

Cambridge TECHNICALS LEVEL 3

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Unit 17

Food technology

Model Assignment

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Please note:

You can use this assignment to provide evidence for summative assessment, which is when the learner has completed their learning for this unit and is ready to be assessed against the grading criteria.

You can use this assignment as it is, or you can modify it or write your own; we give more information in this document under Guidance for tutors.

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Guidance for tutors on using this assignment

General

OCR Cambridge Technical model assignments are available to download from our website: www.ocr.org.uk.

The purpose of this assignment is to provide a scenario and set of tasks that allows the opportunity to investigate the fundamental and generic aspects of food manufacture and the links between sectors.

To test real product samples in the laboratory following correct health and safety procedures and using appropriate sampling techniques.

This assignment will not instruct learners how to meet the highest grade. Whether learners achieve a pass, merit or distinction will depend on what evidence they produce.

You can modify the scenario we provide in this assignment to make it more relevant to your local or regional needs. Please refer to the information under 'Modifying the model assignment' later in this section.

You don't have to use this assignment. You can use it as a guide to help you to design your own assignment, and we provide an assignment checking service. You'll find more information on these matters in section 8 of the qualification handbook.

In the tasks, we'll refer to the format of evidence. Learners are **not** required to follow that format **unless** we tell them otherwise.

It's essential that the work every learner produces is their own. Please make sure you read through the information we give on authenticity in section 8 of the qualification handbook and make sure that your learners and any staff involved in assessment understand how important authenticity is.

We provide this assignment to be used for summative assessment. You must not use it for practice or for formative assessment.

Before using this assignment to carry out assessment

Learners will need to take part in a planned learning programme that covers the knowledge, understanding and skills of the unit.

When your learners are ready to be assessed, they must be provided with a copy of the following sections of this assignment:

- General information for learners
- Assignment for learners
- Evidence Checklist

They may carry out preparation prior to undertaking the tasks and there is no time limit for this.

When completing the assignment

You should use this assignment in conjunction with the unit specification and qualification handbook.

Resources to complete the tasks

There are resource requirements for this assignment. Every learner will need access to the following resources:

Tasks for LO1 – Facility to research food manufacturing processes

Tasks for LO2 – Facility to research relevant food safety regulations

Tasks for LO4 – A range of relevant food samples and practical equipment to undertake food testing.

Health and Safety and the use of resources

The scenario requires some practical work and collection of primary data. It is the centre's responsibility to ensure the safety of all learners. Tutors are responsible for making their own Risk Assessments for the tasks prior to learners attempting the practical work, and for ensuring that appropriate Health and Safety procedures are carried out. However, tutors must not provide learners with these Risk Assessments. Learners, prior to undertaking practical investigations submit a Risk Assessment.

Time

You should plan on between 15 and 20 hours for learners to complete this assignment.

Learners must be allowed sufficient time to complete all the tasks. The amount of time may vary depending on the nature of the tasks and the ability of individual learners. To help with your planning, against each of the tasks we've given an indication of how long it should take.

Learners can produce evidence in several sessions.

Format of evidence

Learners have to produce evidence that demonstrates how they have met the grading criteria. At the very least they must produce evidence that meets **all** of the pass criteria.

Please make sure your learners realise that missing just one pass criterion means they will not pass the unit, even if they have successfully met the merit and distinction criteria.

We don't have specific requirements for the format of evidence in this assignment. We've said what format the evidence could take for each task. For example, if we say 'You could include a report on ...', the evidence doesn't have to follow any specific reporting conventions. You can modify the format of the evidence, but you must make sure the format doesn't prevent the learner from accessing the grading criteria.

For more guidance on generation and collection of evidence, please refer to the section 8 'Internal Assessment', in the qualification handbook.

Group work

If you plan to ask learners to work in a team to complete work for assessment, you need to determine at which point in an assessment task learners can work together. You must be sure that each learner can produce evidence of their own contribution to each grading criterion. You can give constructive feedback to learners about working as a group and direct them on team working skills because evidence of team working skills is not required by the unit. See our information on authentication, including group work and feedback to learners, in section 8 of the qualification handbook.

If witness statements are used to support learners' evidence, you'll need to complete an individual statement for each learner.

