three dish ideas, concept selection, ingredient function table, recipe plan, and workflow.
4. Production Evidence	Practical photos, teacher observation notes, student modifications, and food safety checklist.
5. Evaluation and Reflection	Sensory feedback, improvement plan, final ingredient explanation, and self-evaluation.

Essential Teaching Prompts

- What job does this ingredient do in the dish?
- How does this choice affect flavour, texture, colour, nutrition or structure?
- Who is the target audience, and how do we know this dish suits them?
- What would happen if this ingredient were removed or substituted?
- How did food safety and practical constraints influence the final design?
- What evidence proves the final dish met the design brief?

Teacher Notes

- The unit can be adapted to suit a simple class recipe, a student-designed recipe, or an anatomy-of-a-dish poster task.
- Portfolio evidence can be collected digitally in OneNote, PowerPoint, Canva or a printed booklet.
- The practical product does not need to be complex. The emphasis is on explaining purposeful ingredient choices.
- Where allergies or dietary requirements are present, include explicit cross-contact prevention planning as portfolio evidence.