After completing the assignment

Once the learner has submitted their work to you to be assessed, you must judge or 'mark' the work against the grading criteria for the unit and identify one grade for the unit. For further information about assessment, please refer to section 8 of the qualification handbook.

Your assessment decisions must be quality assured across the cohort of learners in your centre who are being entered for the same unit. This must be done through an internal standardisation process. We give information on internal assessment and standardisation in the qualification handbook.

Reworking the assignment

If you and the learner feel they've not performed at their best during the assessment, the learner can, at your discretion, improve their work and resubmit it to you for assessment. If a learner is working on improving their work before it is resubmitted, you and the learner must continue to make sure the work is the learner's own.

Any feedback you give to the learner must not direct them on how to improve their work. You can identify what area of the work could be improved but you cannot give the learner any details about how they could improve it. You must follow the guidelines given in section 8 of the qualification handbook under 'Authenticity of learner work'.

Modifying the model assignment

The tasks in this assignment allow learners access to the full range of grades detailed in the grading criteria of this unit.

If you modify this assignment you must **not** change the grading criteria provided in the tasks for the learner or in the evidence checklist. These grading criteria are taken from the unit.

You can modify the scenario to suit your local or regional needs and the tasks may be contextualised to match any changes you have made to the scenario. If you supply your own drawings to support a different scenario, these must be sufficiently detailed for learners to complete the tasks.

You can modify the type of evidence and the format it takes, unless we expressly state that evidence must take a specific format.

You must also make sure that you avoid discrimination, bias and stereotyping and support equality and diversity. For more information, please see the section 'Designing your own assignments for internally assessed units' in section 8 of the qualification handbook.

If modifications are made to the model assignment, whether to the scenario alone, or to both the scenario and individual tasks, it is your responsibility to make sure that all grading criteria can still be met and that learners can access the full range of grades.

General information for learners

Q *What do I need to do to pass this assignment?*

A You need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to. If you miss just one pass criterion, you will not achieve this unit and will receive an unclassified result.

Q *What do I need to do if I want to get a merit or distinction for this assignment?*

A For a merit, you need to produce evidence to meet the requirements of **all** the pass criteria for the unit this assignment relates to **and** you need to produce evidence to meet **all** the merit criteria.

For a distinction, in addition to the above, you also need to meet **all** the distinction criteria for this unit.

Q *What help will I get?*

A Your tutor will support you when completing this assignment and will make sure that you know what resources or facilities you need and are allowed to use. We've given your tutor information about how much support they can give you.

Q *What if I don't understand something?*

A It's your responsibility to read the assignment carefully and make sure you understand what you need to do and what you should hand in. If you are not sure, check with your tutor.

Q *I've been told I must not plagiarise. What does this mean?*

A Plagiarism is when you take someone else's work and pass this off as your own, or if you fail to acknowledge sources properly. This includes information taken from the internet.

It's not just about presenting a whole copied assignment as your own; you will also be plagiarising if you use the ideas or words of others without acknowledgement, and this is why it's important to reference your work correctly (see Q&A below for more information on referencing).

Plagiarism has serious consequences; you could lose the grade for this unit or you may not be allowed to achieve the whole qualification.

Always remember that the work you produce must be your own work. You will be asked to sign a declaration to say that it is.

Q *What is referencing and where can I find out more information about it?*

A Referencing is the process of acknowledging the work of others. If you use someone else's words and ideas in your assignment, you must acknowledge it, and this is done through referencing.

You should think about why you want to use and reference other people's work. If you need to show your own knowledge or understanding about an aspect of subject content in your assignment, then just quoting and referencing someone else's work will not show that **you** know or understand it. Make sure it's clear in your work how you are using the material you have referenced **to inform** your thoughts, ideas or conclusions.

You can find more information about how to reference in the *The OCR Guide to Referencing* available on our website: <http://www.ocr.org.uk/i-want-to/skills-guides/>.

Q ***Can I work in a group?***

A Yes. However, if you work in a group at any stage, you must still produce work that shows your individual contribution. Your tutor can advise you how to do this.

Q ***Does my work for each task need to be in a particular format?***

A You can present your work in a variety of ways – it can be handwritten, word-processed, on video or in digital media. What you choose should be appropriate to the task(s) and your tutor can advise you. There may be times when you need proof that you have completed the work yourself: for example, if you do something during work placement that you want to use as evidence, the tutor might ask the employer to provide a witness statement.

Make sure you check the wording in each task carefully. For each task, we'll tell you if your evidence has to be in a specific format:

- If we say use the word '**must**', for example 'You must produce a report' or 'Your evidence/work must include a diagram', then you must produce the work in the stated format.
- If we use the word '**could**', for example 'You could include sketches of your ideas' or 'You could do this by annotating your diagram', this means that you are not required to follow the format we have given, but you must make sure that the work you do produce allows you to demonstrate the requirements of the grading criteria.

If you are unsure about what evidence you need, please ask your tutor.

Q ***Can I ask my tutor for feedback on my work?***

A Yes, but they can't give you detailed feedback.

We have given your tutor instructions on what kind of feedback they can give you. For example, they are **not** allowed to tell you exactly what to do to make your work better, but they **can** remind you about what they've taught you and you can use this additional learning to try and improve your work independently. They can say what they've noticed might be wrong with your work, for example if your work is descriptive where an evaluation is required, but your tutor can't tell you specifically what you need to do to change it from a description to an evaluation – you will need to work out what you need to do and then do it for yourself.

Q ***When I have finished, what do I need to do?***

A If you have included the personal details (such as name, address or date of birth) of someone other than yourself in your work, this must be blanked out (anonymised) – your tutor will tell you how to do this. You don't need to do this for information contained in references.

You can complete the evidence checklist to show your tutor where they can find the evidence for each grading criterion in your work. You should make sure your work is labelled, titled and in the correct order for assessing. Hand in the work that you've completed for each task to your tutor. They might ask to see your draft work, so please keep your draft work in a safe place.

Q ***How will my work be assessed?***

A Your work will be marked by someone in your centre who has been authorised to do so.

They will use the information in the grading criteria to decide which grade your work meets. The grading criteria are detailed in each unit and are also given in the tasks within this assignment. Please ask your tutor if you are unsure what the grading criteria are for this assignment.

Assignment for learners

Unit 17: Food Technology

Scenario

You are working for a renowned science consultancy services provider. The consultancy wishes to break into the market for services to the food industry. It has asked you to conduct an initial study and also work with an industry partner to assess the feasibility of this new venture.

Your initial study will provide information about the main features of food manufacturing operations to allow the consultancy to plan the services to offer. A company from the food industry is willing to allow its operations to be used as a case study.

You will also provide the partner company with suitable methods they can use to monitor variability between batches of their potato crisp product line.

Introduction to the tasks.

In these tasks you will be required to demonstrate your knowledge and understanding of the principles and applications of food safety. This will be through the review of:

- food safety regulations
- food quality control
- food testing.

Evidence for these tasks can include:

- labelling
- flow charts
- presentations
- written reports
- presentations and notes
- diagrams/photographs
- risk Assessments.

Before starting the assessment assignment you must have available the Unit Specification so you are aware of the necessary content coverage.

The tasks

Task 1:

(This task should take between 2 and 3 hours.)

Learning Outcome 1: Understand the main features of food manufacturing operations

Strategists at the science consultancy wish to know more detail about the type of services it could offer. You will need to research a range of food sectors and provide a briefing report on features of the associated manufacturing operations. You will also need to work with the industry partner company and outline the manufacturing process for one of their products.

Your task is to:

Draw up a briefing document for the consultancy which provides a list of food manufacturing sectors and identifies the key differences between each sector.

Your briefing will also explain the partner company's production process and will include a labelled process flow diagram for one product.

Pass	Merit	Distinction
P1: Outline food manufacturing sectors	M1:	D1:
P2: Explain the stages in food manufacture for one food sector		
Evidence		
You must produce a table outlining the differences in the manufacture of a range of food sectors.		
You must produce a labelled flow chart to explain the production process of one food and include all relevant stages in the production of the chosen food.		

Task 2:

(This task should take between 3 and 4 hours.)

LO2: Understand the importance of food safety in food manufacture

The consultancy wishes to know about possible types and sources of contamination, in order to provide a suitable troubleshooting service. You have been asked to feed back this information along with a description of regulations and codes of practice, designed to prevent contamination during a manufacturing process.

Your task is to:

Describe and explain typical preventative measures taken to minimize contamination of food products.

You should also pick an example of a high risk food and evaluate its risk to customer safety. A high risk food could be a pre-packaged and prepared, ready to eat product, which is susceptible to the growth of pathogenic bacteria. These types of product are often required to be stored in a temperature controlled environment. Examples include cooked meat, fish, rice, and dairy products.

Pass	Merit	Distinction
P3: Describe how food contamination is controlled through legislation and hygiene practice	M1: Explain the preventative measures required to ensure food safety	D1: Evaluate the concept of high risk foods in terms of increased risk to customer safety
Tasks/Evidence		
<p>You must produce a report that describes and explains the preventative measures to ensure safety from contamination. You should also include an example of a high risk food with an evaluation of its risk to customer safety.</p> <p>You must include a description of the necessary legislation, regulations and associated codes of practice. You should also include relevant food safety definitions.</p> <p>You must explain and evaluate procedures to ensure food safety for a high risk food. Your evaluation will address traceability, hygiene and safety management systems.</p>		

Task 3:

(This task should take between 3 and 4 hours.)

LO3: Understand the importance of quality control in food manufacture

The consultancy is also looking to provide quality control (QC) and quality assurance (QA) services. You have been asked to outline typical quality procedures to allow the consultancy to cost the necessary resources.

Your task is to:

Prepare a quality procedures briefing for consultancy strategists. You should give examples of and reasons for typical QC procedures in food production such as:

- incoming material analysis
- process control
- selection of QC tests
- statistical quality control
- final inspection and test.

Your briefing should also include an explanation of QA management systems and reasons why they should be adopted.

Pass	Merit	Distinction
P4: Describe the reasons for implementing quality control	M2: Explain how industry standards and regulations can impact on food manufacture	
Tasks/Evidence		
<p>You must describe and give reasons for QC procedures in food production.</p> <p>You must also include descriptions and reasons for adopting quality management procedures to assure the continued fitness for purpose of food products.</p> <p>You must explain how industry standards and regulations can impact on manufacture. For example, such standards and regulations can lead to the adoption of:</p> <ul style="list-style-type: none">• standard operating procedures (SOP)• good manufacturing practice (GMP)• contamination prevention and reporting		

Task 4:

(This task should take between 7 and 9 hours.)

Learning Outcome 4: Be able to test product samples

You have been tasked to provide the industry partner company with suitable methods to monitor variability between batches of one of their major product lines. The partner company is a manufacturer of crisps. They require you to draw up test methods to compare batches of crisps for:

- salt (sodium chloride) content
- average quantity of contents
- appearance and colour of crisp.

Your task is to:

Devise or research reliable test methods, taking sample preparation into account. You should provide data from the tests and compare the results obtained to the desired result. You should consider appropriate units for your data.

Pass	Merit	Distinction
P5: Carry out product testing	M3: Present results from testing process	D2: Analyse results
Tasks/Evidence		
<p>You must produce a report of the test results with their analysis.</p> <p>You must include a description of the sample preparation procedures which would be necessary in a busy laboratory offering a reliable service.</p> <p>You should address traceability of results as well as how the sample is to be prepared for quantitative chemical analysis.</p> <p>You must include test data with analysis:</p> <ul style="list-style-type: none">• test methodology with references to standard methods• record test results with appropriate units• analyse results and compare to suitable standards or controls.		

Evidence Checklist

OCR Level 3 Cambridge Technicals in Laboratory Skills

Unit 17: Food technology

LEARNER NAME:

For PASS have you:	Completed (✓)	Ref/Page no(s)/DVD timings, etc.
P1: Outlined food manufacturing sectors?		
P2: Explained the stages in food manufacture for one food sector?		
P3: Described how food contamination is controlled through legislation and hygiene practice?		
P4: Described the reasons for implementing quality control?		
P5: Carried out product testing?		

For MERIT have you:	Completed (✓)	Ref/Page no(s)/DVD timings, etc.
M1: Explained the preventative measures required to ensure food safety?		
M2: Explained how industry standards and regulations can impact on food manufacture?		
M3: Presented results from testing process?		

For DISTINCTION have you:	Completed (✓)	Ref/Page no(s)/DVD timings, etc.
D1: Evaluated the concept of high risk foods in terms of increased risk to customer safety?		
D2: Analysed results?		

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